

CITY COUNCIL MEETING
SEPTEMBER 2, 1987

REVIEW POLICE
DEPARTMENT CAREER
CRIMINAL APPREHENSION
PROGRAM (C-CAP)
EVALUATION REPORT

CC-152
CC-175

Following review of the Police Department Career Criminal Apprehension Program (C-Cap) Evaluation Report and recommendations, Council on motion of Council Member Hinchman, Olson second, voted to continue its support of the C-CAP Program and authorized the addition of an Administrative Clerk II position to the budget of the Police Department.

 **COUNCIL COMMUNICATION** 

TO: THE CITY COUNCIL	COUNCIL MEETING DATE	NO.
FROM: THE CITY MANAGER'S OFFICE	September 2, 1987	
SUBJECT: REVIEW POLICE DEPARTMENT CAREER CRIMINAL APPREHENSION PROGRAM (C-CAP) EVALUATION REPORT AND RECOMMENDATIONS		

PREPARED BY: Assistant City Manager

RECOMMENDED ACTION: That the City Council continue to support the Police Department's Career Criminal Apprehension Program (C-CAP) and authorize the addition of an Administrative Clerk II position to the budget of the Police Department.

BACKGROUND INFORMATION: At the mid-point of the 54-month C-CAP program I felt it was appropriate to conduct an independent review of the progress of the C-CAP program. I concluded this for these reasons:

- 1) the program has a large price tag.
- 2) the Police Department was requesting additional computer capability.
- 3) the Police Department was using large amounts of part-time help to enter data.

To assist us in this review, we obtained the assistance of an independent Information Systems Auditor to review the progress the department was making in meeting its goals and objectives. His assignment was to determine the impact other grants have on the C-CAP program; identify unforeseen problems; identify expansions in the scope of the project; and review relationships with project vendors. The audit was performed by Mr. Hugh M. Ferguson, a Certified Public Accountant and well-respected management consultant. Attached is a copy of the final report. Staff is pleased with the results of the audit and has no difficulty in recommending its findings be implemented.

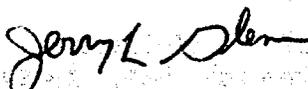
Many of the internal control procedures are already being carried out. Council has previously authorized the upgrade of the computer hardware capability.

The remaining problem is one of data entry. Early in calendar year 1987, the Police Chief notified us he was falling behind in data entry. We anticipated some salary savings in the Police Department due to vacancies and authorized hiring additional help to undertake this important task. We hired the equivalent of one and one-half persons. This additional help significantly reduced the back log as well as entering current data.

Review Police Department Career Criminal Apprehension Program (C-CAP)
Evaluation Report and Recommendations
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In his budget presentation, the Police Chief asked for additional personnel which was denied. The Chief was advised at that time of our intention to have this audit done and that we would be guided by its findings. In my discussions with Mr. Ferguson, I am convinced additional help for data entry is needed. While the report recommends the hiring of additional personnel (more than one), the staff recommendation is that just one position be added at this time. If it is subsequently demonstrated that additional help is needed, we can address the issue then.

Respectfully submitted,



Jerry L. Glenn
Assistant City Manager

JLG:br

Attachment

EXHIBIT A

HUGH M. FERGUSON
CERTIFIED PUBLIC ACCOUNTANT
3320 BOWMORE COURT
WALNUT CREEK, CA 94598

June 15, 1987

Thomas A. Peterson
City Manager
City of Lodi
221 West Pine Street
Lodi, CA 95240

Dear Mr. Peterson:

This letter and the attached report present my findings and recommendations regarding my review of the progress and status of the Lodi Police Department's Career Criminal Apprehension Program (C-CAP).

C-CAP is a fifty-four (54) month project divided into three (3) phases:

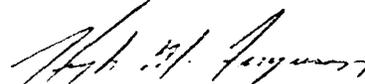
Phase I	January 1, 1985	-	June 30, 1986
Phase II	July 1, 1986	-	December 31, 1987
Phase III	January 1, 1988	-	June 30, 1989

Phase I of the project is complete. The original and revised objectives for this phase were evaluated (and determined to be successfully completed) by the Office of Criminal Justice Planning. In addition, the results of the evaluation have been submitted and accepted by the cognizant agency (HUD - San Francisco).

My review focused on the following general tasks. My findings and recommendations are presented in this letter and attached report.

1. Review original goals and objective.
2. Review updated goals and objectives for all phases of the project as they exist currently.
3. Determine the impact of additional grants as to their effect on the original C-CAP project in terms of:
 - . Hardware
 - . Software
 - . Personnel
 - . Data Processing Management
4. Identify unforeseen problems.
5. Identify major expansions in the scope of the project.
6. Review relationships with project vendors.

Sincerely,


Hugh M. Ferguson
CPA, CISA

attachment

REVIEW OF THE PROGRESS AND STATUS
OF THE LODI POLICE DEPARTMENT'S
CAREER CRIMINAL APPREHENSION PROGRAM

(C-CAP)

Hugh M. Ferguson, CPA, CISA
June 15, 1987

This report contains the results of a review conducted between May 26 and June 10, 1987 of the Lodi Police Department's implementation of the C-CAP Program and related matters. Tremendous progress has been made to establish the City of Lodi as a leader in utilizing the power of computing on the apprehension of career criminals. On the other hand, the City is experiencing some "growing pains" related to the management and control of this new operation. The report, therefore, identifies some problems and recommends corrective action. The recommendations are summarized at the beginning of the report and are developed in more detail in the body of the report.

The accomplishments of the Lodi Police Department are commendable. Automated equipment to support the project has been installed and implemented. The personnel required to staff the project have been hired, trained and installed in their positions. The basic system design is completed, procedures have been changed and the capture of critical data has been implemented. Project management has displayed excellent motivation, above average management skills and experienced insight into the overall objectives of the of the project.

The C-CAP Program is now in its second phase and is six months behind schedule. The schedule variance is not insurmountable and acceptance of recommendations in this report which address this problem will assist in bringing the project back on target. The day-to-day requirements of data entry, computer operations and data management requires attention and reorganization; however, no major problems were found within the scope of its review. The recommendations which address these functions, if accepted, will provide better throughput, improved control and a manageable operation. The content of the data base follows the OCJP guidelines; however, it's effectiveness and manageability can not be measured until the completion of Phase II.

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION

The Lodi Police Department should assign the highest priority to the completion of the critical C-CAP Phase II tasks identified in this report. They should also improve the administrative procedures so that only practicable and attainable objectives are identified that have a high probability of on time completion.

RECOMMENDATION

A request has been made to purchase additional computer hardware for use by the Police Department. It is evident that this hardware is justified based on testing, which found a lack of disk capacity and poor response times. In addition, the hardware requested is not in excess of immediate needs for additional resources. It is recommended that this hardware be procured subject to available funding.

RECOMMENDATION

The Police Department (as well as the Finance Department) should review their procedures for backing up data and program files to determine if all appropriate files are backed up. They should also investigate offsite facilities available from outside vendors and consider storing valuable data and program files at an offsite location.

RECOMMENDATION

A maintenance fee beginning July 1, 1987, will be charged by DLH/INE, the software vendor for the C-CAP system. Since the City is no longer a BETA site, there will be a period of adjustment to adapt to the pay as you go method. It is recommended that the City continue its plans to enter into the maintenance agreement. It is also recommended that procedures be developed to control and monitor system performance, system changes and system enhancements.

RECOMMENDATION

Printed material which documents the DLH/INE system has been submitted by the vendor. This material is not systematically used by police department personnel because of their intimate knowledge of the system. It is recommended that at this time the documentation be reviewed, in detail, to determine that it reflects how the system actually works and that its quality is adequate to guide new employees.

RECOMMENDATION

The City of Lodi and its Police Department have committed to a long term project targeted to apprehend career criminals. Major accomplishments have occurred within this project and valuable results are near at hand. In order to realize these results, the trained personnel hired to analyze crime must be relieved of their current data entry responsibilities. It is recommended that City management seriously consider the budget request to hire additional input personnel.

RECOMMENDATION

The implementation of C-CAP, installation of computer hardware and other related changes, have created an organizational problem within the Police Department. In order to resolve these problems, it is recommended that the responsibility for the computer hardware and its data entry personnel be assigned to the Records Division and that the personnel involved with crime analysis remain assigned to the Patrol Division.

RECOMMENDATION

The C-CAP system as it is designed requires the entry of large amounts of data. The principal Police Department executives are concerned with this requirement because it requires the allocation of substantial resources (machine and people) to manage the function. It is recommended that the suggestions included in this report to reduce data entry be considered so that input data is reduced to a manageable volume.

RECOMMENDATION

Data processing is growing within the City of Lodi. New installations and new applications are being considered on a continuing basis. Each installation requires system operations knowledge and management of its resources. It is recommended that the City analyzes their data processing growth in terms of a multi-year EDP plan and at the same time, analyze the management requirements of this operation.

C-CAP GOALS AND OBJECTIVES

Phase I goals and objectives as submitted for the OCJP grant were modified by the Police Department (as reported in the memo to Mr. Holm dated January 16, 1987). The revision deferred some of the original objectives to Phase II and Phase III of the project. In addition, some new objectives were added.

C-CAP, Phase I, is complete through final review. Therefore, this report addresses the objectives of Phase II. A critical task within Phase II is the completion of a work load study to analyze field patrol operations. This task was scheduled for completion November 1, 1986 and was scheduled to become the basis for the development and implementation of a new patrol plan. A related task is an analysis of the beat system so that calls for service and work load distribution, inherent to each beat, may be more equitably distributed. These tasks are not yet complete and are critical because some of the remaining tasks in Object 1 and subsequent objectives are dependent events.

The project manager was questioned several times regarding the progress of Phase II. Although the critical tasks identified above are not complete, the project manager is emphatic that they will be done and that all objectives will be complete by December 31, 1987, unless serious loss of resources, beyond departmental control, occur.

The time available for accomplishing this work has been diminished by the time needed to complete grant applications, an apparently higher priority.

There was some concern that the time period for Phase II would be extended because of incomplete objectives. This would mean that Phase III and the corresponding funding would not occur as scheduled. This is not the case. Phase III will start on January 1, 1988, the original scheduled date. Funding will not be delayed. This was confirmed by Ms. Shirley Silack, the C-CAP coordinator, for the Office of Criminal Justice Planning.

MS. Silack, who oversees the progress of agencies operating in the second phase of C-CAP, was very familiar with the progress of the Lodi Police Department. She reviewed the history of C-CAP, successes in apprehending career criminals and changes made to project administration. She stated that a major administrative change is that cities entering the project now have a six-month planning phase which identifies the objectives of all project phases. She emphasized the need to identify attainable objectives and mentioned that agencies are often too ambitious and impracticable for the circumstances.

RECOMMENDATION

The Lodi Police Department should assign the highest priority to the completion of the critical C-CAP Phase II tasks identified in this report. They should also improve the administrative procedures so that only practicable and attainable objectives are identified have a high probability of on time completion.

COMPUTER HARDWARE

The computer hardware used is an IBM-36 mini-computer utilizing IBM peripheral devices, terminals, etc. Maintenance is performed by IBM and upgrades are procured from IBM. The City Finance Department also utilizes IBM resources in much the same manner.

Long range data processing planning for the City should recognize that there are now two major data processing installations. By using the same equipment, one installation provides a backup for the other. The Finance Department benefits the most because the nature of their processing will allow them to easily install programs and data files on the Police Department computer and successfully run batch applications. The Police Department would be able to operate on the Finance Department's equipment; however, the nature of the data entry (on-line) will cause those operations to be cumbersome (but possible) in an emergency situation.

The Police Department has outgrown their present equipment. New equipment has been considered which will provide a faster processor, increased main memory, double the disk capacity and a magnetic tape drive. In addition, the Police Department has purchased an uninterrupted power supply which will allow continued operations in the case of electrical failure.

The IBM representative verified the new computer configuration which includes:

- 5360 Model D2K Processor
- 2 MB RAM
- 768 MB Disk (double density)
 - ave access = 25ms
 - dual access arms
 - growth to 1.4gb
- Magnetic Tape Drive

IBM's representative commented that word processing takes a large amount of RAM which is being more than doubled in size with the new processor. This will increase word processing throughput by 40-100%. The new processor will also speed response time on the system by a minimum of 40%.

The IBM representative is positive regarding the new equipment recommendation but believes that the Police Department needs to address a 2-5 five year plan for equipment acquisition. Also, the system usage must be monitored on a consistent basis with weekly comparisons so that a performance trend and requirements trend can be assembled. They have considered suggesting a 4300 series computer to replace the Finance Department, Police Department, Purchasing Department, and the proposed Parks & Recreation Department computers, but have reconsidered this suggestion for at least 5 years.

DLH/INE, the software vendor, stated that sizing had changed significantly since project start-up. The project's systems analysis found much more information to be retrieved, thus substantially increasing disk space requirements. Cache memory provides better performance, but must be installed at IPL (Initial Program Load) and this is not always done. The results of DLH/INE's analysis of SMF (IMB's Systems Maintenance Function) was discussed. SMF measures the usage on a computer system and this usage may be compared to pre-determined limitations. The SMF results were as follows:

<ul style="list-style-type: none"> * Main Store Processor 35-48% IBM limit 60% Warning 80% 	<p>This is well within the limits.</p>
<ul style="list-style-type: none"> * Central Store 49-62% IBM limit 65% Warning 85% 	<p>This indicates an approaching problem.</p>
<ul style="list-style-type: none"> * Level 3 storage tasks which indicates lack of main memory. 24-58/sec. ACTION 30/sec. 	<p>This indicates an immediate problem.</p>

* Police Department usage statistics.

It is obvious that the capabilities of the current system are not sufficient to service the demands presented by the growth of C-CAP and the additional demands placed on the system by the growth of word processing, installation of CAD, interfaces to the State and to the County computers and other minor applications. It is also apparent that the use of computers in the Police Department is now a long-term commitment by the City and that the use of computers in the police community will grow substantially over the years. The rapidly changing technology in the computer industry dictates that users should not try to anticipate their long-term requirements for computer hardware and then proceed to acquire that hardware immediately. The policy should consider available technology at the time of need and purchase accordingly.

RECOMMENDATION

A request has been made to purchase additional computer hardware for use by the Police Department. It is evident that this hardware is justified based on testing, which found lack of disk capacity and poor response times. In addition, the hardware requested is not in excess of immediate needs for additional resources. It is recommended that this hardware be procured subject to available funding.

BACKUP PROCEDURES

As a system matures, the data files become extremely valuable. For example, the criminal history file (ALFA file) will grow over time and contain the core information that will drive the C-CAP program. It is for this reason that valuable files are backed up on a regular basis. Currently, backup is made to floppy disks and stored next to the computer in the basement of the Police Department. The proposed new equipment will include a tape drive which will make the backup process much quicker and more efficient. Most data processing installations use offsite storage for their valuable program and data files. There are several advantages to using an outside vendor to provide this service:

1. Data is better protected in terms of security, storage methods, climate control and fire protection.
2. Systematic backup on a timely basis is enforced because of the intervention of the vendor who will pickup and return media on a regular schedule.

RECOMMENDATION

The Police Department (as well as the Finance Department) should review their procedures for backing up data and program files to determine if all appropriate files are backed up. They should also investigate offsite facilities available from outside vendors and consider storing valuable data and program files at an offsite location.

SOFTWARE

DLH/INE located in Stockton, CA is the computer software vendor. They were awarded the contract at the beginning of the project for \$25,000 fixed price bid (for two years). Lodi Police Department was a BETA test site. DLH/INE is now selling the package for \$52,000 plus an annual maintenance fee.

The system is written in RPG, a common programming language for this type of computer. The software vendor owns the source code. Therefore, all program changes will be made by DLH/INE until the City decides to purchase the source code and at the same time decides to hire staff to perform maintenance programming.

At the beginning of FY 1987-88, DLH/INE will charge a maintenance fee of \$10,000 per year (which apparently includes enhancements). The software maintenance charges were questioned by City management. Captain Hansen's response is documented in his 4/23/87 memo to Assistant City Manager Jerry Glenn, which presents the results of an informal telephone survey of ten (10) C-CAP agencies. The results of the survey show that the maintenance charges are reasonable in comparison to the other agencies.

Lodi has been a BETA test site. During this period many changes and enhancements have been made to the system at no charge. Staff is very satisfied with the DLH relationship. The City should be aware of the possibility that changes to the system, and especially enhancements to the system, might incur a charge.

When the City enters into the maintenance agreement they will receive Version 2 system upgrade. They may not receive future upgrades without paying for them.

Although the relationship between DLH/INE and Lodi Police Department is more than satisfactory at the present time, the relationship could deteriorate. The system is new and still growing. It is not a stable system (such as a payroll system or utility billing system, etc. which has existed for a long period of time).

This on-line system, to be effective, will probably grow and change substantially over the years. The City of Lodi should be aware that this will happen and plan accordingly. The alternative for the City is to purchase the source code and hire a data processing professional to maintain the system, implement changes and develop new programs. The cost for the source code would probably be \$27,000. (Current price of \$52,000 less the original cost of \$25,000). The annual cost for a data processing professional would be approximately \$40,000 including fringe benefits.

DLH/INE stated that Release 5 of the operating system would include the interactive communication facility which previously had been priced separately. This will increase the speed of program to program communications when the new facility is implemented within the next two to three months. The maintenance contract will include unlimited telephone support and new enhancements. Since the Police Department will no longer be a BETA test site, it is important to understand that the "no charge" policy will no longer exist regarding requested changes because of their possible value to the software product. Special requests of no immediate value to the project will probably be charged for on a time and material basis.

RECOMMENDATION

A maintenance fee beginning July 1, 1987, will be charged by DLH/INE, the software vendor for the C-CAP system. Since the City is no longer a BETA site, there will be a period of adjustment to adapt to the pay as you go method. It is recommended that the City continue its plans to enter into the maintenance agreement. It is also recommended that procedures be developed to control and monitor system performance, system changes and system enhancements.

DOCUMENTATION

DLH/INE has submitted printed documentation to the City. Since the system has been under development and the vendor has been on site to answer most questions, the documentation has been under utilized. The documentation is valuable training material and should be made available to staff to read and critique.

RECOMMENDATION

Printed material which documents the DLH/INE system has been submitted by the vendor. This material is not systematically used by police department personnel because of their intimate knowledge of the system. It is recommended that at this time the documentation be reviewed, in detail, to determine that it reflects how the system actually works and that its quality is adequate to guide new employees.

PERSONNEL

A primary budget issue is the approval of 2 data entry people to free up the time of the Crime Analyst to analyze crime and to be able to work with the clerk to prepare products such as bulletins to enhance the capabilities of the C-CAP project. The OCJP representative emphasized the importance of the crime analysis position in that this new discipline, coupled with the number of cities entering the program, has caused a scarcity of available people.

Another consideration is the organizational placement of these new personnel if the positions are approved. The Police Department should consider organizational restructuring so that data entry is placed in the proper part of the organization to enhance division of responsibility and better control.

Efficiency of data entry is enhanced by the application of the rule which states "enter the information as you see it." Lower cost data entry personnel can enter data faster if they follow this rule because the content of the data is not questioned. The patrolmen who fill out the forms must record the data correctly and their supervisors should approve their crime reports. If the data entry personnel cannot read the input forms, they send it back. The OCJP representative stated that one of the common problems in the program is the resistance to change by the patrol division. She also indicated that the typical organization of the new program found the administration of the computer hardware and data entry assigned to the Records Division with the function of crime analysis assigned to the Patrol Division.

Still another issue is the amount of data which has to be entered for each crime report. The crime report has been redesigned to serve as a single input form; however, in 1986 there were 19,301 crime reports entered. Of this total only 2,209 were Part I crimes such as homicide, rape, etc. The Part I crimes are the target of the C-CAP program, but equal time is used to enter information on the lower priority crimes. On the other hand, some of the lower priority crimes interface with the Part I crimes in that a criminal reported for vagrancy might, upon booking, be found to be a dangerous felon.

Since the data entry of each crime report requires nine (9) minutes, it is important not to enter more data than would be required for a functional system. Patrol division Captain Hansen has suggested a field log to cut down on the data entry for many of the minor offenses. Records division Captain Lake has suggested entering only the basic 3x5 card information on all crime reports as they are reported and enter the additional information on a deferred basis. These suggestions and others must be analyzed, but the important fact is that the division captains and others recognize that a problem exists.

INPUTS	ENTERED BY
Crime reports	Crime analyst and clerk
Citations	Clerk in Captain Lake's office
Criminal history	(c-pouch) Captain Lake
CAD	Automatic entry of heading info activity # and assigned case #
Accident reports	Captain Lake

RECOMMENDATION

The City of Lodi and its Police Department have committed to a long term project targeted to apprehend career criminals. Major accomplishments have occurred within this project and valuable results are near at hand. In order to realize these results, the trained personnel hired to analyze crime must be relieved of their current data entry responsibilities. It is recommended that City management seriously consider the budget request to hire additional input personnel.

RECOMMENDATION

The implementation of C-CAP, installation of computer hardware and other related changes, have created an organizational problem within the Police Department. In order to resolve these problems, it is recommended that the responsibility for the computer hardware and its data entry personnel be assigned to Records Division and that the personnel involved with crime analysis remain assigned to Patrol Division.

RECOMMENDATION

The C-CAP system as it is designed requires the entry of large amounts of data. The principal Police Department executives are concerned with this requirement because it requires the allocation of substantial resources (machine and people) to manage the function. It is recommended that the suggestions included in this report to reduce data entry be considered so that input data is reduced to a manageable volume.

DATA PROCESSING MANAGEMENT

The IBM 36 computer family is designed to serve private and public sector entities who do not have a data processing department. The hardware and corresponding software do not present the technical problems of management that a much larger system entails. However, as the system grows and as more computers are installed at an entity, it is prudent to review how these resources are managed. Lodi now has two large IBM 36 installations and one small one. A fourth installation is being considered. During this survey, IBM suggested that the City management might consider hiring a Management Information Systems Director, insist on more management involvement in data processing performance/planning and that the MIS committee become more involved in monitoring activities of the Police Department. It appears, that from information acquired in this survey, that the activities of the Police Department involving data processing will grow substantially in the coming years. It would not be unusual for the Police Department's system to be much larger, more demanding and more technical than any other department in the City. Technology is under development that will revolutionize how criminal information is processed. It is for these reasons that the following recommendation is made.

RECOMMENDATION

Data processing is growing within the City of Lodi. New installations and new applications are being considered on a continuing basis. Each installation requires system operations knowledge and management of its resources. It is recommended that the City analyzes their data processing growth in to terms of a multi-year EDP plan and at the same time, analyze the management requirements of this operation.

UNFORESEEN PROBLEMS

Most of the possible future problems have been discussed in other parts of this report and recommendations have been made. The fiscal management responsibilities which occur after grant funds have been spent is the only major problem that has not been addressed.

GRANTS

	Date	Sponsor	Grant \$	City \$
C-CAP	1/1/85	OCJP	\$95,000	\$10,555
	Phase 2		95,000	23,750
	Phase 3		95,000	40,714
OTS	1/1/86	OTS	179,930	38,900
CCR	7/1/86	CCR	60,000	6,667
	7/1/87	CCR	60,000	15,000
TRM	7/1/87	TRM	34,844	10,000

Readers of this report will observe that the Police Department has obtained grants in excess of \$600,000. They should also realize that the City has agreed to fund these projects as the grants expire. The return on investment for these grants has not been a subject of this report; however, to date it appears that the City has made a good investment. Each time a grant is available the City must analyze the long term effects. The ability to fund grant activities during periods of economic stress and after grant funding is complete has caused concern in other local government areas.