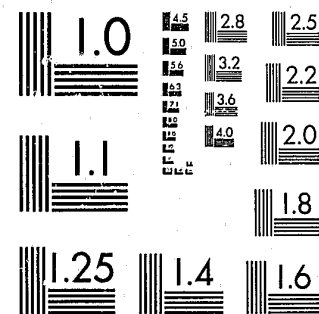


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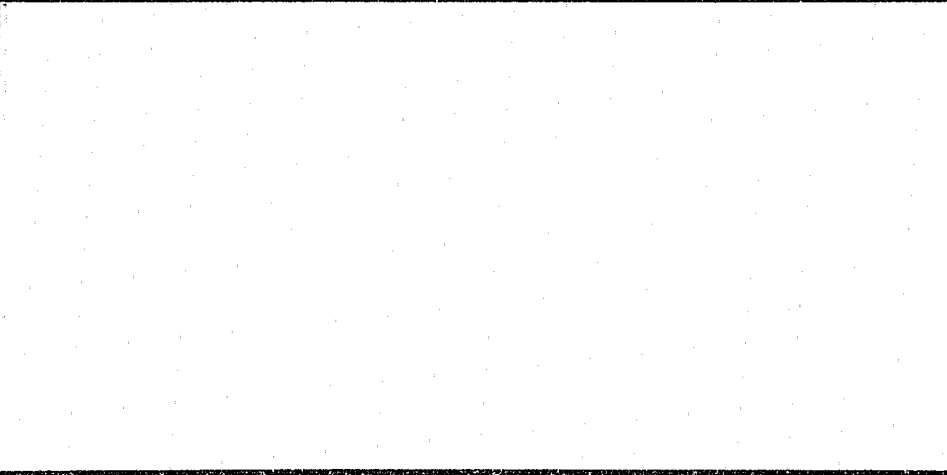
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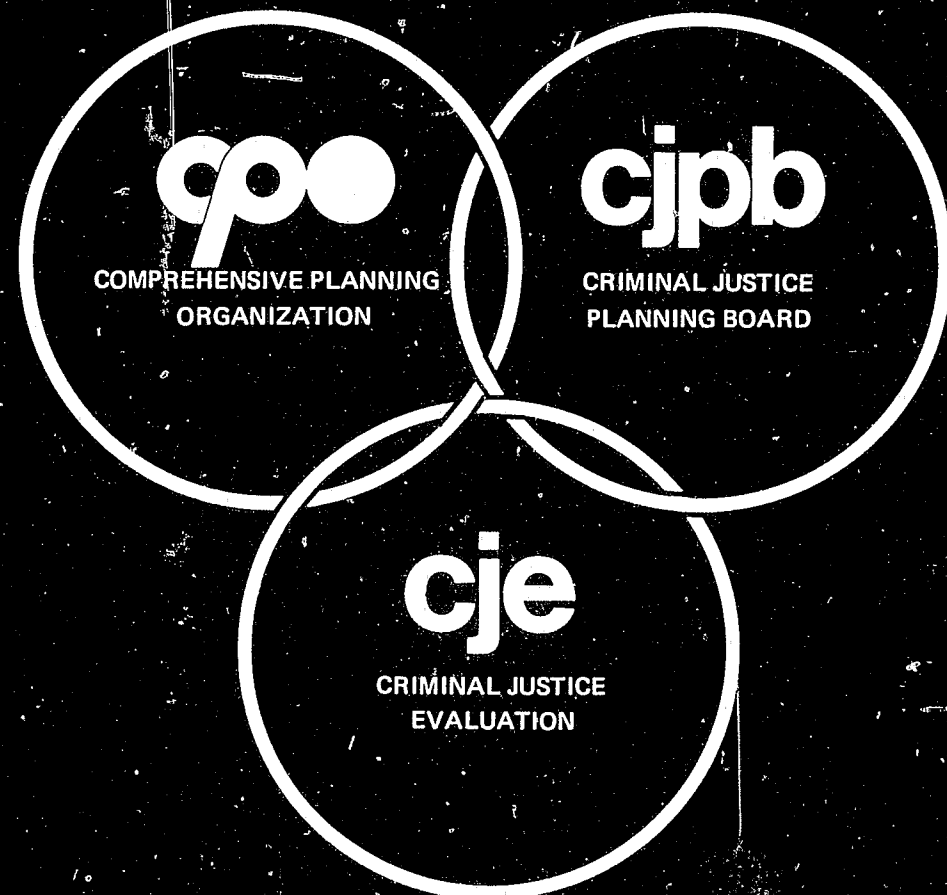
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## San Diego Region



# EVALUATION OF THE AUTOMATED REGIONAL JUSTICE INFORMATION SYSTEM (ARJIS) Executive Summary

November, 1980

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Copies of the full report available on request

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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) to increase the exchange of information among San Diego County law enforcement personnel. The system was designed to assist in the identification and apprehension of suspected criminals through automation of crime case, arrest, suspect and property files. Other features of ARJIS, as originally designed, are the Master Operations Index (MOI) which integrates the system, and the personnel, automated worthless document, crime analysis and manpower allocation components.

Administrative and organizational problems during the five years of development impeded progress toward the goal of complete implementation by the end of the grant period (December 1980). Consequently, the full impact of the ARJIS system cannot be measured at this time. This evaluation is process-oriented and focuses on the issues of system development, user satisfaction, benefits received from current components and a cost overview. A follow-up report (spring 1981) will assess changes in project operations and agencies' usage. Additionally, the extent to which the exchange of information contributes to law enforcement objectives will be examined and procedures for measuring cost-effectiveness will be presented.

### GENERAL CONCLUSIONS

Law enforcement administrators in the region support the ARJIS concept and have received some benefits in terms of arrests and crime cases cleared with ARJIS information. Administrators perceive that there is the potential for increased value of the system when all components are operational. However, the issue of whether the benefits justify the cost is not yet resolved and cannot be until the entire system is functioning, and actual usage is monitored and compared to results received.

ISSUE I: TO WHAT EXTENT DID THE ARJIS PROJECT ACHIEVE ITS STATED OBJECTIVES FOR DEVELOPMENT AND IMPLEMENTATION?

### Conclusion

To date (November 1980), six of the nine ARJIS components are operational, either totally or in part. Timely implementation was

hindered by problems in developing a system to meet all user needs, changing of component design during the development process, establishing an organizational structure with a single line of authority, and staff turnover.

#### Findings

1. Development of a system designed to meet the requirements of eleven law enforcement agencies was a time-consuming process which was negatively affected by turnover in user committee membership. In addition, changes in the approach to system design caused delays in implementation.
2. Three different project administrators during the grant period affected the continuity of ARJIS development.
3. Salary restraints imposed by the City of San Diego limited the ability to hire and retain qualified systems analysts.
4. The field interview component was the first to be completed in November, 1977. Since January, 1980, the field interview component has been integrated with the Master Operations Index (MOI) which allows a simultaneous search of four components through one inquiry.
5. The crime case, property and crime analysis components are operational, but do not contain all proposed capabilities.
6. The traffic portion of the arrest component and the automated worthless document index (AWDI) are still in the development stages, to be implemented in January and June of 1981, respectively.
7. The manpower allocation component has been postponed indefinitely.
8. Further refinements and enhancements are being made to existing components.

#### Recommendations

1. ARJIS staff should continue development and enhancement of the ARJIS components as scheduled.
2. The following features should be considered in regard to ARJIS administration when grant funds terminate:
  - a. A single line of authority for management of project operations should be established.
  - b. A staff person should be responsible for liaison efforts between personnel in ARJIS management, San Diego Data Processing Corporation, law enforcement agencies and local officials responsible for funding.

- c. Personnel from all user agencies should have opportunities for input regarding ARJIS activities.

#### ISSUE II: DOES ARJIS MEET THE NEEDS OF LAW ENFORCEMENT PERSONNEL IN THE SAN DIEGO REGION?

#### Conclusion

In general, ARJIS staff identified the information needs of law enforcement personnel. Usage of operational components and the perceived current and potential value of ARJIS are indicative of project efforts toward addressing information needs. However, the value of the system is influenced by the extent and quality of training received, the accuracy and amount of data compiled, and the availability of the information to users.

#### Findings

1. The majority of administrators, line supervisors, and police officers surveyed feel that the following types of information from other law enforcement agencies can be useful: field interview, stolen property, arrest, hotsheet and crime case.
2. ARJIS users feel that the system saves time, identifies possible suspects, provides information that was not previously available, provides data that assists in making arrests and increases "leads".
3. The primary disadvantages noted by users are that: training has been insufficient; it is difficult to obtain information while on patrol; and computer downtime is excessive.
4. Seventy-five percent (75%) of the officers surveyed have received ARJIS information at least once, but 73% are still in need of additional training in data access.
5. Approximately one-third of the officers express a need for training in report writing (i.e., regional field interview and crime reports).
6. Due to errors and omissions of information on documents, records supervisors state that data entry clerks need to be able to interpret the information on crime case and field interview reports.
7. Some agency administrators do not see a need for entering all field interviews (38%), crime cases (50%), and arrest reports (23%) into ARJIS.

#### Recommendations

1. Agency administrators, with assistance from ARJIS, should encourage and provide thorough, ongoing training in data access to patrol, investigations and traffic officers. This training should include an overview of ARJIS and the interrelationship of the components.

*Specific instructions regarding the uses of ARJIS for officers' specific assignments (e.g., homicide investigations, property crime cases, patrol, etc.) should be provided. Due to turnover in staff and changes in assignments, in-service training should be provided periodically.*

2. ARJIS staff should simplify the instructions for data access (1 to 2 page summary).
3. To enhance the accuracy of data, entry clerks should be trained to recognize errors and omissions in reports to be entered into ARJIS.
4. Line supervisors at all agencies should review procedures for crime incident and field interview report preparation at squad conference or line up. In addition, supervisors and data entry clerks should monitor these reports for completeness and accuracy and provide feedback to officers when errors are evident.
5. ARJIS information should be available on a 24-hour basis as soon as possible.
6. A policy decision should be made regarding the feasibility of entering all field interview and crime case documents into ARJIS. If they are to be entered selectively, standardized criteria should be established. Attention should be given to the potential value of the information to officers, the requirements for management information and/or state reporting, the accessibility of information not computerized and the cost of data entry.
7. Data for the Bureau of Criminal Statistics should be kept manually as a quality control measure until ARJIS provides reports that are accurate and complete.

### ISSUE III: WHAT IS THE EFFECTIVENESS OF THE ARJIS SYSTEM BASED ON CURRENT OPERATIONS?

#### Conclusion

Survey data and a review of crime case clearances indicate that ARJIS has provided officers with useful information, but the impact varies by department. It is probable that when information is available regionally, the impact of ARJIS will increase. Responsibility for improving the effective use of ARJIS should be a joint responsibility of ARJIS staff and agency personnel.

#### Findings

1. Patrol officers estimate that in 5% of their arrests ARJIS provided useful information and that 4% of the arrests would not have been made without ARJIS.

2. Detectives surveyed estimate that: (a) 10% of all crime cases would have been unworkable without ARJIS (i.e., no leads); (b) in 13% of all case clearances, ARJIS provided useful information; and (c) 7% of the cases cleared would not have been closed without ARJIS.
3. In an additional study of actual Part I<sup>1</sup> crime cases closed, findings show that: (a) in 7%, ARJIS provided useful information; (b) the information received was most beneficial in burglary and grand theft investigations; (c) in Part I crime cases in which ARJIS was actually used, the information was of value in 31% of the cases; and (d) ARJIS was most useful in verifying previous knowledge about a case or providing "leads".
4. Agencies receiving the most benefits are those that have a strong administrative commitment to ARJIS, a high proportion of officers that are trained in data access and are actually using ARJIS. Additionally, these departments have maximized the availability of ARJIS information (e.g., through dispatch and/or a terminal operator).

#### Recommendations

Those agency personnel interested in continued participation in ARJIS should consider the following:

1. Agency administrators and supervisors should provide the opportunity for, and encourage the use of ARJIS by officers. (See Recommendations 1-4, pages 5 & 6, regarding training.)
2. The availability of ARJIS information should be increased through as many sources as feasible (e.g., dispatch, terminal operator and/or personal access to the terminal). This depends on agency size, level of use and terminal time required for data entry.
3. To determine the effectiveness of the system, personnel in each agency should continually monitor ARJIS operations using techniques similar to those developed for the evaluation. Information that could assist management decisions includes: (a) the number of inquiries made by each agency during a given time period, (b) the number of crime cases and arrests in which ARJIS provided useful information, (c) trends in reported crimes, arrests, clearances and property recovery, and (d) time saved/expended due to ARJIS.

<sup>1</sup>Rape, robbery, aggravated assault, burglary, grand theft and motor vehicle theft.

#### ISSUE IV: WHAT IS THE COST OF ARJIS TO USER AGENCIES?

##### Conclusion

The cost of ARJIS for the first six months of 1981 will be approximately \$905,000 (excluding data entry personnel costs). The cost per agency ranges from 1.1 to 3.1% of their total appropriations for law enforcement. The cost effectiveness of ARJIS cannot be determined until the system is fully operational. But agency administrators who are committed to ARJIS should begin to develop procedures for measuring benefits compared to costs.

##### Findings

1. Thirty-six percent (36%) of the agency administrators think that the usefulness of ARJIS, to date, justifies the cost after grant funding ends. The majority (55%) feel that the cost effectiveness of the system depends on future costs to each agency and/or the extent to which the remaining components are developed.
2. The base cost for ARJIS administration and user fees is estimated at \$804,318 for January through June, 1981, with costs ranging from \$8,406 for Coronado to \$442,132 for San Diego Police Department.
3. For the same period, equipment rental (terminals, printers, and telephone lines) represents an additional cost of \$100,700.
4. Personnel costs for data entry range from \$2,310 in Carlsbad to \$139,259 in San Diego Police Department.<sup>2</sup>
5. Seventy-nine percent (79%) of the records supervisors surveyed anticipate problems in data entry when additional components are operational. The major reason cited was lack of sufficient personnel to keep up with the workload.

##### Recommendations

1. *During the next several months, agency administrators should develop and implement procedures for measuring the impact of use of ARJIS in their agencies to be compared to cost (see Recommendation 3, page 7).*
2. *The Criminal Justice Evaluation Unit should provide technical assistance to agency personnel interested in assessing the cost-effectiveness of ARJIS.*

<sup>2</sup>Data entry personnel costs were computed for 9 of 11 agencies.

END