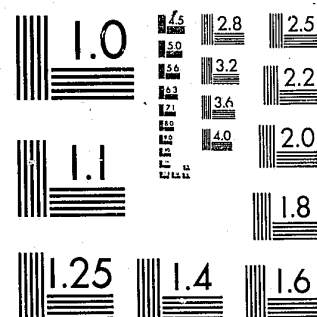


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San Diego



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**FINAL EVALUATION OF
THE AUTOMATED REGIONAL
JUSTICE INFORMATION SYSTEM
(ARJIS)**

LEAA GRANT AWARD NO.
A-2469-5-A-79

EXECUTIVE SUMMARY

MAY, 1981

By

Susan Pennell, Director, Criminal Justice Evaluation Unit
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San Diego



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EXECUTIVE SUMMARY

NARRATIVE

In 1976, the Automated Regional Justice Information System (ARJIS) was funded by the Law Enforcement Assistance Administration (\$2.4 million). The system was designed to assist in the identification and apprehension of suspected criminals by increasing the exchange of information among San Diego County law enforcement personnel. As originally designed, the system contained the following features: the Master Operations Index (MOI) which integrates the crime case, arrest, suspect and property files; personnel; automated worthless document; crime analysis and manpower allocation components.

This report presents changes in the development, use and effectiveness of ARJIS since November, 1980 when the preliminary evaluation was completed. In addition, a cost analysis is presented which compares the cost of ARJIS to potential cost savings. Parts of the system are still not developed, others are being changed, and some are not being utilized by all agencies; so the full impact of ARJIS cannot be measured.

GENERAL CONCLUSIONS

Since November, 1980, the use of ARJIS has increased, as have the benefits received in terms of arrests and crime cases cleared with ARJIS information. It is expected that the effectiveness of ARJIS will increase if officers receive additional training in data access, the quality of information is improved, components are fully utilized by all law enforcement agencies in the region, and proposed development and enhancement of the system occur. These issues were identified as significant problem areas in the November 1980 report and they continue to influence the effectiveness of ARJIS. During the next year, it is suggested that careful monitoring be conducted and periodic reports be submitted to the ARJIS board to ensure that the problem areas are being addressed. These reports should also include cost assessments compared to benefits received. Findings suggest that there may be cost savings associated with ARJIS, but it is not known if savings will outweigh the actual expenditures when the system is fully operational.

ISSUE I: DETERMINE THE STATUS OF THE NINE ARJIS COMPONENTS.

Conclusions

Significant progress has been made by ARJIS staff toward the implementation of ARJIS, with seven of nine components developed. Since November, 1980, the pawned property, crime analysis, traffic and automated worthless document functions have been developed. In addition, enhancements have been made to existing components.

Findings

1. The following components have been developed: Master Operations Index (MOI); field interview; crime case; property; personnel;

crime analysis and automated worthless document index. Six of these components do not meet all the primary design specifications established by users in 1976-1977.

2. The feasibility of implementing the full arrest component is being considered by ARJIS staff and the management committee (e.g., cost vs. benefit).
3. A regional manpower allocation component is not being developed because most departments do not have the necessary computer-aided dispatch systems.
4. The objective to interface ARJIS with local, state and national computer systems has not been met.

Recommendations

The original design specifications for ARJIS should be reevaluated when priorities regarding future enhancements are developed. Considerations should be based on need and current capabilities.

ISSUE II: DETERMINE THE EFFECTIVENESS OF ARJIS BASED ON CURRENT OPERATIONS.

Conclusions

The effectiveness of ARJIS in assisting officers with arrests and case clearances has increased since 1980. It is expected that the impact of ARJIS will be greater in FY 1981-82 if components are fully utilized, officers are trained in accessing data and proposed components are operationalized.

Findings

1. Field officers estimated that ARJIS was useful in making 10% of all patrol arrests in 1981, compared to 5% in 1980. This is equivalent to approximately 9,000 to 11,000 arrests per year regionwide, based on the assumption that patrol officers make 75-90% of all arrests.
2. In 1981, detectives estimated that in 18% of all cases cleared, ARJIS provided useful information, an increase from 13% in 1980.
3. In an additional study of actual reported crime cases closed by arrest or exceptional means, findings indicate that 10% of the cases were cleared using ARJIS. When projected annually, it is estimated that ARJIS is useful in 1,500 case clearances of Part I offenses (12%).
4. It is premature to attribute changes in regional crime trends to the use of ARJIS since the system is not fully operational. Also, it is possible that changes could be due to reporting procedures rather than actual changes in crime patterns.

Recommendations

1. See Issue IV, page 5.
2. Continued assessment of ARJIS is critical to ensure that expected benefits are being received. This should be performed on a regional basis, with regular reports to the ARJIS Board of Directors.
3. Crime statistics prepared by ARJIS for the Bureau of Criminal Statistics (BCS) should be standardized to provide comparative trend analysis data (e.g., reporting periods should be consistent).

ISSUE III: DETERMINE THE COST OF ARJIS COMPARED TO THE BENEFITS RECEIVED.

Conclusions

A definitive cost-benefit analysis of ARJIS is premature because the system is not fully operational. Also, it is difficult to associate dollar values with such benefits as arrests and case closures. Potential cost-savings have been identified, but it is not certain whether these savings will justify projected expenditures. Findings suggest that during the past year, the system has become more cost-effective based on reductions in cost per successful use. Projections for FY1981-82, administrative and utilization costs increased by 24% over FY1980-81 annualized projections. This increase is partly due to certain administrative and overhead costs that will no longer be absorbed by the City of San Diego and additional data processing costs for job development and testing.

Findings

1. It is estimated that the cost per arrest/case closure using ARJIS decreased from \$273 in 1980 to \$140 in 1981, based on the FY1980-81 ARJIS budget. This cost could be affected by increases in the ARJIS budget for FY1981-82.
2. The cost per inquiry (regionwide) is estimated at \$3.15. This figure incorporates computer, development and administrative costs. Comparative trend data are not available because ARJIS is not programmed to summarize inquiry information.
3. The ARJIS budget increased from \$1,608,635 in FY1980-81 to \$1,998,200 in FY1981-82 based on average estimates for system use. The FY1981-82 budget includes \$1,368,319 for on-line utilization based on projections of use in 1980 before the system was fully operational; and \$629,881 for JPA administrative costs, personnel and system development (e.g., changes, enhancements).

Recommendations

1. Cost-effectiveness and cost-efficiency of ARJIS should continue to be monitored.
2. Data processing should provide summary information on inquiries made by each agency, by component.
3. FY1981-82 budget should be revised to reflect the current estimates of system utilization.

ISSUE IV: REVIEW THE FACTORS THAT INFLUENCE THE EFFECTIVENESS OF ARJIS.

Conclusions

Specific factors related to the operation and use of ARJIS influence the effectiveness of the system. Although law enforcement administrators are satisfied with the current management of ARJIS, and use of the system has increased, the following problems still exist:

- Users are not adequately trained to access the system.
- ARJIS data are not always accurate, complete, timely and/or easily accessible.
- Data entry personnel have not received sufficient training.

Findings

1. The majority of agency administrators (7 out of 9) state that ARJIS should continue to be administered by the present Joint Powers Agency structure. Most administrators indicate that management staff has been responsive to their concerns.
2. The percentage of officers who have received ARJIS information has increased to 87% regionwide, from 75% in 1980.
3. Estimates of inquiries to the system on a yearly basis indicate a variance from 49 to 339 inquiries per officer among agencies. Agencies in which investigators are the primary users of ARJIS, tend to have the lowest average use per officer.
4. More officers have been trained in data access in 1981 (55% vs. 47% in 1980), but there is an expressed need for additional training by 80% of the officers surveyed.
5. Although only a minority of officers mentioned a need for training in report preparation, findings indicate that errors are occurring in report writing that affect accuracy of information in ARJIS.
6. More than half of the agency administrators (6) state that data entry personnel need training in the new components.
7. Three agencies are selectively entering crime cases and field interviews. Also, two agencies are not entering crime cases. These factors limit the value of the regional data base.
8. The average time between a crime incident report being completed and entry into ARJIS is 6.3 days. The time lapse for field interviews is 9.5 days. The range varies from the same day to 57 days for crime cases, and the same day to 55 days for field interviews.
9. The goal of 24-hour access to ARJIS has not been achieved. The problems of computer downtime and response time on inquiries are being addressed by data processing personnel.

10. Thirty-six percent (36%) of the officers surveyed state that ARJIS terminals are not easily accessible, and 61% state that it is difficult to obtain ARJIS information while on patrol.

Recommendations

1. *The ARJIS Board of Directors should require that the operating agency be accountable for fiscal and program matters through regular reports to protect the interests of all member agencies and increase the effectiveness of the system.*
2. *Officers in both investigative and patrol divisions should receive formal training in data access. Since Police Officer Standards and Training (P.O.S.T.) did not support ARJIS advanced officer training at the regional academy, the responsibility lies with individual agencies and ARJIS staff. Training should emphasize the value of MOI, the various uses of the search parameters for all components and the specific uses for different officer assignments (patrol, investigations and traffic).*
3. *Use of ARJIS should be encouraged by agency administrators and line supervisors.*
4. *Data entry personnel should receive additional training, especially in components that have been operational for a short time, to increase the accuracy and timeliness of data entry.*
5. *A policy regarding selective entry of documents should be developed as soon as possible. If documents are to be entered selectively, standardized criteria should be established.*
6. *The need for 24-hour availability of ARJIS should be evaluated. Also, ARJIS staff should continue to address the problems of unscheduled downtime and response time on inquiries.*
7. *ARJIS information should be made accessible to all officers on all shifts, either through personal access or an operator. Agencies should provide access to terminals for dispatchers to increase ARJIS use by field officers.*

ISSUE V: DISCUSS THE SECURITY AND PRIVACY ISSUES OF CRIMINAL JUSTICE INFORMATION SYSTEMS IN RELATION TO ARJIS.

Conclusions

ARJIS is in compliance with security and privacy statutes and regulations pertaining to information currently in the system. To date, there has been no known breach of the ARJIS security system.

Findings

1. Most information in ARJIS, except for personnel and field interview files, is public record information.

2. State statutes regarding criminal offender record information (CORI) will not apply to ARJIS until the arrest component is operational.
3. There are differing opinions regarding the advisability of entering investigative and intelligence information, such as field interviews, into criminal justice information systems, but no statutes address this issue.
4. Security of ARJIS is protected through a personnel clearance system which requires a user to enter an identification code before information can be obtained.
5. Physical security is protected by the secured location of both the computer and the ARJIS terminals.

Recommendations

1. *If intelligence and investigative information, such as field interviews, is to be retained in ARJIS, the following measures should be maintained to ensure privacy:*
 - a. *Field officers should be trained to conduct only valid field interviews (i.e., an individual is suspected of criminal activity, but insufficient grounds exist for arrest).*
 - b. *Supervisors should screen field interviews before entry into ARJIS to ensure the validity of each report.*
 - c. *The six-month purge cycle for field interviews should be retained.*
 - d. *Terminal security in each agency should be strictly maintained.*
 - e. *Printouts containing field interview information should be stored in a secure location, or destroyed.*
2. *All personnel receiving clearance to access ARJIS should be trained in local policies and statutes pertaining to security and privacy.*
3. *ARJIS staff should change the personnel codes to enhance system security.*

ISSUE VI: COMPARE ARJIS TO OTHER REGIONAL CRIMINAL JUSTICE INFORMATION SYSTEMS.

Conclusions

The benefits received from ARJIS and the problems encountered are similar to other regional justice information systems. In addition, the cost of ARJIS is within the range of other systems. The administrative structures differ among the agencies studied. The variety of

organizational configurations suggest options that can be explored by the ARJIS Board of Directors.

Findings

1. The most frequently mentioned benefits of the eight systems studied are: (1) speed of access to files, (2) shared information in a centralized system, and (3) improved processing of paper/records.
2. The problems cited most often by respondents are data processing staff turnover and inadequate training of users.
3. ARJIS has the fourth highest budget of the systems studied which range in cost from \$581,507 to \$2,550,763 in FY1980-81. The variations in system complexity and number and nature of users affect cost comparisons.
4. Policy and budget decisions for these systems are made by any one, or a combination, of the following: (1) policy committee; (2) police administrators; (3) Chief Administrative Officer, and/or (4) elected officials.

Recommendations

None.



THE CITY OF

SAN DIEGO

CITY ADMINISTRATION BUILDING • 202 C STREET • SAN DIEGO, CALIF 92101

OFFICE OF THE
CITY MANAGER
236-6363

May 21, 1981

Susan Pennell, Director
Criminal Justice Evaluation Unit
San Diego Association of Governments
Suite 524
Security Pacific Plaza
1200 Third Avenue
San Diego, California 92101

Dear Ms. Pennell:

Thank you for the opportunity to review your final evaluation report concerning the Automated Regional Justice System. I think it important to respond to a few areas of the report.

I would have to agree that training of the region's law enforcement officers in the use and capabilities of the ARJIS system is a task yet to be fully accomplished. It is unfortunate that we were not able to adequately train each and every one of the more than 2,100 law enforcement officers in the region in the use of the system as each component was made available. Such an undertaking coupled with the many ongoing training needs of law enforcement agencies in this area would be an extraordinary task at best. However, during the past few months the San Diego Police Department has developed a complete training program for ARJIS. Despite the fact that reimbursement was not approved by Peace Officers Standards and Training (P.O.S.T.) we are moving ahead to initiate region-wide ARJIS training soon after the start of the new fiscal year in July, 1981. The Regional Training Academy has equipped a training classroom with necessary telephone lines, and computer terminals for training purposes are ordered and upon arrival will be installed. A manual for use by ARJIS system users has been written by Lt. Jack McQueeney, who has been serving as ARJIS Project Manager, and has been disseminated through the San Diego Police Department's Crime Analysis Unit. This manual provides easy reference for complete use of the available ARJIS components. I am sure that as the upcoming fiscal year unfolds these training efforts should result in even more ARJIS use in the future and many more "success" stories as ARJIS becomes a mandatory tool for each and every investigation.

I would caution any attempt at definitive use of the figures noted on Page 3 of your executive summary concerning costs per arrest/case closure and cost per inquiry. This attempt at somehow evaluating the cost-benefit of ARJIS could be very misleading. As you point out in the same section of your report, these figures incorporate costs for computer service, job development testing, administrative costs and technical personnel to continue development and refinement of

RECIPROCAL REMARKS

Susan Pennell, Director
May 21, 1981
Page 2

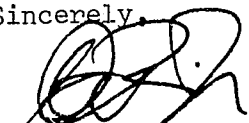
the system. Hopefully, as the last two of the ARJIS components are put "online" and development can be minimized, the overall cost of the ARJIS system to each of its users can be evaluated on its own merits.

Budget figures, particularly those which indicate a 24% increase from Fiscal 1981 to Fiscal 1982 are misleading. These figures must be examined in their entirety and the following considered:

- Projections for January - June (Fiscal 1981) were developed at a point when the ARJIS systems were not yet completed or in some cases components untested. Faced with the end of the LEAA Grant it was necessary to make some reasonable estimates of costs and pass these costs along to each participating agency in order that the system could make a smooth transition from grant funding to agency funding. In order to keep these costs as low as possible yet provide budget estimates to allow ample funds for system utilization, the City of San Diego agreed to absorb certain administrative and overhead costs, including that of project management. In addition, the Data Processing Corporation absorbed costs associated with office space, on-site training, clerical and other support.
- Projections for Fiscal 1982, the first full fiscal year of agency funding, while showing an increase over the half-year Fiscal 1981 costs, include costs formerly absorbed by the City of San Diego and reflect a more accurate picture of total ARJIS costs for each of the region's participants. Any attempt then to compare it directly to Fiscal 1981 must be viewed with a full understanding of the differences in funding in the two years. In fact, it is interesting to note that the original estimates provided in November of 1980 to each of the ARJIS participant agencies showed a maximum cost of \$2,016,292. As you know, the current budget for Fiscal 1982 is \$1,998,200 which is a decrease from the November, 1980 maximum estimate.

Again, thank you for the opportunity of offering my comments on this evaluation. I would compliment you and your staff on a thorough and objective evaluation which I am sure will add to the information available concerning ARJIS and further aid us in making ARJIS the most cost-effective, crime fighting tool in the nation.

Sincerely,


Ray T. Blair, Jr.
City Manager

KNF:js

SAN DIEGO DPC

May 22, 1981

Ms. Susie Pennell, Director
Criminal Justice Evaluation Unit
Suite 524, Security Pacific Plaza
1200 Third Avenue
San Diego, CA 92101

Dear Ms. Pennell:

Thank you for the opportunity to review and comment on your evaluation of the Automated Regional Justice Information System (ARJIS). As you know, the San Diego Data Processing Corporation assumed responsibility for the technical aspects of the system on January 1, 1981. Since that time, we have attempted to adhere to the adopted FY80-81 work plan for new development while also attempting to improve existing system capabilities and responsiveness.

In particular, I would like to comment on items contained in the evaluation report regarding ARJIS availability and responsiveness. Most of these concerns can be attributed to the fact that the ARJIS computer processing workload increased by over 500% in the first four months of 1981. This necessitated numerous changes in equipment, software and procedures in order to assimilate such a significant increase in demand. The required changes at times lead to a condition where ARJIS was not available for processing. We have made significant progress in this regard as evidenced by the greater system availability attained over the past several months. We are also working toward having the system available on a 24 hour basis. Achieving greater system availability and 24 hour access will, however, require fundamental changes to existing ARJIS programs and operating procedures and will not be achieved in the immediate future.

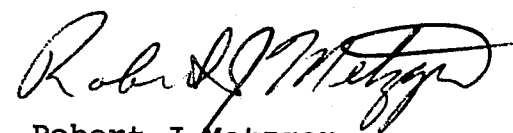
In the area of system responsiveness, we have done whatever is possible to optimize the system by setting priorities and dedicating significant resources toward the processing of the ARJIS workload. This has had a marked improvement in the response time for most ARJIS operations. Any further improvements, will again require the expenditure of personnel resources to improve upon the existing design and programs within ARJIS. These changes will be realized in small increments and will continue to improve ARJIS responsiveness.

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1200 THIRD AVENUE, SUITE 1000, SAN DIEGO, CALIFORNIA 92101, (714)236-6659

Ms. Susie Pennell, Director
May 22, 1981
Page 2

I would again like to thank you for the opportunity to review and comment on items of obvious concern to the member agencies of ARJIS. We share their concern and are continuing to improve conditions as rapidly as possible.

Very truly yours,



Robert J. Metzger
Executive Vice President
San Diego Data Processing Corp.

cc: Ken Fortier

END

RJM:mt