THREE APPROACHES TO CRIMINAL APPREHENSION IN KANSAS CITY:

AN EVALUATION REPORT

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PoliceFoundation

This monograph is dedicated to the memory of

Sophronia "Nick" Coffman

1905-1975

whose great energy, resourcefulness, patience, and humor enriched all of those who worked with her.

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FOREWORD

This report describes the results of an evaluation of three approaches to criminal apprehension tested by the Kansas City Police Department with the assistance of the Police Foundation. The report shows that regularly providing data on known serious offenders to patrol units through a Crime Information Center (CIC) clearly produced increased arrests among those offenders. This seems a clear gain and the department has institutionalized the CIC approach.

The other two approaches were Location-Oriented Patrol (LOP), surveillance of areas with notably high crime rates, and Perpetrator-Oriented Patrol (POP), surveillance of selected groups of potential criminal perpetrators. The report shows that, although Location-Oriented Patrol by the department's tactical unit appeared to be somewhat more effective than Perpetrator-Oriented Patrol, neither (as tried in Kansas City) represented a substantial improvement over the more usual mix of tactical unit activities. Since the experimentation with the three approaches was completed, tactical unit resources have been decentralized to district patrol stations.

This report contains substantial information about the problems encountered in attempting experiments in apprehension methods and prescriptions for avoiding these problems to the extent that circumstances may allow. A major purpose for publishing this report is to share the lessons learned in Kansas City with all who want to test whether what they do improves policing.

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EXECUTIVE SUMMARY

The Special Operations Division Task Force of the Kansas City, Missouri, Police Department created a Criminal Information Center (CIC) to serve as a departmental clearinghouse for information about criminal activities and suspects. The task force also developed an Apprehension-Oriented Patrol project consisting of two patrol strategies: Location-Oriented Patrol (LOP) and Perpetrator-Oriented Patrol (POP). The LOP strategy was to surveil areas with particularly high crime rates, while the POP strategy was to surveil a selected group of perpetrator subjects. The goal of both strategies was to arrest suspects in the act of committing offenses, particularly the target crimes of robbery and burglary.

This report contains results of the evaluation of the Criminal Information Center and the Apprehension-Oriented Patrol project for both the original program year and the extension phase.1/ Comparisons among LOP, POP, and regular preventive patrol strategies of the department's South Patrol Division (SPD) were made for the program year.2/

One should take certain precautions in analyzing these comparisons. First, a comparison involving the two apprehension strategies and any regular patrol strategy must be tempered by the fact that the latter did not focus exclusively on apprehension of criminal suspects. Second, the choice, by default, of the SPD as a patrol comparison for the program year means that general inferences to all three Kansas City patrol divisions must be made with caution. In addition, during the extension phase, the emphasis of the POP strategy was changed from apprehending target subjects to generating information about suspects so that other units could make arrests. Finally, problems of coordination between departmental and evaluation elements resulted in data yielding conclusions that were less definitive than anticipated about the impact, and thus the value, of the Apprehension-Oriented Patrol strategies.

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[1]The program year for the LOP and POP patrol strategies ran from August 1972 through July 1973. The extension phase for these strategies was from August 1973 through January 1974. The CIC operation was evaluated for a two-year period, with August 1972 through July 1973 as the program year and August 1973 through July 1974 as the extension phase.

[2]Data for SPD target arrests were not collected during the extension phase; therefore, comparisons only between LOP and POP were made during the extension period.

With these precautions, the following results of the evaluation of the Special Operations Division's programs are presented.

CRIMINAL INFORMATION CENTER

The CIC prepared and distributed notebooks to all units within the Kansas City Police Department containing information (mug shots, addresses, automobile license numbers, names of associates, and so forth) about 53 suspected robbery and burglary offenders (target subjects). The goal was to determine whether providing the information about these target subjects resulted in their apprehension at a greater rate than comparable suspects about whom no information was actively distributed.

The results revealed that providing the information in the notebooks to units other than the tactical unit did have an effect; a significantly greater arrest rate occurred for the subjects about whom information was distributed than occurred for subjects about whom information was not distributed. This difference was noted in the analyses of all crimes combined and for crimes other than robbery and burglary; however, no significant difference was noted between the arrest rate of the assigned subjects and those about whom information was not distributed for the crimes of robbery and burglary.

Providing information about target subjects to the tactical unit did not have an impact. The tactical unit's arrest rate of target subjects about whom information was distributed did not differ from their arrest rate of subjects about whom no information was supplied, regardless of the crime category considered.

Providing information about target subjects to units other than the tactical unit had no significant impact on the information provided to the CIC about these subjects by those units. However, providing information about target subjects to the tactical unit did result in a greater percentage of assigned target subjects about whom inputs were made to the CIC than for target subjects about whom no information was distributed.

APPREHENSION-ORIENTED PATROL

To evaluate the Apprehension-Oriented strategies, six main criteria, with respective indicators, were selected. The six criteria were:

Apprehension effectiveness. Results were varied. LOP produced more target crime (robbery and burglary) arrests per officer-hour expended than did POP; however, there was no substantial difference between the two Apprehension-Oriented strategies in their rates of intercepting suspects in the act of committing target crimes.

Techniques involved in making arrests. POP was different from LOP in this matter. A greater percentage of POP arrests for target crimes resulted

from officer-initiated activities (car checks and pedestrian checks) and from undercover operations (stakeouts and surveillances) than target crime arrests made by LOP.

Arrest quality. Results varied. LOP made a greater percentage of its target crime arrests for the more serious crimes of robbery; however, there was no substantial difference between LOP and POP in their percentages of robbery arrests made for armed robbery. POP made target crime arrests of suspects with a greater median number of prior felony arrests than those arrested by LOP.

Disposition of target arrests. Evidence revealed that LOP target crime arrests resulted in a greater percentage of charges filed as target crimes than those made by POP; however, there was no substantial difference between the two Apprehension-Oriented strategies in terms of conviction rates for target crimes. Considering officer-hours expended per charge filed and officer-hours expended per conviction for target crimes, LOP expended fewer officer-hours per charge filed as a target crime and fewer officer-hours per conviction than did POP.

Information generation. POP was superior to LOP. POP produced more inputs to the CIC than LOP, controlling for time expended.

Citizen complaints. The evidence shows that of the two Apprehension-Oriented strategies, POP received fewer citizen complaints than did LOP, controlling for time expended; however, results were inconclusive when the indicator was arrest per complaint.

In comparing LOP and POP to the SPD (taken as representative of regular patrol), the Apprehension-Oriented strategies were superior to regular patrol during the program year on all but two of the criteria, disposition of target crime arrests and citizen complaints. The SPD made a greater percentage of target crime arrests for which charges were filed than either LOP or POP; there was no substantial difference among LOP, POP, and the SPD in terms of the conviction rate for target crimes. This comparison is unfair with respect to overall effectiveness, however. Both LOP and POP expended fewer officer-hours per charge filed as a target crime and fewer officer-hours per conviction for a target crime than did the SPD. The citizen complaint rate for the SPD was considerably lower than that experienced by either LOP or POP.

After controlling for corresponding trends of the SPD, the available data indicate that the Apprehension-Oriented strategies seemed to have had only a negligible impact on the tactical unit's performance during the program year. However, it should be noted that for several important effectiveness criteria (officer-hours expended per arrest, charge filed, and conviction) no trend analyses could be obtained. During the extension period, both LOP and POP dropped on almost all performance criteria compared to the program year.

SUMMARY OF SPECIAL OPERATIONS PROGRAMS

The evaluation of the CIC indicates that providing information about suspected perpetrators increased the patrol units' arrest rates of those individuals, but made no difference in the tactical unit's arrest rate for those suspects.

While results varied, when considering the program focus on arresting suspects for robbery and burglary, the Location-Oriented strategy was slightly superior to the Perpetrator-Oriented strategy. This technique produced more target crime arrests per officer-hour expended, with a greater percentage of these arrests for the more serious crime of robbery, and a greater percentage of arrests resulting in charges being filed for target crimes.

Location-Oriented Patrol was found to be superior to both Perpetrator-Oriented Patrol and SPD in terms of overall effectiveness on the majority of the more important criteria. POP was superior to the regular patrol strategy on most of these important criteria. The criteria considered to assume heavier weighting for the evaluation were arrest effectiveness, the strategies' effectiveness in the disposition of these arrests, the "removal" effectiveness of the strategies, and the officer-citizen conflict produced by the strategies.

LOP expended fewer officer-hours per target arrest, fewer officer-hours per charge filed as target crimes (robbery or burglary), and fewer officer-hours per conviction for target crimes than either POP or the SPD during the program year. All of these indications point to the superiority of the Location-Oriented strategy; however, LOP did produce more officer-citizen conflict (fewer officer-hours expended per citizen complaint) than either POP or SPD.

POP was also found to be superior to the SPD in terms of officer-hours expended per target arrest, officer-hours expended per charge filed as a target crime, and officer-hours expended per conviction. Nevertheless, the magnitude of difference was observed to be considerably less than that between LOP and the SPD.

Although it was impossible to assess the impact of the Apprehension-Oriented strategies on the tactical unit, the general conclusion is that LOP produced substantially better apprehension and "removal" results than either POP or the SPD. It also produced more officer-citizen conflicts.

Only the individual police administrator can assess the worth of these findings. Specialized apprehension strategies divert usually scarce resources from generalized functions to specialized ones, and incur unusual expenses for equipment such as rental cars, special detection devices, cover apartments, and so forth. These costs should be weighed carefully against the need for such specialized approaches, and provision made for the increased officer-citizen conflict that seems naturally to evolve from these proactive strategies.

I. THE SPECIAL OPERATIONS DIVISION TASK FORCE PROGRAMS: DEVELOPMENT AND IMPLEMENTATION

Tactical units are a relatively recent innovation in American policing, having been established in most large police departments only in the last twenty years. The tactical unit of the Kansas City, Missouri, Police Department was formed in February 1966 to perform functions similar to those described by O. W. Wilson:

> In addition to the routine preventive patrol which is basic to all good police service, many departments need auxiliary mobile striking forces which can be called upon to meet the unusual situation or the concentration of criminal activity. These forces can be sent rapidly in the case of an emergency or their activities may be planned ahead as a result of study of incidents which because of their repetitive pattern may be expected to recur.1/

Kansas City tactical unit officers were specifically trained and equipped to respond to the "unusual situation"--a riot or disorder, a large crowd, an armed and barricaded person, traffic at large gatherings, or protective security for a dignitary. The usual function of the Kansas City tactical unit, however, was to address "concentrations of criminal activity" in ways that were not possible for the average officer on patrol.

Since its creation, the tactical unit in Kansas City has varied in composition from 43 to 64 officers, usually grouped into six or seven squads, each supervised by a sergeant. Organizationally, the tactical unit was part of the Special Operations Division. The unit spent most of its time assisting either the patrol divisions or the Investigations Bureau in crime-related matters, and a minimal amount on special assignments unrelated to crime. Because of the unit's special needs, tactical unit personnel were carefully selected on the basis of their past departmental performance records, special capabilities, experience, demeanor, and professional attitude. Unit personnel received at least two weeks of special training each year, studying such topics as surveillance, use of special weapons, hostage negotiations, and armed and barricaded individual situations.

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[1] O. W. Wilson, Police Administration (2d ed.), New York: McGraw-Hill, 1963. P. 249.

When the Kansas City Police Department began its association with the Police Foundation in early Fall, 1971, initial plans called for the establishment of a task force in each of the three patrol divisions. A representative from the Special Operations Division was to be attached to each of the task forces.

This original plan was altered in November 1971, because of the decision to form a Special Operations Division Task Force. The original members included the Special Operations Division commander, a captain, a sergeant, and two patrol officers. Additionally, the task force included a planning and research unit representative and a Police Foundation consultant as resource persons. At that time, the Special Operations Division included the traffic, tactical, canine, helicopter, and reserve units. Because the problems of the traffic unit were distinctively different from those of other units in the division, two separate task forces were formed, one for traffic unit personnel and the other for tactical unit officers. The helicopter and canine units were engaged in specialized programs and were not included in either task force. In January 1972, the traffic unit was removed from Special Operations and given divisional status. The remaining Special Operations Division Task Force, therefore, was composed exclusively of tactical unit officers who concerned themselves only with that unit's operations.

One of the early goals of the task force was to develop improved methods for identifying criminal suspects. To achieve this goal, the members proposed that a central clearinghouse be established to collect and analyze data about suspects. The task force believed that such a capacity would fulfill an immediate need, inasmuch as there was no formal departmental capacity for information-sharing among units and/or individual officers. In discussing the proposal, some task force members expressed reluctance to assign sole responsibility to the tactical unit for a department-wide function, believing that the implementation and administration of such a center would require considerable expenditure of time and manpower. They argued that a separate unit could handle such an operation more adequately. Task force members concluded, however, that in the absence of any current system of collecting, analyzing, and disseminating information, the tactical unit should develop a Criminal Information Center (CIC) as a model for the department, instituting the model on a small scale and then gradually expanding it. By taking the lead in creating such a capacity, the task force thought, the tactical unit might also be able to improve its occasionally strained relations with other units.

As the range of issues being considered by the task force narrowed, its members decided to concentrate their time and resources on those problems with which they felt the tactical unit could most effectively deal: street crime and the surveillance of criminals. The Police Foundation consultant working with the task force began assisting members in developing a project addressing these two problems.

The tactical unit had recently used surveillance techniques in an operation focusing on suspected burglars. Although the operation had been successful, there had been no systematic attempt to determine whether results were

the consequence of the tactical unit's strategy. The task force decided, therefore, that a similar strategy, focusing on the surveillance of suspected perpetrators would be worthy of careful testing.

In addition, the tactical unit had occasionally used a location-deployment strategy in certain areas of the city to combat problems of street crime, especially robbery and purse snatching. Although location-deployment strategies also had been successful, again, no systematic evaluation existed. Since the usual criterion for the tactical unit's leaving an assigned location was a decline in the rate of reported crime, the strategy had always seemed to work. This procedure did not take into account, however, the possibility of crime fluctuations independent of police operations. The members of the task force therefore decided that Location-Oriented strategies needed a more conclusive examination.

The task force decided to focus their attention on robbery and burglary offenses, which accounted for approximately 38 percent of all reported Part I offenses in Kansas City in 1971.2/ By using the CIC to compile data about suspects and locations frequently associated with robberies and burglaries, police could plan more precisely the activities to combat these target crimes, and could make comparisons between location-deployment and perpetrator-surveillance strategies and ordinary preventive patrol to determine their relative success.

Out of this developmental process came a proposal for an Apprehension-Oriented Patrol Project with two components: Location-Oriented Patrol (LOP) and Perpetrator-Oriented Patrol (POP). Whereas the traditional police model emphasizes the crime deterrence effect of high visibility, both LOP and POP would emphasize low visibility, and concentrate on apprehending criminals during the commission of felonies.

The task force proposal defined Location-Oriented Patrol as the assignment of tactical unit officers to specific geographical areas. The areas would be those having unusually high crime problems as identified by the CIC. The object of the strategy was to arrest suspects in the act of committing the target crimes of robbery and burglary at these preselected locations. Perpetrator-Oriented Patrol was defined as the assignment of tactical unit officers to continuous surveillance of certain criminal suspects identified by the CIC.3/

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[2]Part I offenses, as defined by the FBI, include murder, manslaughter, rape, robbery, aggravated assault, nonaggravated assault, burglary, larceny, and auto theft.

[3]Giancana v. Johnson (U. S. District Court, Northern District, Eastern Division No. 63C 1145, unreported, July 22, 1963, cert. den. 379 U. S. 1001, 85 S.Ct. 718 [1964]), held that within limits, law enforcement authorities could conduct a continuous surveillance.

Task force members were generally enthusiastic about this proposal and anxious to implement it. Two of the unit's patrol officers were relieved of regular duties and assigned to work full time on the final development and implementation of task force projects. Details for specific projects were developed, and in May 1972 a formal grant proposal outlining plans for a Criminal Information Center, Perpetrator-Oriented Patrol, and Location-Oriented Patrol was submitted to and subsequently funded by the Police Foundation. The CIC, POP, and LOP were initiated in August 1972 and were scheduled to continue until the end of July 1973. Subsequently, the CIC was funded for an additional year (August 1, 1973, through July 31, 1974), and POP and LOP for an additional six months (August 1, 1973, through January 31, 1974).

CRIMINAL INFORMATION CENTER

The CIC was established by the Special Operations Division Task Force to serve the patrol officer in the field. The CIC began operation on August 1, 1972, as a component of the Special Operations Division. On February 8, 1974, the CIC was transferred to the crime analysis unit, where it is now functioning. The CIC staff included two full-time patrol officers, a civilian crime analyst, and four civilian clerks. The CIC remained open 24 hours a day, Tuesday through Sunday, and between 8:00 A.M. and midnight on Mondays. The goal of the CIC was to receive, analyze, and distribute information about criminal activity and criminal suspects. This information was to be received from and provided to units of the Kansas City Police Department, as well as other area law enforcement agencies.

An important source of information for the CIC was the Field Interview Card, filled out by patrol officers who made car or pedestrian checks of known felons. The officers recorded information about the felons' associates, dress, and changes in appearance. Much of this information was subsequently programmed into the police department computer, thus ensuring rapid availability. However, because the Kansas City, Missouri, Police Department does not have a policy of computerizing information about the associates of known felons, that information was filed in the CIC office.

The CIC also handled "soft intelligence" files, containing hearsay information or rumors indexed by subject's name and address, and files on the makes of cars and license numbers that the tactical unit obtained from car and pedestrian checks. Although separate files of information about stolen property and informants were established, they were eventually discontinued.

CIC personnel collected, stored, and distributed this information to any law enforcement agency requesting it. Agencies receiving information included all units of the Kansas City Police Department, police departments of all nearby municipalities, federal marshals, and the FBI. In addition, the CIC identified high-crime areas to which LOP squads could be assigned, and provided POP squads with information about perpetrator subjects.

Information collection and dissemination programs such as the Criminal Information Center are not new. Cincinnati, Ohio, developed "Collator Officers" for the purpose of collecting and disseminating a wide variety of information. Included in the information-gathering are daily reviews of offenses, field interrogations, and arrest reports. The Collator Officer also distributes analyses of crime patterns. The Dallas, Texas, Police Department established the Intelligence Liaison Section (ILS) in 1971, as a part of the Intelligence Division, to provide better data collection and dissemination. As a part of the system, the ILS established the Known Offenders Identification File in June 1972. This file contains such information as description, address, past record, and so forth. Miami, Florida, has also developed a Criminal Information Center. One of the functions of the Miami CIC is to aid in identifying known recidivists, and collating and distributing field books, certain mug shots, and pertinent information for use by their tactical squad.

PERPETRATOR-ORIENTED PATROL

The underlying philosophy of POP was that certain individuals or loosely associated groups of individuals suspected of being active criminals warranted surveillance by a selected group of police officers. This strategy was similar to that employed by a specialized squad of six men established in New Brunswick, New Jersey. Using a strategy similar to New Brunswick's, POP placed under systematic surveillance certain individuals suspected of criminal activity in Kansas City.

Similar programs emphasizing individuals as the primary focus have been instituted in other major cities in the United States. Examples of such programs are the Miami, Florida, Police Department's Juvenile Slide, and Strategic Target-Oriented Project (STOP) directed against burglary and robbery. The Juvenile Slide program consisted of making color slides of known juvenile offenders, with accompanying pertinent information. The two STOP programs involved the distribution of field books containing mug shots and relevant information about robbery and burglary suspects to their respective STOP tactical units in hopes of reducing these target crimes and increasing at-the-scene arrests.

The Wilmington, Delaware, Police Department established a six-officer Robbery Squad that focused on robbery suspects rather than on individual incidents of robbery. Their strategy included stakeouts and infiltration of robbery suspects' hangouts. Departmental figures indicate that the squad made many firearm arrests; at one point in 1971, 210 out of 418 persons lodged in the Delaware Adult Prisons had been arrested by the Robbery Squad or its 14-officer support group.

As POP became operational in Kansas City, several problems were apparent. One problem resulted from the squad assignment procedure. During the program year, the tactical unit consisted of six squads, each composed of five or six officers and one sergeant. Two squads were assigned to POP, two squads to

LOP, and two squads to more traditional tactical unit duties, and all squad assignments rotated on a monthly basis. This rotation caused communications problems between POP squads, since much of the information about assigned subjects was the result of impressions, and not amenable to oral or written transfer. Additional dissatisfaction with the rotation system developed because some officers preferred either LOP or POP assignment. To address these problems, the squad assignments were frozen in January 1973. These longer-term assignments were made on a voluntary basis after consultation with squad supervisors.

An unforeseen aspect of the subject assignment procedure was that some of the target subjects associated closely with each other; some were even related. Consequently, members of the two POP squads often met during the course of their assignments, with resulting misunderstandings. These misunderstandings were reduced in January 1973, when squad members established closer lines of communcation.

Another problem with the POP model developed because of the large number of perpetrator subjects who used narcotics. While surveilling subjects, officers often developed pertinent information concerning narcotics activity, resulting in a dilemma for the POP squads. Although they did not have primary responsibility for narcotics control, POP squads tended to follow narcotics leads, which sometimes diverted them from their assigned subjects.

The design did not take into account the craftiness of some of the subjects, many of whom quickly became "tail conscious." Although they may lack exterior markings and red lights, "unmarked" police vehicles are readily identifiable if subjects know what to look for, and many did know. The use of rental vehicles reduced the likelihood of recognition, but, unfortunately, the only provision for obtaining fuel was at the police garage. A particularly resourceful group of suspects watched the garage and recorded the license numbers of rental cars observed there. Some subjects eventually became quite adept at identifying the officers assigned to POP squads. On one occasion, in order to allow a subject time to elude surveillance, the subject's girl friend drove her car into a private vehicle driven by a POP officer.

An operational difficulty during the program year was that POP squad members were still responsible for other tactical unit duties such as crowd and traffic control at sporting events and other large gatherings. These duties required officers to maintain a neat appearance, because the department superiors believed that unshaven uniformed officers with unkempt hair would damage relations with the public. Because of these grooming regulations, POP squads often had difficulty blending comfortably into the subjects' surroundings.

During July 1973, the last scheduled month of the program year for Apprehension-Oriented Patrol, unusually intense criminal activity developed in a particular area of the city and <u>all</u> tactical unit squads were assigned to LOP in that area. As a result, POP was conducted for only eleven months during the program year, from August 1972 through June 1973.

During the extension phase, an organizational change occurred in the tactical unit which resulted in the assignment of only one squad to POP and the remaining five squads to LOP. The POP squad was not expected to receive special assignments such as traffic control at sporting events. The chief of the Special Operations Division also changed the primary objective of POP from making arrests to gathering information to aid other units in making arrests. This important change in focus meant that POP officers had to obtain enough information to make arrests of suspected perpetrators and then contact other units that would actually effect the arrest. Unfortunately, although a system of crediting arrests made by other units to the POP squad was proposed, such a system was never implemented. Therefore, it was impossible to evaluate POP performance effectively during the extension period, in terms of assisting other units in making arrests.

POP officers had more freedom in deciding whom they would surveil and more latitude in dress and general appearance during the extension period. Squad members believed this new freedom was necessary because of the revised POP strategy of infiltrating criminal cliques as well as conducting regular stakeouts. The squad became less obtrusive in other ways. They made more frequent use of rental cars, school buses, and specially equipped vehicles. They rented an apartment to assist the POP officers in developing contacts and informants. To reduce the risk that their true identities would be revealed, squad members were given false identification.

POP officers extended their attention beyond the original group of target subjects, determining surveillance assignments on the basis of what became known as the "wheel model" of interrelationships among criminals. At the hub of the wheel was a person, place, or thing that attracted groups of perpetrators. This hub became the new target of surveillance, and would be the focal point of a surveillance assignment. Persons under surveillance usually were individuals suspected of having committed major burglaries. Target persons were selected even if they were not among the original list of CIC subjects.

A typical POP assignment during the extension period involved the surveillance of a CIC subject known to be a hub. The POP officers rented a nearby hotel room and maintained intermittent surveillance over a 16-day period, usually between the hours of 6:00 P.M. and 2:00 A.M. The team made more than 150 individual notes and more than 50 photographs of individuals coming and going in the area, and they observed six other CIC subjects at the location. During the period of surveillance, the officers observed narcotic transactions, but made no arrests of any kind.

POP officers also conducted surveillances outside the jurisdiction of the Kansas City, Missouri, Police Department. In one case, a surveillance of only one night in Overland Park, Kansas, resulted in the arrest of two CIC subjects for possession of narcotics. Although POP officers developed the information for the arrests through informants, they received no formal recognition.

One problem encountered during the extension phase arose in the attempts to infiltrate groups of suspected perpetrators. This particular tactic

involved the expenditure of many officer-hours, with an increased risk to the officers' safety. After three months, involving two infiltrating officers and a backup officer for each at various time intervals, infiltration was dropped in favor of using informants to provide intelligence about perpetrator groups.

To enhance the use of informants, the CIC office had a private phone installed on August 15, 1973, for incoming calls from informants. During the nine months for which data were available, the CIC received 584 informant calls for an average of 64.89 calls per month.

From December 7 through December 31, 1973, all tactical unit personnel were removed from their regular assignments to assist in Operation Robbery Control, a concerted departmental program designed to reduce the number of outside robberies during the Christmas holiday season. Consequently, during the proposed six-month extension period (August 1, 1973, through January 31, 1974), only five months were actually allotted to the LOP and POP strategies.

LOCATION-ORIENTED PATROL

The objective of LOP was to place officers in particularly high-crime areas with the primary goal of making arrests for robbery and burglary, in hope of intercepting criminals in the act of committing a crime. Programs similar to LOP have been instituted in other municipalities. For example, in 1965, the New York Transit Police were nearly tripled in number and deployed to specific areas at times when subway robberies most frequently occurred. Such specific deployment resulted in a "decrease in the felony crime rate [that] was genuine and substantial."4/ The previously mentioned Wilmington, Delaware, Robbery Squad employed not only the Perpetrator-Oriented strategy, but also a Location-Oriented strategy through the use of stakeouts of businesses. Winchester, Massachusetts, created a program to focus on burglary control. As a part of the program, a special surveillance unit focusing on burglary was created and deployed to high-incidence neighborhoods at times when burglaries most frequently occurred.

In Kansas City the CIC was responsible for identifying areas with serious crime problems, as indicated by a compilation of daily reports of all burglary and robbery offenses. The tactical unit's crime analyst was to check these reports daily for indications of crime trends. After identifying a pattern, the analyst would review all relevant data for the area, including such supporting information as recent tactical unit car and pedestrian check reports. The information went into a folder containing lists of possible suspects, their vehicles, their *modus operandi*, probable time of occurrence of crime, and other relevant information. Geographical boundaries were established for

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[4] Jan M. Chaiken et al., *The Impact of Police Activity on Crime: Robberies on the New York Subway System*, New York: The New York City Rand Institute, 1974. P. v.

the problem area and the information folder was given to a tactical unit squad.

Once the squad received a LOP assignment, they decided how they would work in that location. Dress could vary from police uniforms to business suits, casual clothes, or service worker uniforms. Vehicles might be police cars, rental cars, or such novel vehicles as soft drink, phone company, or pollution control trucks. Tactics might include frequent car and pedestrian checks, roving surveillance, or stationary surveillance from places as bizarre as the top of a telephone pole. The area of assignment might be a specific address, several blocks along a major thoroughfare, an area several blocks square, a single beat, or an entire sector. The level of attention given to an area would vary according to the officers' perceptions of current criminal activity. If, during a shift, such activity was not apparent, officers might temporarily leave the area, returning periodically to their assignment.

When a LOP assignment began in a selected area, the tactical unit crime analyst was to monitor trends in that location as well as in surrounding areas in an attempt to detect any displacement, i.e., criminal activity shifting from designated to adjacent areas. When the crime level declined or the pattern changed, the squad would be removed from the area.5/ This strategy continued during both the program year and the extension phase without major modification. The only modification made during the extension period was that five, instead of the original two, squads were assigned to this strategy.

An example of a LOP assignment involved residence burglaries on one particular beat. From September 1 to October 8, 1972, there were 28 residence burglaries in this area. On October 10, 1972, a squad assigned to LOP was deployed to the problem area. Included in their assignment folders were copies of the offense reports relating to the 28 burglaries; a list of suspects, their vehicles, and pertinent descriptive information; and a photo-reduced map indicating the locations of the 28 burglaries. The squad began working the assigned area on October 10, 1972, and made two arrests of suspects in connection with burglaries. The squad temporarily left the target area for a week on another assignment, but returned on October 17, 1972. Two officers working in plain clothes learned that persons responsible for the burglaries frequented a restaurant in the area. In making car checks of selected individuals leaving the restaurant, the officers arrested three persons for possession of narcotics from one car check. Using a pollution control truck and uniforms,

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[5]To attribute a reduction of crime to a particular strategy would have been difficult because of the "regression effect." See Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, Chicago: Rand-McNally & Co., 1963. Pp. 10-11. For specific research, see Denise Corcoran and Nelson B. Heller, Control of Regression Artifact Error in Evaluating the Effectiveness of Crime Reduction Programs, A Report to Missouri Law Enforcement Assistance Council, Region 5, 1974.

two other officers went to an address obtained from an earlier car check and learned that a person residing there was wanted on a parole violation. They called other units to arrest the person on that charge. When the sergeant of the squad was satisfied that the burglaries in the target area had ceased, he terminated the assignment on October 21, 1972.

SUMMARY

A task force composed of members of the tactical unit of the Kansas City, Missouri, Police Department created a Criminal Information Center (CIC) and an Apprehension-Oriented Patrol project with two components, Location-Oriented Patrol (LOP) and Perpetrator-Oriented Patrol (POP).

The CIC was designed to serve the entire Department as a central clearinghouse for information about criminals and criminal activity. In addition to this overall function, the CIC provided specific support to the LOP and POP squads (identifying target locations for LOP, and developing, updating, and distributing subject information for POP).

LOP involved the assignment of tactical unit officers to designated high-crime areas, with the goal of intercepting and arresting criminals in the act of robbery or burglary.

POP involved the surveillance of specific individuals suspected of criminal activity. Here, too, the goal was to intercept and arrest perpetrators committing the target crimes of robbery and burglary during the program year; however, during the extension period, the objective was changed from arrest-oriented to information-generating activities.

II. EVALUATION ENVIRONMENT

The process of obtaining the results of this study must be considered as important as the results themselves. The effects of the environment in which the Special Operations programs and their evaluation took place provide important lessons, applicable beyond the Kansas City experience. Furthermore, because the environmental effects had such an impact on the final product, it seems appropriate to devote this chapter to a discussion of these effects before presenting the actual evaluation of the programs, with the hope that this discussion will place the findings in better perspective.

ORGANIZATION GOAL CONFLICTS

The interaction of a problem-oriented organization, such as a police department, with a research-oriented evaluation staff, produced certain conflicts of perspectives which had impact on the nature of the programs and their evaluation. Many problems resulted because members of both organizations seemed to misunderstand the point of view of the other organization.

Few members of either organization fully understood the goals and needs of the other. The evaluation staff personnel, although possessing varieties of research experience, had had limited involvement with police departments in general and with the Kansas City department itself. The evaluators were still in the early stages of organizing and adjusting to the local environment. The department had had relatively limited contact with persons possessing the evaluators' point of view. As a result of this lack of familiarity, neither organization could anticipate the needs and problems of the other. The evaluators were concerned with rigorously testing hypotheses, preferably under controlled conditions. Such testing requires explicit formulation of programs, specification of their anticipated consequences, rigorous implementation of programs as designed, exact measurement of outcomes, and careful analysis of data to determine specific effects. The department, on the other hand, sought to obtain solutions to practical problems as quickly as possible, so as to be able to modify program implementation to alleviate those problems. To solve such problems would require nearly continuous revision of programs and constant feedback about their status. The more abstract goals of the evaluators caused some consternation and suspicion on the part of somewhat cynical department representatives, with regard to the motivations of the evaluation staff. Occasionally, this suspicion led to excessive caution concerning evaluators' access to and use of information.

The evaluators often saw the department's perspective as one of a rush to judgment before the evaluators could analyze sufficient evidence. The department, however, saw the cautionary stance of the evaluators as dilatory and conservative. The police officers who devised and implemented programs were understandably eager to see those programs labeled as successful; unfortunately, the criteria applied by the officers and the evaluators for such a label were in basic conflict. Only thorough, systematic data analysis would prove the merits of a program to the evaluators. Police officers, however, believed they could "sense" the value of their programs, and on that basis felt compelled to broaden the programs to encompass the entire department. A constant conflict between the desire to expand programs and the need for control groups characterized relations between the two organizations.

The needs of the two organizations are in conflict to a large extent. The department often could not provide the personnel to specify and supervise implementation of programs, the data necessary to measure results, or the time required to wait for outcomes to become clear. The evaluation personnel, on the other hand, could not produce answers to questions that had not been clearly articulated before the data collection, or which were constantly being revised as a result of the latest findings. Such differences all too frequently led to false expectations. Each organization projecting, in the face of ignorance, its own nature onto that of the other, frequently made plans based on erroneous assumptions. The department was disappointed when results were not immediately forthcoming or when the results provided did not specifically provide answers to practical questions. The evaluators often were dismayed at the difficulties they faced in obtaining appropriate data, and were discouraged by the frequent requests to interrupt their data-gathering efforts to present incomplete results to the department. As a result of these differences, the personnel of the department and the evaluation staff developed to some extent an attitude of mutual suspicion, an atmosphere hardly conducive to cooperation.

The evaluation of the Special Operations programs, particularly, suffered acute damage as a result of this mutual lack of understanding. The failure to articulate and supervise the implementation of the patrol strategies was due partially to a lack of systematic contact and understanding between evaluation and program personnel. The deterioration of the original LOP evaluation design occurred partly because of the failure of program personnel to understand the demands of evaluation, and partly because of the failure of the evaluators to understand the pressures of operational concerns and the need to plan for them. The frequent changing of the goals and tactics of POP occurred without sufficient concern for the impact of these changes on evaluation efforts.

ORGANIZATION STRUCTURE CONFLICTS

The structures, as well as the goals, of the department and the evaluation staff were strikingly different. Organized hierarchically, the department placed a great deal of importance on status, proper channels of communication, and strict scheduling. The evaluators, on the other hand, were only

loosely organized, had little respect for bureaucratic niceties, and maintained sporadic working schedules. Even the physical appearance of the evaluators, for the most part young and, by department standards, unkempt, violated the strict concern for discipline and order of certain department personnel. These structural differences led to various conflicts. Department requests for evaluation information were routinely made through the organizational structure, delaying their receipt by the evaluators. Evaluation personnel frequently attempted to circumvent this channeling process, only to find that requests for information would be lost and that information provided would be unnoticed for weeks on the wrong desk.

The evaluation group was particularly affected in the early stages by its lack of internal coordination. A small staff assumed the awesome task of simultaneously evaluating several programs, maintaining contact with department personnel, hiring and training support staff, and integrating itself as a functioning organization. Until a viable evaluation organization could be created, diffusion of focus led to insufficient attention to any single problem.

The Special Operations project and its evaluation was also seriously affected by the difference in operational styles of the two interacting organizations. The director of this evaluation typified the young, casual image already associated with the evaluation staff in general. That the director did not have such status symbols as numerous academic degrees, a business suit, or well-trimmed hair hampered him in successfully prosecuting his arguments in meetings with department spokespersons. Department representatives, when problems arose, were reluctant to circumvent the chain of command to contact other members of the evaluation staff. Evaluators, on occasion, found that failure to treat a command staff response as final was perceived to be tantamount to rebellion. One result of these differences was that the evaluation staff felt constrained and frustrated in trying to deal spontaneously with the department, while members of the police department, on the other hand, already somewhat suspicious of dealing with civilians in general, believed that the evaluation staff was disorganized and, sometimes, disrespectful of authority.

INADEQUATE ATTENTION GIVEN TO PROGRAM EVALUATION

At the same time that the Special Operations programs were being implemented, other important programs were also being conducted in Kansas City. The Preventive Patrol Experiment, a rare example of a social experiment, was receiving nationwide attention from criminal justice experts. An Action Review Panel, designed to reduce officer-citizen conflict, and a Directed Patrol Program, to improve interofficer communication, were also being examined. In addition, a program to improve police-community relations was being designed. The Preventive Patrol Experiment was the inducement for the original evaluation staff to work in Kansas City; the obvious importance of that study overshadowed all others. The staff next assumed responsibility for the evaluation of the Action Review Panel and the Directed Patrol programs. Concern

for these programs preceded and surpassed that for the Special Operations programs.

At this time, the Special Operations program evaluation was under the auspices of a contracted research organization. Members of that research organization responsible for the Special Operations evaluation were already preoccupied with research interests of their own. Concern for the Special Operations evaluation and the integration of that evaluation with program development was confined to the time not spent on other projects. Thus, during the crucial beginning of the program, the evaluation perspective was only sporadically represented. Eventually, disenchantment with this lack of attention led to the termination of the contract with the research organization. The head of the evaluation staff decided to hire a new member to assume responsibilities for evaluating the Special Operations programs. The existing evaluation staff's many commitments, and difficulties in finding a suitable project director, meant that the Special Operations task force operated in virtual isolation from evaluation personnel for several months.

The decision was made to hire a part-time director for the first few months. There were many reasons for this decision, some explicit and some implicit. First, the tactical unit itself was quite small, and therefore the evaluation staff viewed its programs as less important than those of the much larger patrol divisions. The evaluators also believed they could obtain most necessary data from the department's computer and that, therefore, little expenditure of effort would be necessary immediately. Second, compared to the programs of the patrol divisions, the Special Operations Division's project appeared to be a potentially less fruitful research enterprise, an important concern for a young, publication-hungry staff. Third, the evaluators' concern for constitutional rights produced some hesitancy about endorsing a program explicitly designed to place "suspects" under nearly continuous surveillance.

The decision to hire a part-time evaluation project director implied that the search for staff for that position would be limited to persons available in the Kansas City area. Over a period of several weeks, police officers and the evaluation staff conducted many interviews with job applicants. Applicants were, essentially, of two types: a) young, relatively inexperienced graduates of local educational institutions, and b) older individuals whose experience did not particularly equip them to perform contemporary types of analysis in the subject area. After deliberation, the consensus was to hire the best qualified applicant of the former type.

The existence of a part-time director led to several serious consequences. Working only part-time, the director was, to some degree, isolated from the remainder of the evaluation staff, and his opportunity to interact with the closely knit professional fraternity of tactical unit officers was limited. Even when, a few months later, the director was placed on full-time status, he spent much of his time collecting data in the tactical unit office at night to avoid interrupting daily office activity. As a result, the director became even more isolated from the rest of the evaluation staff. The "team" approach the evaluators had adopted made this isolation particularly

critical. Discussions between this project director and other staff members about evaluation issues were infrequent and few possibilities existed to provide intellectual and social support.

During this period of isolation from the rest of the evaluators, the project director spent most of his working days with members of the tactical unit. Separation from the remainder of the evaluation staff, plus the sheer seductiveness of tactical unit officers' lifestyle, combined to produce a greater sense of identification with the program than with the requirements for evaluating it. Such identification led to a less than objective evaluation stance, and to a reluctance to convey negative information about the program to supervisors in the evaluation staff. At the same time, the program staff received unrealistic assurances about the capacities of the evaluation effort.

The tolerant management style of the evaluation staff, ordinarily quite productive, failed in this instance. It was typically assumed that each project director would bear individual responsibility for the evaluation of a particular program, but would consult with other members of the staff when problems arose. This director's lack of contact and identification with the evaluation staff meant that programmatic difficulties often went unnoticed and unattended.

SUMMARY

Because of differences in organizational goals and structures, and inadequate attention paid to the programs' evaluations, the Special Operations programs and their evaluation have been noticeably affected by suspicion, isolation, and neglect. This climate resulted in programs that were conceived and implemented without sufficient thought to either operational or evaluational ramifications. Compared to the other Kansas City programs funded by the Police Foundation, evaluation personnel had little opportunity to receive information from, and provide advice to, task force personnel responsible for the conduct of Special Operations programs. This severe problem produced delays in data collection, misunderstandings, and a failure to develop a relationship generally conducive to mutual learning.

Data and the analysis thereof are developed in a symbiotic relationship between those individuals involved in the day-to-day operation of a program and those involved in its evaluation; when that relationship is strained, both the program and its evaluation must suffer.

III. THE CRIMINAL INFORMATION CENTER

The evaluation staff used three methods of assessing the Criminal Information Center. First, they conducted an experiment to test the effectiveness of distributing information compiled by the CIC about persons suspected of criminal activity. The second form of evaluation involved an examination of the actual contributions to and requests for CIC information by units of the Kansas City Police Department. Finally, they surveyed users of the CIC to ascertain their satisfaction with its services. These evaluations are presented below.

EFFECTIVENESS OF DISTRIBUTING INFORMATION ABOUT CIC SUBJECTS

The CIC compiled a master list of perpetrator subjects suspected of burglary and robbery activity. To develop this master list, the CIC first obtained a list of 25 robbery suspects from the Crimes Against Persons Unit and a list of 30 burglary suspects from the Crimes Against Property Unit. Special Operations personnel submitted a list of 50 suspects. The department's computer system generated 113 names of persons with at least three arrests for robbery or burglary in the previous year. Members of the SPD provided a list of 142 persons.

All subjects whose names appeared on more than one list were included on the master list, together with the names of those subjects whom the task force considered "most active" criminals. The exact sources for all the names are unknown. However, the staff did know that the task force members argued that the subjects on the computer list were criminals who were more inept than those on other lists. The real "pros," members suggested, would have been able to avoid being arrested three times in the preceding year. Therefore, only two names from the computer-generated list were on the final master list. As a result of this selection process, the Special Operations task force members compiled a final list of 108 subjects.

A computerized random number routine was used to assign each of these subjects to one of the four cells of a 2 x 2 factorial experimental design. These cell assignments determined which departmental units would receive information about those subjects. After making the assignments, evaluators discovered that one name had been duplicated. Removing the duplicate subject meant that the total number of subjects was reduced to 107.

Table III-1 presents the experimental design and the distribution of subjects to its four cells.

TABLE III-1

DESIGN FOR DISTRIBUTION OF INFORMATION

		Information Provided to Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than Tactical Unit	Yes	A N=27	B N=26	53 (A+B)
	No	C N=27	D N=27	54 (C+D)
	Total	54 (A+C)	53 (B+D)	107 (A+B+C+D)

The CIC staff assembled looseleaf notebooks containing information about subjects assigned to cells A, B, and D. Each page of the notebooks contained a mug shot of one of the perpetrator subjects, as well as the subject's name, known addresses, physical description, and any previously known or currently suspected criminal activity. At the bottom of each page was blank space for entering additional information about such matters as the suspect's current vehicle, known associates, and frequented locations.

Notebooks containing information about the 26 subjects in group B and the 27 subjects in group D, but not about the members of groups A and C, were distributed to all members of the tactical unit. Members of patrol divisions, detectives, vice, and other officers received notebooks containing information about the 27 subjects in group A and the 26 subjects in group B, but not about subjects in groups C and D.

An analysis of the list of 107 subjects yielded the following profile:6/

58 had felony convictions	105 adults	27 black
49 had felony arrests without convictions	2 juveniles	80 white

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[6]Source: Midwest Research Institute, Special Operations Evaluation Plan, September 1972. Pp. 42-43.

The 107 subjects had a total of 1313 felony arrests (a mean of 12.27 felony arrests per subject), and a total of 119 felony convictions (a mean of 8.02 felony arrests for those individuals with no convictions).

From August 1, 1972, through January 31, 1974, the suspects became target subjects. During this 18-month period, a total of 67 of the 107 subjects were arrested by units of the Kansas City, Missouri, Police Department. Table III-2 presents the number of subjects arrested and the offenses for which those arrests were made.

TABLE III-2

TYPES AND NUMBERS OF ARRESTS OF CIC TARGET SUBJECTS: AUG. 1972 - JAN. 1974

	TACTICAL UNIT		OTHER UNITS		ALL UNITS COMBINED	
	Number of Subjects Arrested*	Number of Arrests	Number of Subjects Arrested*	Number of Arrests	Number of Subjects Arrested*	Number of Arrests
Target Crimes (Robbery or Burglary)	20 (54.05)	26 (42.62)	25 (48.08)	36 (32.73)	32 (50.79)	62 (36.25)
Other Felony	14 (37.84)	20 (32.79)	19 (36.54)	23 (20.91)	26 (41.27)	43 (25.15)
Ordinance	9 (24.32)	9 (14.75)	20 (38.46)	30 (27.27)	23 (36.51)	39 (22.81)
Traffic	2 (5.40)	2 (3.28)	12 (23.08)	17 (15.45)	14 (22.22)	19 (11.11)
Other**	4 (10.81)	4 (6.56)	3 (5.76)	4 (3.64)	6 (9.52)	8 (4.68)
Total Number Arrested*	37	61 (100.00)	52	110 (100.00)	63	171 (100.00)

*Because multiple arrests of individual target subjects occurred, the total is not the sum of the individual columns. Percentages are based on the percent of subjects arrested for a specific offense of all those arrested; therefore, because of multiple arrests, percentages also do not sum to 100.00 percent.

**Includes state warrants and parole violations.

Comparison	Test Statistic	df	Significance	Measure of Association
Number of Arrests Tactical Unit—Other Units	$\chi^2 = 11.909$	4	$.005 < \rho \leq .01$	$\phi = .264$

The data indicate that the tactical unit made a significantly greater percentage of its arrests of target subjects for the more serious offenses (target crimes and other felonies) than did the other units. The data also indicate that a number of multiple arrests occurred. Table III-3 presents the data on the number of times all 107 of the CIC subjects were arrested.

TABLE III-3

NUMBER OF TIMES CIC SUBJECTS ARRESTED FOR ALL CRIMES COMBINED, BY UNIT:* AUG. 1972 - JAN. 1974

Number of Times Arrested	Unit							
	Tactical Unit				Other Units		All Units Combined	
	Subjects Arrested		Arrests		Subjects Arrested	Arrests	Subjects Arrested	Arrests
	N	%	N	%*	N %	N %**	N %	N %**
0	70	(65.42)	0	(0.00)	55 (51.40)	0 (0.00)	44 (41.12)	0 (0.00)
1	24	(22.43)	24	(39.34)	34 (31.78)	34 (30.91)	30 (28.04)	30 (17.54)
2	8	(7.48)	16	(26.23)	3 (2.80)	6 (5.46)	12 (11.22)	24 (14.04)
3	2	(1.87)	6	(9.84)	4 (3.74)	12 (10.91)	8 (7.48)	24 (14.04)
4	1	(0.94)	4	(6.56)	3 (2.80)	12 (10.91)	2 (1.87)	8 (4.68)
5	1	(0.94)	5	(8.20)	5 (4.67)	25 (22.73)	2 (1.87)	10 (5.85)
6	1	(0.94)	6	(9.84)	1 (0.94)	6 (5.46)	2 (1.87)	12 (7.02)
7	0	(0.00)	0	(0.00)	1 (0.94)	7 (6.36)	1 (0.94)	7 (4.09)
8	0	(0.00)	0	(0.00)	1 (0.94)	8 (7.27)	1 (0.94)	8 (4.68)
9	0	(0.00)	0	(0.00)	0 (0.00)	0 (0.00)	3 (2.80)	27 (15.79)
10	0	(0.00)	0	(0.00)	0 (0.00)	0 (0.00)	1 (0.94)	10 (5.85)
11	0	(0.00)	0	(0.00)	0 (0.00)	0 (0.00)	1 (0.94)	11 (6.43)
Total	107 (100.02)		61 (100.01)		107 (100.01)	110 (100.01)	107 (100.3)	171 (100.01)

*Because of the possibility of a CIC subject being arrested by both the tactical unit and by other units, the two do not sum to the numbers of arrests made by all units combined.

**Percentages are greater than 100.00 percent because of round-offs.

Comparison	Test Statistic	df	Significance
Number of Subjects Arrested Tactical Unit – Other Units	$x^2 = .002$	1	$p > .25$

The data indicate that there is no significant difference between the tactical unit and other units in terms of the number of subjects arrested once as opposed to those arrested more than once for all crimes combined. Examining subjects arrested by all units combined, 33 of the 63 subjects arrested during the 18-month experimental period were arrested more than once.

Data about arrests of CIC target subjects were collected from three crime categories:

- All crimes combined
- Crimes of robbery or burglary (target crimes)
- Crimes other than robbery or burglary (nontarget crimes).

These three crime categories resulted in seven data sets. These sets of data pertain to the number of target subjects arrested by:

1. All units combined for all crimes combined;
2. Units other than the tactical unit for all crimes combined;
3. The tactical unit for all crimes combined;
4. Units other than the tactical unit for robbery or burglary;
5. The tactical unit for robbery or burglary;
6. Units other than the tactical unit for nontarget crimes; and,
7. The tactical unit for nontarget crimes.

Because of multiple arrests, the data sets are not mutually exclusive. For example, arrests of target subjects by units other than the tactical unit and the tactical unit for all crimes combined (items 2 and 3 above) do not sum to arrests of target subjects by all units combined for all crimes combined (item 1 above) because some subjects have been arrested by both types of units but would be counted only once in item 1.

The staff also collected data on target subjects about whom the CIC received inputs. Because only two target subjects were not subjects of inputs from some unit during the 18 months under consideration, only two data sets were collected. The sets of data concerned the number of target subjects about whom inputs were made by:

- Units other than the tactical unit, and
- The tactical unit.

Using the 2 x 2 factorial design, it was possible to evaluate three effects of providing CIC information about subjects to various units of the department. The three effects to be examined are the following:

1. The effect of providing information about subjects to units other than the tactical unit.

This effect is determined by comparing two proportions:

- The proportion arrested or about whom the CIC received inputs of the 53 CIC subjects whose descriptions appear in the notebooks distributed to units other than the tactical unit (A+B in Table III-1); and

- The proportion arrested or about whom the CIC received inputs of the 54 subjects whose descriptions do not appear in the notebooks given to nontactical units (C+D in Table III-1).

The difference between these two proportions is tested to see if it is significantly different from zero.

2. The effect of providing information about subjects to the tactical unit.

This effect is determined by comparing two proportions:

- The proportion arrested or about whom the CIC received inputs of the 53 CIC subjects whose descriptions appear in the notebooks distributed to the tactical unit (B+D in Table III-1); and

- The proportion arrested or about whom the CIC received inputs of the 54 subjects whose descriptions do not appear in the tactical unit notebooks (A+C in Table III-1).

The difference between these two proportions is tested to see if it is significantly different from zero.

3. The interaction effect between providing information to the tactical unit and to other units.

The issue here is whether the effect of providing information to the tactical unit is affected by providing information to other units. This answer is determined by calculating two effects:

- The effect of providing information to the tactical unit on the proportion arrested or about whom the CIC received inputs of the 54 subjects whose descriptions were not distributed to nontactical units (C+D in Table III-1); and

The effect of providing information to the tactical unit on the proportion arrested or about whom the CIC received inputs of the 53 subjects whose descriptions were distributed to nontactical units (A+B in Table III-1).

Finally, the difference of these two effects is calculated. This test for interaction effect is actually a test of the difference of two differences; if this difference is significantly greater than zero, one can conclude that the effect of providing information about subjects to the tactical unit is affected by whether information about those subjects is given to other units.

Because the dependent variables under study (whether CIC target subjects were arrested or not) are dichotomous, analysis by standard linear models is not appropriate.[7] Use of a program for analyzing categorical data by linear models[8] achieved an approximation of analysis of variance to measure three effects: providing information to the tactical unit; providing information to other units; and the interaction between those two effects. Initially, the percentages of those arrested were subjected to a logit transformation; a linear model was then fitted to this data by the least squares criterion. The test of the significance of each effect is provided by the minimum logit chi-square, which Berkson has shown to provide estimates and test statistics essentially identical to those provided by maximum likelihood and Pearson's chi-square.[9] The .05 level of significance will be applied as a criterion for statistical significance.

The hypotheses and rationales for those situations in which a significant effect is expected are presented below.

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[7] For a brief description of some of the problems inherent in the analysis of dichotomous variables, see John B. Lansing and James N. Morgan, Economic Survey Methods, Ann Arbor: Institute for Social Research, 1973. Pp. 296-300.

[8] James E. Grizzle, C. Frank Starmer, and Gary G. Koch, "Analysis of Categorical Data by Linear Models," Biometrics, 25(3), 1969, 489-504, provides the rationale for the analysis. More specific details of the program itself are provided in Ronald N. Forthofer, C. Frank Starmer, and James Grizzle, "A Program for the Analysis of Categorical Data by Linear Models," Journal of Biomedical Systems, 2(6), 1971, 3-48.

[9] Joseph Berkson, "Maximum Likelihood and Minimum χ^2 Estimates of the Logistic Function," Journal of the American Statistical Association, 50, 1955, 130-152; and Joseph Berkson, "Application of Minimum Logit χ^2 Estimate to a Problem of Grizzle with a Notation on the Problem of No Interaction," Biometrics, 24, 1968, 75-95.

Hypothesis III-A: Providing information about target subjects to units other than the tactical unit will produce:

Hypothesis III-A1: A significant positive effect on the percentage of target subjects arrested by all units combined for all crimes combined.

Hypothesis III-A2: A significant positive effect on the percentage of target subjects arrested by units other than the tactical unit for all crimes combined.

Hypothesis III-A3: A significant positive effect on the percentage of target subjects arrested by units other than the tactical unit for target crimes (robbery and burglary).

Hypothesis III-A4: A significant positive effect on the percentage of target subjects arrested by units other than the tactical unit for nontarget crimes.

Rationale: Having information about target subjects should make officers in nontactical units more aware of the actions of those subjects; this heightened awareness should produce a greater likelihood of arrest for those subjects in nontactical units for all crimes combined, as well as for target and nontarget crimes.

Because of limited contact and communication between the tactical unit and nontactical units, information received by units other than the tactical unit is not expected to have a significant effect upon arrests made by the tactical unit.

Hypothesis III-B: Providing information about target subjects to the tactical unit will produce:

Hypothesis III-B1: A significant positive effect on the percentage of target subjects arrested by all units combined for all crimes combined.

Hypothesis III-B2: A significant positive effect on the percentage of target subjects arrested by the tactical unit for all crimes combined.

Hypothesis III-B3: A significant positive effect on the percentage of target subjects arrested by the tactical unit for target crimes.

Hypothesis III-B4: A significant effect on the percentage of target subjects arrested by the tactical unit for nontarget crimes.

Rationale: Having information about target subjects should make the tactical unit more aware of the actions of those subjects; this heightened awareness should produce a greater likelihood of arrest for those subjects by the tactical unit for all crimes combined, target crimes and nontarget crimes.

Because of limited contact and communication between the tactical unit and nontactical units, information received by the tactical unit is not expected to have a significant effect upon arrests made by nontactical units.

In summary, a positive effect on the percentage of target subjects arrested by a unit is expected only when information is provided to that unit.

In order to test the hypotheses, evaluators analyzed the seven data sets to estimate the two main effects and the interaction effect. These analyses are presented below.

1. CIC Subjects Arrested for All Crimes Combined

The data collected for the first test of hypotheses represent all arrests (felony, ordinance, traffic, and other) of the CIC target subjects by all units of the Kansas City Police Department. Table III-4 presents the data on CIC subjects arrested by all units combined for all crimes combined.

The results support Hypothesis III-A1. The effect on the arrest rate of providing information to units other than the tactical unit is significant at the .0008 level, well below the .05 criterion applied here. Figure III-1 portrays this effect graphically.

Approximately 75.5 percent of the subjects about whom information was provided to units other than the tactical unit were arrested, while only 42.6 percent of the other subjects were arrested. Therefore, providing information to nontactical unit personnel resulted in a difference of 32.9 percent of subjects arrested.

The results do not support Hypothesis III-B1. The effect of providing information to the tactical unit is significant at only the .3315 level, and therefore fails to meet the .05 criterion.

The finding that the effect associated with providing information to the tactical unit was not statistically significant may have resulted in part from the fact that members of the tactical unit knew many of the 107 subjects even before information was distributed. Having information about some subjects in all four groups, tactical officers might not have given particular attention to those in their looseleaf notebooks; such relatively equal attention might have reduced the expected effect of providing information.

As expected, the data in Table III-4 indicate that no significant interaction occurred.

TABLE III-4

CIC TARGET SUBJECTS ARRESTED BY ALL UNITS COMBINED FOR ALL CRIMES COMBINED

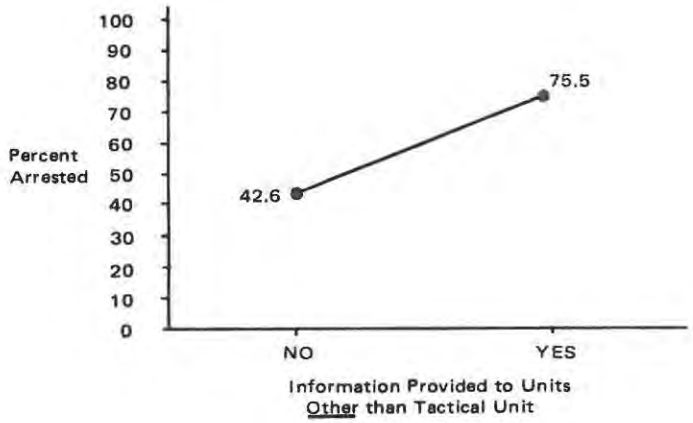
		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Arrested 21 (77.78%) Not Arrested 6 (22.22)	Arrested 19 (73.08%) Not Arrested 7 (26.92)	Arrested 40 (75.47%) Not Arrested 13 (24.53)
	No	Arrested 8 (29.63) Not Arrested 19 (70.37)	Arrested 15 (55.56) Not Arrested 12 (44.44)	Arrested 23 (42.59) Not Arrested 31 (57.41)
	Total	Arrested 29 (53.70) Not Arrested 25 (46.30)	Arrested 34 (64.15) Not Arrested 19 (36.85)	Arrested 63 (58.88) Not Arrested 44 (41.12)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	11.351	$\rho = .0008$
Information provided to tactical unit	.943	$\rho = .3315$
Interaction Effect	2.4437	$\rho = .1180$

FIGURE III-1

PERCENTAGE OF TARGET SUBJECTS ARRESTED BY ALL UNITS COMBINED FOR ALL CRIMES COMBINED AS A FUNCTION OF PROVIDING INFORMATION TO UNITS OTHER THAN THE TACTICAL UNIT



To clarify the results obtained in testing the hypotheses concerning arrests for all crimes combined by all units combined, it was necessary to consider the percentage of target subjects arrested by units other than the tactical unit for all crimes combined. This analysis permits testing of the effect of providing CIC information to nontactical units. Table III-5 presents the data necessary for testing the hypotheses.

TABLE III-5

CIC TARGET SUBJECTS ARRESTED BY UNITS OTHER THAN THE TACTICAL UNIT FOR ALL CRIMES COMBINED

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Arrested 18 (66.67%) Not Arrested 9 (33.33)	Arrested 17 (65.38%) Not Arrested 9 (34.62)	Arrested 35 (66.04%) Not Arrested 18 (33.96)
	No	Arrested 6 (22.22) Not Arrested 21 (77.78)	Arrested 11 (40.74) Not Arrested 16 (59.26)	Arrested 17 (31.48) Not Arrested 37 (68.52)
	Total	Arrested 24 (44.44) Not Arrested 30 (55.56)	Arrested 28 (52.83) Not Arrested 25 (47.17)	Arrested 52 (48.60) Not Arrested 55 (51.40)

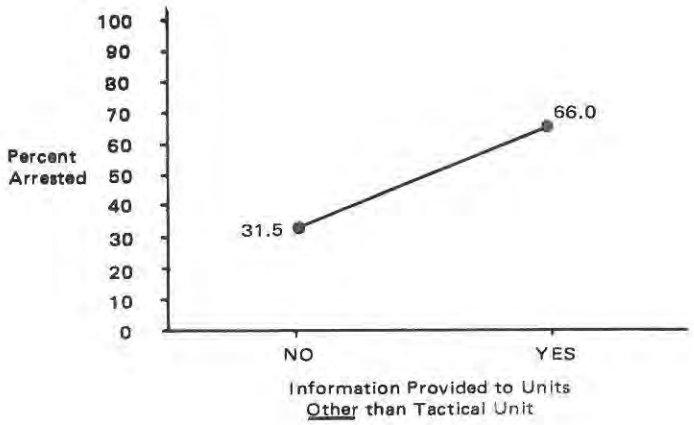
Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	12.4116	$\rho = .0004$
Information provided to tactical unit	.9568	$\rho = .3280$
Interaction Effect	1.2419	$\rho = .2651$

The data support Hypothesis III-A2. The effect of providing information to nontactical units is significant at the .004 level, below the .05 criterion. The effect is presented in graphic form in Figure III-2.

FIGURE III-2

PERCENTAGE OF TARGET SUBJECTS ARRESTED BY UNITS OTHER THAN THE TACTICAL UNIT FOR ALL CRIMES COMBINED AS A FUNCTION OF PROVIDING INFORMATION TO UNITS OTHER THAN THE TACTICAL UNIT



Sixty-six percent of the subjects about whom information was distributed to units other than the tactical unit were arrested by those units. Only 31.5 percent of the other subjects were arrested by nontactical units. Providing information resulted in a 35.5 percent difference in the arrest rates of target subjects.

As expected, providing information to the tactical unit had no significant effect on the percentage of arrests made by units other than the tactical unit and evaluators detected no significant interaction. The difference was significant at only the .3280 level, well above the .05 criterion. The interaction effect was significant at the .2651 level, which also fails to meet the .05 criterion.

To clarify the results obtained heretofore, it was necessary to consider the percentage of target subjects arrested by the tactical unit for all crimes combined. Such an analysis allows tests of the effect of providing CIC information to the tactical unit.

Table III-6 presents the data for testing the hypothesis concerning the expected positive effect.

TABLE III-6

CIC TARGET SUBJECTS ARRESTED BY THE TACTICAL UNIT FOR ALL CRIMES COMBINED

Information Provided to Units Other than the Tactical Unit	Information Provided to the Tactical Unit: No	Information Provided to the Tactical Unit: Yes	Information Provided to the Tactical Unit: Total
Yes	Arrested 14 (51.85%) Not Arrested 13 (48.15)	Arrested 9 (34.62%) Not Arrested 17 (65.38)	Arrested 23 (43.40%) Not Arrested 30 (56.60)
No	Arrested 7 (25.93) Not Arrested 20 (74.07)	Arrested 7 (25.93) Not Arrested 20 (74.07)	Arrested 14 (25.93) Not Arrested 40 (74.07)
Total	Arrested 21 (38.89) Not Arrested 33 (61.11)	Arrested 16 (30.19) Not Arrested 37 (69.81)	Arrested 37 (34.58) Not Arrested 70 (65.42)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	3.3590	$\rho = .0668$
Information provided to tactical unit	.7162	$\rho = .3974$
Interaction Effect	.7162	$\rho = .3974$

Hypothesis III-B2, that providing information to the tactical unit would produce a positive effect on the percentage of target subjects arrested by the tactical unit for all crimes combined, is not supported. A difference of 8.7 percent was observed. This difference is significant at only the .3974 level, greater than the .05 criterion.

As expected, no significant effect on arrest of subjects by the tactical unit for all crimes combined was obtained from providing information to units other than the tactical unit. The effect was significant at the .0668 level, slightly greater than the .05 criterion. Also, no significant interaction was observed. The effect was significant at only the .3974 level and thus does not meet the .05 criterion.

2. CIC Target Subjects Arrested by Units Other Than the Tactical Unit for Robbery and Burglary

Again, to supplement the results obtained from all crimes combined, it was useful to consider arrests for the offenses of robbery and burglary (the target crimes of the Special Operations projects).

Table III-7 presents the data to test the hypothesis that pertains to providing information to units other than the tactical unit.

TABLE III-7

CIC TARGET SUBJECTS ARRESTED BY UNITS OTHER THAN THE TACTICAL UNIT FOR ROBBERY OR BURGLARY

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Arrested 9 (33.33%) Not Arrested 18 (66.67)	Arrested 6 (23.08%) Not Arrested 20 (76.92)	Arrested 15 (28.30%) Not Arrested 38 (71.70)
	No	Arrested 5 (18.52) Not Arrested 22 (81.48)	Arrested 5 (18.52) Not Arrested 22 (81.48)	Arrested 10 (18.52) Not Arrested 44 (81.48)
	Total	Arrested 14 (25.93) Not Arrested 40 (74.07)	Arrested 11 (20.75) Not Arrested 42 (79.25)	Arrested 25 (23.36) Not Arrested 82 (76.64)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	1.3000	$p = .2542$
Information provided to tactical unit	.2985	$p = .5848$
Interaction Effect	.2985	$p = .5848$

The data do not support Hypothesis III-A3, which predicted a significant positive effect on the percentage of target subjects arrested for target crimes by units other than the tactical unit when information is provided to these units. The significance level of .2542 achieved by the effect of

providing information to nontactical units does not reach the criterion of .05. This failure to produce a significant effect may result because robbery and burglary arrests account for a relatively small percentage of total arrests, and because the tactical unit had selected these offenses as target crimes.

The effect of providing information to the tactical unit on arrests made reached a level of significance of only .5848, which does not meet the .05 criterion.

The fifth set of data to be examined is that which indicates whether or not target subjects were arrested by the tactical unit for robbery or burglary.

Table III-8 presents the data necessary to test the hypothesis.

TABLE III-8

CIC TARGET SUBJECTS ARRESTED BY THE TACTICAL UNIT FOR ROBBERY OR BURGLARY

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Arrested 7 (25.93%) Not Arrested 20 (74.07)	Arrested 6 (23.08%) Not Arrested 20 (76.92)	Arrested 13 (24.53%) Not Arrested 40 (75.47)
	No	Arrested 5 (18.52) Not Arrested 22 (81.48)	Arrested 2 (7.41) Not Arrested 25 (92.59)	Arrested 7 (12.96) Not Arrested 47 (87.04)
	Total	Arrested 12 (22.22) Not Arrested 42 (77.78)	Arrested 8 (15.09) Not Arrested 45 (84.91)	Arrested 20 (18.69) Not Arrested 87 (81.31)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	2.5732	$p = .1087$
Information provided to tactical unit	1.2016	$p = .2730$
Interaction Effect	.6628	$p = .4156$

Hypothesis III-B3 is not supported. The effect of providing information about subjects to the tactical unit was significant at only the .2730 level.

A difference of only 7.1 percent in arrest rates existed between those subjects about whom information was or was not provided to the tactical unit. Such a small difference was found to be statistically insignificant.

As expected, providing information to units other than the tactical unit had no significant effect on the arrest rate of the tactical unit. The effect was significant at only the .1087 level. The interaction effect was also insignificant, reaching a level of only .4156.

3. CIC Target Subjects Arrested for Nontarget Crimes

These two sets of data concern arrests made by nontactical units or by the tactical unit for crimes other than robbery and burglary.

Table III-9 contains the data concerning target subjects arrested by units other than the tactical unit for nontarget crimes.

The data support Hypothesis III-A4. The effect of providing CIC information about target subjects to nontactical units is significant at the .0007 level. Figure III-3 depicts this effect graphically.

More than 52.8 percent of target subjects about whom information was distributed to units other than the tactical unit were arrested by those units for crimes other than robbery or burglary. Only 20.4 percent of the other subjects were arrested by nontactical unit personnel for nontarget crimes. Thus, providing CIC information resulted in a 32.4 percent difference in the arrest rate of target subjects for nontarget crimes. This striking effect, as compared to the insignificant effect on arrests for robbery and burglary, may result from the fact that nontarget crimes constitute a much larger proportion of all crimes than do the two target crimes.

As expected, neither the interaction effect nor the effect of providing information to the tactical unit on the percentage of arrests of target subjects by other units for nontarget crimes was statistically significant. The effects were significant at the .2994 and .5921 levels, respectively, neither of which meets the criterion of .05.

The final set of data is that which indicates whether or not target subjects were arrested by the tactical unit for crimes other than robbery and burglary.

Table III-10 contains the data to test the hypothesis.

TABLE III-9

CIC TARGET SUBJECTS ARRESTED BY UNITS OTHER THAN THE TACTICAL UNIT FOR CRIMES OTHER THAN ROBBERY OR BURGLARY

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Arrested 15 (55.56%) Not Arrested 12 (44.44)	Arrested 13 (50.00%) Not Arrested 13 (50.00)	Arrested 28 (52.83%) Not Arrested 25 (47.17)
	No	Arrested 4 (14.81) Not Arrested 23 (85.19)	Arrested 7 (25.93) Not Arrested 20 (74.07)	Arrested 11 (20.37) Not Arrested 43 (79.63)
	Total	Arrested 19 (35.19) Not Arrested 35 (64.81)	Arrested 20 (37.74) Not Arrested 33 (62.26)	Arrested 39 (36.45) Not Arrested 68 (63.55)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	11.5587	$p = .0007$
Information provided to tactical unit	.2870	$p = .5921$
Interaction Effect	1.0770	$p = .2994$

FIGURE III-3

PERCENTAGE OF TARGET SUBJECTS ARRESTED BY UNITS OTHER THAN THE TACTICAL UNIT FOR CRIMES OTHER THAN ROBBERY AND BURGLARY AS A FUNCTION OF PROVIDING INFORMATION TO UNITS OTHER THAN THE TACTICAL UNIT

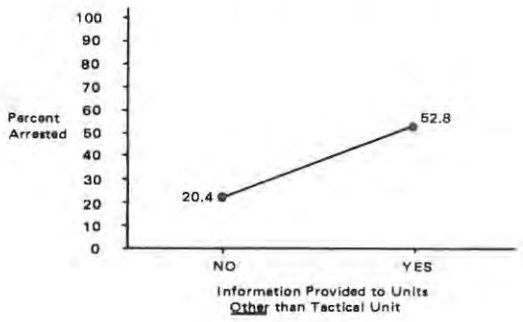


TABLE III-10

CIC TARGET SUBJECTS ARRESTED BY THE TACTICAL UNIT FOR CRIMES OTHER THAN ROBBERY AND BURGLARY

Information Provided to Units Other than the Tactical Unit	Information Provided to the Tactical Unit: No	Information Provided to the Tactical Unit: Yes	Total
Yes	Arrested 10 (37.04%) Not Arrested 17 (62.96)	Arrested 6 (23.08%) Not Arrested 20 (76.92)	Arrested 16 (30.19%) Not Arrested 37 (69.81)
No	Arrested 5 (18.52) Not Arrested 22 (81.48)	Arrested 5 (18.52) Not Arrested 22 (81.48)	Arrested 10 (18.52) Not Arrested 44 (81.48)
Total	Arrested 15 (27.78) Not Arrested 39 (72.22)	Arrested 11 (20.75) Not Arrested 42 (79.24)	Arrested 26 (24.30) Not Arrested 81 (75.70)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	1.7422	$\rho = .1869$
Information provided to tactical unit	.5233	$\rho = .4694$
Interaction Effect	.5233	$\rho = .4694$

Hypothesis III-B7 is rejected. The effect of providing information to the tactical unit was significant at only the .4694 level. Again, failure to achieve a significant effect may be due to the generally high level of knowledge about target subjects among tactical unit officers. Slightly more subjects were arrested in the group about which the tactical unit was not informed than in the group about which information was provided.

The effect of providing other units information on the percentage of target subjects arrested by the tactical unit for nontarget crimes was not statistically significant, reaching a level of only .1869. The interaction effect, as initially expected, was also not statistically significant.

In summary, the analyses of the seven data sets show that providing information to units other than the tactical unit did have a significant

positive effect upon the percentage of target subjects arrested by these units for all crimes combined and for nontarget crimes; however, providing information to these units did not produce a significant impact on arrests of target subjects for target crimes.

Providing information to the tactical unit did not produce a significant positive effect in any of the different sets of data that were analyzed. This result may be explained by the fact that the tactical unit perhaps knew many of the CIC subjects prior to the experiment and therefore did not pay particular attention to those subjects whose information was contained in their CIC notebooks.

No significant interaction effects were detected in any of the seven sets of data; thus, providing information to one type of unit produced no significant impact on the arrests made by another type of unit.

4. Effects of Distributing Information About Target Subjects: Percentage of Target Subjects About Whom the CIC Received Inputs

The CIC, as discussed in Chapter I, was designed as a body for collecting, collating, and disseminating information about criminals and criminal activity. As such, it depended on information produced from police contacts with the criminals. It seems plausible that if data are provided to police officers about a group of individuals, more information will, in turn, be generated about these individuals because of the officers' heightened awareness. The CIC developed an input form at the beginning of the program year which they used as a model for collecting information about criminal suspects. An input was defined by the CIC personnel as a contact that produced information. The evaluation staff collected, coded, and analyzed input forms that contained specific information about persons.

The same 2 x 2 experimental design and log-linear analysis will assist in determining whether providing information about subjects to police officers had any effect on generating further information about these subjects. The only difference is that the dependent variable is changed from target subjects arrested to target subjects about whom the CIC received inputs.

Only two of the 107 original subjects had no inputs made about them by some unit during the 18-month period; therefore, to consider all units combined would reveal nothing. However, the analysis can be useful if it includes target subjects about whom units other than the tactical unit made inputs and subjects about whom the tactical unit made inputs.

The hypotheses concerning these two data sets and the three effects are presented below:

Hypothesis III-C: Providing information to units other than the tactical unit will produce a significant positive effect on the

percentage of target subjects about whom units other than the tactical unit make inputs to the CIC.

Rationale: Providing units other than the tactical unit with information about target subjects should heighten their awareness of these individuals. This heightened awareness should produce a greater likelihood of contact with those subjects, and thus, inputs to the CIC from these units.

Because of minimal communication between these units and the tactical unit, providing information to these units should have only a slight impact on inputs made by the tactical unit.

Hypothesis III-D: Providing information to the tactical unit will produce a significant positive effect on the percentage of target subjects about whom the tactical unit makes inputs.

Rationale: Providing the tactical unit with information about target subjects should also heighten their awareness of those individuals. Such heightened awareness should produce more contacts and inputs to the CIC.

Because of minimal communication beteen the tactical unit and other units, providing information to the tactical unit should produce only a slight effect on the inputs made by units other than the tactical unit.

Tactical unit operations are essentially independent of, and different from, those of other units. Therefore, providing information to the tactical unit and to other units should produce no significant differential effect on inputs from nontactical units.

To summarize the hypotheses, providing information to particular units about target subjects is expected to result in a significantly greater percentage of inputs about the target subjects from these units. However, providing information to one type of unit will not be expected to affect the inputs made by other units, nor will a differential effect occur.

1. Target Subjects About Whom Units Other than the Tactical Unit Made Inputs to the CIC

The first data set concerns the target subjects about whom units other than the tactical unit made inputs to the CIC.

Table III-11 presents the data to test the hypotheses about the three effects.

TABLE III-11

TARGET SUBJECTS ABOUT WHOM INPUTS WERE MADE BY UNITS OTHER THAN THE TACTICAL UNIT

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Inputs 22 (81.48%) No Inputs 5 (18.52)	Inputs 14 (53.85%) No Inputs 12 (46.15)	Inputs 36 (67.92%) No Inputs 17 (32.08)
	No	Inputs 14 (51.85) No Inputs 13 (48.15)	Inputs 16 (59.26) No Inputs 11 (40.74)	Inputs 30 (55.56) No Inputs 24 (44.44)
	Total	Inputs 36 (66.67) No Inputs 18 (33.33)	Inputs 30 (56.60) No Inputs 23 (43.40)	Inputs 66 (61.68) No Inputs 41 (38.32)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	2.0070	$p = .1566$
Information provided to tactical unit	1.5021	$p = .2203$
Interaction Effect	3.7758	$p = .0520$

Hypothesis III-C, which predicated that providing nontactical units with information would produce a significant positive effect on the percentage of target subjects about whom those units made inputs, is rejected. The effect was significant at only the .1566 level, greater than the .05 criterion required.

The lack of the expected significant difference could have resulted from the fact that many of the CIC subjects were associates or relatives. Eight pairs of relatives were among the subjects, and in seven of these cases, the subjects were assigned to different groups. Also, on several occasions, individual CIC subjects were observed with other subjects; and on one rather unusual occasion, eight CIC subjects were noted as being present at the same location. Because such cross-group associations existed, unassigned target subjects easily could have become known to officers in units other than the tactical unit.

As was expected, providing information to the tactical unit had no significant effect on the percentage of target subjects about whom they made inputs to the CIC. The effect was significant at only the .2203 level, greater than the .05 criterion. The interaction effect was significant at the .0520 level, just slightly greater than the .05 criterion.

2. Target Subjects About Whom the Tactical Unit Made Inputs to the CIC

The second set of data concerns target subjects about whom the tactical unit made inputs to the CIC. Table III-12 presents the data to test the hypothesis.

TABLE III-12

TARGET SUBJECTS ABOUT WHOM THE TACTICAL UNIT MADE INPUTS TO THE CIC

		Information Provided to the Tactical Unit		
		No	Yes	Total
Information Provided to Units Other than the Tactical Unit	Yes	Inputs 14 (51.85%) No Inputs 13 (48.15)	Inputs 21 (80.77%) No Inputs 5 (19.23)	Inputs 35 (66.04%) No Inputs 18 (33.96)
	No	Inputs 9 (33.33) No Inputs 18 (66.67)	Inputs 21 (77.78) No Inputs 6 (22.22)	Inputs 30 (55.56) No Inputs 24 (44.44)
	Total	Inputs 23 (42.59) No Inputs 31 (57.41)	Inputs 42 (79.24) No Inputs 11 (20.76)	Inputs 65 (60.75) No Inputs 42 (39.25)

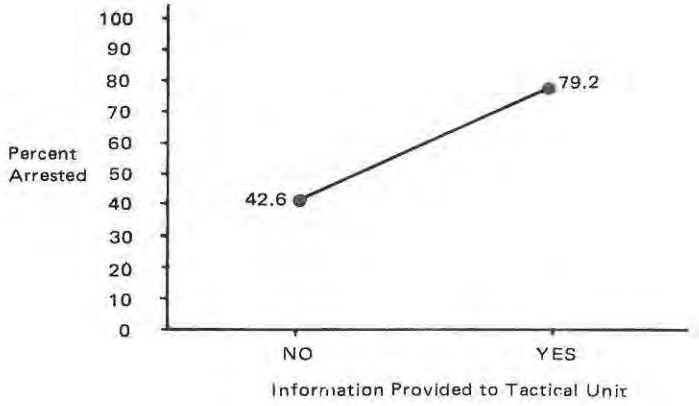
Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	1.1606	$\rho = .2813$
Information provided to tactical unit	14.0754	$\rho = .0002$
Interaction Effect	.4404	$\rho = .5069$

The data support Hypothesis III-D, which predicated a significant positive effect on the percentage of target subjects about whom the tactical unit made inputs to the CIC. This effect is significant at the .0002 level and is graphically portrayed in Figure III-4.

FIGURE III-4

PERCENTAGE OF TARGET SUBJECTS ABOUT WHOM INPUTS WERE MADE TO THE CIC BY THE TACTICAL UNIT AS A FUNCTION OF PROVIDING INFORMATION TO THE TACTICAL UNIT



The difference of 36.6 percent between the percentage of target subjects about whom inputs were made when no information was provided (42.6 percent) and when information was provided (79.2 percent) indicates that the tactical unit was effective in developing information about their assigned subjects.

Providing information to units other than the tactical unit had no significant effect on the percentage of target subjects about whom the CIC received inputs from the tactical unit. The effect was significant at only the .2813 level. The interaction effect was significant at only the .5069 level, which does not meet the .05 criterion.

To summarize, providing information to other units produced no significant effect on the percentage of target subjects about whom the CIC received inputs from those units. However, providing information to the tactical unit did produce a significant positive effect on the percentage of target subjects about whom that unit made inputs. Information provided to one group had no significant effect on the percentage of target subjects about whom the other group made inputs. No significant interaction effects were obtained.

Comparing the results from target subjects arrested to those of target subjects about whom the CIC received inputs produced opposite effects. Using

arrest data, evaluators found significant positive effects only when information was provided to units other than the tactical unit; however, they found the significant effect on inputs when information was provided to the tactical unit.

These seemingly paradoxical results can be explained by looking at the ratio of target subjects arrested to target subjects about whom inputs were made, by experimental group, for the units other than the tactical unit and for the tactical unit. Table III-13 presents the ratios.

TABLE III-13

RATIO OF TARGET SUBJECTS ARRESTED TO TARGET SUBJECTS ABOUT WHOM THE CIC RECEIVED INPUTS BY EXPERIMENTAL GROUP BY UNIT (AUG. 1972 - JAN. 1974)

Unit \ Group	A Other Only		B TAC/Other		C Control		D TAC Only		Total	
Units Other Than the Tactical Unit	Arrested	18	Arrested	17	Arrested	6	Arrested	11	Arrested	52
	Inputs	22	Inputs	14	Inputs	14	Inputs	16	Inputs	66
	Ratio =	.818	Ratio =	1.21	Ratio =	.429	Ratio =	.688	Ratio =	.788
Tactical Unit	Arrested	14	Arrested	9	Arrested	7	Arrested	7	Arrested	37
	Inputs	14	Inputs	21	Inputs	9	Inputs	21	Inputs	65
	Ratio =	1.00	Ratio =	.429	Ratio =	.778	Ratio =	.333	Ratio =	.569

The data indicate that the units other than the tactical unit produced higher arrest-to-input ratios in the experimental groups about whom they received information (Groups A and B) than in the experimental groups about whom no information was provided (Groups C and D). However, for the tactical unit, just the opposite occurs. The tactical unit produced higher arrest-to-input ratios for groups about whom no information was provided (Groups A and C) but lower arrest-to-input ratios in the groups about whom it had received information (Groups B and D). This difference for the tactical unit occurs because POP squads were assigned to surveil groups B and D, and would be expected to produce inputs about many of the subjects. Such concentrated efforts by POP would thus reduce the arrest-to-input ratios for Groups B and D because of their contacts with many of the subjects.

USE OF CIC SERVICES

An important component of the evaluation of the Criminal Information Center was examining the extent to which police departments used its services. Inputs of, and requests for, CIC information came from all units of the Kansas City Police Department and from more than 20 neighboring police departments.

CIC personnel defined an "input" as a contact that produced information. A "request" was defined as a contact in which information was requested from the CIC. Table III-14 illustrates the inputs to the CIC about individuals during the two years of the program.10/

TABLE III-14

INPUTS ABOUT CIC SUBJECTS AND NON-CIC INDIVIDUALS (JAN. 1972 - JAN. 1974)

	Experimental Group	N	%
Inputs About CIC Subjects	A	391	18.30
	B	368	17.23
	C	122	5.71
	D	140	6.56
	Total	1021	47.80
Inputs About Non-CIC Individuals		1115	52.20
Total Inputs About Individuals		2136	100.00

The data indicate that of the 2,136 inputs analyzed, 47.80 percent were about CIC subjects. Only two of the 107 CIC subjects did not produce at least one input during this period. One subject was noted in 63 inputs during the two-year period (49 during the program year and 14 during the extension year).

Table III-15 presents the various types of information the CIC received about individuals.

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[10]Not all inputs to the CIC could be coded for computerized data analysis. Complete information was not available when several Field Interview Cards were returned at one time and were entered on only one input form. Other inputs, such as the holdover sheets from the Johnson County Jail, were also incomplete and could not be coded. In some cases input forms may not have indicated the type of information entered or about whom the information was obtained. Such cases were considered missing data.

TABLE III-15

TYPES OF INFORMATION ABOUT INDIVIDUALS SUPPLIED AS INPUTS TO THE CIC* (AUG. 1972 - JAN. 1974)

Types of Information About Individual Who Was Subject of Input	N	%**
Automobile	860	23.46
Address	614	16.75
Associates	586	15.98
Arrested	412	11.24
Suspect of Crime	156	4.26
Wanted for Crime	120	3.27
Atypical Appearance	80	2.18
Imprisoned	79	2.15
Suspicious Behavior	77	2.10
Released from Jail (Prison)	68	1.85
Other***	614	16.75
Total	3666	99.99

*When inputs about individuals were coded, space was allowed for three different pieces of information per individual; therefore, 3666 pieces of information were received as 2136 inputs.

**Percentages do not sum to 100.00 percent because of round-offs.

***"Other" included shot or killed, escaped, on-trial, wanted for questioning, and miscellaneous.

The data indicate that most inputs concerned general information such as automobiles, addresses, and associates. Arrests of individuals also accounted for a substantial percentage. Information that would be helpful in the clearance of crimes (suspected of crime, wanted for crime, and suspicious behavior) accounted for less than 10 percent.

The extent to which various units used the CIC was also considered important. Assuming that information generation (inputs) and requests for information are desirable, if usage level varied significantly among divisions or units, some factor(s) could possibly be isolated which would plausibly explain the reason for greater usage. Tables III-16 and III-17 illustrate the sources and number of inputs and requests per month for the program and extension years.

TABLE III-16

MONTHLY CIC INPUTS

Unit	Program Year												
	1972					1973							
	Month												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Unit Total
NEPD	11	23	16	13	13	9	26	128	62	46	51	80	478
SPD	8	17	12	26	17	18	8	31	19	25	22	12	215
CPD	12	11	6	9	7	9	31	38	16	23	29	38	229
TAC	3	18	18	23	15	80	40	22	35	31	23	28	336
Other	12	39	53	29	36	69	87	93	62	78	85	78	721
Monthly Total	46	108	105	100	88	185	192	312	194	203	210	236	1979

Unit	Extension Year												
	1973					1974							
	Month												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Unit Total
NEPD	39	15	11	4	11	18	11	2	16	12	3	10	152
SPD	14	4	14	18	11	13	13	11	14	7	3	2	124
CPD	33	4	25	12	9	11	7	12	7	3	3	2	128
TAC	8	16	16	16	6	8	9	3	9	6	7	2	106
Other	60	29	51	35	25	35	49	36	53	44	52	56	525
Monthly Total	154	68	117	85	62	85	89	64	99	72	68	72	1035

TABLE III-17

MONTHLY CIC REQUESTS

Unit	Program Year												
	1972					1973							
	Month												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Unit Total
NEPD	3	1	5	6	11	12	26	78	43	55	70	19	329
SPD	1	2	1	8	7	12	22	14	17	33	34	16	167
CPD	3	3	5	4	5	14	28	58	24	22	32	39	237
TAC	2	6	2	3	31	68	76	51	62	59	162	72	594
Other	2	12	17	20	37	45	55	82	70	74	94	73	581
Monthly Total	11	24	30	41	91	151	207	283	216	243	392	219	1908

Unit	Extension Year												
	1973					1974							
	Month												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Unit Total
NEPD	31	20	30	24	15	37	31	34	25	27	23	20	317
SPD	26	19	43	46	32	34	51	46	41	13	16	19	386
CPD	36	15	32	28	9	13	15	16	11	4	8	27	214
TAC	111	49	79	64	30	40	35	205	39	59	21	35	767
Other	85	64	71	81	69	74	90	75	105	123	159	75	1071
Monthly Total	289	167	255	243	155	198	222	376	221	226	227	176	2755

These data are presented graphically in Figures III-5 and III-6.

FIGURE III-5

INPUTS OF INFORMATION TO CIC (1972 - 1974)

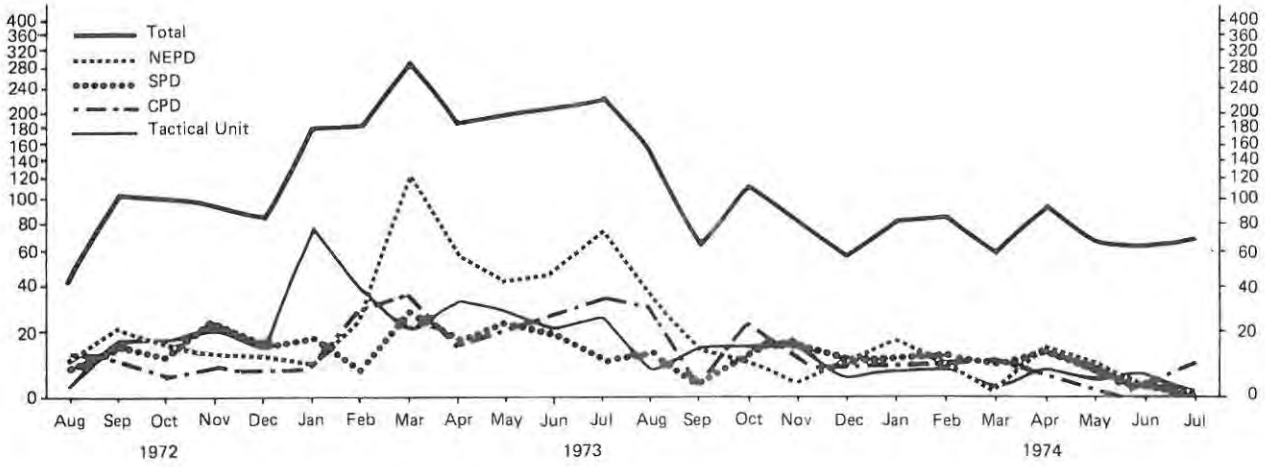
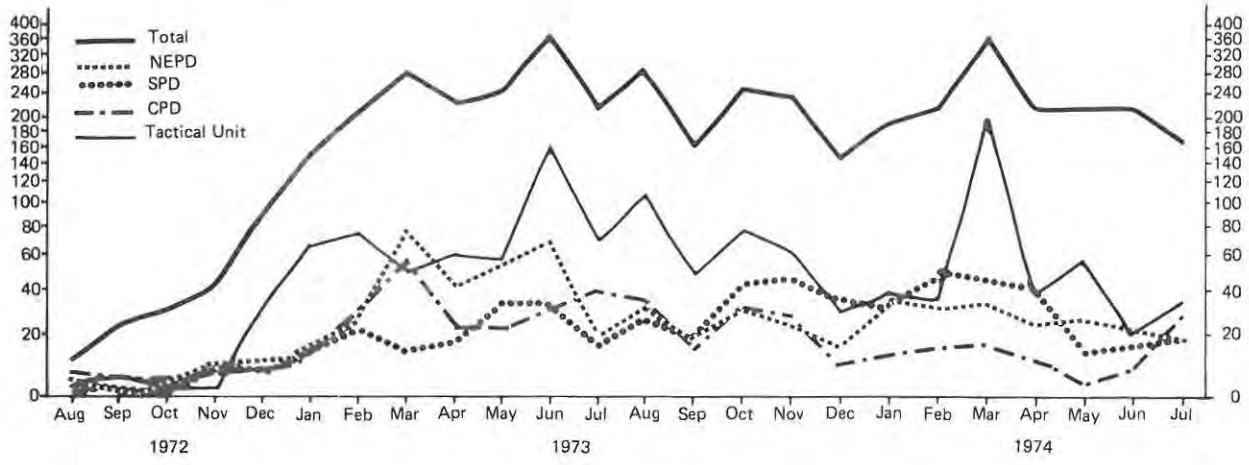


FIGURE III-6

REQUESTS OF INFORMATION FROM CIC (1972 - 1974)



Figures III-5 and III-6 indicate that inputs generally exceeded requests for the first five months of the program year. During this period, CIC personnel were actively soliciting information for their files. From the fifth through the eighth month, the level of requests was very close to the level of inputs. Thereafter, requests generally exceeded inputs. By September of the extension period, both inputs and requests had leveled off, with requests consistently higher than inputs. Both inputs and requests rose for the NEPD and CPD between February and March of 1973. The SPD increased inputs during this period, but not requests. These effects appear to be the result of CIC personnel making presentations to officers of both CPD and NEPD about the CIC's operation during the month of February. Furthermore, CIC personnel made a presentation to ten NEPD officers assigned to a new position called Patrol Technician. These technicians, operating as part of the NEPD's Directed Patrol program, were able to follow leads to an extent not possible for the normal patrol officer. The patrol technicians toured the CIC facilities during February; hence, they were probably more familiar with CIC services than any other group of patrol officers. The special attention paid patrol technicians, and the extensive use of Field Interview Cards as requested by the command staff in that division probably accounts for the sharp rise in CIC inputs and requests from the NEPD.

The dramatic rise in requests from the tactical unit in March 1974 was apparently partially the consequence of a change in the CIC staff. The tactical unit always maintained close ties with the CIC office because of physical proximity. According to the civilian crime analyst in the CIC, he frequently exchanged information with tactical unit officers on an informal basis. Consequently, tactical unit officers often received information without a request being recorded. Immediately after the departure of that crime analyst in February, the new staff began recording all tactical unit requests on a formal basis. At that time, the staff lacked familiarity with the tactical unit officers and with data available in the CIC. By April, the informal relationship that had previously existed between the CIC and tactical unit personnel had been reinstated and, as a result, many requests were not recorded.

Table III-18 presents comparisons of the average monthly inputs to the CIC from the three patrol divisions and the tactical unit during the program and extension years.

During the program year the high level of inputs from the NEPD was probably due to the activity of the patrol technicians in that division and the extensive use of the Field Interview Cards as requested by the command. The tactical unit itself was highly aware and supportive of the CIC because that center was a recent product of the tactical unit task force. Because considerable differences existed among the monthly inputs of these four units, F-tests on these means were computed. The results are presented in Table III-19.

TABLE III-18

COMPARISONS OF AVERAGE MONTHLY INPUTS TO THE CIC FROM PATROL DIVISIONS AND THE TACTICAL UNIT FOR THE PROGRAM YEAR AND EXTENSION YEAR (1972 - 1974)

Unit Means: Extension Year				
Year	**NEPD**	**CPD**	**SPD**	**TAC**
Program 1972-73	$\bar{X}$ = 39.83 s.d. = 36.06 N = 12	$\bar{X}$ = 19.08 s.d. = 12.12 N = 12	$\bar{X}$ = 17.92 s.d. = 7.22 N = 12	$\bar{X}$ = 28.00 s.d. = 19.04 N = 12
Extension 1973-74	$\bar{X}$ = 12.67 s.d. = 9.71 N = 12	$\bar{X}$ = 10.67 s.d. = 9.41 N = 12	$\bar{X}$ = 10.33 s.d. = 5.12 N = 12	$\bar{X}$ = 8.83 s.d. = 9.41 N = 12

TABLE III-19

ANOVA SUMMARY TABLE
AVERAGE MONTHLY CIC INPUTS BY UNIT

Program Year					
Source	**SS**	**df**	**MS**	**F**	**Significance Level**
Between	3,700.417	3	1,233.472	2.650	$.05 < \rho < .10$
Within	20,481.500	44	465.489		
Total	24,181.917	27			

Extension Year					
Source	**SS**	**df**	**MS**	**F**	**Significance Level**
Between	89.583	3	29.861	.514	$\rho > .25$
Within	2,555.667	44	58.083		
Total	2,645.250				

The overall F-test for comparisons among the four unit means for both the program and the extension year did not reach the .05 level of significance. The lack of differences among the means is attributable to the fluctuation of inputs on a monthly basis. Also, such results do not control for the number of officers assigned to each unit; however, further analysis later in this paper will provide such a control.

All extension year average monthly inputs for all units were lower than during the program year. Possibly because inputs were not so actively solicited during the extension phase as they were during the program year, they dropped to a lower, but steady level.

Table III-20 presents comparisons among the average monthly requests for CIC information from the patrol divisions and the tactical unit.

TABLE III-20

COMPARISONS OF AVERAGE MONTHLY REQUESTS FROM THE CIC BY PATROL DIVISIONS AND THE TACTICAL UNIT FOR THE PROGRAM YEAR AND EXTENSION PHASE (1972 - 1974)

	Unit Means			
Year	NEPD	CPD	SPD	TAC
1972-73	$\bar{X}$ = 27.42 s.d. = 27.32 N = 12	$\bar{X}$ = 19.75 s.d. = 17.46 N = 12	$\bar{X}$ = 13.92 s.d. = 11.32 N = 12	$\bar{X}$ = 49.50 s.d. = 46.09 N = 12
1973-74	$\bar{X}$ = 26.42 s.d. = 6.44 N = 12	$\bar{X}$ = 17.83 s.d. = 13.31 N = 12	$\bar{X}$ = 32.17 s.d. = 13.31 N = 12	$\bar{X}$ = 63.92 s.d. = 50.86 N = 12

As with inputs, the NEPD and the tactical unit made the most requests of the CIC.

Evaluators performed an analysis of variance to provide a measure of the significance of the differences among those means. Table III-21 contains the results.

TABLE III-21

ANOVA SUMMARY TABLE
AVERAGE MONTHLY CIC REQUESTS BY UNIT

Source	SS	df	MS	F	Significance Level
Between	8,746.896	3	2,913.65	3.528	$.01 < \rho < .05$
Within	30,337.083	44	825.843		

Source	SS	df	MS	F	Significance Level
Between	14,550.500	3	4,850.167	6.662	$\rho < .001$
Within	32,033.167	44	728.026		
Total	46,583.667				

Because the overall F-tests for comparisons among these means were significant at below the .025 level, evaluators used Scheffé's method of multiple comparisons to determine the exact source of this difference. Table III-22 contains the results.

TABLE III-22

SCHEFFÉ'S MULTIPLE COMPARISON TECHNIQUE (S-METHOD)
AVERAGE MONTHLY CIC REQUESTS BY UNIT

Program Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	2.484	$.10 < \rho < .25$
TAC – NEPD	1.882	$\rho > .25$
TAC – SPD	2.536	$.025 < \rho < .05$
TAC – CPD	2.484	$.10 < \rho < .25$
NEPD – SPD	1.151	$\rho > .25$
NEPD – CPD	.654	$\rho > .25$
SPD – CPD	.497	$\rho > .25$

Extension Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	4.275	$.001 < \rho < .005$
TAC – NEPD	3.404	$.01 < \rho < .05$
TAC – SPD	2.882	$.05 < \rho < .10$
TAC – CPD	4.184	$.001 < \rho < .005$
NEPD – SPD	.522	$\rho > .25$
NEPD – CPD	.780	$\rho > .25$
SPD – CPD	1.302	$\rho > .25$

The two years demonstrate rather different results. During the program year, the only significant difference observed was that the SPD made significantly fewer requests than the tactical unit; however, during the program year, the tactical unit was significantly greater in average monthly requests than any patrol division except the SPD. This discrepancy is attributable to the activity of the tactical unit and of the crime analyst at SPD during the extension period. No significant differences were noted among the three patrol divisions in either the program or the extension year.

During the extension year, NEPD and CPD showed only slight decreases in requests. Thus, all request levels remained relatively high during the

extension year, unlike inputs, which experienced a marked decrease. These different patterns are probably attributable to the fact that requests had the higher potential of producing immediate benefit to an officer.

Because each of the patrol divisions contains more officers than the tactical unit, a more productive comparison may be made on the basis of a ratio of inputs or requests to officers. Table III-23 compares the tactical unit with the three patrol divisions on the basis of monthly inputs per officer.[11]

TABLE III-23

CIC MONTHLY INPUTS PER OFFICER

Unit	Program Year												Inputs Mean/Mo. Officer	Inputs Officer/ Year
	1972					1973								
	Month													
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July		
NEPD	.052	.109	.076	.062	.062	.043	.123	.607	.294	.218	.242	.379	.189	2.265
SPD	.036	.077	.054	.118	.077	.082	.036	.141	.086	.134	.100	.054	.081	.977
CPD	.051	.046	.026	.038	.030	.038	.132	.161	.068	.098	.123	.162	.081	.974
TAC	.064	.383	.383	.489	.318	1.702	.851	.469	.745	.660	.489	.596	.596	7.149
Monthly Mean (of above)	.048	.097	.073	.100	.073	.163	.147	.307	.185	.175	.175	.222	.147	1.764

Unit	Extension Year												Inputs Mean/Mo. Officer	Inputs Officer/ Year
	1973					1974								
	Month													
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July		
NEPD	.183	.070	.052	.019	.052	.084	.052	.009	.075	.056	.014	.047	.059	.714
SPD	.064	.018	.064	.082	.050	.059	.059	.050	.064	.032	.014	.009	.047	.564
CPD	.148	.018	.112	.054	.040	.049	.031	.054	.031	.013	.013	.009	.048	.574
TAC	.160	.320	.320	.320	.120	.160	.180	.060	.180	.120	.140	.040	.177	2.120
Monthly Mean (of above)	.133	.055	.093	.071	.052	.071	.057	.040	.065	.040	.023	.023	.060	.722

[11] Officer-power figures were based on data obtained from the Kansas City Police Department's Annual Report, 1972, p. 10 and Annual Report, 1973, p. 14.

These figures include all law enforcement personnel of all ranks and all assignments. Officer-power figures derive from assignments existing on December 31 of the appropriate year. The 1974 annual reports are not yet available; therefore, 1973 officer-power levels were used to calculate the ratios for the first seven months of 1974. Because no major reassignments have occurred, these calculations should result in basically sound estimates.

	1972	1973
NEPD	211	213
SPD	220	220
CPD	235	223
TAC	47	50

Evaluators performed an analysis of variance to provide a measure of the significance of the differences among the mean monthly requests per officer. The results are presented in Table III-24.

TABLE III-24

ANOVA SUMMARY TABLE
MEAN MONTHLY CIC INPUTS PER OFFICER BY UNIT

Program Year

Source	SS	df	MS	F	Significance Level
Between	2.154	3	.718	14.653	.001
Within	2.167	44	.049		
Total	4.321	47			

Extension Year

Source	SS	df	MS	F	Significance Level
Between	.142	3	.047	13.856	.001
Within	.151	44	.003		
Total	.293				

Because the overall F-tests for comparisons among mean monthly inputs per officer were significant below the .001 level, evaluators again employed Scheffé's method of multiple comparisons to determine the source of the differences. The results are shown in Table III-25.

TABLE III-25

SCHEFFÉ'S METHOD OF MULTIPLE COMPARISONS (S-METHOD)
MEAN MONTHLY CIC INPUTS PER OFFICER

Program Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	5.382	$\rho < .001$
TAC – NEPD	4.573	$\rho < .001$
TAC – SPD	5.787	$\rho < .001$
TAC – CPD	5.784	$\rho < .001$
NEPD – SPD	.133	$\rho > .25$
NEPD – CPD	.122	$\rho > .25$
SPD – CPD	.011	$\rho > .25$

Extension Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	6.884	$\rho < .001$
TAC – NEPD	5.227	$\rho < .001$
TAC – SPD	5.813	$\rho < .001$
TAC – CPD	5.769	$\rho < .001$
NEPD – SPD	4.830	$\rho < .001$
NEPD – CPD	4.830	$\rho < .001$
SPD – CPD	0.000	$\rho > .25$

All comparisons with the tactical unit during both evaluation periods were significant at below the .001 level. This result indicates that, during both the program and the extension year, the tactical unit had a significantly higher average number of monthly inputs per officer than any of the other units. NEPD made a significantly higher number of inputs per officer than the other patrol divisions. Mean monthly inputs per officer decreased for all units during the extension phase.

The number of monthly CIC requests per officer in the four units was also examined. Table III-26 presents those comparisons.

TABLE III-26

MONTHLY CIC REQUESTS PER OFFICER

Program Year

	1972					1973								
	Month												Requests Mean/Mo.	Requests Officer/
Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Officer	Year
NEPD	.014	.005	.024	.028	.052	.057	.123	.370	.204	.261	.332	.090	.130	1.559
SPD	.004	.009	.004	.036	.032	.054	.100	.064	.077	.150	.154	.073	.063	.759
CPD	.013	.013	.021	.017	.021	.060	.119	.247	.102	.094	.136	.166	.084	1.009
TAC	.043	.128	.043	.064	.660	1.447	1.617	1.085	1.319	1.266	3.447	1.532	1.053	12.638
Monthly Mean (of above)	.013	.017	.018	.029	.076	.149	.213	.292	.205	.237	.418	.205	.155	1.861

Extension Year

	1973					1974								
	Month												Requests Mean/Mo.	Requests Officer/
Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Officer	Year
NEPD	.146	.094	.141	.113	.070	.174	.146	.160	.117	.127	.108	.094	.124	1.488
SPD	.118	.086	.195	.209	.145	.155	.232	.209	.186	.059	.073	.086	.146	1.755
CPD	.161	.067	.143	.126	.040	.058	.067	.072	.049	.018	.036	.121	.080	.960
TAC	2.220	.980	1.580	1.280	.600	.800	.700	4.100	.780	1.180	.420	.700	1.278	15.340
Monthly Mean (of above)	.289	.146	.261	.229	.122	.176	.187	.426	.164	.146	.167	.143	.199	2.385

The F-tests of significance for the means are presented in Table III-27.

TABLE III-27

ANOVA SUMMARY TABLE
MEAN MONTHLY REQUESTS PER OFFICER

Program Year

Source	SS	df	MS	F	Significance Level
Between	8.344	3	2.791	11.259	$\rho < .001$
Within	10.853	44	.247		
Total	19.197	47			

Extension Year

Source	SS	df	MS	F	Significance Level
Between	12.172	3	4.057	15.584	$\rho < .001$
Within	11.455	44	.260		
Total	23.627	47			

Because the F-tests for both years were significant below the .001 level, evaluators used the Scheffé method of multiple comparisons to determine the source of variation. The results are presented in Table III-28.

TABLE III-28

SCHEFFÉ'S METHOD OF MULTIPLE COMPARISONS (S-METHOD)
MEAN MONTHLY CIC REQUESTS PER OFFICER

Program Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	4.757	$\rho < .001$
TAC – NEPD	4.579	$\rho < .001$
TAC – SPD	4.797	$\rho < .001$
TAC – CPD	4.981	$\rho < .001$
NEPD – SPD	.330	$\rho > .25$
NEPD – CPD	.227	$\rho > .25$
SPD – CPD	.104	$\rho > .25$

Extension Year		
Comparison	**F**	**Significance Level**
TAC – Patrol (Combined)	6.833	$\rho < .001$
TAC – NEPD	5.544	$\rho < .001$
TAC – SPD	5.438	$\rho < .001$
TAC – CPD	5.753	$\rho < .001$
NEPD – SPD	.106	$\rho > .25$
NEPD – CPD	.211	$\rho > .25$
SPD – CPD	.317	$\rho > .25$

As with inputs, the tactical unit made notably more monthly requests per officer than any of the patrol divisions. The SPD, probably as a result of the activities of its crime analyst, greatly increased its requests per officer during the extension year.

Increased use of CIC services by units other than the tactical unit probably resulted from the cooperation of the command staff and the activities of either a patrol technician or a crime analyst in those units.

SATISFACTION WITH CIC SERVICES

To measure user satisfaction, the evaluation staff designed and the CIC personnel mailed a brief questionnaire to those who had made requests for information during the final six months of the project year. The CIC attempted to contact all officers who had requested information during the preceding month. Each questionnaire referred to a particular occasion when the officer had requested information. If, as was often the case, an officer had made use of the Center's services more than once during the previous month, the questionnaire mentioned only one request, without systematic criteria to determine which particular request. Consequently, there can be no assurance that responses to the questionnaires represent a random sample of requests for information. Each instrument contained only two questions. Table III-29 presents return rates and item results.

TABLE III-29

SURVEY OF CIC USER SATISFACTION DURING THE PROGRAM YEAR

		1973						
		Feb.	Mar.	Apr.	May	June	July	Total
	Number of Questionnaires Sent	87	97	98	114	99	107	602
	Number of Questionnaires Returned	70	91	74	84	77	83	479
	Percent of Questionnaires Returned	80.5	93.8	75.5	73.7	77.8	77.6	79.6
1. Was the information provided by the CIC useful?	A. Yes	61 (87.1%)	70 (76.9%)	61 (82.4%)	75 (89.3%)	62 (80.5%)	69 (83.1%)	398 (83.1%)
	B. No	9 (12.9)	20 (22.0)	12 (16.2)	9 (10.7)	11 (14.3)	14 (16.9)	75 (15.7)
	No Response	0 (0.0)	1 (1.1)	1 (1.4)	0 (0.0)	4 (5.2)	0 (0.0)	6 (1.3)
	Total	70 (100.0)	91 (100.0)	74 (100.0)	84 (100.0)	77 (100.0)	83 (100.0)	479 (100.0)
2. Would you use the CIC office again?	A. Yes	69 (98.6)	90 (99.0)	74 (100.0)	84 (100.0)	76 (100.0)	83 (100.0)	476 (99.4)
	B. No	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	2 (0.4)
	No Response	0 (0.0)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)
	Total	70 (100.0)	91 (100.0)	74 (100.0)	84 (100.0)	77 (100.0)	83 (100.0)	479 (100.0)

The brevity of the questionnaire probably contributed to the unusually high average monthly return rate (79.6 percent). Responses indicated a

positive attitude toward the CIC and the information it had provided. However, given the nonrandom basis for selecting requests, the limited response categories allowed by the questionnaire, and the narrow focus of the questions, firm conclusions based on this evidence would not be justifiable.

During the extension phase the CIC staff mailed a slightly more complicated questionnaire to users. Results from this questionnaire appear in Table III-30.

TABLE III-30

SURVEY OF CIC USER SATISFACTION DURING THE EXTENSION YEAR

		1973					1974							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
Number of Questionnaires Sent		120	99	122	140	115	126	125	115	120	110	89	88	1,369
Number of Questionnaires Returned		82	55	85	85	66	85	81	59	74	58	48	46	824
Percent of Questionnaires Returned		68.3	55.6	69.7	60.7	57.4	67.5	64.8	51.3	61.7	52.7	53.9	52.3	60.2
1. Was the information from the CIC of any assistance to you?	A. Not At All Helpful	9 (11.0%)	15 (27.3%)	22 (25.9%)	13 (15.3%)	10 (15.2%)	17 (20.0%)	18 (22.2%)	16 (27.0%)	11 (14.9%)	15 (25.9)	10 (20.8%)	8 (17.4%)	164 (19.9%)
	B. Slightly Helpful	9 (11.0)	17 (30.9)	11 (12.9)	11 (12.9)	10 (15.2)	13 (15.3)	12 (14.8)	8 (13.6)	12 (16.1)	7 (12.0)	8 (16.7)	7 (15.2)	125 (15.2)
	C. Moderately Helpful	10 (12.1)	4 (10.9)	13 (15.3)	20 (23.5)	11 (16.7)	20 (23.5)	18 (22.2)	7 (11.9)	13 (17.6)	16 (27.6)	11 (22.9)	9 (19.6)	154 (18.7)
	D. Very Helpful	50 (61.0)	16 (29.1)	30 (45.9)	40 (47.1)	34 (51.5)	34 (40.0)	29 (35.8)	28 (47.5)	31 (41.9)	20 (34.5)	17 (35.4)	20 (43.5)	758 (43.4)
	No Response	4 (4.9)	1 (1.8)	0 (0.0)	1 (1.2)	1 (1.5)	1 (1.2)	4 (4.9)	0 (0.0)	7 (9.5)	0 (0.0)	2 (4.2)	2 (4.3)	23 (2.8)
	Total	82 (100.0)	55 (100.0)	85 (100.0)	85 (100.0)	66 (100.0)	85 (100.0)	81 (100.0)	59 (100.0)	74 (100.0)	58 (100.0)	48 (100.0)	46 (100.0)	824 (100.0)
2. Did the information received aid in making an arrest?	A. Not At All Helpful	26 (31.7)	29 (52.7)	43 (50.6)	49 (57.6)	28 (42.4)	38 (44.7)	53 (65.4)	37 (62.7)	29 (39.1)	32 (55.2)	26 (54.1)	27 (58.7)	417 (50.6)
	B. Slightly Helpful	8 (9.8)	7 (12.7)	7 (8.2)	3 (3.5)	5 (7.6)	3 (3.5)	3 (3.7)	6 (10.1)	7 (9.5)	1 (1.7)	3 (6.3)	5 (10.9)	38 (7.0)
	C. Moderately Helpful	9 (11.0)	3 (5.5)	4 (4.7)	9 (10.6)	10 (15.2)	7 (3.2)	7 (8.6)	0 (0.0)	2 (2.7)	5 (8.6)	5 (10.4)	3 (6.5)	64 (7.8)
	D. Very Helpful	26 (31.7)	6 (10.9)	15 (17.6)	17 (20.0)	8 (12.1)	18 (21.2)	10 (12.3)	8 (13.6)	13 (17.6)	13 (22.4)	3 (6.3)	7 (15.2)	144 (17.5)
	No Response	13 (15.9)	10 (18.2)	16 (18.3)	7 (8.2)	15 (22.7)	19 (22.4)	8 (9.9)	8 (13.6)	23 (31.1)	7 (12.1)	11 (22.9)	4 (8.7)	141 (17.1)
	Total	82 (100.0)	55 (100.0)	85 (100.0)	85 (100.0)	66 (100.0)	85 (100.0)	81 (100.0)	59 (100.0)	74 (100.0)	58 (100.0)	48 (100.0)	46 (100.0)	824 (100.0)
3. Have you used the CIC before?	A. No	8 (9.8)	6 (10.9)	10 (11.8)	10 (11.8)	9 (13.6)	10 (11.8)	7 (8.6)	2 (3.4)	6 (8.1)	3 (5.2)	3 (6.3)	4 (8.7)	78 (9.5)
	B. Yes	73 (89.0)	45 (81.8)	74 (87.1)	74 (87.1)	57 (86.4)	73 (85.9)	73 (90.1)	57 (96.6)	59 (79.7)	55 (94.8)	40 (83.3)	42 (91.5)	722 (87.6)
	No Response	1 (1.2)	4 (7.3)	1 (1.2)	1 (1.2)	0 (0.0)	2 (2.4)	1 (1.2)	0 (0.0)	9 (12.2)	0 (0.0)	5 (10.4)	0 (0.0)	24 (2.9)
	Total	82 (100.0)	55 (100.0)	85 (100.0)	85 (100.0)	66 (100.0)	85 (100.0)	81 (100.0)	59 (100.0)	74 (100.0)	58 (100.0)	48 (100.0)	46 (100.0)	824 (100.0)
4. If yes, how many times have you used it?	A. One	0 (0.0)	1 (1.8)	0 (0.0)	4 (4.7)	1 (1.5)	3 (3.5)	0 (0.0)	2 (3.4)	1 (1.4)	1 (1.7)	2 (4.2)	0 (0.0)	15 (1.8)
	B. Two	3 (3.7)	0 (0.0)	2 (2.4)	3 (3.5)	5 (7.6)	5 (5.9)	1 (1.2)	0 (0.0)	3 (4.1)	1 (1.7)	2 (4.2)	1 (2.2)	26 (3.2)
	C. Three or More	71 (86.6)	46 (83.6)	72 (84.7)	71 (83.5)	60 (90.9)	64 (75.3)	72 (88.9)	53 (89.8)	59 (79.7)	53 (91.4)	39 (81.3)	41 (89.1)	701 (85.1)
	No Response	8 (9.8)	8 (14.5)	11 (12.9)	7 (8.2)	0 (0.0)	13 (15.3)	8 (9.9)	4 (6.8)	11 (14.9)	3 (5.2)	5 (10.4)	4 (8.7)	82 (10.0)
	Total	82 (100.0)	55 (100.0)	85 (100.0)	85 (100.0)	66 (100.0)	85 (100.0)	81 (100.0)	59 (100.0)	74 (100.0)	59 (100.0)	48 (100.0)	46 (100.0)	824 (100.0)

* Percentages rounded to 100.0 percent.

This instrument, which required slightly more time to complete than the original, had an average monthly return rate of 60.2 percent. Thus, the return rate dropped 19.4 percent compared to the first instrument. As with the original instrument, the requests were not randomly selected. This practice is especially problematic because it is apparent that the users surveyed had often used the CIC previously. Of those surveyed, 85.1 percent claimed to have used it three or more times in the past.

Slightly more than 43 percent of the respondents found the information provided by the CIC to be "very helpful" in assisting them, while only 20 percent found it to be "not at all helpful." More than 77 percent found it to be of some assistance. By contrast, only 17.5 percent found the information provided by the CIC to have been "very helpful" in making an arrest, while slightly more than 50 percent felt it was "not at all helpful" in this regard. Thus, many respondents indicated that CIC information was of assistance, but only a small percentage believed it had aided in making an arrest. Respondents may have found the latter judgment more difficult to make. Comparing rates of "no response," 17.1 percent of the respondents failed to answer the question concerning specific assistance in making an arrest, whereas only 2.8 percent failed to answer the more general assistance question. It may have been very difficult for an officer to ascribe a cause-effect relationship between a particular request and a subsequent arrest.

Because many officers stated that they had used the CIC three times or more, the evaluation staff collated the questionnaires from the extension period on the basis of the number of times individual officers responded. Table III-31 presents the data.

TABLE III-31

NUMBER OF TIMES OFFICERS RESPONDED TO THE CIC QUESTIONNAIRE DURING THE EXTENSION PERIOD

Number of Times Responded to CIC Questionnaire	Officers		Questionnaires	
	N	%	N	%
1	225	56.11	225	27.31
2	85	21.20	170	20.63
3	33	8.23	99	12.01
4	22	5.49	88	10.68
5	17	4.24	85	10.32
6	4	1.00	24	2.91
7	3	.75	21	2.55
8	3	.75	24	2.91
9	4	1.00	36	4.37
10	4	1.00	40	4.85
11	0	0.00	0	0.00
12	1	.25	12	1.46
Total	401	100.00	824	100.00

The data indicate that 43.89 percent of those officers responding returned more than one questionnaire during the extension year. Furthermore, almost three-fourths of the questionnaires returned were completed by officers who had previously responded to the questionnaire. Because of so many multiple responses, generalizations should be guarded.

Additional information was derived from the Human Resource Development questionnaire, administered to the patrol officers and sergeants of the three patrol divisions in late December 1974. Table III-32 presents the officers' responses to eight items referring to the use and usefulness of CIC and its services. Providing information to the tactical unit produced no significant effect on the arrest rate of target subjects in any circumstances. This failure to produce differences in arrest rates may be because many of the target subjects were already known to the tactical officers before the program year began.

Providing information to units other than the tactical unit had no significant effect on the percentage of target subjects about whom these units made inputs. However, providing information did have a positive effect on the percentage of target subjects about whom the tactical unit made inputs.

With few exceptions, the number of monthly inputs to and requests from CIC increased steadily during the program year. The tactical unit itself made the most frequent use of the Center, especially when one measures use by inputs and requests per officer. Among patrol divisions, the NEPD was the most frequent user of the Center--apparently the result of the activities of patrol technicians in that division, as well as the extensive use of Field Interview Cards as requested by the command staff there. During the extension phase, both inputs and requests leveled off, with requests consistently higher than inputs. A marked increase in the SPD's use of the Center occurred during the extension period, probably as a result of that division's crime analyst.

Based on questionnaire results, general satisfaction with the Center and its information and other services appeared to be relatively high except for the mug shot notebooks. Officers were reluctant, however, to claim that CIC information aided them in making an arrest.

The data indicate that a majority (59.25 percent) of the officers responded that they were familiar with the CIC. However, less than a majority of the officers (42.52 percent) stated that they frequently requested information from the CIC, and 62.32 percent of the officers responded that they seldom used the mug shot notebook provided by the CIC.

A majority of the police officers were positive in their evaluation of the CIC. Of the 220 officers rating the value of the CIC, 83.64 percent gave the Center a positive value, compared to 16.36 percent who rated its value negatively. Sixty-one percent of the responding officers agreed that the CIC made their job easier. When asked about specific services of the CIC, 66.85 percent of the responding officers agreed that CIC data aided them in identifying crime patterns and an almost identical percentage (66.57)

TABLE III-32

RESPONSES TO HUMAN RESOURCE DEVELOPMENT QUESTIONNAIRE ITEMS CONCERNING THE USE AND USEFULNESS OF THE CRIMINAL INFORMATION CENTER

USE OF CIC

Use of CIC

Question or Statement	1 Very Familiar	2 Moderately Familiar	3 Slightly Familiar	4 Slightly Unfamiliar	5 Moderately Unfamiliar	6 Very Unfamiliar	Total*	Mean and Standard Deviation
1. How familiar are you with the Special Operations Division's Criminal Information Center?**	40 (11.56%)	71 (20.52%)	94 (27.17%)	45 (13.01%)	38 (10.98%)	58 (16.76%)	346 (100.00%)	$\bar{X}$ = 3.416 s.d. = 1.606
	Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree		
2. I frequently request information from the CIC.	24 (7.19)	28 (8.38)	90 (26.95)	77 (23.05)	66 (19.76)	49 (14.67)	334 (100.00)	$\bar{X}$ = 3.838 s.d. = 1.420
3. I seldom use the CIC mug shot notebook.	67 (18.56)	79 (21.88)	79 (21.88)	69 (19.11)	43 (11.91)	24 (6.65)	361 (99.99)	$\bar{X}$ = 3.039 s.d. = 1.494

Usefulness of CIC

Question or Statement	1 Very Positive	2 Moderately Positive	3 Slightly Positive	4 Slightly Negative	5 Moderately Negative	6 Strongly Negative	Total**	Mean and Standard Deviation
1. How would you rate the value of the Special Operations Division's CIC?**	44 (20.00)	66 (30.00)	74 (33.64)	21 (9.54)	5 (2.27)	10 (4.55)	220 (100.00)	$\bar{X}$ = 2.577 s.d. = 1.234
	Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree		
2. The CIC makes my job easier.	26 (7.90)	52 (15.80)	123 (37.39)	64 (19.45)	32 (9.73)	32 (9.73)	329 (100.00)	$\bar{X}$ = 3.365 s.d. = 1.344
3. Data from the CIC are useful to me in identifying crime patterns.	39 (11.14)	81 (23.14)	114 (32.57)	38 (10.86)	53 (15.14)	25 (7.14)	350 (99.99)	$\bar{X}$ = 3.171 s.d. = 1.418
4. The CIC has provided me with useful information about suspects.	44 (12.79)	76 (22.09)	109 (31.69)	48 (13.95)	41 (11.92)	26 (7.56)	344 (100.00)	$\bar{X}$ = 3.128 s.d. = 1.421
5. The CIC mug shot notebook of criminal suspects has been quite useful to me.	28 (7.47)	48 (12.80)	84 (22.40)	63 (16.80)	75 (20.00)	77 (20.53)	375 (100.00)	$\bar{X}$ = 3.907 s.d. = 1.558

* Some percentages do not total to 100 percent because of round-offs.

** Of the 331 responding to this question, 111 stated that they could not evaluate the value of the CIC.

responded that the CIC provided useful information about suspects. However, less than a majority (59.25 percent) concluded that the mug shot notebooks were useful.

To summarize, except for the items referring to the use or value of the mug shot notebooks, officers responding to the Human Resource Development questionnaire or the questionnaires distributed by the CIC were generally positive toward the CIC and its services.

SUMMARY

The most significant outcome of providing information about designated perpetrator subjects was the increase in the arrest rate of those subjects by units other than the tactical unit for offenses other than robbery and burglary. This factor, in turn, seems to have caused a significant increase in the arrest rate of target subjects by nontactical units for all crimes combined.

IV. EVALUATION OF APPREHENSION-ORIENTED PATROL STRATEGIES: LOCATION-ORIENTED PATROL AND PERPETRATOR-ORIENTED PATROL

The modified design for the evaluation of the Apprehension-Oriented Patrol strategies called for comparisons among the performances of LOP, POP, and the normal strategy of the three patrol divisions of the Kansas City Police Department.12/ The SPD was chosen as the patrol comparison because the SPD station had data on the target crimes of robbery and burglary readily available.

The SPD had complete information for approximately one-third of the robbery and burglary arrests that unit made from August 1, 1970, through July 31, 1973.13/ These arrests constitute a nonrandom sample of all such arrests made by the SPD.

Given the nonrandom nature of the SPD arrest data, it is desirable to attempt to estimate the representativeness of these data. One set of data available to calculate such an estimate is the percentage of burglary and robbery arrests. Table IV-1 presents the data for this analysis.

The only year in which there was a difference significant at the .05 level among the SPD nonrandom sample, the SPD total, and all patrol divisions, was 1970-71. The remainder of the data for the SPD nonrandom sample, including the data for the program year, seems to be representative of the SPD total and all patrol divisions using this particular indicator.

However, other indicators illustrated that the SPD cannot be taken as representative of the three patrol divisions. Since 1970, the SPD has had more Part I offenses, but fewer Part I arrests, than either the NEPD or the CPD. Of greater importance to the comparisons, the SPD has consistently had a lower arrest-per-offense ratio for robbery and burglary than the other two divisions. This ratio is portrayed graphically in Figure IV-1.

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[12]See Appendix A for a discussion of the original evaluation design and the reasons for its modification.

[13]Some data were available at the central police headquarters for all patrol division arrests. The existence of the data at central headquarters was discovered too late to permit its use.

TABLE IV-1

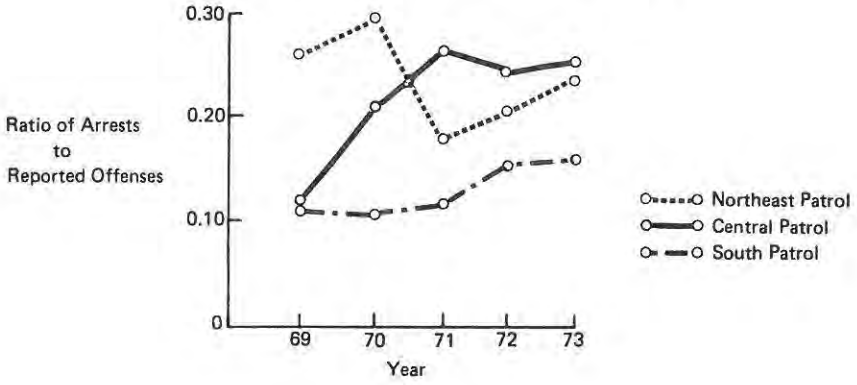
PERCENTAGE OF ROBBERY OR BURGLARY ARRESTS
BY DATA SOURCE: AUG. 1970 - JULY 1973

Data Source \ Year	1970–71	1971–72	Program Year 1972–73
SPD Sample	.1941	.2312	.2751
SPD Total	.2570	.2635	.2894
All Patrol Divisions	.2820	.2744	.2813

Comparison	Test Statistic	Significance
1970–71		
SPD (Sample) - SPD (Total)	Z = 1.7900	ρ = .0734
SPD (Sample) - Patrol (Total)	Z = 2.7686	ρ = .0056
SPD (Total) - Patrol (Total)	Z = 1.2462	ρ = .2112
1971–72		
SPD (Sample) - SPD (Total)	Z = .9480	ρ = .3422
SPD (Sample) - Patrol (Total)	Z = 1.3872	ρ = .1646
SPD (Total) - Patrol (Total)	Z = .5874	ρ = .5552
1972–73		
SPD (Sample) - SPD (Total)	Z = .3873	ρ = .6966
SPD (Sample) - Patrol (Total)	Z = .1835	ρ = .8592
SPD (Total) - Patrol (Total)	Z = .4078	ρ = .6892

FIGURE IV-1

RATIO OF ARRESTS TO REPORTED OFFENSES:
ROBBERY AND BURGLARY: 1969 - 1973



Additionally, during the program year in the SPD there was an experiment to test the effectiveness of preventive patrol. Although the evaluation of that experiment indicated that no significant differences were produced among the conditions of the experiment, the division as a whole was under particular scrutiny during this period and its behavior may, therefore, have been affected.

As a result of these distinctive characteristics of the SPD and the nonrandom sample of target arrest data, generalizations from comparisons with that division should be made with caution.

Finally, typical patrol activity cannot be undertaken as strictly comparable to the operations of the tactical unit. Patrol division officers spend a considerable amount of their time responding to citizens' calls-for-service. Tactical officers, on the other hand, were not required to respond to such calls and, therefore, could devote more of their time to apprehending suspects.

Despite all these reservations, it was considered informative to make comparisons with patrol activity to be able to put LOP and POP in broader perspective. However, because gathering such detailed data would have been extremely time-consuming, and because no systematic changes in patrol behavior were expected, such information was not collected for the SPD during the extension period.

There were six criteria for evaluating the performance of LOP, POP, and SPD:

1. Apprehension effectiveness
2. Nature of arrests
3. Quality of arrests
4. Disposition of arrests
5. Information generation
6. Citizen complaints

The evaluation staff formulated indicators of each criterion for evaluation which are discussed in detail below. When possible, the staff used these indicators to compare the performances of LOP, POP, and the SPD during the program year and LOP with POP in the extension period. Also, when possible, comparisons were made between the tactical unit and the SPD during the periods from August 1970 to July 1971, and from August 1971 to July 1972. Such multiple comparisons over time permit a more thorough evaluation of the impact of the LOP and POP strategies on tactical unit performance in the program year and the extension period.

Tests of significance were computed for those comparisons to which such tests were amenable. However, because of the relatively low number of cases occurring in some of the comparisons, decisions with regard to support or rejection of hypotheses will not rely strictly on results of statistical tests of significance.14/ Another reason for not relying on statistical tests of significance for support or rejection of hypotheses concerns the nonrandom nature of data collection. In the case of robbery and burglary arrests made by the tactical unit, data on the entire population of such arrests are available. Therefore, no inferences from samples to populations need be made. Data on target arrests made by the SPD result from a nonrandom sample. Morrison and Henkel comment on the use of tests of significance in these situations:

> There is no basis in the statistical theory on which the tests are founded for any view other than that the data must be generated by a random procedure (either by random sampling or randomization) for the tests to be legitimately used . . .15/

Therefore, for those cases in which statistical tests were computed, such results are presented more for heuristic than for strict decision-making purposes.16/ In each case for which statistical significance must be questioned as a criterion, a definition of "substantial" differences will also be presented and applied.

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[14]Support for this position can be found in Hans Zeisel, "The Significance of Insignificant Differences," Public Opinion Quarterly, XVII (Fall) 1955, 319-321.

[15]Denton E. Morrison and Ramon E. Henkel, "Significance Tests in Behavioral Research: Skeptical Conclusions and Beyond," in The Significance Test Controversy, Morrison and Henkel (eds.), Chicago: Aldine Publishing Co., 1970. P. 305.

[16]For those instances for which significance tests were computed, statistics indicating the strength of a relationship between variables are also given because statistical significance can be partially caused by large sample sizes even though the relationship between variables is weak. Phi coefficients (ϕ) and Cramer's V are presented. The values of these statistics range from 0.00 (indicating no relationship) to 1.00 (indicating a perfect relationship). Generally speaking, values of ϕ and V less than .400 indicate a "weak" relationship while values greater than .700 indicate a "strong" relationship. A more detailed discussion of these statistics can be found in Hubert M. Blalock, Jr., Social Statistics (2d ed.), New York: McGraw-Hill Book Company, 1973. Pp. 291-298.

1. Apprehension Effectiveness

Both LOP and POP strategies were specifically designed to improve effectiveness in arresting criminal suspects. Therefore, evaluators analyzed three indicators of apprehension effectiveness; these analyses are presented below.

A. Officer-Hours Expended per Robbery or Burglary Arrest

The first indicator of apprehension effectiveness was the number of officer-hours expended per robbery or burglary (target) arrest. Given the goals of LOP and POP, a ratio of time expended to target arrests was considered to be a useful measure of effectiveness. For the purposes of evaluation, the most effective strategy would expend the fewest number of officer-hours per target arrest.

The hypotheses about this indicator and their rationales appear below:

Hypothesis IV-A1(1): The LOP strategy will expend substantially fewer officer-hours per target arrest than will the POP strategy.17/

Rationale: LOP squads were expected to be less restricted by the nature of their assignments than POP squads. POP squads were to be specifically assigned to surveil a limited group of 53 subjects, while LOP squads would have the information about these subjects as well as information about crime patterns in particular areas and therefore would have a wider range of arrest possibilities.

Hypothesis IV-A1(2): LOP and POP will expend substantially fewer officer-hours per target crime arrest than will the SPD.

Rationale: LOP squads were to concentrate on the surveillance of high crime locations, while POP squads were to focus on the surveillance of suspected target crime perpetrators. SPD personnel, on the other hand, were assigned to specific patrol beats which might not have severe target crime problems or contain suspected perpetrators. Furthermore, regular patrol officers have many duties not related to the apprehension of criminals. Therefore, SPD officers should be expected to expend more officer-hours per target crime arrest than either LOP or POP squads.

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17 A "substantial" difference in this case is at least 40 officer-hours (one officer-week) expended per target arrest.

Table IV-2 presents the data collected to test these hypotheses.18/

TABLE IV-2

OFFICER-HOURS EXPENDED PER CITIZEN COMPLAINT, BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

	1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Officer-hours	353,284	***	22,870	18,949	***	45,408	23,142	6,323	15,933
Target Arrests	667	274	142	76	47	159	91	9	59
Officer-hours Expended Per Target Arrest	529.66	***	150.46	249.33	***	295.85	254.42	702.56	270.05

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Data not available.

Tests of significance were not possible because no distributions existed for the variables examined in testing these hypotheses. However, the data support Hypothesis IV-A1(1), that LOP would be substantially more effective than POP in making target arrests. LOP squads expended 150.46 officer-hours per target arrest, compared to 249.33 officer-hours per target arrest expended by POP squads. Furthermore, although LOP squads made up only one-third of the the tactical unit, those squads accounted for 53.3 percent of the target arrests made by the entire unit during the program year. This LOP success

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18The data for the SPD include all target crime arrests made by officers of the SPD during the program year. For other analyses of arrests that follow, which examined the specific circumstances of arrests, the data derive from the nonrandom sample of target arrests in that division for which such information was available.

relative to POP might be partially attributable to the alleged tendency of POP officers to restrict their use of arrests in order to minimize the instances requiring them to reveal their identities as police officers. Officer-hour data prior to the program year were not available; therefore, comparisons with earlier time periods cannot be made.

The data also support Hypothesis IV-A1(2), that LOP and POP would expend substantially fewer officer-hours per target arrest than the SPD. While LOP and POP expended 150.46 and 249.33 officer-hours per target arrest, respectively, the SPD averaged one target arrest per 529.66 officer-hours.

As Table IV-3 indicates, the apprehension effectiveness of LOP and POP squads dropped somewhat during the extension phase as compared with the program year. Nevertheless, LOP remained substantially more effective than POP on this measure. As previously explained, officer-hour data for the SPD for this period are not available; hence, they could not be examined.

TABLE IV-3

CHANGE IN OFFICER-HOURS PER TARGET ARREST
EXPENDED BY LOP AND POP AUG. 1972 - JAN. 1974

Period	Officer-hours Expended per Target Arrest: LOP	Change from Previous Period: LOP	% Change from Previous Period: LOP	Officer-hours Expended per Target Arrest: POP	Change from Previous Period: POP	% Change from Previous Period: POP
Program Year	150.46	—	—	249.33		
Extension* Period	254.42	+103.96	+69.10	702.56	+463.23	+181.78

*August 1973 – January 1974.

A plausible reason for the reduction in POP effectiveness during the extension phase might have been the revision of the objectives for that strategy. The revised objectives placed less emphasis on the POP officers' obtaining information about criminal suspects so that other units could make arrests. Infiltration and/or surveillance of suspected burglary and narcotics users and dealers had high priority. Although infiltration was later judged to be ineffective and was abandoned, surveillances and the use of informants

by the POP squad produced information that contributed to arrests of individuals by the Drug Enforcement Administration, the Federal Bureau of Investigation, the Kansas Bureau of Investigation and various local authorities.19/

In summary, compared to POP, LOP expended substantially fewer officer-hours per target arrest during both evaluation periods. During the program year, both LOP and POP expended substantially fewer officer-hours per target arrest than did the SPD. There was a notable decline in the apprehension effectiveness of both LOP and POP during the extension period compared to the program year.

B. Percent of Robbery or Burglary Arrests Made as Interceptions

The second indicator of apprehension effectiveness selected was the percent of robbery or burglary arrests which were made as interceptions. An interception was defined as an arrest made while the suspect was present at, or was leaving, the scene of a crime. This indicator was chosen because it suggests how close in time to the actual commission of a crime an apprehension was made. The hypotheses and rationales follow.

Hypothesis IV-B1: Both LOP and POP squads will make a substantially greater percent of robbery or burglary arrests as interceptions than will the SPD.20/

Rationale: SPD officers were expected to have a wide range of responsibilities other than the apprehension of criminals and were expected to be assigned to beats which might not have a high probability of occurrence of crime. On the other hand, LOP and POP officers were expected to be assigned to surveil places or people likely to be associated with criminal activities. As a result, LOP and POP officers would be more likely to be in the vicinity of criminal activity than would SPD officers, and therefore their interception rate would be expected to be greater than that of the SPD.

Because POP squads were surveilling suspected perpetrators and would be nearby if any of these subjects committed an offense, and because LOP squads

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[19]As a result of their activities from August 16, 1973, to December 4, 1973, the officers of the POP squad received individual letters of commendation from Joseph D. McNamara, Chief of Police. The main basis of the commendations was that arrests had been made by other units as a result of information provided by POP officers.

[20]For all hypotheses in this chapter that compare percentages, a difference of 5.00 percent is defined as substantial. Because most N's are relatively large, 5.00 percent is considered an important difference.

are assigned to high target crime locations, both LOP and POP seem equally likely to make about the same percentage of target crime interceptions of total target crime arrests.

Table IV-4 presents the data necessary to test these hypotheses about the percentage of robbery or burglary arrests which were made as interceptions.

TABLE IV-4

PERCENTAGE OF ROBBERY OR BURGLARY ARRESTS MADE AS INTERCEPTIONS, BY ORGANIZATIONAL UNIT

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Interceptions for Robbery or Burglary	7	5	1	1	5	16	11	3	2	9	5	0	4
Total Arrests for Robbery or Burglary	170	184	199	169	189	275	152	76	47	159	91	9	59
Percent of Robbery or Burglary Arrests Made as Interceptions	4.12	2.72	0.50	0.59	2.65	5.82	7.24	3.95	4.26	5.66	5.50	0.00	6.78

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.

Comparison	Test Statistic	Significance
LOP - POP (Prog.)	% = 1.072	p = .1423
LOP - SPD	% = 2.038	p = .0207
POP - SPD	% = .516	p = .3015
LOP - POP (Ext.)	% = 2.301	p = .0107

The data do not support Hypothesis IV-B1, that there would be a substantial difference between LOP and POP when compared to the SPD. The SPD produced target interceptions of total target arrests resulting in differences of slightly less than 5 percent compared to those of LOP or POP, although the difference between LOP and the SPD was statistically significant.

There was a difference of only 3.29 percent in the interceptions produced by LOP and POP; this difference is less than the arbitrary 5 percent criterion established for a "substantial" difference and is not statistically significant. Too few interceptions were made in the extension phase to make results reliable.

Table IV-5 presents the changes in the percent of target interceptions of total target arrests for the tactical unit and the SPD.

TABLE IV-5

CHANGE IN PERCENT TARGET INTERCEPTIONS OF TOTAL TARGET ARRESTS, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Year (August-July)	Percent Target Interceptions of Total Target Arrests: SPD	Change from Previous Year: SPD	Percent Target Interceptions of Total Target Arrests: Tactical Unit*	Change from Previous Year: Tactical Unit*
1970-71	4.12	–	2.72	–
1971-72	0.50	-3.62	0.59	-2.13
1972-73	2.65	+2.15	6.14	+5.55
Extension**	–	–	5.00	-1.14

* During the program and extension periods, includes only LOP and POP.

** August 1, 1973, through January 31, 1974.

All results obtained from the analysis of data about change over time should be interpreted with great caution because so few observations of change are available. Both the SPD and the tactical unit experienced a decrease in their interception rates from 1970-71 to 1971-72 which was less than substantial. During the program year (1972-1973), the tactical unit experienced an increase of 5.55 percent in its interception rate compared to the previous year. However, when controlling for the 2.15 percent increase in the interception rate experienced by the SPD during the same time period, the tactical unit's improvement in performance is not substantial.[21] A decrease of 1.14 percent in interceptions occurred during the extension phase, compared to the program year. The SPD also improved slightly in the program year, with an increase of 2.15 percent in its interception rate compared to the previous year.

In summary, using percent of target arrests made as interceptions as a criterion, LOP was slightly more effective than POP, although this difference

[21] A "substantial change" for the tactical unit is arbitrarily defined as a 5 percent increase over and above the increase experienced by the SPD during the corresponding time period. Results from data about changes over time should be interpreted very cautiously because only a limited number of observations of change are available.

was not statistically significant and was not equal to the arbitrary 5 percent difference selected as a criterion for "substantial" differences. Both LOP and POP appeared not to be substantially more effective on this measure than the SPD, although the difference between LOP and the SPD was statistically significant. Compared to the previous year, the tactical unit's performance on this indicator did not improve substantially during the program year. Compared to the program year, LOP and POP declined slightly in target crime interception rates in the extension phase although the decline was not substantial.

C. Officer-Hours Expended per Target Subject Arrested for Target Crime

Information about 53 suspected perpetrators was distributed to the tactical unit. The third indicator of apprehension effectiveness was the number of officer-hours expended for each perpetrator subject arrested by LOP or POP for target offenses. As in Chapter II, only within-group comparisons were made for the tactical unit; no across-group comparisons with the SPD could be made using this measure because of an unequal number of personnel pursuing an equal number of target subjects. To have made comparable across-group comparisons, the 220 law enforcement personnel of the SPD would have to have been assigned 833 CIC subjects, given that the 14 members of each of the LOP and POP squads were assigned 53 subjects.

The hypothesis and rationale follow:

Hypothesis IV-C1(1): POP squads will expend substantially fewer officer-hours per target arrest of assigned CIC target subjects than will the LOP squads.

Rationale: Although LOP squads received the information on the same 53 CIC subjects as POP squads, LOP squads were not directly assigned to surveil these subjects, as were POP squads. Because POP squads were following or gathering information on these subjects, they should account for more arrests of CIC subjects than LOP squads.

Table IV-6 presents the data used to test this hypothesis.

Neither LOP nor POP made more than three arrests of target subjects for target crimes during either the program year or the extension phase. If the total number of target arrests of assigned CIC subjects, rather than the number of assigned target subjects arrested, were the criterion, LOP produced five and POP produced only four during the program year. If the evaluation criterion were the number of assigned target subjects arrested for all crimes combined, the total number for LOP and POP would still be less than 20. If the criterion were the total number of arrests assigned target subjects for all crimes combined, LOP produced only eight and POP produced six. Therefore, regardless of the available criteria, too few arrests were made to allow for any systematic comparisons between strategies. The fact that the tactical

unit arrested so few target subjects suggests that the Apprehension-Oriented strategies performed at a level lower than anticipated.

TABLE IV-6

OFFICER-HOURS EXPENDED PER ASSIGNED CIC SUBJECT ARRESTED FOR TARGET CRIMES, BY ORGANIZATIONAL UNIT: AUG. 1971 - JAN. 1974

	1972-73 (Program Year)				1973-74 (Extension Phase)			
	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Officer-hours Expended	***	22,870	18,949	***	45,408	23,152	6,232	15,933
Number of Assigned Subjects Arrested for Target Crimes	6	3	2	1	2	1	1	0
Officer-hours Expended per Target Subject Arrest for Target Crimes	***	7,623.33	9,474.50	***	22,704.00	23,152.00	6,323.00	***

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Data not available.

2. Nature of Arrests

The second criterion of evaluation was the nature of the arrests made by LOP, POP, and the SPD. Because each strategy employed somewhat different tactics in making arrests, the techniques from which the target arrests derived were considered important indicators. Analyses of two indicators of the nature of arrests are presented below.

A. Percent of Target Arrests Resulting from Covert Techniques

The first indicator of nature of arrests was the percentage of robbery and burglary arrests resulting from covert techniques. Because LOP and POP personnel were to have more freedom to employ a wider range of apprehension techniques than regular patrol officers, this measure was considered a

relevant distinguishing feature of the nature of arrests. Task force officers and evaluation staff believed that experienced criminals would be able to identify "unmarked" police vehicles; therefore, patrol in either marked or unmarked police vehicles would be considered an overt strategy. Stakeouts and undercover operations qualify as covert strategies.

The hypothesis and rationale concerning covertness of strategy are presented below:

> Hypothesis IV-A2: Both POP and LOP squads will make a substantially greater percent of their arrests for target crimes using covert techniques than the SPD.
>
> Rationale: SPD assignments would rarely include stakeouts or undercover operations because traditional patrol strategy emphasizes highly visible police presence. Therefore, one would anticipate that the LOP and POP squads would make more target arrests using covert techniques than would the SPD.

Because the POP strategy was designed as a covert operation of surveilling CIC subjects using stakeouts and undercover techniques, and because LOP squads were to be placed in high-crime areas, where they would use covert surveillance techniques similar to those of the POP squads, no difference between the two strategies in percentage of target arrests made through the use of covert operations is to be expected.

Table IV-7 presents the data for testing this hypothesis.22/

The data support Hypothesis IV-A2, that there would be a substantial difference between both LOP and POP compared to the SPD in terms of the percent of arrests made through the use of covert strategies. Compared to the SPD, both LOP and POP strategies resulted in more target arrests through the use of covert strategies. No SPD target arrests resulted from covert operations during the program year.

The POP squads made 22.73 percent of their target arrests using covert techniques during the program year, compared to only 9.15 percent for LOP squads. This difference is both statistically significant and larger than the 5 percent criterion for substantial differences. In the extension phase, POP made all six of its target arrests using covert techniques. This difference might be explained by the fact that POP officers covertly surveilled CIC subjects, while LOP officers frequently patrolled high-crime areas in unmarked police vehicles.

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[22]Because most of the data in this chapter are at the nominal level, chi-square is the appropriate test of significance when expected values are greater than 5. In those 2 x 2 tables for which expected values are less than 5, Fisher's Exact Test is applied.

Table IV-8 presents the data indicating the changes in target arrests made by the tactical unit using covert techniques.

TABLE IV-7

ARRESTS FOR TARGET CRIME BY "COVERTNESS" OF STRATEGY, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974*

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other***
Target Arrest Made by Covert Operations	2 (2.94)	3 (2.97)	0 (0.00)	6 (4.32)	0 (0.00)	29 (12.61)	13 (9.15)	15 (22.73)	1 (4.76)	26 (28.57)	12 (17.19)	6 (100.00)	8 (50.00)
Target Arrests Made by Overt Operations	66 (97.06)	98 (97.03)	200 (100.00)	133 (95.68)	184 (100.00)	201 (87.39)	129 (90.85)	51 (77.27)	21 (95.24)	65 (71.43)	57 (82.61)	0 (0.00)	8 (50.00

* Data about covertness were missing for approximately 20 percent of the arrests.
** Includes regular tactical unit patrol, special assignments, and off-duty.
*** Includes special assignments and off-duty.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 7.125$	1	$.005 < p < .01$	$\phi = .185$
LOP – SPD	$\chi^2 = 17.545$	1	$p < .0005$	$\phi = .232$
POP – SPD	Fisher's Exact	1	$p = .0000$	$\phi = .422$
LOP – POP (Ext.)	Fisher's Exact	1	$p = .0001$	$\phi = .525$

TABLE IV-8

CHANGES IN TARGET ARRESTS MADE BY TACTICAL UNIT AS A RESULT OF COVERT TECHNIQUES* AUG. 1970 - JAN. 1974

Year (August–July)	% Target Arrests as A Result of Covert Arrest Techniques	Change from Previous Year
1970-1971	2.97	–
1971-1972	4.32	1.35
1972-1973 Program	13.46	+ 9.14
Extension**	24.00	+10.54

*During Program and Extension periods, includes only LOP and POP
**August 1973-January 1974

The increases of 9.14 percent and 10.54 percent target arrests made during the program year and the extension phase, respectively, indicate that LOP and POP made substantially more arrests using covert techniques than the tactical unit in previous years.

To compare LOP and POP further, Table IV-9 presents an examination of the percentages of arrests resulting from covert techniques made for robbery as opposed to burglary.

TABLE IV-9

ROBBERY AS OPPOSED TO BURGLARY ARRESTS MADE BY THE TACTICAL UNIT USING OVERT AND COVERT TECHNIQUES*

		1972-73 (Program Year)				1973-74 (Extension Phase)			
		Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Robbery	Covert	8 (7.84)	7 (10.29)	0 (0.00)	1 (7.69)	2 (7.41)	2 (9.09)	0 (0.00)	0 (0.00)
	Overt	94 (92.16)	61 (89.71)	21 (100.00)	12 (92.31)	25 (92.59)	20 (90.91)	0 (0.00)	5 (100.00)
Burglary	Covert	21 (17.07)	6 (8.45)	15 (33.33)	0 (0.00)	24 (37.50)	10 (21.28)	6 (100.00)	8 (72.73)
	Overt	102 (82.93)	65 (91.55)	30 (66.67)	7 (100.00)	40 (62.50)	37 (78.72)	0 (0.00)	3 (27.27)

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.

Comparison	Test Statistic	df	Significance	Measure of Association
Robbery				
LOP – POP (Prog.)	Fisher's Exact	1	p = .147	ϕ = .162
LOP – POP (Ext.)	Fisher's Exact	1	p = 1.000	ϕ = .000
Burglary				
LOP – POP (Prog.)	χ^2 = 11.502	1	$.0005 < p < .001$	ϕ = .315
LOP – POP (Ext.)	Fisher's Exact	1	p = .0003	ϕ = .543
LOP				
Rob.-Burg. (Prog.)	χ^2 = .139	1	p = .25	ϕ = .032
Rob.-Burg. (Ext.)	Fisher's Exact	1	p = .1851	ϕ = .150
POP				
Rob.-Burg. (Prog.)	Fisher's Exact	1	p = .0013	ϕ = .370
Rob.-Burg. (Ext.)	Fisher's Exact	1	p = 1.0000	ϕ = .000

These data indicate that POP squads were more likely to use covert techniques for burglary arrests than for robbery arrests. POP squads were also more likely than LOP squads to use covert techniques in making burglary arrests.

In summary, POP made a greater percentage of its target arrests using covert techniques than did LOP. However, both LOP and POP used more covert techniques than did the SPD. Both LOP and POP produced a greater percentage of target arrests using covert techniques than did the tactical unit in the year prior to the program year.

B. Percent of Target Arrests Resulting From Officer-Initiative

Because LOP and POP were designed to have more freedom to employ a broader range of activities than regular patrol, an important criterion of evaluation was target arrests resulting from officer-initiated activities. All target arrests were categorized according to the conditions under which these arrests were made, using the following dichotomy:23/

Arrests Made as a Result of Activities Other Than Officer-Initiated	Arrests Made as a Result of Officer-Initiated Activities
1. Radio Dispatches	1. Car Checks
2. Citizen-Initiated	2. Pedestrian Checks

The hypotheses and rationales follow.

Hypothesis IV-B2: A substantially greater percentage of the LOP and POP squads' target arrests will be made as a result of officer-initiated activities than will those made by the SPD.

Rationale: SPD units have more assigned activities than either LOP or POP squads. Therefore, SPD units would be expected to make a smaller percentage of their target arrests as a result of officer-initiated activities than would the LOP or POP squads.

The nature of LOP and POP assignments was expected to be such that these apprehension squads would seldom respond to calls-for-service. Both strategies were expected to conduct surveillances in unmarked cars and plainclothes. Such surveillances would be ineffective if LOP and POP officers responded

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[23]Excluded from the analysis are arrests resulting from on-view, warrants, residence checks, and unknown arrest-related activity, because arrests resulting from such activities could fall into either of the categories, depending on the specific circumstances involved.

frequently to calls-for-service. Also, because both strategies were expected to maintain atypical appearances for police officers, both would be expected to be assigned to few citizens' calls-for-service; therefore, no difference was expected between the two Apprehension-Oriented strategies in terms of the percentage of target arrests resulting from officer-initiated activities.

Table IV-10 contains the data for testing the hypothesis.

TABLE IV-10

TARGET ARRESTS RESULTING FROM OFFICER-INITIATED ACTIVITIES AND ACTIVITIES OTHER THAN OFFICER-INITIATED, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974*

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other***
Target Arrests Resulting From Officer-Initiated Activity	18	57	37	41	40	119	63	44	12	47	26	1***	20
	(24.32)	(76.00)	(29.13)	(69.49)	(31.75)	(84.40)	(77.78)	(91.67)	(100.00)	(61.84)	(57.78)	(100.00)	(66.67)
Target Arrests Resulting from Activities Other than Officer-Initiated	56	18	90	18	86	22	18	4	0	29	19	0	10
	(75.68)	(24.00)	(70.87)	(30.57)	(68.25)	(15.60)	(22.22)	(8.33)	(0.00)	(38.16)	(42.22)	(0.00)	(33.33)

*Because data were excluded for arrests resulting from on-view, warrants, and residence checks, arrest totals here do not correspond to previous tables.
**Includes regular tactical unit patrol, special assignments, and off-duty.
***Includes special assignments and off-duty.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	χ^2 = 4.110	1	$.025 < p < .05$	ϕ = .178
LOP – SPD	χ^2 =41.790	1	$p < .0001$	ϕ = .449
POP – SPD	χ^2 =49.980	1	$p < .0001$	ϕ = .586
LOP – POP (Ext.)	Fisher's Exact	1	p = .5870	ϕ = .125

Hypothesis IV-B2, that LOP and POP would make a greater percentage of target arrests as a result of officer-initiated activities than would the SPD, is supported. While LOP and POP target arrests were usually a result of officer-initiative (77.78 percent and 91.67 percent, respectively), a majority (68.25 percent) of the SPD target arrests resulted from activities other than officer-initiated.

The difference between LOP and POP in terms of percentage of target arrests resulting from officer-initiated activities is both statistically significant and larger than the 5 percent criterion required for a substantial difference. Compared to LOP, POP made 13.89 percent more of its arrests as a result of officer-initiated activities during the program year. During the extension phase, POP made so few arrests as to warrant no comparison. A more thorough understanding of the differences that did occur can be achieved by analyzing the dichotomy of arrest types in terms of its components. Table IV-11 presents data about target arrests effected through the four established categories.

TABLE IV-11

TARGET ARRESTS BY LOP AND POP IN THE PROGRAM YEAR RESULTING FROM CAR CHECKS, PEDESTRIAN CHECKS, CALLS-FOR-SERVICE, AND CITIZEN-INITIATION (AUG. 1972 - JULY 1973)

Target Arrests Resulting From	Unit	
	LOP	POP
Car Checks	43 (53.09)	28 (58.33)
Pedestrian Checks	20 (24.69)	16 (33.33)
Calls-for-Service	16 (19.75)	2 (4.17)
Citizen-Initiation	2 (2.47)	2 (4.17)

The data indicate that the greatest difference between LOP and POP occurred for target arrests as a result of calls-for-service. As stated in the rationale for Hypothesis IV-A2, department and evaluation staff initially anticipated that the surveillances by both Apprehension-Oriented strategies would be conducted in plainclothes and unmarked cars; however the POP officers changed to the use of rental vehicles and unusual dress in order to maintain their covers and thus avoid detection by CIC subjects. Although LOP officers used unmarked cars, they often wore police uniforms on assignments. Therefore, it followed that LOP officers were more likely than POP officers to be asked to respond to calls-for-service, because the LOP officers were more likely to wear uniforms.

The evaluation staff examined tactical unit target arrests made as a result of officer-initiated activities from 1970-74. Table IV-12 presents these data.

TABLE IV-12

CHANGE IN TARGET ARRESTS PERCENTAGE OF TARGET ARRESTS RESULTING FROM OFFICER-INITIATED ACTIVITIES, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Year (August to July)	% Arrests Resulting from Officer-Initiated Activities: SPD	Change from Previous Year	% Arrests Resulting from Officer-Initiated Activities: Tactical Unit*	Change from Previous Year
1970 – 71	24.32	–	76.00	–
1971 – 72	29.13	+4.81	69.49	-6.51
1972 – 73 Program Year	31.75	+2.62	82.95	+13.46
Extension**	–	–	58.70	-24.25

*During the program and extension periods, includes only LOP and POP.
**August 1, 1973, through January 31, 1974.

The SPD experienced an increase in percentage over the three-year period. There was a substantial increase in the number of arrests resulting from officer-initiated activities during the program year after controlling for the corresponding trend of the SPD. There was a substantial decrease of 24.25 percent in the extension period. In comparison to the program year, however, because so few arrests were made in the extension phase, no generalizations are warranted.

In summary, compared to LOP, POP's percentage of target arrests resulting from officer-initiated activities was substantially greater. Both LOP and POP produced a higher proportion of target arrests as a result of officer-initiated activities than did the SPD during the program year or the tactical unit in previous years.

3. Quality of Arrests

Another criterion chosen for evaluation was the quality of the arrests made by LOP, POP, and the SPD, using three indicators of arrest quality. The analyses of these indicators are presented below.

A. Percentage of Target Arrests Made for Robbery

One measure of the quality of arrests is the seriousness of the crimes for which target arrests are made. Target arrests were those for robbery and

burglary. Because robberies are more likely to involve threat of or actual bodily harm, robberies were considered to be the more serious offense of the target crimes, consistent with Sellin and Wolfgang's offense scales designed to measure the seriousness of crime.24/ The best strategy, in terms of arrest quality, is considered to be the one that results in the greatest percentage of target arrests for robbery.

The hypothesis and rationale are as follows:

Hypothesis IV-A3: Both LOP and POP will produce a substantially higher percentage of target arrests made for robbery than will the SPD.

Rationale: LOP and POP would be expected to make a greater percentage of interceptions than would the SPD. Because a greater percentage of robberies are detectable by police patrol than are burglaries,25/ interceptions would be more likely for robbery arrests than for burglary arrests. Thus, LOP and POP would be expected to make a greater percentage of their target arrests for robbery than would the SPD.

Although both strategies were to surveil suspects or locations associated with robbery and burglary, neither strategy could expect assignment to suspects or areas that would result in a greater percentage of target arrests for robbery.

Table IV-13 presents the data necessary to test the hypothesis.

Hypothesis IV-A3, stating that both LOP and POP would produce a greater percentage of target arrests for robbery, is supported. Compared with the SPD, more than 20 percent more LOP target arrests and 5.35 percent more POP target arrests were made for robbery. Although the comparison between POP and the SPD is not statistically significant because of the small number of cases, the difference between the two does meet the 5 percent criterion for a substantial difference. The difference between LOP and SPD is both significant and substantial.

LOP made 15 percent more of their target arrests for robbery than did POP, a difference meeting the criteria for both significant and substantial

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[24]Thorsten Sellin and Marvin E. Wolfgang, The Measurement of Delinquency, New York: John Wiley and Sons, 1964. P. 289.

[25]J. F. Elliott, Interception Patrol, Springfield, Illinois: Charles C. Thomas, 1973. P. 11. Robberies are also considered more "deterrable," which means that a crime is "likely to be stopped in the act." See Cyrus Ulberg and Peter Bloch, "Experimental Design for the Beat Commander Project," unpublished manuscript.

differences. This difference might be explained by the fact that, according to POP officers, they more often surveilled suspected burglars than suspected robbers during the program year.

Table IV-14 contains the data indicating the changes in the percentage of target arrests made for robbery by the SPD and the tactical unit.

TABLE IV-13

ROBBERY AS OPPOSED TO BURGLARY ARRESTS, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Robbery Arrests	33 (19.41%)	89 (48.37%)	46 (23.12%)	52 (30.77%)	52 (27.51%)	123 (44.73%)	73 (48.03%)	25 (32.89%)	25 (53.19%)	64 (40.25%)	33 (36.26%)	1 (11.11%)	30 (50.85%)
Burglary Arrests	137 (80.59)	95 (51.63)	153 (76.88)	117 (69.23)	137 (72.49)	152 (55.27)	79 (51.97)	51 (67.11)	22 (46.87)	95 (59.75)	58 (63.74)	8 (88.89)	29 (49.15)
Total	170 (100.00)	184 (100.00)	199 (100.00)	169 (100.00)	189 (100.00)	275 (100.00)	152 (100.00)	76 (100.00)	47 (100.00)	159 (100.00)	91 (100.00)	9 (100.00)	59 (100.00)

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 4.734$	1	$.025 < \rho < .05$	$\phi = .144$
LOP – SPD	$\chi^2 = 15.267$	1	$\rho < .0005$	$\phi = .212$
POP – SPD	$\chi^2 = 0.762$	1	$\rho > .25$	$\phi = .054$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .1211$	$\phi = .1520$

TABLE IV-14

CHANGES IN PERCENT TARGET ARRESTS MADE FOR ROBBERY, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Year (August to July)	% Robbery Arrests: SPD	Change From Previous Year: SPD	% Robbery Arrests: Tactical Unit Total*	Change From Previous Year: Tactical Unit Total*
1970 – 71	19.41	–	48.37	–
1971 – 72	23.12	+3.71	30.77	-17.60
1972 – 73 Program	27.51	+4.39	42.98	+12.21
Extension**	–	–	34.00	- 8.98

*During program and extension periods, includes only LOP and POP.
**August 1, 1973, through January 31, 1974.

The SPD consistently increased its percentage of target arrests made for robbery over the three-year period; however, there was no consistent pattern for the tactical unit. Compared to the previous year, and controlling for the corresponding trend of the SPD, the tactical unit experienced a substantial increase in the percentage of target arrests made for robbery in the program year, largely attributable to LOP target arrests. During the extension phase, however, the tactical unit's percentage of target arrests made for robbery was less than that for the program year.

A plausible explanation for this decline might be that a greater proportion of LOP assignments were burglary surveillances during the extension period than in the program year. However, this speculation cannot be verified because most LOP assignment folders were destroyed shortly after the tactical unit was decentralized in 1974.

In summary, LOP made substantially more target arrests for robbery than did POP in both evaluation periods. Both LOP and POP made more target arrests for robbery than did the SPD during the program year. Compared to the previous year, the tactical unit increased substantially in its percentage of target arrests made for robbery during the program year. However, during the extension phase, the tactical unit experienced a substantial decrease in the percentage of target arrests for robbery, compared to the program year.

B. Percent of Robbery Arrests Made for Armed Robbery Offenses

To create a second measure of the seriousness of the crimes for which target arrests were made, the evaluation staff separated robbery arrests into

those for armed and those for strong-armed robbery. Because armed robberies involve the use of weapons, they are defined as more serious than strong-armed robberies, again consistent with the offense seriousness scale of Sellin and Wolfgang.26/ Therefore, the strategy resulting in the greatest percentage of arrests for armed robbery will be considered to be the best in terms of arrest quality.

The hypothesis and rationale are as follows.

Hypothesis IV-B3: Both LOP and POP will produce a substantially higher percentage of robbery arrests for armed robbery offenses than will the SPD.

Rationale: Both LOP and POP strategies were to be assigned to persons or locations associated with "serious" crime problems. SPD officers, on the other hand, were to be assigned to beats which might not have many incidents of serious crime. It could be expected, therefore, that LOP and POP robbery arrests would more often be made for the more "serious" form of robbery.

Because both strategies were to surveil subjects or locations associated with robbery and burglary offenses, neither strategy could be expected to produce a greater percentage of robbery arrests for armed robbery.

Table IV-15 presents the data to test the hypothesis.

The data support Hypothesis IV-B1, that LOP and POP would make substantially larger percentages of robbery arrests for armed robbery. The difference of 12.59 percent between POP and the SPD, although greater than the 5 percent criterion applied for substantial differences, was not statistically significant at the .05 level because of the small number of observations for POP.

LOP made only a slightly larger proportion of arrests (1.7 percent) for armed robbery offenses than did POP during the program year. This difference is neither substantial nor significant. The one POP squad made too few robbery arrests in the extension phase to permit comparisons.

Table IV-16 presents data for the changes in percent of armed robbery arrests for the SPD and the tactical unit.

The percentage decrease of armed robbery arrests for LOP and POP in the extension phase over the program year was substantial; however, because LOP and POP effected so few target arrests for armed robbery during the extension period, no generalizations can be made.

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[26]Sellin and Wolfgang, The Measurement of Delinquency. P. 289.

TABLE IV-15

ARMED VERSUS STRONG-ARMED ROBBERY ARRESTS BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Armed Robbery***	25 (92.59)	43 (79.63)	34 (73.91)	46 (88.46)	40 (80.00)	112 (93.33)	66 (94.29)	25 (92.59)	25 (92.59)	58 (93.55)	30 (90.91)	0 (0.00)	28 (100.00)
Strong-Armed Robbery***	2 (7.41)	11 (20.37)	12 (26.09)	6 (11.54)	10 (20.00)	8 (6.67)	4 (5.71)	2 (7.41)	2 (7.41)	4 (6.45)	3 (9.09)	1 (100.00)	0 (0.00)
Robbery: Undetermined Type****	6 (18.18)	35 (39.33)	0 (0.00)	0 (0.00)	2 (3.85)	3 (2.94)	3 (2.94)	0 (0.00)	0 (0.00)	2 (3.13)	0 (0.00)	0 (0.00)	2 (6.67)

* Includes regular tactical unit patrol, special assignments, and off-duty
** Includes special assignment and off-duty.
*** Percent armed robbery arrests and percent strong-armed robbery arrests sum to 100.00 percent in all columns.
**** Percent undetermined is the percent of total robbery arrests for which no distinction was available.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	Fisher's Exact	1	$\rho = .3257$	$\phi = .032$
LOP – SPD	$\chi^2 = 5.776$	1	$.01 < \rho < .025$	$\phi = .219$
POP – SPD	Fisher's Exact	1	$\rho = .1289$	$\phi = .167$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .1176$	$\phi = .477$

TABLE IV-16

CHANGES IN PERCENT OF ARMED ROBBERY ARRESTS, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Year (August to July)	% Armed Robbery Arrests SPD	Change From Previous Year: SPD	% Armed Robbery Arrests Tactical Unit: Total*	Change From Previous Year: Tactical Unit Total*
1970 – 71	92.59	–	79.63	–
1971 – 72	73.91	-18.69	88.46	+ 8.83
1972 – 73 Program	80.00	+ 6.09	93.81	+ 5.35
Extension**	–	–	88.24	- 5.57

* During program and extension periods, includes only LOP and POP.
** August 1, 1973, through January 31, 1974.

In summary, using percentage of robbery arrests for armed robbery offenses as an indicator of arrest quality, evaluators found no substantial difference between LOP and POP. However, both LOP and POP produced arrests of higher quality than did the SPD. Neither LOP nor POP seems to have substantially altered tactical unit performance on this indicator.

C. Median Number of Prior Felony Arrests of Suspects Arrested for Target Crimes 27/

The third indicator of arrest quality was the median number of prior felony arrests of individuals arrested for target crimes.28/ An arrested suspect with a large number of prior felony arrests could be considered a more hardened criminal than one with few or no felony arrests. Therefore, the best strategy will be defined as the one that made target arrests of persons with the largest median number of prior felony arrests.

The hypotheses and their rationales are as follows.

Hypothesis IV-C3(1): The median number of prior felony arrests of individuals arrested by POP squads for target crimes will be substantially higher than that of individuals arrested by LOP squads.

Rationale: POP squads were to surveil CIC subjects known to have high prior felony arrest records. LOP squads could be expected to arrest a wide range of individuals--some hardened criminals, some first offenders.

Hypothesis IV-C3(2): The median number of prior felony arrests of individuals arrested by LOP and POP for target crimes will be larger than that of individuals arrested by the SPD.

Rationale: The POP squads were to surveil individuals likely to have been arrested previously for robbery and burglary. The LOP squads were to surveil areas in which serious crime problems occurred. Perpetrators of serious crimes could be expected to have more extensive arrest records than the suspects arrested by regular patrol officers. Therefore, both POP and LOP could be

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[27] Because the data concerning prior arrests are generally skewed in a positive direction, medians are more appropriate than means as measures of central tendency. Blalock states that ". . . whenever a distribution is highly skewed, i.e., whenever there are considerably more extreme cases in one direction than the other, the median will generally be more appropriate than the mean." Blalock, Social Statistics. P. 70.

[28] Data in this section pertain only to prior arrests by the KCPD.

expected to arrest suspects with larger average numbers of prior felony arrests than the suspects arrested by the SPD.

Table IV-17 presents the data necessary for the testing of these hypotheses and additional information on previous arrests.

TABLE IV-17

MEDIAN PRIOR ARRESTS OF SUSPECTS ARRESTED FOR TARGET CRIMES, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Period	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
Unit	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Number of Cases***	163	180	188	168	180	264	150	74	40	112	6	9	37
Median Prior Felony Arrests	2.81	3.43	2.17	3.92	2.29	3.21	3.13	4.75	1.50	2.50	1.90	9.00	2.80
Median Prior Traffic Arrests	0.00	0.68	1.46	1.10	2.08	0.60	0.00	2.30	0.00	0.63	0.00	3.50	0.57
Median Prior Ordinance Arrests	1.88	3.88	2.39	2.41	1.26	1.98	1.96	3.50	1.21	1.40	0.96	6.00	2.08
Median Prior Misdemeanor Arrests	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.00	1.25	0.00

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Missing data resulted primarily from arrests of juveniles whose previous records were not available.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 3.955$	1	$.025 < \rho < .05$	$\phi = .133$
LOP – SPD	$\chi^2 = 4.209$	1	$.025 < \rho < .05$	$\phi = .113$
POP – SPD	$\chi^2 = 9.191$	1	$.001 < \rho < .005$	$\phi = .190$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .0000$	$\phi = .379$

The data support Hypothesis IV-C3(1), that suspects arrested for target crimes by POP would have more extensive felony records than those arrested by LOP. The median numbers of prior felony arrests of suspects arrested by POP for target crimes were 1.62 and 7.10 larger than the medians of those arrested by LOP in the program year and the extension period, respectively. Those arrested by POP also tended to have more prior traffic, ordinance, and misdemeanor arrests than those arrested by LOP in both evaluation periods.

The data only partially support Hypothesis IV-C3(2), that suspects arrested for target crimes by LOP and POP would have more extensive felony records than would those arrested by the SPD. POP officers arrested suspects with median prior felony arrests 2.46 percent greater than those arrested by the SPD, a difference which is both substantial and significant. LOP arrested

suspects with median prior felony arrests only .04 greater than those arrested by the SPD, a difference which is statistically significant, but slightly less than the criterion established as a substantial difference.

Table IV-18 contains the data for comparisons over time.

TABLE IV-18

CHANGES IN MEDIAN NUMBER OF PRIOR FELONY ARRESTS FOR INDIVIDUALS ARRESTED FOR TARGET CRIMES FOR THE TACTICAL UNIT AND THE SPD: 1970 - 1973

Year (August to July)	Median Number of Prior Felony Arrests for Target Crimes: SPD	Change From Previous Year: SPD	Median Number of Prior Felony Arrests for Target Crimes: Tactical Unit: Total*	Change from Previous Year: Tactical Unit: Total*
1970 – 1971	2.81	–	3.43	–
1971 – 1972	2.17	-0.64	3.92	+0.49
1972 – 1973 Program	2.29	+0.12	3.50	-0.42
Extension**	–	–	2.35	-1.15

*During program and extension periods, includes only LOP and POP.
**August 1, 1973, through January 31, 1974.

For no apparent reason, the tactical unit experienced a decrease during both evaluation periods compared to previous performance attributable to arrests made by LOP.

To provide a clearer distinction between LOP and POP, Table IV-19 presents data on the prior felony arrests of suspects arrested for robbery and burglary.

Using the median as the preferred measure of central tendency, POP arrested armed robbery, robbery, and burglary suspects with substantially more extensive felony arrest records than did LOP or SPD during the program year. Although most of these findings were not statistically significant at the .05 level, the differences did meet the minimum criterion of a difference of one

TABLE IV-19

MEDIAN PRIOR FELONY ARRESTS OF SUSPECTS ARRESTED FOR ROBBERY OR BURGLARY, BY ORGANIZATIONAL UNIT AUG. 1972 - JAN. 1974

	1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Median Prior Felony Arrests of Suspects Arrested for Armed Robbery	2.38 (N=39)	2.58 (N=110)	2.50 (N=66)	3.62 (N=23)	1.44 (N=21)	2.33 (N=49)	1.43 (N=26)	***	3.40 (N=23)
Median Prior Felony Arrests of Suspects Arrested for Strong-Armed Robbery	2.25 (N=9)	3.50 (N=8)	8.00 (N=4)	11.00 (N=2)	2.00 (N=2)	2.50 (N=4)	2.00 (N=3)	8.00 (N=1)	***
Median Prior Felony Arrests of Suspects Arrested for Robbery (Total)****	2.33 (N=50)	2.78 (N=121)	2.85 (N=73)	3.62 (N=25)	1.44 (N=23)	2.22 (N=58)	1.47 (N=29)	8.00 (N=1)	3.40 (N=23)
Median Prior Felony Arrests of Suspects Arrested for Burglary	2.34 (N=125)	3.82 (N=139)	3.50 (N=74)	5.80 (N=49)	1.50 (N=16)	5.67 (N=59)	3.25 (N=37)	9.00 (N=8)	1.50 (N=14)

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** No arrests were made.
**** Some robbery arrests could not be classified as either armed or strong-armed.

Comparison	Test Statistic	df	Significance	Measure of Association
Armed Robbery				
LOP – POP (Prog.)	$\chi^2 = 1.590$	1	$\rho > .25$	$\phi = .136$
LOP – SPD	$\chi^2 = 0.077$	1	$\rho > .25$	$\phi = .027$
POP – SPD	$\chi^2 = 1.728$	1	$.10 < \rho < .20$	$\phi = .167$
LOP – POP (Ext.)	–		–	–
Strong-Armed Robbery				
LOP – POP (Prog.)	Fisher's Exact	1	$\rho = .3333$	$\phi = .250$
LOP – SPD	Fisher's Exact	1	$\rho = .3427$	$\phi = .283$
POP – SPD	Fisher's Exact	1	$\rho = .8182$	$\phi = .043$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .5000$	$\phi = .577$
Robbery				
LOP – POP (Prog.)	$\chi^2 = 0.483$	1	$\rho > .25$	$\phi = .070$
LOP – SPD	$\chi^2 = 0.435$	1	$\rho > .25$	$\phi = .059$
POP – SPD	$\chi^2 = 1.707$	1	$.10 < \rho < .20$	$\phi = .151$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .5000$	$\phi = .186$
Burglary				
LOP – POP (Prog.)	$\chi^2 = 6.124$	1	$.01 < \rho < .025$	$\phi = .223$
LOP – SPD	$\chi^2 = 4.916$	1	$.025 < \rho < .05$	$\phi = .157$
POP – SPD	$\chi^2 = 8.210$	1	$.001 < \rho < .005$	$\phi = .217$
LOP – POP (Ext.)	Fisher's Exact	1	$\rho = .3759$	$\phi = .106$

median prior felony arrest.29/ LOP produced arrests of subjects with substantially higher median felony arrest records for the categories of strong-armed robbery and burglary only.

In summary, considering the median number of prior felony arrests of individuals arrested for target crimes, the POP strategy seemed to be superior to LOP and the SPD. Although statistically significant, the difference between LOP and the SPD did not meet the criterion of one prior felony arrest, used to determine substantial differences. The Apprehension-Oriented Patrol strategies resulted in a slight reduction in the median number of prior felony arrests of suspects arrested for target crimes, as compared to the suspects arrested by the tactical unit in previous years.

4. Disposition of Arrests

The fourth criterion of evaluation was disposition of target arrests. Evaluators considered this criterion important because it indicates the consequences of the target arrests made by each of the strategies.

However, before proceeding with the analyses, a note of caution must be interjected. Results for both pretrial and posttrial disposition of target arrests are questionable because of a process called "yellow sheeting." Yellow sheeting of a suspect can occur when the suspect is arrested several times over a short period of time; if charges are already pending, the prosecutor may choose not to file charges for a given arrest that occurs before the trial on the pending charges. The arrest is noted for future reference and possible charges on the arrest. Even if the charges are filed they may be dropped at a future date because of pending charges. Consequently, one must exercise extreme caution in interpreting results from disposition of target arrests.

The analyses of the two indicators of disposition of arrests appear below.

A. Percentage of Target Arrests for which Charges are Filed

The first indicator selected was the pretrial disposition of target arrests. The best strategy will be defined as the one resulting in the largest percentage of target arrests for which charges are filed for target crimes.

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[29]According to Hans Zeisel, "The Significance of Insignificant Differences," when data are reduced through the use of multiple categories, as is the case here, tests of significance should not be strictly interpreted. One should make decisions on theoretical grounds rather than on the basis of significance tests.

The hypothesis and rationale are as follows:

Hypothesis IV-A4: Target arrests by both LOP and POP will result in substantially larger percentages of target arrests resulting in charges filed for target crimes than will SPD target arrests.

Rationale: Because the LOP officers were to be surveilling high target crime areas, they would be more likely to make interceptions than the personnel of the SPD. POP officers, on the other hand, were to surveil suspected criminals, a strategy which could be expected to increase the likelihood of making interceptions. Because interceptions provide the best forms of evidence, a higher percentage of charges would be expected to be filed against target crime offenders arrested by LOP and POP squads than against those arrested by SPD.

A charge is most likely to be filed when there is conclusive evidence, and interceptions provide the most conclusive form of evidence. Both LOP and POP were expected to have a high probability of making interceptions; hence, target arrests made by those squads would be expected to have an equal likelihood of charges being filed for target crimes.

Table IV-20 contains the data for the pretrial dispositions.

Hypothesis IV-A4, that LOP and POP would make target arrests resulting in a larger percentage of charges filed as target crimes than the SPD, is not supported. Compared to LOP and POP, the SPD produced percentages of target arrests resulting in charges being filed for target crimes which were significantly and substantially greater than the percentages produced by LOP or POP. This reversal of expected results may have occurred because the SPD made a majority of its target arrests as a result of assigned activities. Thus, SPD officers were often making arrests for which warrants had been issued. It is expectable that a considerable amount of evidence would have been amassed before such a warrant would be served. LOP and POP officers, on the other hand, made a majority of target arrests as a result of officer-initiative. Most of these arrests were made because of an officer's suspicions about a suspect. The reader should exercise considerable caution in interpreting these data because car or pedestrian check arrests resulting from an officer's suspicions, and other unassigned arrests, could be expected to produce less conclusive evidence than warrant arrests.

In the program year, POP produced 5.34 percent fewer target arrests resulting in charges being filed for target crimes than did LOP; this percentage is greater than the criterion of 5 percent for a substantial difference, although it is not quite significant at the .05 level. POP made too few target crime arrests in the extension phase to permit reliable estimates. A possible explanation for this difference is that suspects arrested for target crimes by POP may have been yellow sheeted more frequently than those arrested by LOP. This explanation seems plausible because suspects arrested by POP had more extensive prior felony arrest records than those arrested by LOP.

TABLE IV-20

PRETRIAL DISPOSITION OF ARRESTS MADE FOR TARGET CRIMES BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974*

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other***
Target Crime Charges Filed	68 (43.87%)	47 (28.31%)	54 (29.19%)	39 (23.35%)	70 (42.17%)	69 (26.64%)	43 (29.66%)	18 (24.32%)	8 (20.00%)	38 (33.93%)	24 (35.82%)	2 (22.22%)	12 (33.33%)
Lesser Charges Filed	5 (3.23)	27 (16.27)	29 (15.68)	20 (11.98)	30 (18.07)	19 (7.34)	10 (6.90)	7 (9.46)	2 (5.00)	15 (13.39)	9 (13.43)	4 (44.44)	2 (5.56)
Released	77 (49.68)	81 (48.80)	90 (48.65)	94 (56.29)	63 (37.95)	129 (49.81)	67 (46.21)	37 (50.00)	25 (62.50)	54 (48.21)	30 (44.78)	2 (22.22)	22 (61.11)
Other****	5 (3.23)	11 (6.63)	12 (6.49)	14 (8.38)	3 (1.81)	42 (16.22)	25 (17.24)	12 (16.22)	5 (12.50)	5 (4.46)	4 (5.97)	1 (11.11)	0 (0.00)

* Data for pretrial dispositions were available for approximately 93 percent of all arrests made through the program year. Most of the data were missing because of arrests of minors whose records were not made available. However during the extension period, the tactical unit made 44, or 27.67 percent, of its arrests of minors; therefore, conclusions concerning pretrial and posttrial dispositions of target arrests must rely primarily on the dispositions of arrests of adults.

** Includes regular tactical unit patrol, special assignments, and off-duty.

*** Includes special assignments and off-duty.

**** Includes transfers and releases to other agencies.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 1.093$	3	$\rho > .25$	V = .071
LOP – SPD	$\chi^2 = 32.591$	3	$\rho < .0005$	V = .324
POP – SPD	$\chi^2 = 25.693$	3	$\rho < .005$	V = .327
LOP – POP (Ext.)	$\chi^2 = 6.167$	3	$.05 < \rho < .025$	V = .285

Table IV-21 presents the changes in percentages of arrests resulting in "charges filed" from 1970 to 1973 for the SPD and tactical unit.

TABLE IV-21

CHANGES IN PERCENT OF CHARGES FILED FOR TARGET CRIMES, BY ORGANIZATIONAL UNIT AUG. 1970 - JAN. 1974

Year (August to July)	SPD Percent Charges Filed	SPD Change From Previous Year	Tactical Unit* Percent Charges Filed	Tactical Unit* Change From Previous Year
1970 – 71	43.87	–	28.31	–
1971 – 72	29.19	-14.68	23.35	- 4.96
1972 – 73 Program	42.17	+20.98	27.85	+ 4.50
Extension**	–	–	34.21	+ 6.36

* During program and extension periods, includes only LOP and POP.
** August 1, 1973, through January 31, 1974.

The tactical unit decreased in target arrests resulting in charges filed for target crimes during the 1970-72 period. The tactical unit increased 4.50 percent in the program; however, the increase was not substantial because the SPD increased 20.98 percent during the same period. Compared to the program year, LOP and POP did result in an increase of 6.36 percent on this measure; however, because the number of observations were so few, generalizations should be made with caution.

While the proportion of target arrests for which charges were filed as target crimes can be viewed as a measure of arrest efficiency, the officer-hours expended per charge filed as a target crime denotes the strategies' overall effectiveness in obtaining charges filed. Table IV-22 presents the data concerning officer-hours expended per charge filed as a target crime.

The data indicate that from a perspective of overall effectiveness in obtaining charges filed, LOP is clearly superior to POP and the SPD. LOP expended only 531.86 officer-hours per charge filed as a target crime compared to 1052.72 officer-hours expended by POP and 5075.49 officer-hours expended by the SPD. Unfortunately data on officer-hours were not available for the years before the program year; thus evaluators could not perform trend analysis.

In summary, LOP's target arrests resulted in a substantially greater percentage of charges being filed for target crimes than did POP's target arrests. This difference, however, was not statistically significant at the .05

level. SPD target arrests resulted in a larger percentage of charges being filed for target crimes than did target arrests by either LOP or POP. However, in the assessment of overall effectiveness, LOP expended substantially fewer officer-hours per charge filed as a target crime than either POP or SPD. The Apprehension-Oriented strategies seem to have had no impact on the overall performance of the tactical unit during the program year.

TABLE IV-22

OFFICER-HOURS EXPENDED PER CHARGE FILED AS A TARGET CRIME, BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

	1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Officer-Hours	355,284	***	22,870	18,949	***	45,408	23,142	6,323	15,933
Charges filed as Target Crimes	70	69	43	18	8	38	24	2	12
Officer-Hours Expended per Charges Filed as Target Crimes	5,075.49	***	531.86	1,052.72	***	1,194.95	964.25	3,161.50	1,327.75

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Data not available.

B. Conviction Rate for Target Crime Arrests

A second indicator of disposition of arrests was the percentage for which target crime charges were filed, resulting in convictions. The best strategy is defined as the one that produces the largest percentage of convictions as opposed to dismissals.

The hypothesis and rationale are as follows.

Hypothesis IV-B4: Compared to the SPD, both LOP and POP will produce substantially higher percentages of arrests for which target crime charges are filed, resulting in convictions.

Rationale: LOP and POP squads would be expected to be more likely than the SPD to make interceptions, therefore producing better evidence in court. Also, both LOP and POP squads would be expected to have more time available to gather evidence to support the charges against target crime offenders because those squads would not have to provide the broad range of police services demanded of regular patrol officers.

Although their strategies were to differ in approach, LOP and POP squads should have essentially the same probability of intercepting criminals involved in crimes; since an interception provides the most conclusive evidence, there should be no difference between LOP and POP on this measure.

Table IV-23 presents the data on conviction rates for target crimes.

TABLE IV-23

POSTTRIAL DISPOSITIONS FOR CHARGES FILED TARGET CRIMES, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

	1970-71		1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Convicted													
a. Found Guilty b. Pleaded Guilty	39 (60.00%)	20 (44.44%)	20 (40.82%)	13 (34.21%)	24 (34.78%)	29 (32.20%)	11 (31.43%)	5 (31.25%)	3 (37.50%)	9 (23.68%)	4*** (15.38%)	0 (0.00%)	5*** (50.00%)
Not Convicted													
a. Found Not Guilty b. Nolle Prosequi c. Dismissed by Judge	26 (40.00)	25 (55.56)	29 (59.18)	25 (65.79)	45 (65.22)	40 (67.80)	24 (68.57)	11 (68.75)	5 (62.50)	29 (76.32)	22 (84.62)	2 (100.00)	5 (50.00)

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Two cases each are pending final disposition for LOP and Tactical Unit: Other.

Comparison	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 0.001$	1	$p > .25$	$\phi = .002$
LOP – SPD	$\chi^2 = 0.117$	1	$p > .25$	$\phi = .034$
POP – SPD	$\chi^2 = 0.072$	1	$p > .25$	$\phi = .029$
LOP – POP (Ext.)	Fisher's Exact	1	$p = .7302$	$\phi = .113$

Hypothesis IV-B4, that LOP and POP would make target arrests resulting in a substantially higher percentage of convictions for target crimes than

would the SPD, is not supported. The data indicate that there were no substantial differences among LOP, POP, and SPD. Because the tactical unit arrested suspects with higher median prior felony arrests, yellow sheeting could account for the lower than expected conviction rate.

LOP target arrests resulting in target crime charges filed produced only .18 percent more convictions than did POP target arrests for which target charges were filed. This difference is not statistically significant and does not meet the criterion for a substantial difference.

Table IV-24 presents data on changes in conviction rates for target crimes from 1970 to 1973 for SPD and tactical unit robbery and burglary arrests.

TABLE IV-24

CHANGES IN PERCENT CONVICTED VERSUS DISMISSED DISPOSITIONS FOR CHARGES FILED FOR TARGET CRIMES, BY ORGANIZATIONAL UNIT: AUG. 1970 - JAN. 1974

Year (August to July)	SPD Percent Convicted	SPD Change From Previous Year	Tactical Unit* Percent Convicted	Tactical Unit* Change From Previous Year
1970 – 71	60.00	–	44.44	–
1971 – 72	40.82	-19.18	34.21	-10.23
1972 – 73 Program	34.78	- 6.04	31.37	- 2.84
Extension**	–	–	14.29	-17.08

* During program and extension periods, includes only LOP and POP.
** August 1, 1973, through January 31, 1974.

Both the SPD and the tactical unit have consistently experienced a decrease in their conviction rates for charges filed for target crimes. The LOP and POP strategies seem to have had no substantial impact on the tactical unit's conviction rate during the program year as compared to the previous year. Data for the extension phase are incomplete and the number of cases for which target crime charges were filed were so few that inferences made from comparisons among these data must be suspect.

Proportion of convictions obtained from charges filed as target crimes again is a measurement of efficiency. In order to assess the overall effectiveness of the strategies in potentially removing offenders from society,

Table IV-25 presents data on officer-hours expended per conviction for target crimes.

TABLE IV-25

OFFICER-HOURS EXPENDED PER CONVICTION FOR TARGET CRIME, BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

	1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Officer-Hours	355,284	***	22,870	18,949	***	45,408	23,142	6,323	15,933
Convictions for Targets as a result of Charges Filed as Target Crimes	24	19	11	5	3	9	4	0	5
Officer-Hours Expended per Conviction	14,720.17	***	2,079.09	3,789.80	***	5,045.50	5,785.50	0	3,186.60

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Data not available.

The data indicate that, on this measure of removal effectiveness, LOP is superior to both POP and the SPD. LOP expended 2079.09 officer-hours per conviction compared to 3789.80 expended by POP and 14,720.17 by the SPD. Although there was no difference in conviction or removal efficiency among the three strategies, LOP appears to be superior to the other two strategies on this measure. However, the number of observations is small and, thus, should be interpreted with caution. Because officer-hour data were not available for years before the program year, evaluators could not analyze the effects of the Apprehension-Oriented strategies on the tactical unit's performance.

In summary, during the program year, LOP and POP produced approximately the same target crime conviction rates. However, these conviction rates were about the same as those achieved by the SPD and the tactical unit in the preceding two years. These comparisons must be interpreted cautiously because tactical unit target crime conviction rates have consistently been lower than those for the SPD; also, the target crime conviction rates for both the SPD and the tactical unit have been declining in recent years. However,

considering officer-hours expended per conviction, LOP appeared to be superior to POP and the SPD although, again, the number of observations was extremely small.

5. Information Generation

Because the objectives of the POP strategy were redefined for the extension period from making arrests to generating information, the evaluation staff examined the amount of information produced as another criterion of evaluation. The indicator and analysis are presented below.

A. Inputs to the CIC per Officer-year Equivalent 30/

The measure selected to indicate information generation was the number of inputs made to the CIC per officer-year equivalent. The best strategy, according to this indicator, was defined as that which produced the most inputs per officer-year equivalent.

The hypotheses and rationales follow.

Hypothesis IV-A5(1): POP will produce substantially more inputs per officer-year equivalent than will LOP.31/

Rationale: POP squads were to surveil target subjects. What the target subjects do, where they go, their vehicles and associates could be expected to result in the development of information. These activities were expected to produce more information than surveillances of locations, the objective of the LOP squads.

Hypothesis IV-A5(2): Both LOP and POP will produce substantially more inputs per officer-year equivalent than will the SPD.

Rationale: A prime source of inputs could be expected to be information about CIC subjects and criminal suspects; because both LOP and POP were apprehension-oriented, they could be expected to deal more often with such suspects and produce more inputs per officer-year equivalent than the more service-oriented SPD.

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[30] An officer-year equivalent was determined on the basis of 49 weeks per year and 40 hours per week per officer (a total of 1960 hours per year per officer). Officer-year equivalents in Table IV-24 were obtained by dividing officer-hour figures by 1960 officer-hours per year.

[31] A substantial difference in this case is arbitrarily defined as a minimum difference of one input per officer-year equivalent.

Table IV-26 presents the data for testing these hypotheses.32/

TABLE IV-26

INPUTS TO THE CRIMINAL INFORMATION CENTER PER OFFICER-YEAR EQUIVALENT, BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

Time Period	1972-73 (Program Year)					1973-74 (Extension Phase)			
Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP**	Tactical Unit: POP**	Tactical Unit: Other***
Inputs to the CIC	179	286	92	179	15	65	38	22	5
Officer-Year Equivalent	180.25	****	11.67	9.67	****	46.33	28.35	7.74	16.26
Inputs to the CIC Per Officer-Year Equivalent	.99	****	7.88	18.51	****	1.40	1.34	2.84	.31

* Based on five months for LOP and POP because neither was operational during December 1973 (Operation Robbery Control), and six months for Tactical Unit: Total and Tactical Unit: Other.

** Includes regular tactical unit patrol, special assignments, and off-duty.

*** Includes special assignments and off-duty.

**** Data unavailable.

The data support Hypothesis IV-A5(1), that POP would produce substantially more inputs per officer-year equivalent than would LOP. POP squads accounted for 18.51 and 2.84 inputs per officer-year equivalent, compared to 7.88 and 1.34 for LOP, during the program and extension periods, respectively. These differences between POP and LOP are greater than the criterion established as being substantial. The slight difference during the extension period must be given particular emphasis because of the redefinition of POP's

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32Total numbers of inputs to the CIC differ from those found in Chapter II. Information in this chapter was derived from CIC input forms; the information in Chapter II (Table II-9) was obtained from CIC monthly reports. The discrepancy occurs because some input forms consisted of multiple inputs or were not codable. Multiple inputs usually occurred when several Field Interview Cards were returned at one time by the same unit and were coded as one input.

objectives during the extension period. The POP squad created its own set of files on suspected perpetrators, to be maintained independently of the CIC for the use of POP officers only. This information generation is therefore not indicated by inputs to the CIC.

Hypothesis IV-A5(2), that LOP and POP would produce more inputs per officer-year equivalent than would the SPD, is supported. During the program year, the SPD produced less than one input per officer-year equivalent compared to 7.88 and 18.51 for LOP and POP, respectively.

Table IV-27 presents the percentage change for LOP and POP from the program year to the extension period.

TABLE IV-27

PERCENTAGE CHANGE IN INPUTS PER OFFICER-YEAR EQUIVALENT FOR LOP AND POP: AUG. 1970 - JAN. 1974

Period	Inputs Per Officer-Year Equivalent: LOP	Change from Previous Period: LOP	% Change from Previous Period: LOP	Inputs Per Officer-Year Equivalent: POP	Change from Previous Period: POP	% Change from Previous Period: POP
Program Year	7.88	–	–	18.51	–	–
Extension*	1.34	- 6.54	-82.99	2.84	-15.67	-84.66

*August 1973 through January 1974.

Compared to the program year, both LOP and POP decreased sharply in the number of inputs per officer-year equivalent during the extension period. This decrease for LOP is possibly attributable to less emphasis being placed on inputs to the CIC during the extension period than during the program year. The decrease for POP could possibly have occurred because POP officers transmitted new information informally to other squads, and that the gathering of information for POP files was not necessarily formally transmitted to the CIC in the form of inputs during the extension period.

In summary, POP produced substantially more inputs per officer-year equivalent during the program year and the extension period than did LOP. Both LOP and POP produced substantially more inputs per officer-year equivalent than did the SPD during the program year. Compared to the program year, both apprehension-oriented strategies decreased sharply on this measure of performance during the extension period.

B. Inputs to the CIC About Assigned Target Subjects

As discussed in Chapter II, arrests of assigned perpetrator subjects, while important, are not the only measure of performance concerning these subjects. Generating information about such suspected perpetrators, many of whom changed addresses and automobiles frequently in order to elude police surveillance, must also be considered important.

Because POP squads were assigned to surveil a portion of these subjects, it was considered an important evaluation indicator to determine whether the POP squads were in fact producing information about their assigned subjects. The 2 x 2 experimental design and log-linear analysis used in Chapter II is employed to determine the effects of providing information to the two apprehension-oriented squads.

The hypotheses and rationales follow.

Hypothesis IV-B5: Providing information about target subjects to POP squads will produce a significant effect on the percentage of target subjects about whom the CIC received inputs from the POP squads.

Rationale: POP squads were to maintain a loose surveillance of the assigned target subjects during the program year and were to generate information about target subjects during the extension phase. Their contact with their assigned group of suspected perpetrator subjects would be expected to be such that inputs on these subjects should be greater in comparison to subjects about whom they received no information.

LOP assignment folders included lists and, frequently, mug shots of suspects for a given location assignment. No one took caution to ensure that these lists of suspects did not contain perpetrator subjects not assigned to the tactical unit (groups A and C of the experimental design). Because it can be assumed that LOP squads would more likely use information in their assignment folders than the information contained in the CIC notebooks, subjects about whom the CIC received inputs from LOP squads could be expected to be more or less equally distributed among the four experimental groups (A, B, C, and D).

Because minimal communications between the tactical unit and other units could be expected, information received by units other than the tactical unit should be expected to produce only a marginal effect on inputs made by LOP or POP.

LOP and POP operations were to be largely independent and different from those of other units. Therefore, providing information to LOP or POP and to other units should produce no significant differential effect on inputs from LOP or POP.

The data to test the hypothesis are presented in Table IV-28. Table IV-29 contains data on the inputs made by the LOP squad.

TABLE IV-28

TARGET SUBJECTS ABOUT WHOM POP MADE INPUTS TO THE CIC: AUG. 1972 - JAN. 1974 INFORMATION PROVIDED TO THE TACTICAL UNIT

		Information Provided to the Tactical Unit		
		No	**Yes**	**Total**
Information Provided to Units Other than the Tactical Unit	**Yes**	Inputs 8 (29.63%) No Inputs 19 (70.37)	Inputs 18 (69.23%) No Inputs 8 (30.77)	Inputs 26 (49.06%) No Inputs 27 (50.94)
	No	Inputs 6 (22.22) No Inputs 21 (77.78)	Inputs 20 (74.07) No Inputs 7 (25.93)	Inputs 26 (48.15) No Inputs 28 (51.85)
	Total	Inputs 14 (25.93) No Inputs 40 (74.07)	Inputs 38 (71.70) No Inputs 15 (28.30)	Inputs 52 (48.60) No Inputs 55 (51.40)

Log Linear Model Analysis of Variance

Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	.0290	ρ = .8649
Information provided to tactical unit	20.6820	ρ = .0000
Interaction Effect	1.5131	ρ = .4738

TABLE IV-29

TARGET SUBJECTS ABOUT WHOM LOP MADE INPUTS TO THE CIC: AUG. 1972 - JAN. 1974 INFORMATION PROVIDED TO THE TACTICAL UNIT

Information Provided to Units Other than the Tactical Unit	Information Provided to the Tactical Unit: No	Information Provided to the Tactical Unit: Yes	Information Provided to the Tactical Unit: Total
Yes	Inputs 11 (40.74%) No Inputs 16 (59.26)	Inputs 10 (38.46%) No Inputs 16 (61.54)	Inputs 21 (39.62%) No Inputs 32 (60.38)
No	Inputs 6 (22.22) No Inputs 21 (77.78)	Inputs 7 (25.93) No Inputs 20 (74.07)	Inputs 13 (24.07) No Inputs 41 (75.93)
Total	Inputs 17 (31.48) No Inputs 37 (68.52)	Inputs 17 (32.08) No Inputs 36 (67.92)	Inputs 34 (31.78) No Inputs 73 (68.22)

Log Linear Model Analysis of Variance

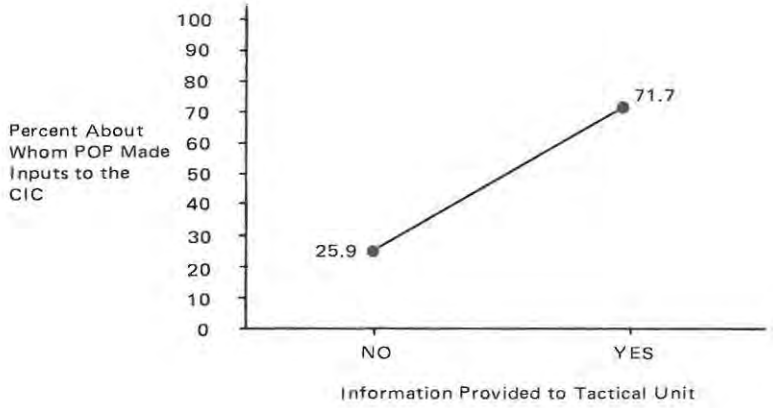
Source	Chi-Square	Significance Level
Information provided to units other than tactical unit	2.9395	ρ = .0864
Information provided to tactical unit	.0160	ρ = .8993
Interaction Effect	.1230	ρ = .7258

The data support Hypothesis IV-B5, that providing information about subjects to POP would produce a significant effect on the percentage of subjects about whom POP made inputs to the CIC. The analysis in Table IV-28 indicates that effect was significant at the .0000 level, well below that of .05 established for statistical significance.

The effect is graphically depicted in Figure IV-2.

FIGURE IV-2

PERCENTAGE OF TARGET SUBJECTS ABOUT WHOM POP MADE INPUTS TO THE CIC AS A FUNCTION OF PROVIDING INFORMATION TO THE TACTICAL UNIT



The figure indicates that POP squads made inputs about 71.7 percent of the target subjects about whom information was provided and about only 25.9 percent of the subjects about whom no information was provided.

Data analysis contained in Table IV-29 indicates that the effect of providing information to the LOP squads produced an effect significant at only the .8993 level, which does not meet the .05 criterion for significance.

Providing information to units other than the tactical unit produced no significant effects on the percentage of target subjects about whom LOP and POP made inputs. These primary effects were significant at only the .8649 and .0864 levels for POP and LOP, respectively. The interaction effects were significant at only the .4738 and .7258 levels for POP and LOP, respectively.

In summary, POP squads made significantly more inputs regarding target subjects about whom the POP officers had information than those subjects about whom they had no information. However, providing subject information to LOP squads produced no significant effect on inputs to the CIC. Providing information to units other than the tactical unit produced no significant effect on inputs from either POP or LOP, nor did any differential effects occur.

6. Citizen Complaints

Because strategies with a primary focus on making apprehensions might be expected to result in increased police-citizen conflict, evaluators chose citizen complaints against police officers as another evaluation criterion. Analysis of the complaint indicator selected is presented below.

A. Officer-Hours Expended per Citizen Complaint

The measure chosen to indicate police-citizen conflict was the number of officer-hours expended per citizen complaint (citizen complaint rate). The strategy that expended the most officer-hours per citizen complaint would be considered the best on this measure.

The hypotheses and rationales follow.

Hypothesis IV-A6(1): POP squads will expend substantially fewer officer-hours per citizen complaint than will the LOP squads.33/

Rationale: POP squads were to keep target subjects under nearly continuous scrutiny; such persistent surveillance of a limited group of persons could be expected to produce abrasive contacts among officers and their target subjects. LOP squads, on the other hand, were to engage in low visibility stakeouts of high target crime areas and should be able to avoid many of the unpleasant citizen contacts expected of POP. As a result, POP squads would be expected to receive a higher citizen complaint rate (expend fewer officer-hours per complaint) than would LOP squads.

Hypothesis IV-A6(2): Both LOP and POP will expend substantially fewer officer-hours per citizen complaint than will the SPD.

Rationale: Although their tactics were to be covert, both LOP and POP were specifically oriented toward the apprehension of criminal suspects. The apprehension of suspects would be expected to produce more conflict between officers and citizens than would the more service-oriented activities of the SPD.

Table IV-30 presents the data for testing these hypotheses.

The data in this particular instance were not amenable to any tests of significance. They do not support Hypothesis IV-A6(1), that POP squads would have a substantially higher citizen complaint rate than LOP. LOP squads expended substantially fewer officer-hours per citizen complaint than did POP squads in both evaluation periods.

The data support Hypothesis IV-A6(2), that the citizen complaint rates of LOP and POP would be greater than that of the SPD. During the program year, the SPD expended 4588.1 officer-hours per citizen complaint, considerably more than the 1270.6 and 1722.6 officer-hours per complaint expended by LOP and POP, respectively.

33"Substantial" in this case is arbitrarily defined as a minimum difference of 160 officer-hours expended per citizen complaint, the equivalent of one officer-month.

TABLE IV-30

OFFICER-HOURS EXPENDED PER CITIZEN COMPLAINT,
BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

	1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Citizen Complaints	77	33	18	11	4	8	6	1	1
Officer-hours Expended	353,284	***	22,870	18,949	***	45,408	23,152	6,323	15,933
Officer-hours Expended per Citizen Complaint	4,588.1	***	1,270.6	1,722.6	***	5,676.0	3,858.7	6,323	15,933

* Includes regular tactical unit patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.
*** Data not available.

To provide further insight into the analysis of citizen complaints, evaluators also made comparisons among the tactical unit and the three patrol divisions on the basis of complaints per officer per month. Data were available for the period from August 1, 1971, through January 31, 1974, and are presented in Table IV-31.

All three patrol divisions experienced an increase of approximately 21 percent in citizen complaints per officer per month in the program year as compared to the previous year. The tactical unit produced a 192.0 percent increase for that same period. During the extension phase, complaints per officer per month lodged against LOP and POP decreased by 68.5 percent, a decrease larger than that experienced by any of the patrol divisions. This decrease for the extension phase made LOP and POP comparable to the patrol divisions on this measure. One possible explanation for LOP squads' having received more citizen complaints than POP squads is that LOP squads made more arrests, and thus they may have been involved in more conflict situations than POP squads. To provide one test of this explanation, data on target arrests made per citizen complaint received are presented in Table IV-32.

TABLE IV-31

CHANGES IN CITIZEN COMPLAINTS PER OFFICER PER MONTH, BY ORGANIZATIONAL UNIT: AUG. 1971 - JAN. 1974

Year	Number of Citizen Complaints				Number of Officers				Citizen Complaints per Officer per Month				Change from Previous Year				Percentage Change from Previous Year			
August to July	NEPD	CPD	SPD	TAC	NEPD	CPD	SPD	TAC*	NEPD	CPD	SPD	TAC	NEPD	CPD	SPD	TAC	NEPD	CPD	SPD	TAC
1971-72	67	68	50	13	183	222	175	43	.030	.026	.024	.025	—	—	—	—	—	—	—	—
1972-73	95	87	77	29	211	235	220	33	.038	.031	.029	.073	+.008	+.005	+.005	+.048	+26.7	+19.23	+20.8	+192.0
Extension**	51	35	19	7	213	223	220	50	.040	.026	.014	.023	+.002	-.005	-.015	-.050	+ 5.2	-16.1	-51.7	-68.5

*During the program and extension periods, excludes personnel on special assignment, patrol, or off-duty.
**August 1973 through January 1974.

TABLE IV-32

TARGET ARRESTS PER CITIZEN COMPLAINT, BY ORGANIZATIONAL UNIT: AUG. 1971 - JAN. 1974

	1971-72		1972-73 (Program Year)					1973-74 (Extension Phase)			
	SPD	Tactical Unit	SPD	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other*	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other**
Target Arrests	710	169	667	275	152	76	47	159	91	9	59
Citizen Complaints	50	13	77	33	18	11	4	8	6	1	1
Target Arrests per Citizen Complaint	14.20	13.00	8.66	8.33	8.44	6.91	11.75	19.88	15.17	9.00	59.00

* Includes regular tactical patrol, special assignments, and off-duty.
** Includes special assignments and off-duty.

The data suggest very small differences in terms of target arrests per citizen complaint among LOP, POP, and the SPD during the program year. The

largest difference is between POP and the SPD, a difference of only 1.75. Substantial decreases were observed in the program year compared to the previous year for LOP, POP, and the SPD. Too few observations were available for the extension period to allow meaningful comparisons. While these results indicate that the target arrest-to-complaint ratio was quite similar over LOP, POP, and the SPD, a more adequate test of the relationship between arrests and complaints would involve examination of all arrests, not just those for robbery and burglary.

The data in Table IV-33 compare Part I, Part II, and total Part I and II per complaint for the three patrol divisions and the Special Operations Division, of which the tactical unit was a major part. As noted earlier, the Special Operations Division included the canine, helicopter, and tactical units; unfortunately, data are not readily available to make these arrest-to-complaint comparisons with LOP, POP, or even the tactical unit alone. Nevertheless, these data may better illustrate the relationship between arrests and citizen complaints.

TABLE IV-33

PART I AND PART II ARRESTS PER CITIZEN COMPLAINT, BY ORGANIZATIONAL UNIT: AUG. 1972 - JAN. 1974

	1971 – 1972 Preprogram Year			1972 – 1973 Program Year			1973 – 1974 Extension Period		
	Part I	Part II	Total	Part I	Part II	Total	Part I	Part II	Total
Special Operations									
Arrests	*	*	*	313	1,372	1,685	322	1,423	1,745
Citizen Complaints	*	*	*	44	44	44	12	12	12
Arrests/Complaint	*	*	*	7.12	31.18	38.29	26.83	118.58	145.42
Northeast Patrol									
Arrests	4,009	7,446	11,455	3,268	5,953	9,221	1,631	2,978	4,609
Citizen Complaints	67	67	67	95	95	95	51	51	51
Arrests/Complaint	59.84	111.13	170.97	34.40	62.66	97.06	31.98	58.39	90.37
Central Patrol									
Arrests	4,012	9,026	13,038	4,000	1,159	15,159	1,853	5,343	7,196
Citizen Complaints	68	68	68	87	87	87	35	35	35
Arrests/Complaint	59.00	132.74	191.74	45.98	128.26	174.24	52.94	152.66	205.60
South Patrol									
Arrests	2,799	4,496	7,295	2,737	4,847	7,584	1,535	2,670	4,205
Citizen Complaints	50	50	50	77	77	77	19	19	19
Arrests/Complaint	55.98	89.92	145.90	35.55	62.95	98.49	80.79	140.53	221.32

* From August 1, 1971, through December 31, 1972, of preprogram year the Special Operations Division included the traffic unit. Because it was impossible to determine precisely the number of Part I and Part II arrests by officers of the traffic unit, these data have been omitted as not comparable.

During the program year, the Special Operations Division had by far the smallest number of arrests per citizen complaint in comparison with the three patrol divisions. In terms of Part I arrests, the Special Operations officers had approximately five times as small an arrest-to-complaint ratio as officers in the NEPD or SPD; CPD officers had an even larger arrest-to-complaint ratio than the other two divisions. In terms of Part II arrests during the program year, Special Operations Division officers had approximately half as many arrests-to-complaints as did patrol officers.

For the extension period, the Special Operations Division improved considerably on this measure. In terms of both Part I and Part II arrests, Special Operations officers had an arrest-to-complaint ratio almost four times larger in the extension phase than in the program year. Nevertheless, for Part I arrests in the extension period, Special Operations Division officers retained a lower arrest-to-complaint ratio than the officers in any of the three patrol divisions; for Part II arrests, the NEPD's officers had a lower arrest-to-complaint ratio than the Special Operations Division.

These data indicate no clear relationship between arrests and frequency of citizen complaints. Indeed, there is considerable variation in this ratio both between Part I and Part II arrests as well as over time for the same division.

To examine further the relationship between arrests and complaints, Table IV-34 presents data on the number of complainants arrested within one week before the filing of a complaint. These data were considered important because a citizen filing a complaint within a week of being arrested might be considered to be seeking retribution against the arresting officer.

In the program year only 22.7 percent of the complainants were arrested within one week before filing a complaint. In the extension period 80 percent of the complainants had been recently arrested; however, the small number of complainants in this period make any inferences suspect. For complainants arrested one week before the filing of a complaint, all but two were arrested within one day of the filing of the complaint. Only one complainant had been arrested for a felony within one week of filing a complaint. These data seem to indicate that there was very little association between making arrests and receiving complaints. Thus, the dramatic increase in citizen complaint rates for the tactical unit during the program year cannot be accounted for by an increase in arrests.

In order to discern the type of individual who filed citizen complaints against the tactical unit officers, evaluators gathered information about the average number of prior felony arrests of complaints. This information was considered important because complainants could have been individuals comparable to those arrested for target crimes by LOP or POP, or similar to the CIC subjects in terms of arrest records.

Table IV-35 presents the data.

TABLE IV-34

NUMBER OF COMPLAINANTS ARRESTED ONE WEEK PRIOR TO FILING A COMPLAINT* AUG. 1972 - JAN. 1974

		Number of Complainants	
		Program Year	Extension Phase
Arrested at least one week prior to filing a complaint	For Robbery or Burglary	0 (0.00%)	0 (0.00%)
	For other Felony	1 (4.55)	0 (0.00)
	For Misdemeanor	0 (0.00)	0 (0.00)
	For Ordinance or Traffic	4 (18.18)	4 (80.00)
	For all Crimes Combined	5 (22.73)	4 (80.00)
Not arrested at least one week prior to filing a complaint		17 (77.27)	1 (20.00)
Total		22* (100.00)	5* (100.00)

* Data were not available for seven complainants in the program year and two in the extension phase.

Comparison*	Test Statistic	df	Significance	Measure of Association
Prog. – Ext.	Fisher's Exact	1	p = .0296	ϕ = .472

* Test of significance computed for those arrested for all crimes combined as opposed to those not arrested at least one week prior to filing a complaint.

TABLE IV-35

PRIOR ARRESTS OF INDIVIDUALS WHO FILED COMPLAINTS AGAINST LOP AND POP OFFICERS

		Prior Traffic Arrests		Prior Ordinance Arrests		Prior Misdemeanor Arrests		Prior Felony Arrests	
	Complainants*	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Program Year	22	1.09	0.67	1.18	0.23	0.27	0.15	0.54	0.35
Extension	5	2.20	1.00	3.00	3.50	0.60	1.20	1.20	1.00

* Data were not available for seven complainants in the program year and two in the extension phase.

Comparison	Test Statistic*	df	Significance	Measure of Association
Prog. – Ext.				
Traffic	Fisher's Exact	1	ρ = .5377	ϕ = .078
Ordinance	Fisher's Exact	1	ρ = .0009	ϕ = .269
Misdemeanor	Fisher's Exact	1	ρ = .4467	ϕ = .113
Felony	Fisher's Exact	1	ρ = .1031	ϕ = .234

* Median test. Medians were the preferred comparative statistic because the distributions were highly positively skewed.

These numbers of prior arrests are considerably lower than those of the CIC target subjects, which seems to indicate that complainants are not necessarily convicted criminals. It also should be noted that none of the 27 persons who filed a complaint against a LOP or POP officer was a member of the group of 107 CIC perpetrator suspects. The small number of complainants in the extension phase requires that any comparison with this period must be made with caution.

To permit further comparisons among complaints filed against LOP and POP, Table IV-36 presents data concerning the types of complaints each strategy received.

During the program year, POP squads received a somewhat greater percentage of their citizen complaints as a result of alleged excessive force than did LOP squads. There were too few complaints filed during the extension phase to allow reliable comparisons.

Table IV-37 presents data on the disposition of the complaints filed against officers in LOP and POP squads.

TABLE IV-36

CITIZEN COMPLAINTS AGAINST TACTICAL UNIT OFFICERS BY TYPE OF COMPLAINT: AUG. 1972 - JAN. 1974

Complaint Types	Program Year				Extension Phase*			
	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other	Tactical Unit: Total	Tactical Unit: LOP	Tactical Unit: POP	Tactical Unit: Other
Excessive Force	18 (54.54%)	8 (44.44%)	8 (72.42%)	2 (50.00%)	3 (37.50%)	3 (50.00%)	0 (0.00%)	0 (0.00%)
Abuse of Authority	5 (15.15)	4 (22.22)	1 (9.09)	0 (0.00)	1 (12.50)	1 (16.67)	0 (0.00)	0 (0.00)
Ethnic Slurs	1 (3.03)	1 (5.55)	0 (0.00)	0 (0.00)	1 (12.50)	1 (16.67)	0 (0.00)	0 (0.00)
Missing Property	2 (6.06)	2**** (11.11)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Harassment by Officers	1 (3.03)	0 (0.00)	1 (9.09)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Improper Operational Procedures	6 (18.18)	3**** (16.66)	1 (9.09)	2 (50.00)	2 (25.00)	1 (16.67)	1 (100.00)	0 (0.00)
Officer's Conduct	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (12.50)	0 (0.00)	0 (0.00)	1 (100.00)
Total	33 (99.99)	18 (99.99)	11 (99.99)	4 (100.00)	8 (100.00)	6 (100.00)	1 (100.00)	1 (100.00)

* August 1973 – January 1974.
** Tactical Unit: Other in program year.
*** Includes special assignments and off-duty.
**** One of these complaints occurred in July 1973. During this month no officers were assigned to POP.

Comparison*	Test Statistic	df	Significance	Measure of Association
LOP – POP (Prog.)	$\chi^2 = 2.208$	1	$.10 < p < .20$	$\phi = .276$
LOP – POP (Ext.)	Fisher's Exact	1	$p = .5714$	$\phi = .354$

* Test of significance computed as the basis of excessive force versus all other types of complaints combined.

TABLE IV-37

DISPOSITION OF CITIZEN COMPLAINTS
AGAINST LOP AND POP
AUG. 1972 - JAN. 1974

		Program Year	Extension Phase
Disposition of Substantiated Complaints	Letter of Reprimand	1 (3.45)	0 (0.00)
	Instructions and Counseling	3 (10.34)	1 (14.29)
	Suspension without Pay	1 (3.45)	0 (0.00)
Total Substantiated Complaints		5 (17.24)	1 (14.29)
Unsubstantiated Complaints		24 (82.76)	6 (85.71)
Total Complaints		29 (100.00)	7 (100.00)

Comparison*	Test Statistic	df	Significance	Measure of Association
Prog. – Ext.	Fisher's Exact	1	ρ = .6706	ϕ = .031

* Test of significance for total substantiated complaints as opposed to unsubstantiated complaints.

Most complaints, in both evaluation periods, were not substantiated by the Office of Citizen Complaints. This substantiation rate is approximately equal to that for all citizen complaints against all officers during this time period.34/ Of the five citizen complaints that were substantiated in the program year, three complaints, one for missing property and two for abuse of authority, were filed against LOP officers. Two substantiated complaints, one for excessive force, and one for abuse of authority, were filed against POP officers. In the extension phase, the one substantiated complaint, for excessive force, occurred as a result of a LOP assignment.

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[34]During the period from August 1969 through December 1974, only 19.85 percent of the citizen complaints filed against members of the entire Kansas City Police Department were substantiated.

In summary, although evaluators could compute no tests of significance, LOP had higher citizen complaint rates than POP in both evaluation periods. Both LOP and POP had higher citizen complaint rates than the SPD during the program year. For the tactical unit during the program year, citizen complaints per officer per month increased dramatically compared to previous years but dropped during the extension phase. The increase during the program year and the decrease during the extension period were greater for the tactical unit than those experienced by any of the three patrol divisions. No consistent evidence was found to support the contention that the increase in complaints for the tactical unit was attributable to an increase in the number of arrests made by that unit.

B. Officers' Attitudes Toward Apprehension-Oriented Patrol

Four items about LOP and POP were included in the Human Resource Development questionnaire which was distributed to officers of the three patrol divisions of the Kansas City, Missouri, Police Department in December 1974. Although not a formal criterion of evaluation, the patrol officers' and sergeants' familiarity with and subjective evaluation of the Apprehension-Oriented Patrol program is of interest. Table IV-38 presents the responses to the four items.

TABLE IV-38

RESPONSES TO THE HUMAN RESOURCE DEVELOPMENT QUESTIONNAIRE CONCERNING FAMILIARITY WITH AND VALUE OF LOP AND POP

Question	Response Categories						Total	Means and Standard Deviations
Familiarity with Tactical Unit's Apprehension-Oriented Patrol Projects	1 Very Familiar	2 Moderately Familiar	3 Slightly Familiar	4 Slightly Unfamiliar	5 Moderately Unfamiliar	6 Very Unfamiliar		
1. How familiar are you with the Tactical Unit's Location-Oriented Patrol?	31 (8.99)	28 (8.12)	67 (19.42)	45 (13.04)	52 (15.07)	122 (35.35)	345 (100.00)	$\bar{X}$ = 4.232 s.d. = 1.687
2. How familiar are you with the Tactical Unit's Perpetrator-Oriented Patrol?	34 (9.86)	27 (7.83)	59 (17.10)	55 (15.94)	54 (15.65)	116 (33.62)	345 (100.00)	$\bar{X}$ = 4.206 s.d. = 1.685
Value of Tactical Unit's Apprehension-Oriented Patrol Programs	1 Very Positive	2 Moderately Positive	3 Slightly Positive	4 Slightly Negative	5 Moderately Negative	6 Very Negative	Total	Means and Standard Deviations
1. How would you rate the value of the Tactical Unit's Location-Oriented Patrol?*	31 (21.23)	37 (25.34)	57 (39.04)	7 (4.80)	3 (2.06)	11 (7.53)	146 (100.00)	$\bar{X}$ = 2.637 s.d. = 1.339
2. How would you rate the value of the Tactical Unit's Perpetrator-Oriented Patrol?**	42 (28.19)	34 (22.82)	52 (34.90)	7 (4.70)	4 (2.68)	10 (6.71)	149 (100.00)	$\bar{X}$ = 2.510 s.d. = 1.374

* Of the 326 police officers responding to this question, 180 stated that they could not rate the value of Location-Oriented Patrol.

** Of the 324 police officers responding to this question, 175 stated that they could not rate the value of Perpetrator-Oriented Patrol.

The results indicate that slightly more than one-third (36.53 percent for LOP and 34.79 percent for POP) of the responding officers were to some degree familiar with either of the strategies. Also, almost one-third stated that they were "very unfamiliar" with either LOP or POP.

When asked to rate the value of LOP and POP, more than half of the responding officers stated they could not. Of those officers who did rate the value of the strategies, more than 85 percent of the officers rated the value of the two strategies as positive.

SUMMARY

The preceding analysis indicates that the two Apprehension-Oriented Patrol strategies produced rather different results. Unfortunately, many comparisons between LOP and POP during the extension period were not justified because of POP's limited number of arrests. As a result, only the program year was useful for comparisons, except for inputs per officer-year equivalent.

Compared to POP, LOP yielded a substantially higher target crime apprehension rate; however, no substantial difference in interception rates was observed between the two strategies. LOP's target crime arrests were more likely than POP's to be made for robbery than for burglary; however, no substantial difference was found between LOP and POP in terms of the percentage of robbery arrests made for armed robbery. LOP's target crime arrests were more likely to result in charges filed as target crimes than POP's, and LOP expended fewer officer-hours per conviction than POP. There was no substantial difference between LOP and POP in terms of their conviction rates for target crimes; however, LOP expended fewer officer-hours per conviction for target crimes than POP.

POP squads, on the other hand, made substantially more target arrests resulting from officer-initiative and covert techniques than LOP. POP officers also arrested suspects for target crimes with substantially more extensive felony arrest records than the records of suspects arrested by LOP officers. POP squads produced substantially more inputs to the CIC per officer-year equivalent than LOP squads. POP resulted in a significantly greater percentage of target subjects, about whom they made inputs to the CIC, who were assigned to tactical unit surveillance as opposed to those who were not assigned to the tactical unit; however, LOP produced inputs concerning essentially the same percentage of target subjects regardless of whether those subjects were assigned to tactical unit surveillance. Compared to LOP squads, POP squads received substantially fewer citizen complaints per officer-hour; however, this finding is tempered by the fact that when target arrests per citizen complaint were considered, there was little difference between the two Apprehension-Oriented strategies.

When compared to LOP and POP, the SPD, a regular patrol division whose officers must spend a substantial amount of their time on other than

apprehension-oriented tasks, produced a substantially lower apprehension rate. There was, however, little difference among the three strategies in terms of the percentage of target arrests made as interceptions. The SPD made substantially lower percentages of target arrests as a result of officer-initiative or the use of covert techniques than either LOP or POP. LOP and POP officers also made a substantially greater percentage of target crime arrests for robbery and a substantially greater percentage of robbery arrests for armed robbery than the SPD officers. Although POP arrested suspects with more extensive felony records than the SPD did, no substantial difference between LOP and the SPD was discernible on this measure. The SPD produced a substantially greater percentage of target arrests for which charges were filed as target offenses than did either LOP or POP; however, both LOP and POP expended fewer officer-hours per charge filed as a target crime than the SPD. There was little difference among the three in terms of conviction rates for target crimes although both LOP and POP expended fewer officer-hours per conviction for target crimes than the SPD. Compared to LOP and POP, the SPD made substantially fewer inputs to the CIC per officer-year equivalent. The SPD received fewer citizen complaints per officer-hour than either of the apprehension-oriented strategies; however, when evaluators used arrests per citizen complaint, they obtained inconclusive results.

In all cases except three, where comparisons are possible, the performance of the tactical unit increased in the program year compared to previous years. Compared to tactical unit performance in previous years, LOP and POP combined produced increases in the interception rate, the percentage of arrests resulting from covert activities and officer-initiative, the percentage of target crime arrests made for robbery, target crime arrests resulting in target crime charges filed, and the percentage of robbery arrests made for armed robbery. However, the only cases in which these increases differed substantially (greater than 5 percent) from corresponding SPD trends were on the measures of officer-initiative, target crime arrests made for robbery, and target crime arrests resulting in target crime charges filed. Compared to the SPD, LOP and POP resulted in substantially greater increases in the percentage of target crime arrests made for robbery and in the percentage of target arrests resulting from officer-initiative. However, compared to LOP and POP combined, the SPD produced a greater percentage increase of target arrests resulting in charges filed as target crimes. Because officer-hour data were not available for previous years, no changes over time for target crime apprehension rates could be obtained; because the CIC was nonexistent before the program year, inputs per officer-year equivalent comparisons could be made only between program and extension periods.

During the program year, the three areas in which LOP and POP reduced tactical performance compared to previous years were median number of prior arrests of suspects arrested for target crimes, target crime conviction rate, and citizen complaint rate. The citizen complaint rate was the only measure on which these decreases were substantially different from corresponding SPD trends. In all patrol divisions citizen complaints per officer per month increased at a rate that was substantially less than that for LOP and POP combined.

Compared to the program year, LOP and POP experienced substantial decreases in the extension period in terms of the apprehension rate, the percentage of target crime arrests made for robbery, the percentage of robbery arrests made for armed robbery, the median number of prior felony arrests of suspects arrested for target crimes, and the number of inputs to the CIC per officer-year equivalent.

Compared to the program year, the tactical unit made substantial improvements in performance in the extension year in terms of the percentage of arrests for which charges were filed and the citizen complaint rate. No substantial changes were observed in the interception rate or the percentage of arrests resulting from the use of covert techniques.

Thus, controlling for corresponding trends for the SPD, the impact of LOP and POP on tactical unit performance seems negligible during the program year compared to previous years on the measures for which data were available; however, on several measures of effectiveness using officer-hours as an indicator, no comparisons over time could be made. There was an overall decline in performance of the two strategies in the extension period compared to the program year.

V. SUMMARY AND CONCLUSIONS

Previous chapters have presented results of the evaluation of the Criminal Information Center and the two Apprehension-Oriented Patrol strategies. Below is a summary of the results of those programs. Following the summary, a brief set of conclusions about the value of the programs is presented.

SUMMARY

Criminal Information Center

An examination of the data on CIC target subjects arrested by all units combined for all crimes combined revealed that providing information to nontactical units significantly increased the probability of arrest for those subjects. No significant effect on arrests resulted from providing CIC information to the tactical unit. This finding might be attributable to the fact that, even before the program year began, tactical unit officers were informed about many of the CIC subjects assigned to all four experimental groups. No significant interaction effect existed between the effect of providing information to the tactical unit and the effect of providing information to other units. No significant interaction effects were found in any of the later analyses.

To explain these differences, evaluators performed further analyses on various subsets of arrest data. They found that the most important result of providing CIC information to nontactical units was an increased probability that those units would arrest target subjects for crimes other than robbery or burglary. This increased probability of arrest for target crimes was also reflected in an increased likelihood of target subject arrests by all units combined for nontarget crimes. Providing information had no effect on the arrest rate for robbery and burglary probably because such arrests comprise a minority of total arrests.

Providing tactical unit personnel with CIC information produced no effect on the arrest rate of all units combined for all crimes combined. Again, failure to produce an effect may stem from the tactical unit's having known the CIC subjects before the program year.

Providing information about target subjects to units other than the tactical unit produced no significant effect on the percentage of target subjects about whom these units or the tactical unit made inputs to the CIC. This result might be explained by the fact that many of the CIC subjects were

associates, thus increasing the likelihood that inputs about unassigned subjects might result from surveillance of assigned subjects. However, providing information to the tactical unit did produce a significant positive effect on the percentage of target subjects about whom the tactical unit itself made inputs, although there was no effect on inputs made by other units. No significant interaction effects were detected.

The contributions to and requests from the Criminal Information Center generally increased during the program year among all patrol divisions and the tactical unit. Both requests and inputs leveled off during the extension phase, with requests outnumbering inputs. The NEPD made more inputs to and requests of the CIC than the other patrol divisions, largely because of the activities of the patrol technicians of that division. Nonetheless, the tactical unit used the CIC most frequently, particularly as measured by inputs and requests per officer.

User surveys indicated a high level of satisfaction with the information received from the center but only moderate usefulness of that information as an aid in making arrests.

Apprehension-Oriented Patrol

With regard to apprehension effectiveness, which is considered a more important criterion of evaluation, LOP expended fewer officer-hours per target crime arrest than POP; but each strategy resulted in about the same percent of target arrests made as interceptions. Any criterion chosen to evaluate arrests of assigned CIC subjects resulted in so few observations that evaluators could not make comparisons between LOP and POP. As would be expected, LOP and POP produced higher apprehension rates than the SPD, which must also perform police service functions; however, few differences were observed among the three strategies in terms of the percentage of target arrests made as interceptions. When controlling for the corresponding trend over time for the SPD, LOP and POP did not produce substantial impact on tactical unit performance in terms of the percentage of target arrests made as interceptions during the program year. Compared to the program year, the apprehension rates of both LOP and POP declined during the extension period, while no change occurred in the interception rate.

POP made a substantially larger percentage of target arrests resulting from the use of covert techniques and from officer-initiative than did LOP. Compared to the SPD, both Apprehension-Oriented strategies made larger percentages of arrests resulting from covert techniques and officer-initiated activities. The tactical unit experienced substantial increases from previous years on both measures during the program year. Compared to the program year, however, no change occurred in the extension period in the percentage of target arrests resulting from covert activities; a substantial reduction occurred in the percent of target arrests resulting from officer-initiated activities during the extension period.

Analyses of the three measures of arrest quality produced varied results. Compared to POP, LOP made a substantially larger percentage of target arrests for robbery, made about the same percentage of robbery arrests for armed robbery, and made target arrests of subjects with substantially fewer prior felony arrests. POP was substantially better than the SPD on all three measures; however, LOP, although substantially better on two measures, was not substantially different in terms of median prior felony arrests of suspects arrested for target crimes. Controlling for the trends experienced by the SPD over time, LOP and POP produced a substantial increase only in the percentage of target arrests made for robbery in the program year compared to previous years. During the extension period, LOP experienced substantial decreases on all three measures compared to the program year; POP experienced substantial decreases on two measures but a substantial increase in median number of prior felony arrests of subjects arrested for target crimes.

Results pertaining to the two indicators of disposition of target arrests, which were considered more important criteria, also varied. LOP target arrests were more likely to result in charges filed as target crimes than those made by POP; however, there was no substantial difference between the two strategies in terms of their conviction rates. However, LOP appeared to be superior to POP with regard to officer-hours expended per charge filed as a target crime and officer-hours expended per conviction for a target crime. Compared to the SPD, LOP and POP both produced a substantially smaller percentage of target arrests resulting in charges filed as target crimes; however, all three strategies produced essentially the same target crime conviction rates. Controlling for corresponding trends of the SPD, LOP and POP produced no notable impact on the performance of the tactical unit on these two measures in the program year, compared to previous years. Compared to the program year, LOP increased substantially in the percentage of target arrests resulting in charges filed as target crimes in the extension phase. Too few data concerning convictions were available to draw reliable conclusions for the change in the extension period, however.

POP produced substantially more inputs to the CIC per officer-year equivalent than did LOP. POP also resulted in a substantially higher percentage of target subjects, about whom the CIC received inputs, who were assigned subjects as opposed to unassigned subjects; however, LOP produced the same percentage of target subjects about whom they made inputs to the CIC, regardless of who received information about the subjects. Both LOP and POP produced more inputs to the CIC per officer-year equivalent than did the SPD. Compared to the program year, both LOP and POP experienced a substantial reduction in inputs to CIC per officer-year equivalent in the extension period.

Concerning officer-citizen conflicts, which was considered a more important indicator, LOP produced more citizen complaints than POP. The POP officers expended substantially more officer-hours per complaint than did LOP. However, the SPD expended the most officer-hours per citizen complaint of the three strategies. When compared to previous years, LOP and POP produced a substantial increase in the citizen complaint rate in the program year; however, a corresponding decrease was noted in the extension period. Examination

of several types of data reveals no support for the contention that the increase in citizen complaints was a result of an increase in arrests, although more proactive techniques such as car checks and pedestrian checks are suspected of producing more complaints than less proactive techniques such as officer calls-for-service.

CONCLUSIONS

Providing information to patrol units about suspected perpetrators seems to have potential value. The evidence compiled from the Kansas City experience indicates that distributing information about a limited number of suspects increases the likelihood of their being arrested.

In comparing the two Apprehension-Oriented strategies against the evaluation criteria, the results are varied. The Location-Oriented strategy was superior on three of the four important criteria of evaluation. These were officer-hours expended per target arrest, officer-hours expended per charge filed as a target crime, and officer-hours expended per conviction for target crimes. LOP was also superior to POP on a less important measure, the percentage of target arrests made for armed robbery. The POP strategy was superior in the percentage of target crime arrests resulting from officer-initiated activities and undercover operations, the median number of prior felony arrests of suspects arrested for target crimes, and inputs to the CIC, which were considered less important measures. POP was superior to LOP in receiving fewer citizen complaints, which was considered one of four more important evaluation critieria. No substantial differences between the two strategies existed in the rate of intercepting suspects committing target crimes, the number of robbery arrests made for armed robbery, or the conviction rates for target crimes.

While these results varied, when considering the overall program focus on arresting suspects for robbery and burglary, and removing these suspects from circulation through convictions, LOP appeared to be superior. This technique produced more target crime arrests, with a greater percentage of these arrests made for the more serious crime of robbery, and a greater percentage of arrests resulting in charges being filed for target crimes. LOP and POP seemed to have produced only a negligible impact on the performance of the tactical unit during the program year on the measures for which data were available; however, because officer-hour data were not available for years prior to the program year, no comparisons over time could be made on several important effectiveness criteria. During the extension period the overall performance of the tactical unit declined compared to previous periods.

Not surprisingly, the Apprehension-Oriented strategies were superior to the SPD's performance in the number of target crime arrests per officer-hour expended, the rate of intercepting suspects in the act of committing target crimes, the percentage of arrests resulting from officer-initiated activities and undercover operations, the percentage of target crime arrests made for robbery, the prior felony arrest record of suspects arrested for target

crimes, and the number of inputs provided to the CIC. The SPD was superior in the percentage of target arrests for which charges were filed for target crimes, and receiving fewer citizen complaints; however, with regard to officer-hours expended per charge filed as a target crime, LOP and POP were superior to the SPD. There was no substantial difference between the Apprehension-Oriented strategies and the SPD in terms of the conviction rate for target crimes; however, LOP and POP were superior to the SPD in terms of officer-hours expended per conviction for a target crime.

Overall, the Apprehension-Oriented strategies were more effective than the SPD in the criteria addressing the goal of arresting suspects for robbery and burglary and the conviction of these suspects for target crimes.

In conclusion, LOP appears to be superior on most of the more important criteria, although its proactive nature did result in its officers receiving citizen complaints at a higher rate than traditional patrol strategies.

The final decision concerning the worth of adopting an Apprehension-Oriented strategy such as LOP rests with those police administrators who must consider the distribution of scarce resources. Specialized police units such as a tactical unit usually need additional equipment (such as rental cars, cover apartments, special detection devices, etc.) which are added expenses compared to regular patrol. Officers to staff the tactical unit divert usually scarce manpower from other functions. From a purely apprehension-oriented perspective, these proactive units do effect more arrests and convictions per officer-hour than regular patrol; however, issues as to the use and/or extent of use of tactical strategies such as LOP are still generally matters of subjective judgment of a community's needs and its focus toward crime.

APPENDIX: Explanation of Original Location-Oriented Patrol Evaluation Plan and Factors Requiring an Alternative Plan

The original evaluation plan for LOP called for the establishment of control and experimental areas. The SPD was excluded from consideration to avoid confounding the preventive patrol experiment being conducted there. As a result, thirty-two beats in the Northeast and Central Patrol Divisions were selected and matched on the following criteria:

1) Frequency of robberies

2) Frequency of burglaries

3) Percentage of nonwhite population

4) Income levels of the citizens

5) Number of occupied housing units

6) Number of retail and other employers

These beats were then divided into eight groups of four matched beats each, and one beat from each of the four was randomly chosen as the control beat. Thus, the beats were divided into eight control and 24 experimental areas. LOP operations were to be conducted only in experimental areas and were not to infringe on control areas. At the end of the LOP project, the control and experimental areas would be compared.

To maintain the experimental conditions, it was necessary that the control beats not be entered by LOP squads; however, during the evaluation period, all control beats were violated by LOP at least once. The extent of the violation was such that in two of the eight matched sets of beats, LOP squads spent proportionately more time in the control beat than in any of the experimental beats. Of the 22,879 officer-hours expended by LOP squads during the program year, 9509 (44.6 percent) were assigned outside the experimental areas. Because of these factors, the original experimental design had to be abandoned and alternative evaluation procedures and criteria formulated.