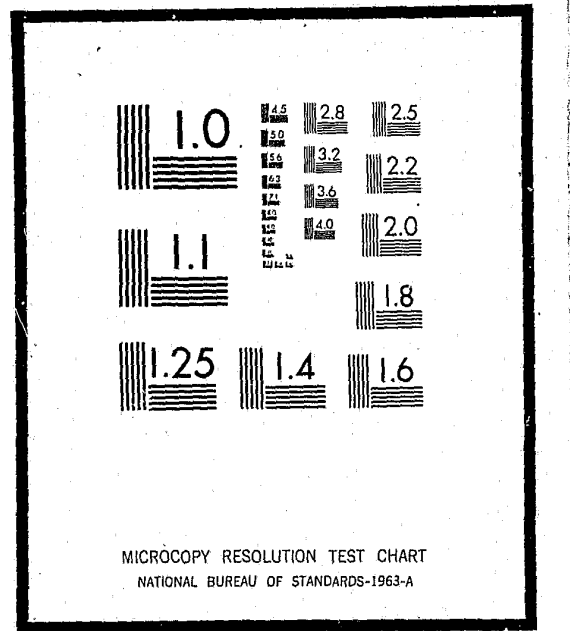


NCJRS

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE
WASHINGTON, D.C. 20531

Date filmed

9/15/75

HELICOPTER PATROL PROJECT

CLUSTER EVALUATION

STATUS REPORT

Prepared for:
Helicopter Patrol Project
Evaluation Advisory Committee

October 23, 1973

Arthur Young & Company

ARTHUR YOUNG & COMPANY

520 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

October 23, 1973

Ms. Francine Berkowitz
California Council on Criminal Justice
7171 Bowling Drive
Sacramento, California 95823

Dear Ms. Berkowitz:

The attached document provides the first status report of the evaluation of four helicopter patrol projects. It is submitted in accordance with the specifications included in CCCJ Request for Proposal for Cluster Evaluation, Arthur Young & Company proposal of August 1973 and the draft contract.

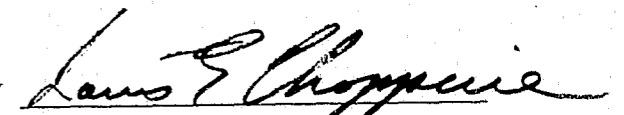
The findings of this report are based upon on-site visits to each of the four helicopter projects and a review of pertinent documentation. The report outlines initial project findings, evaluation constraints and summarizes tentative methodologies to be employed during the evaluation. Our updated Work Plan and Staffing Schedule is also included.

We look forward to discussing the report and the continuing evaluation at your earliest convenience.

Yours very truly,

ARTHUR YOUNG & COMPANY

By



Louis E. Chappuie

TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
I.	<u>INTRODUCTION</u>	1
	1. PURPOSE OF STATUS REPORT	1
	2. METHODOLOGY	1
II.	<u>PROJECT SUMMARIES</u>	3
	1. VENTURA COUNTY	3
	2. SAN BERNARDINO COUNTY	7
	3. SAN DIEGO COUNTY	14
	4. KERN COUNTY	21
III.	<u>CLUSTER EVALUATION</u>	26
	1. COMPARABILITY OF OBJECTIVES	26
	2. COMPARABILITY OF DATA	27
	3. STATUS OF PREVIOUS EVALUATION	27
IV.	<i>WORK PLAN AND STATING</i>	<i>28</i>

LIST OF EXHIBITS

<u>NUMBER</u>	<u>TITLE</u>	<u>FOLLOWING PAGE</u>
I	CLUSTER EVALUATION	27
II	UPDATED WORK PLAN AND STAFFING SCHEDULE HELICOPTER PATROL PROJECTS	28

I. INTRODUCTION

I. INTRODUCTION

The firm of Arthur Young & Company has been retained by San Diego County and the California Council on Criminal Justice (CCCJ) to provide an evaluation of four helicopter patrol projects. These projects are:

<u>Project Title</u>	<u>Applicant Agency</u>
ASTREA - (Aerial Support to Regional Enforcement Agencies)	San Diego County Sheriff's Department
Ventura County Sheriff's Department Helicopter Program	Ventura County Sheriff's Department
Helicopter	San Bernardino County
Project CO-OP (Crime Oriented - Optimum Patrol)	Kern County

The objective of the evaluation is twofold: (1) to assess each project's performance as a separate entity and in comparison to other projects in the cluster, and (2) to evaluate the cluster as a unit.

1. PURPOSE OF STATUS REPORT

The purpose of this status report is to provide a preliminary assessment of the nature and scope of the evaluation of the Helicopter Patrol Project Cluster. The report documents for each project major issues in the evaluation process, evaluation constraints, and provides a discussion of the tentative evaluation methodology. A discussion of cluster evaluation and a work plan for the remainder of the project is also included.

2. METHODOLOGY

The following steps were undertaken in the preparation of this report:

An initial meeting was held between the CCCJ Project Manager and the Consultant Project Manager to assure a mutual understanding of direction and scope. The CCCJ Project Manager notified the individual Project Directors of the Consultants impending on-site visits.

Consultant project staff visited each of the four helicopter projects. The duration of each visit was 2-4 man-days. The following activities took place during the on-site visits:

- Courtesy calls were made to selected sheriff's department officials.
- In-depth discussions were conducted with helicopter project managers or their designates.
- All pertinent documentation was reviewed. Samples of reporting formats were collected.
- Where possible specific evaluative steps were identified. In some instances immediate data collecting assistance was requested.

In all instances local project personnel provided requested assistance and demonstrated a desire to assist in whatever way possible with the evaluation.

The final step in the preparation of this status report was a review of documentation collected at each project and the identification of tentative evaluation methodologies. It was concluded for each project that by varying degrees the five evaluation components outlined in Arthur Young & Company proposal dated August, 1973 would serve as the basis for evaluation. These components are:

- Perceived effectiveness of helicopter patrol projects
- Effect on incidence of crime
- Comparative cost effectiveness
- Response time
- Program implementation and operation activity.

In the following section each of the four helicopter projects is discussed.

II. PROJECT SUMMARIES

II. PROJECT SUMMARIES

The purpose of this section is to provide a preliminary review of each of the four helicopter projects to be evaluated. For each of the projects the following is provided: operational summary, project objectives, evaluation constraints, tentative evaluation methodology, and an evaluation summary.

1. VENTURA COUNTY

Ventura County encompasses 1,884 square miles and extends from sea level to nearly 9,000 feet in elevation. The 1970 population was 374,520 inhabitants. There are nine incorporated cities within the County. The Sheriff assumes the responsibility for law enforcement services in the County's unincorporated areas and two cities -- Thousand Oaks and Camarillo -- by contract agreement.

On August 15, 1971 the Ventura County Board of Supervisors approved the County Sheriff's Department Helicopter Program (CCCJ Grant No. 0650). The Ventura County Helicopter Program commenced operations on September 23, 1971.

(1) Operational Summary

As previously indicated the Ventura County Sheriff's Department began helicopter operations in September 1971. The Sheriff's Department General Order Number 61, "Activation and the Use of the Sheriff's Helicopter", dated September 28, 1971 provides the basis for Departmental helicopter operations. Our initial interviews confirm that present operations generally conform to those specified in this General Order and have remained essentially the same since project initiation.

Responsibility for the Helicopter Program is assigned to the Administrative Lieutenant who reports directly to the Under-sheriff. Two pilots are assigned to the program. There are no permanent observers assigned, an attempt is apparently made to

assign observers on the basis of mission type, i.e., in a narcotics surveillance mission the observer would have narcotics experience.

During the first year of the program (July 1, 1971 - June 30, 1972) total flight time accumulated was 454.6 hours or slightly more than one hour per day. It should be noted that this average is somewhat higher when the first fiscal year is adjusted to reflect the period of time before the program became fully operational. However, at present the somewhat low, one-two hour, daily flight time average is being maintained.

The Ventura County Helicopter is perceived mainly as a response vehicle. It is argued that in order to be available as a response vehicle, i.e., for emergencies, available flight time should not be used up in routine activities.

Ventura County's first annual report provides the following breakdown of major flight activities for the period July 1, 1971 - June 30, 1972:

- . Patrol - 249 hours
- . Search and Rescue - 73 hours
- . Fire Activities - 33 hours
- . Surveillance - 24 hours
- . Photography - 12 hours

It should be noted that general operating procedure requires that missions must be duly authorized in advance. This practice requires that even when airborne, the helicopter must secure authorization to divert from the initial mission before providing assistance.

(2) Project Objectives

The following six Helicopter Program objectives were specified in Ventura County Grant Request Number 0650:

- . Decrease response time
- . Increase patrol observation and integrate mobile patrol with helicopter patrol
- . Engage in rescue and search operations
- . Provide assistance and support in major disasters and civil disorders
- . Provide assistance to all law enforcement agencies in Ventura County
- . Reduce major crimes.

(3) Evaluation Constraints

In the following paragraphs factors which affect and constrain the evaluation of the Ventura Helicopter Program are discussed:

Program Operating Procedures Preclude Objective Measurement

The operational procedures adopted by the Sheriff for the helicopter preclude effective measurement of at least two of the original program objectives. Each of these are discussed below:

- Reduce response time - as previously indicated the Ventura County helicopter is not allowed to divert from original missions nor initiate missions without receiving due authorization. Records are not kept of the time involved in obtaining authorization nor of incidents which could have been responded to if the authorization procedure were not in effect. For these reasons measurement of decreased response time is not feasible.
- Reduce major crimes - as will be subsequently described an effort will be made to isolate the effect of the Ventura Helicopter Program on crime. However, we do not anticipate that statistically valid relationships will be possible for the following reasons:
 - .. the overall use, measured in terms of hours flown, of the helicopter is low
 - .. patrol activities have not been concentrated except for relatively short periods of time and specific areas of patrol are not logged on a regular basis

.. the primary mission of the County helicopter is perceived as an "emergency response vehicle", and, hence, it would not be expected that crime rates would be reduced.

Data is Extremely Limited -

The principal source of data relative to the Ventura project is the "Air Unit Daily Log". Our examination of this log indicates that it is quite brief with little information which can be used in a statistical compilation.

Monthly, quarterly, and annual project reports have been made; however, these summarize only the items which can be extracted from the daily log as well as providing brief narrative descriptions of the most important events.

The only other source of project information is Record Bureau reports. These reports are filed whenever an official report results from a helicopter or helicopter - patrol car operation, i.e.; arrest, search, lost person, etc. These reports provide narrative summaries of incidents and hence are not particularly useable for statistical purposes.

(4) Tentative Evaluation Methodology

Based upon the initial project review our proposed evaluation methodology with respect to the five evaluation components is as follows:

Program implementation and operation activity - calendar year 1972 daily logs will be reviewed to determine numerical indices of helicopter operations, i.e.:

- annual flight hours
- operations by activity type
- operations by activity area (to the extent possible).

In addition, departmental personnel will be interviewed to determine implementation and operational problems.

The product of this effort will be a narrative profile of program implementation and operational problems and successes. As previously indicated, the depth of this profile will be limited by the general lack of primary data.

2. SAN BERNARDINO COUNTY

San Bernardino County encompassing 20,160 square miles is the largest county in the continental United States. Topography ranges from low deserts to high mountains. The major concentration of population is centered in the western valley sector of the county.

The San Bernardino Sheriff's Department is responsible for providing law enforcement services in the vast unincorporated areas of the county. A series of 11 stations dispersed throughout the County provide these services.

Pursuant to CCCJ Grant Number 0623 the San Bernardino Sheriff's Department acquired two Bell helicopters (Model 46G-3b-2) to assist in meeting the county's law enforcement needs. Effective helicopter service was initiated January 1, 1972.

(1) Operational Summary

As originally conceived San Bernardino's helicopter program was to commence operations soon after July, 1971. However, considerable delay was experienced in obtaining grant approval. As such, the helicopters were not received until November. Additional time spent in fitting the machines with special equipment, training pilots, and observers, etc., resulted in an effective project initiation date of January 1, 1972. The original grant period was extended three months to September 30, 1972.

The helicopter program is assigned to the Aviation Division of the Sheriff's Department which is headed by an Aviation Division Commander (current rank Captain). The Commander reports to the Sheriff's Inspector. Two pilots (sergeants), and two observers are assigned to the helicopter program.

During the grant period a relatively firmly scheduled day and night shift patrol was maintained. During the grant period 12 shifts per week, of a 14 shift week, were covered. The following schedule applied:

- . Day shift (5) - 8:00 A.M. - 4:30 P.M.
- . Night shift (7) - 4:00 P.M. - 12:00 A.M.

It is estimated that 80% of patrol time was spent in the Sheriff's Central Division (the unincorporated area surrounding the City of San Bernardino), 15% in closely related areas, and 5% in the desert. In general the desert patrol was conducted on weekends.

The Aviation Division 1972 Annual Report provides the following breakdown of project operations:

<u>Classification</u>	<u>Percent Of Hours</u>
Patrol	84.2%
Training	1.4
Transportation	0.6
Photography	1.1
Surveillance	4.3
Searches	5.6
Rescues	1.8
Administration	1.0
Service to other agencies	0.0 *

* Services to other agencies actual = 0.02

Activities engaged in while on patrol are categorized as follows:

- . Observation - activities which are initiated by the helicopter crew.
- . Calls - activities initiated by the desk or ground units and transmitted via radio to the helicopter crew.
- . Detail - activities engaged in as a result of instruction from a supervisor received either in person or by telephone.
- . Assists - the activity of assisting law enforcement personnel without instructions to do so from ground personnel.

Response time - as previously indicated the operational procedure of requiring prior authorization for helicopter responses makes a comparative analysis of response times impossible.

However, a sample of 10-20 special category responses, i.e., search/rescue, medical evacuation, lost persons, etc., will be selected and total operational time utilized with helicopter and without helicopter (computed based upon past experience) will be compared. The results of this analysis will be reported. To the extent possible, annual saved time will be reported by category, i.e.:

(calculated event response time without helicopter)

x

(annual events) - (event response time with helicopter)

x

(annual events) = annual saved time.

Effect on incidence of crime - as previously indicated, the limited and dispersed use of the helicopter will make a statistically demonstrated effect on incidence of crime difficult.

Initial contact indicates that two major patrol efforts have been conducted during the course of the project. These patrols were in Ventura City and Oxnard. Monthly crime statistics prior to these patrols will be compared to statistics immediately following these patrols to ascertain whether or not there is a short term statistically demonstrative effect of helicopter patrol. Once again, the relatively short total duration of these patrols (30-50 hours) indicates that the analyses are unlikely to be fruitful.

Perceived effectiveness of helicopter patrol - three surveys will be conducted to determine perceived effectiveness.

- Community - 2,000 questionnaires will be mailed. Since the Helicopter Patrol attempts to service the entire county, a general countywide mailing will be sought. The Sheriff's Department has agreed to assist in locating a vehicle for questionnaire distribution.
- Sworn officers - questionnaires will be distributed to all Sheriff's Department sworn officers

(excluding the jail division). This will require approximately 250 questionnaires. No problems are anticipated in this procedure.

- Other agencies - a minimum of five other agencies utilizing helicopter services will be surveyed. Tentatively, agencies to be contacted include:

- .. Ventura County Fire Department
- .. Ventura City Police Department
- .. Oxnard Police Department
- .. Federal Bureau of Investigation
- .. State Bureau of Narcotic Enforcement.

It is anticipated that the agency interviews will provide the primary measure of effectiveness of two of Ventura County's project objectives: (1) provide assistance to law enforcement agencies in Ventura County, and (2) provide assistance and support in major disasters and civil disorders. 1/

Cost effectiveness - the comparative cost effectiveness formula will be applied to the Ventura County program. Data element gaps previously described, i.e., response time and crime incidence, are expected to exist.

(5) Evaluation Summary

The Ventura County Helicopter Project and our proposed evaluation methodology have been described in the preceding paragraphs. As has been repeatedly reiterated, it is anticipated that the general lack of program data as well as the limited use of the helicopter will severely limit the scope of the evaluation in Ventura County.

1/ NOTE: There have been no major disasters nor civil disorders in Ventura County during the course of the project. The helicopter has, however, been used extensively in combating fires.

It should be noted that initially an attempt was made to monitor other agencies' calls. This procedure was apparently discontinued early in the project as it was perceived as unworkable. However, special requests for assistance were answered.

In addition to scheduled activities a 24 hour response capability is maintained.

(2) Project Objectives

The following six project objectives are identified in San Bernardino Grant Request Number 0623:

- . Reduce crime through concentrated patrol efforts in unincorporated high crime areas
- . Save lives in search and rescue efforts
- . Aid in riot control
- . Serve as an observation platform during natural disasters
- . Provide quick response to "crime in progress" calls.
- . Provide assistance to other agencies.

(3) Evaluation Constraints

In general sufficient data exists or can be collected to provide an evaluation of the five evaluation components specified in our proposal. In the course of our initial visit the following constraints were identified:

. The San Bernardino Sheriff's Department Does Not Electronically Process Data

All data to be used in the helicopter project evaluation will either have to be extracted from original records and/or from summaries already maintained by the project. This procedure is time consuming and may limit to some extent the level and scope of analysis. However, all project logs are available and it is anticipated that sufficient data can be extracted for analytical purposes.

Patrol Car Response Time is Not Available

Radio patrol car logs which have been kept do not provide time of receipt of dispatch call. Hence, it is not possible to develop historical patrol car response time in San Bernardino to compare to helicopter response time. As will be explained, a special log will be instituted for a short period to provide an indication of response time differentials.

It May be Difficult to Develop a General Public Survey Frame

The area of concentraion of helicopter patrol is in the unincorporated area surrounding San Bernardino City. Preliminary indications are that, obtaining access to a mailing serving this area (and not the City) may be impossible. In addition, it may be difficult, in the absence of a mailing, to develop a list (survey frame) for this population.

(4) Tentative Evaluation Methodology

Based upon the initial project review our proposed evaluation methodology with respect to the five evaluation components is as follows:

Program implementation and operation activity - the following calendar year 1972 logs and summaries will be reviewed.

- Helicopter Flight Log
- Sheriff's Aviation Division Monthly Activities Report
- Special Incident Memoranda ("Division War Stories")
- Flight Information Log
- San Bernardino County Sheriff's Aviation Division Flight Information Log.

This review will result in a complete profile of the Helicopter program operation during its first year. It should be noted that much of this information has already been compiled by the Aviation Division and published in the 1972 Annual Report.

In addition, departmental personnel will be interviewed to determine implementation and first year operational problems.

Response time - as previously indicated, historical response time data for patrol cars is unavailable. As a result of this the Aviation Division has agreed to conduct a special one month survey of response times. The helicopter observer will be requested to log the following information:

- time of receipt of call of incidents to which both a patrol car and the helicopter are responding
- time on scene helicopter
- time on scene patrol car.

In conjunction with the standard information logged on responses, a response time differential by type of activity will be developed.

A second area of response time analysis will involve the selection of a sample of 10-20 special category responses, i.e., search, rescue, medical evacuation lost persons, etc. Total operational time utilized with helicopter and without helicopter (computed based upon past experience) will be compared. The results of this analysis will be reported. To the extent possible annual saved time will be reported, by category, i.e.,:

(calculated event response time without helicopter) x (annual number of events) - (event response time with helicopter) x (annual number of events) = annual saved time

Effect on Incidence of Crime - incidence of at least the following categories of crime: rape, robbery, aggravated assault, burglary, grand theft, grand theft auto and disturbing the peace, in San Bernardino's Central Division will be ascertained for the years 1966-1971. If a trend is evident, the expected 1972 crime incidence, by category, for the Central Division will be projected. Actual incidence and expected incidence will be compared with observed differences and compared for statistical significance.

The relatively extensive use of the helicopter patrol in the Central Division and the availability of crime incidence data for the Central Division should result in a meaningful comparison.

Perceived effectiveness of helicopter patrol - three surveys will be conducted to determine perceived effectiveness.

- Community - 2,000 questionnaires will be mailed. As previously indicated, difficulty is anticipated in finding a vehicle for mailing which will reach only the served population. The Sheriff's Department has agreed to assist in exploring possibilities.

It should be noted that due to the configuration of the patrol area, the City of San Bernardino is subjected to continuous helicopter overflights. As such, a sample frame which includes the city may be representative of patrol area attitude.

- Sworn officers - questionnaires will be distributed to all Sheriff's Department sworn officers. This will require approximately 600 questionnaires. No problems are anticipated in this procedure.
- Other agencies - a minimum of five other agencies which have been affected by the helicopter program will be contacted. In 1972, only 0.02 percent of total helicopter time was spent in "service to other agencies" hence these interviews are believed to be of only marginal significance. Tentatively, agencies to be contacted include:

- .. State Forestry Department
- .. Loma Linda Community Hospital
- .. Ontario Police Department
- .. San Bernardino City Police Department
- .. California highway Patrol (Local Office)

Cost effectiveness - the comparative cost effectiveness formula will be applied to the San Bernardino program. No problems are anticipated in this procedure at this time.

(5) Evaluation Summary

Initial indications are that the San Bernardino helicopter program was implemented consistent with project objectives. In addition, sufficient data is available such that evaluation of the five components will be possible.

3. SAN DIEGO COUNTY

San Diego County is located in the extreme southwestern corner of the United States. The County encompasses 4,200 square miles and has 75 miles of sea coast and 80 miles of common border with Mexico.

The majority of the 1.4 million inhabitants live along the sea coast. Inland the County is rugged and barren. A large transient tourist population, the opportunity for inter-country drug traffic, and a diversity in population densities and land characteristics provides a unique law enforcement situation.

Pursuant to CCCJ Grant Number 0589 the San Diego Sheriff's Department acquired three Bell Helicopters (47G series). Helicopter patrol operations commenced February, 1972.

(1) Operational Summary

Implementation of the San Diego helicopter project, known as "ASTREA (Aerial Support to Regional Enforcement Agencies), was slow. The initial grant period July 1, 1971 - June 30, 1972 was extended six months to December 31, 1972 because operations did not commence until February 1972 and grant funds could not be expended during the initial grant period.

ASTREA is assigned to the Aviation Division. The Aviation Division Officer-in-Charge, a Lieutenant, reports directly to the Chief Inspector - Patrol. There are five pilots and five observers assigned to ASTREA. The present project is essentially the same as existed during the grant period.

As indicated, ASTREA has three helicopters. Two helicopters are used essentially in scheduled patrol activities and one helicopter which is equipped with a turbo charged engine is used in special operations including high terrain work.

At project initiation a fixed beat was established. The beat chosen has a population of approximately 56,000. The patrol area was chosen for the following reasons:

- . It is not in an aircraft control zone.
- . It includes a mix of residential, commercial, and light industrial properties.

. The patrol beat is a high crime area.

. The patrol beat covers portions of both the City and County.

Both day and night patrols are flown in the fixed beat area.

ASTREA helicopters are available to all county law enforcement agencies on a no charge basis. Sophisticated communications equipment provides for direct access by other agencies.

(2) Project Objectives

The following primary and secondary objectives are identified in ASTREA Grant Request Number 0589:

. Primary objectives

- Improve response time (especially in less populous areas).
- Increase surveillance of high crime rate areas.
- Increase effectiveness and efficiency of patrol observation.
- Improve emergency medical service capability in remote areas.
- Increase efficiency and effectiveness in search and rescue.
- Enhance capability to respond rapidly and effectively to special enforcement situations.
- Improve officer security and indirectly morale.

. Secondary objectives

- Deter crime.
- Repress opportunities for the commission of crime.
- Enhance opportunities to apprehend suspects.
- Increase community awareness of police protection.
- Increase well being through enhanced service capability in emergency situations.

(3) Evaluation Constraints

In the following paragraphs constraints which have been identified that will affect the evaluation of ASTREA are discussed:

The Original Objectives of Project ASTREA Are Not Oriented Toward Measureable Impact

In the preceding section ASTREA project objectives were enumerated. As can readily be seen many of the objectives are not output and/or impact oriented. Examples of this type of objective include: (1) increase surveillance and, (2) increase effectiveness and efficiency of patrol. Objectives of this type are difficult to measure.

It can also be seen that several of the objectives tend to be duplicative. An example of this type of objective would be: (1) increase surveillance, and (2) deter crime. It may be assumed that a primary purpose of increasing surveillance is for the purpose of deterring crime. Further, it can be stated that the impact objective of deterring crime would most likely be--reduce the crime rate.

For purposes of this evaluation it will be assumed that the five evaluation components encompass the ASTREA project objectives.

Fixed Beat Patrol Has Been Diffused To Surrounding Areas

As indicated Project ASTREA includes the regular patrol of a fixed beat. During the course of the project the planned patrol concentration has been diffused to surrounding areas. This diffusion has resulted because the helicopter patrol is available to respond to calls when it is deemed advantageous. Records are not kept in such a manner that it is possible to determine actual time on beat for a patrol unit. Due to the diffusion of patrol operations it will be difficult to make comparisons of area served and area not served within the county.

Statistics Are Not Available On A Calendar Year Basis

Project ASTREA did not get into full swing until late February 1972. As such the evaluation year is most logically March 1, 1972 to February 28, 1973 which is the first full year of patrol operation. Since statistics are not normally compiled on this basis, data extraction becomes more difficult.

Comparable Crime Incidence Data Is Not Available

The present system of compiling crime incidence data by MASTER BEAT was initiated in 1972. Prior to this time, data was compiled by region name and summarized only for the categories of East and North County. Comparable historic crime incidence data for the area served by the ASTREA patrol is unavailable. In the following section a system to partially offset this problem will be identified.

A second area of concern with respect to crime incidence data is the apparent unavailability of data from the portion of San Diego City served by the helicopter patrol. ASTREA staff report that there is reluctance on the part of the City to supply this data at least partially because the San Diego Police Department has instituted several new programs in the area, and thus do not believe an interpretation of the data with respect to helicopter effectiveness is possible.

(4) Tentative Evaluation Methodology

Based upon the initial project review our proposed evaluation methodology with respect to the five evaluation components is as follows:

Program implementation and operation activity - project ASTREA implementation procedures and problems will be reviewed and summarized. The San Diego Sheriff's Department document entitled "Project ASTREA October 1971 - March 1972" is believed to contain most of the required documentation of implementation procedures and problems.

Project logs and computer printouts for the period March 1, 1972 - February 28, 1973 will be reviewed, and operating data compiled to provide a profile of the ASTREA program's first actual year of operation. It should be noted that no such profile exists at the present time. Data sources identified include:

- Monthly Helicopter Activity Report
- Monthly Operational Statistics by Classification
- Monthly Operational Statistics by Master Beat and District
- Regional Helicopter Assists by Month by Agency
- Deputy's Daily Log (Helicopter)
- Weekly Bureau Synopsis Report

- Air/Ground Unit Evaluation Report
- Unit Stolen Property Recovered Log
- Unit Arrest Assist Log
- Unit Fire Log
- Unit Vehicles Sighted Log
- Unit Medical Assists Log

Response time - Response time data for both the helicopter and ground patrol units is recorded and electronically stored. Response times are provided by a number of categories, i.e., response time for helicopter to call on beat while helicopter is on beat; response time for helicopter to call off beat, while helicopter is on beat, etc. Appropriate comparisons between ground patrol and helicopter patrol will be made.

A further indication of response time is first on scene comparisons. At present this information is not logged. A complicated procedure could be devised to extract the necessary data by comparing individual helicopter and ground unit logs but this is not deemed to be time effective. The helicopter unit has tentatively agreed that first on scene information could be logged for a test period during the project.

Since improved services to the remote areas of San Diego County is a goal of ASTREA, similar to other projects, a sample of 10-20 special category responses, i.e., search, rescue, medical evacuation, lost persons, etc., will be selected and total operational time utilized with helicopter and without helicopter (computed based upon past experience) will be compared. The results of the analysis will be reported. To the extent possible annual saved time will be reported, by category, i.e.:

(calculated event response time with helicopter) x
 annual number of events) - (event response time with
 helicopter) x (annual number of events) = annual saved
 time.

Perceived effectiveness of helicopter patrol - three surveys will be conducted to determine perceived effectiveness.

- Community - 2,000 questionnaires will be mailed. An attempt will be made to secure a mailing which generally corresponds to the area served by the fixed beat. The Sheriff's Department has agreed to assist us in finding a survey vehicle.

It should be noted that San Diego County would provide an opportunity for a survey comparison which is currently beyond the scope of this study. As has been shown ASTREA has two distinct roles:

- .. patrol of a fixed beat
- .. general law enforcement assistance throughout the County.

Because of this dual role we believe a comparative survey between the area intensely served and a survey of a portion of the county not intensely served would be of interest. Some previous helicopter evaluations have tentatively indicated that citizen acceptance of helicopter patrol decreases with amount of patrol.

- Sworn officers - Questionnaires will be distributed to all of the Sheriff's Department's sworn officers. This will require approximately 300 questionnaires. No problems are anticipated in this procedure.

It should be noted that ASTREA is a regional program. As such, it would be desirable to survey officers in other police jurisdictions in San Diego County. Such a survey is beyond the scope of this study.

- Other agencies - A minimum of seven other agencies which have utilized the services or have been assisted by ASTREA will be contacted. Tentatively, agencies to be contacted include:

- .. San Diego P. D.
- .. El Cajon P. D.
- .. National City P. D.
- .. Oceanside P. D.
- .. U. S. Customs
- .. State Bureau of Narcotics Enforcement
- .. State Forestry Department

Effect on Incidence of Crime - As indicated in the "Evaluation Constraints" section areal comparability as well as the historical availability of crime incidence data is limited. It apparently is possible to extract crime incidence data from 1970-1972 from the files by using area names for an area comparable with the patrol beat less San Diego City (San Diego Master Beat 52 and 54). On the initial visit the procedure was investigated and the files identified; thus, at this point it appears reasonable that at least a two year comparison can be made. However it is virtually impossible to obtain any data on a comparable area prior to 1970.

For the above reasons, it is not anticipated that a statistically significant effect on incidence of crime will be identified.

Cost effectiveness - The comparative cost effectiveness formula will be applied to Project ASTREA. It is anticipated that the major data gap will be in the area of effect on incidence of crime.

(5) Evaluation Summary

In the preceding pages evaluation constraints and the tentative methodology for project ASTREA evaluation have been discussed. With one notable exception, crime incidence, data is available to effect an evaluation of ASTREA. The existence of computer summaries of some important data is balanced by the necessity of compiling data on a non-calendar year basis in facilitating the evaluation. In the survey methodological section two additional surveys, which are beyond the current study scope, were suggested as potentially worthwhile.

4. KERN COUNTY

Kern County is the third largest county in California encompassing 8,064 square miles. One-third of the County is flat valley floor ranging from 200-400 feet in elevation. The valley is surrounded by mountains ranging to 8,000 feet above sea level.

The valley area is devoted to agricultural and oil production. The vastness of the rural area of the county has made the detection and apprehension of thieves, especially at night, nearly impossible. For this reason the Sheriff's Department instituted a program of rural night helicopter patrol.

Pursuant to CCCJ Grant Number 0536 the Kern County Sheriff's Department acquired one Bell Model 47G-3B-2 helicopter. Helicopter patrol operations began on October 20, 1971.

(1) Operational Summary

Project CO-OP (Crime Oriented-Optimum Patrol) was funded on July 1, 1971. The aircraft was picked up in September 1971 and the first patrol flight was made on October 20, 1971. An extension of first year funding was granted through October 31, 1972. Second year funding was sought and subsequently granted through October 31, 1973.

Project CO-OP is assigned to the Criminal Bureau. The Criminal Bureau Chief Deputy acts as Project Director. Two pilots and one observer are assigned to the program.

The principal function of CO-OP is to provide a scheduled night patrol of rural Kern County. A helicopter patrol area has been established in the vicinity of Bakersfield covering some 3,000 square miles. Assigned hours are 9:00 p.m. - 5:00 a.m. Wednesday through Sunday.

The patrol program utilizes a "chase car" concept. That is the helicopter works regularly with an assigned patrol car. The patrol car is in fact manned by the third helicopter crew member on a rotating basis. When in the area and at the discretion of the pilot, the helicopter assists other law enforcement agencies.

The Kern County helicopter is quite active having been flown nearly 1,800 hours since program inception. The regularly scheduled patrol occupies nearly all of the available helicopter flight time; as such, the helicopter has been used only nominally in other activities. Medical evacuations, searches, and rescues participated in by the helicopter unit number less than ten. Recently the helicopter has been used as an observation platform during rural union disputes.

(2) Project Objectives

The objectives of Project CO-OP as contained in Grant Request Number 0536 are as follows:

- . Reduce crime
- . Assist in search and rescue
- . Provide assistance to other county agencies.

As has been indicated in the project operational summary, the mode of operation has been such that the objective of reducing crime in the rural areas of the county is of paramount importance.

(3) Evaluation Constraint

The following constraint has been identified which will affect the comparative evaluation of Project CO-OP:

. Project CO-OP Has Narrow Objectives

Project CO-OP as implemented has one principal objective. This objective is:

- Reduce the rate of rural crime (mainly theft) in the patrol area.

As previously indicated available flight time of both helicopter and crew are expended in scheduled rural patrol. Indications are that sufficient data exists to measure the achievement of this objective: however, due to the specialized deployment, evaluation of other objectives, i.e., search/rescue, etc., and comparative evaluation between Kern and the other projects may not be meaningful.

(4) Tentative Evaluation Methodology

Based upon the initial project review our proposed evaluation methodology with respect to the five evaluation components is as follows:

. Program implementation and operation activity - Project personnel will be interviewed and departmental records reviewed to determine procedures used and problems encountered during project implementation. Current indications are that implementation was reasonably according to schedule and in general accordance with the original plans.

Project operational data for calendar year 1972 will be reviewed to develop a profile of first year operational activities. Materials identified for review include:

- Operation CO-OP, quarterly and summary reports
- Activity Log, Helicopter
- Crime Incident Reports

Response time - Improved response time is not identified as an objective of Project CO-OP. To the extent possible from activity logs, average response time will be calculated (sample) and included as an index in program operational data.

Effect on Indidence of Crime - The principal objective of CO-OP is to reduce the incidence of crime, especially theft, in the rural areas. Crime statistics are available for the patrol area. Historical trends will be developed for the patrol area (by category of theft if possible) and the difference between projected incidence and actual incidence will be tested for statistical significance.

Perceived effectiveness of helicopter patrol - Three surveys will be conducted to determine perceived effectiveness.

- Community - 2,000 questionnaires will be mailed. Preliminary contact has been made with the Farm Bureau which publishes and mails a newsletter to rural members. The Farm Bureau has tentatively agreed to include a short questionnaire with their mailing. We believe this will provide an effective vehicle for reaching the subject population.
- Sworn officers - Questionnaires will be distributed to all Sheriff's Department sworn officers. Approximately 250 questionnaires will be required. No problems are anticipated.
- Other agencies - A minimum of five other agencies who have been assisted by project CO-OP will be contacted. Tentatively agencies to be contacted include:
 - .. Bakersfield P. D.
 - .. Shafter P. D.
 - .. Wasco P. D.
 - .. California Highway Patrol (local office)
 - .. Kern County Fire Department

Cost effectiveness - the comparative cost effectiveness formula will be applied to Project CO-OP. It is expected that the variables to be used in Kern County will be fewer than in other counties thus making comparisons difficult.

(5) Evaluation Summary

It is anticipated that sufficient data exists to evaluate the limited objectives of the Kern County helicopter program. As indicated, it is anticipated that the scope of inter-county comparisons will be limited.

III. CLUSTER EVALUATION

III. CLUSTER EVALUATION

An objective of CCCJ in the present project is to evaluate the cluster of four helicopter projects by identifying common objectives and common measurement criteria, and to "explore the potential for building a program from each cluster of projects as well as developing impact oriented objectives for this program (CCCJ Request for Proposal - p. 3).

1. COMPARABILITY OF OBJECTIVES

In the individual county summaries (Section II) the objectives of each project as identified in their grant request are enumerated. As shown in Section II, in many cases program implementation procedures did not support the enumerated objectives. Our initial review indicates that two projects apparently are reasonably comparable with respect to objectives and two of the projects are not comparable except in a limited way to any of the other projects.

. Comparable projects - San Diego and San Bernardino. Similarities of the San Diego and San Bernardino programs include:

- scheduled day and night patrols over reasonably fixed areas
- pilot discretion to answer calls during time of patrol
- a charter to respond to special situations, i.e., medical evacuations, search, rescue, etc., exists.

. Limited comparability projects - Kern and Ventura.

Factors which make these projects non-comparable include:

- Kern County- The Kern County program has a single primary purpose. That purpose is the suppression of rural crime, mainly theft. To effect this suppression a rural scheduled night patrol is maintained. Almost no other activities are participated in by the helicopter unit.

Ventura County - The Ventura County helicopter is used primarily as a response vehicle. Area patrol in the sense that it is engaged in the other projects is not used in Ventura County.

2. COMPARABILITY OF DATA

Exhibit I following this page summarizes evaluation component activities and their applicability to each county. The Exhibit is self-explanatory. As can be readily seen, in some instances where objective comparability exists, the lack of data will hinder or prohibit comparisons.

3. STATUS OF PREVIOUS EVALUATION

Exhibit I also summarizes the status of previous evaluation by county. In no county has any evaluation been undertaken which purports to measure objective achievement. The only exception to this statement is some very limited attempts to compare annual crime incidence rates. Evaluations to date are monthly, quarterly, and/or annual operational summaries. In some cases these also do not exist. In all cases the summaries do not provide all of the operational incidences exhaustive of the data being collected.

CLUSTER EVALUATION

EVALUATION COMPONENT ACTIVITY	APPLICABILITY TO COUNTY				CLUSTER COMPARISONS
	SAN DIEGO	SAN BERNARDINO	KERN	VENTURA	
Perceived Effectiveness Community Survey	Survey of patrol area possible if survey vehicle is found.	Patrol configuration makes survey difficult.	Survey of patrol area possible.	No patrol area exists, general survey of county possible.	San Diego San Bernardino Kern
Sheriff's Ground Patrol Officers	Can be accomplished, survey of other departments officers desirable.	Can be accomplished.	Can be accomplished.	Can be accomplished.	All counties.
Other Agencies	7 agencies identified.	5 agencies identified, project does not stress other agency support.	5 agencies identified.	5 agencies identified	San Diego Kern Ventura
Effect on Incidence of Crime	Will be difficult to demonstrate, historical and areally comparable data lacking.	Data Available	Data Available	No effect expected due to operating procedures, i.e., no fixed patrol.	To a limited extent: San Bernardino Kern
Cost Effectiveness	Comparative formula can be implemented.	Comparative formula can be implemented.	Comparative formula can be implemented.	Comparative formula can be implemented.	Methodology allows for only limited inter-county comparison.

CLUSTER EVALUATION

EVALUATION COMPONENT/ACTIVITY	APPLICABILITY TO COUNTY				CLUSTER COMPARISON ^a
	SAN DIEGO	SAN BERNARDINO	KERN	VENTURA	
Response Time Calls (crime in progress, etc.)	Excellent Data	No data--special survey necessary.	Not a project goal.	Prior permission needed before response is authorized.	To a limited extent; San Diego San Bernardino
Special Activities (search, rescue, medical evacuation, etc.)	Can obtain data from sample of incidents.	Can obtain data from sample of incidents.	Participate infrequently in special activities.	Can obtain data from sample of incidents.	San Diego San Bernardino Ventura
Program Implementation and Operation Activity	Data available, some computer summaries.	Data available, some summaries exist.	Data available, must be summaries.	Limited data available.	All counties.
Previous Evaluation (Status)	Extremely limited prior evaluations.	Annual summary of activities.	Limited: Quarterly summary of activities.	Limited: Monthly and quarterly summary of activities.	Evaluations to date are almost non-existent in all counties.

CLUSTER EVALUATION

EVALUATION COMPONENT/ACTIVITY	APPLICABILITY TO COUNTY				CLUSTER COMPARISONS
	SAN DIEGO	SAN BERNARDINO	KERN	VENTURA	
Response Time Calls (crime in progress, etc.)	Excellent Data	No data--special survey necessary.	Not a project goal.	Prior permission needed before response is authorized.	To a limited extent; San Diego San Bernardino
Special Activities (search, rescue, medical evacuation, etc.)	Can obtain data from sample of incidents.	Can obtain data from sample of incidents.	Participate infrequently in special activities.	Can obtain data from sample of incidents.	San Diego San Bernardino Ventura
Program Implementation and Operation Activity	Data available, some computer summaries.	Data available, some summaries exist.	Data available, must be summaries.	Limited data available.	All counties.
Previous Evaluation (Status)	Extremely limited prior evaluations.	Annual summary of activities.	Limited: Quarterly summary of activities.	Limited: Monthly and quarterly summary of activities.	Evaluations to date are almost non-existent in all counties.

IV. WORK PLAN AND STAFFING SCHEDULE

IV. WORK PLAN AND STAFFING SCHEDULE

Exhibit II following this page provides an updated Work Plan and Staffing Schedule for the Helicopter Patrol Project Cluster Evaluation. The updated schedule provides for somewhat more time in Phase II than did the original Work Plan and Staffing Schedule. (Exhibit II - Arthur Young and Company proposal).

The major change is the elimination of time from Task 3 -- "Assess the Project Evaluation Components." As discussed in Section III of this report, evaluation to date is minimal. All previous evaluation data has been collected and preliminarily reviewed and, as such Task 3 is complete. Cluster evaluation models will be recommended in Task 7. At that time the shortcomings of the previous evaluations will be re-addressed.

UPDATED WORK PLAN AND STAFFING SCHEDULE
HELICOPTER PATROL PROJECTS

TASK	1973			1974			AY & CO.	SUB- CONTRACTOR
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH		
1. INITIATE PROJECT AND SUBMIT PROGRESS REPORT	████████						94	64
2. DEVELOP PROCEDURES TO BE USED IN EVALUATION		████████████████					100	100
3. ASSESS THE PROJECT EVALUATION COMPONENTS		COMPLETED					-	-
4. PREPARE PHASE I REPORT			████████				40	16
5. COLLECT DATA FOR PROJECT AND CLUSTER EVALUATION				████████████████			94	100
6. EVALUATE INDIVIDUAL HELICOPTER PATROL PROJECTS AND HELICOPTER PATROL PROJECT CLUSTER					████████████████		98	16
7. DEVELOP RECOMMENDATIONS REGARDING CURRENT AND FUTURE HELICOPTER PROGRAMS						████████████	32	-
8. PREPARE FINAL REPORT						████████████	40	16

END