

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION (LEAA)
POLICE TECHNICAL ASSISTANCE REPORT

SUBJECT Phase II - Status Report of the
Area Regional Justice
Information System
(ARJIS) Project

REPORT NUMBER 76-118/072

F O R

NCJRS

DEC 27 1976

San Diego, California,
Police Department

Population : 770,527
Police Strength (Sworn): 1,389
Square Mile Area : 313

ACQUISITIONS

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J-LEAA-002-76

DATE

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INTRODUCTION

The purpose of this report is to provide a present status survey of the Area Justice Information System (ARJIS) project currently under development at the San Diego Police Department. The initial ARJIS project began in November, 1975, with the primary goal of developing an integrated and automated regional criminal justice information system to provide service to all enforcement agencies in the San Diego region.

ARJIS was conceived in 1974 as the result of a feasibility study which recommended the regionalization of certain information in the San Diego region. The ARJIS approach deals with courts and corrections, as well as the law enforcement community region. The ARJIS project currently under development at the San Diego Police Department deals with law enforcement related applications only.

Survey Approach

The ARJIS project survey was conducted based on specific project activities outlined in the first year grant application. The second year grant application has not been submitted but reflects modifications in the project approach. Survey data reflected in this report was collected by reviewing all project documentation which has been generated for each of the ARJIS program applications. There are nine different program applications in the law enforcement portion of the ARJIS project. These are:

- Master Operation Index Application
- Crime Case Application
- Arrest Application
- Manpower Resource Allocation Application
- Crime Analysis Application
- Field Interrogation Application
- Automated Worthless Document Index
- Personnel Application
- Property Application

The project work plan used in the first year grant application is based on project development schedules provided by the San Diego City Data Processing Center.

The information pertaining to the progress status of each application was gathered by the consultant during an on-site visit between August 30, 1976 and September 3, 1976. The following local officials were interviewed and were of assistance in conducting the study.

PROJECT STATUS REVIEW

The project status review presented in this Chapter follows the specific task outline utilized by the City of San Diego Data Processing Center. Each task and related sub-tasks have been reviewed and the current status indicated. Status has been divided into three classifications. These are:

- Completed with adequate documentation
- Completed with inadequate documentation
- Not completed

Comments have been added on the sub-task level where the activity is considered complete and fully documented by the project team and where the evaluator observed inadequacies either in the documentation or the approach.

Crime Case Application

- 1100 Project Identification and Set-up
 - 1110 Conduct case application start-up activities
Status: Completed with adequate documentation.
- 1200 Current Situation Related to the Existing System
 - 1210 Investigate present system, describing the historical aspects, goals, objectives, organizations, and functions
Status: Completed. Documentation describing functions does not exist, however, the list of objectives identifies general function of the current manual application.
 - 1220 Review methods and procedures
Status: Completed with adequate documentation.

- 1230 Analyze inputs (source documents, volumes, delays)
Status: Completed with adequate documentation.
- 1240 Analyze outputs (reports, volumes, distribution)
Status: Completed with adequate documentation.
- 1250 Analyze present files (retention, description, usage)
Status: Completed. Present files are not analyzed in this section relative to usage. Descriptions of present file contents are included in the documentation as well as retention practices and file organization techniques.

- 1260 Review of internal contacts
Status: Completed with adequate documentation.

- 1270 Document present system
Status: Completed with adequate documentation.

1300 Project Definition

- 1310 Collect symptoms (indications of inefficiencies, inaccurate results, delays, high costs) of present system
Status: Completed with adequate documentation.

- 1315 Formulate problem definition from above systems
Status: Completed. Problem definition documentation in this section is directly related to symptoms but assumptions are made such as all case related data is time critical which tends to distort problem definition.

- 1320 Identify an ideal approach to solve problems
Status: Completed. The approach described in this section is not based on resources that could be provided by the Police Department. Additionally, the approach sets forth solutions

to problems that either do not exist or are not documented in the problem definitions section.

1325 Determine a project scope
Status: Completed with adequate documentation.

1330 Formulate a project definition which describes what is to be accomplished in the project
Status: Completed. Documentation in this section describes what is to be accomplished in this project only in very general terms.

1400 Data Processing System Definition

1410 Establish goals of proposed system (Goals are broadly stated benefits)
Status: Completed with adequate documentation.

1415 Establish objectives of proposed system (Objective is a deliverable specific capability which supports one or more goals)
Status: Completed with adequate documentation, however, objectives include system features that have not been identified as requirements of the system.

1420 Describe conceptually, the environment of the new systems in terms of possible personnel, equipment, software support, and programming language
Status: Completed. Documentation in this section does not discuss personnel support.

1425 Describe, conceptually, audit and control requirements and procedures
Status: Completed. Systems are not specifically identified in this section. Interface is discussed relative to CII, NCIC, but not to the County jail booking system or the UCR System. Interface issues discussed in this section should not be limited to computer supported systems.

- 1430 Describe, conceptually, the proposed inputs and outputs (reports, source documents, terminal screen formats)
Status: Completed. Documentation is weak in specifying data elements necessary to support processing.
- 1435 Describe, conceptually, audit and control requirements and procedures
Status: Completed with adequate documentation.
- 1440 Describe, conceptually, security and integrity requirements and procedures
Status: Completed with adequate documentation.
- 1445 Describe, conceptually, the proposed external procedures (interface between the using department and computer in terms of numbers and type of personnel required, etc.)
Status: Completed. The section does not outline external procedures related to input for all input documentation formats, only general procedures are documented.
- 1450 Describe, conceptually, the management information requirements (new Administration Regulations, Department Instruction, etc.)
Status: Completed.
- 1460 Describe, conceptually, implementation requirements (conversion of existing system, parallel operation, personnel commitment for implementing, etc.)
Status: Completed. Implementation requirements do not specify volumes and manpower resources necessary for data base preparation.

1500 System Effectiveness

1510 Establish measurements of effectiveness for the proposed system. Effectiveness measures focus on relating actual results to ideal results, that is, on how well the goal or objective is accomplished without regard for the cost.)

Status: Complete with adequate documentation.

1515 Establish methods of measuring effectiveness of proposed system

Status: Complete with adequate documentation.

1600 Cost/Benefit

1605 Cost/benefit concepts

Status: Complete with adequate documentation.

1610 Estimate the proposed system development costs

Status: Complete with adequate documentation.

1615 Estimate the proposed system recurring costs after implementation

Status: Complete with adequate documentation.

1620 Determine any cost avoidance that would occur if the new system were to be implemented

Status: Complete. Documentation for this section is reflected in 1615.

1625 Determine any intangible benefits of new system

Status: Complete. This section discusses economic benefits but not intangible benefits to be derived from the proposed system.

1690 Summary of development costs

Status: Complete with adequate documentation.

1700 Project Management

1710 Define the lines of responsibility for both data processing and police department personnel during development of the projects (FI, Arrest, etc.)

1900 Management Presentation

1910 Present the preliminary analysis to Data Processing Technical Committee for approval of design approach

Status: Complete.

1915 Present preliminary analysis to Users' Task Force for review and input

Status: Complete.

1920 Prepare a work plan for System Specifications (Phase 2000)

Status: Complete.

Field Interrogation Application

- 1100 Project Identification
 - 1110 Conduct case application start-up activities
Status: Complete.
 - 1115 Preliminary analysis work plan
Status: Complete.
- 1200 Current Situation (Existing System)
 - 1210 Investigate present system, describing the historical aspects, goals, objectives, organizations, and functions
Status: Complete.
 - 1220 Review methods and procedures
Status: Complete.
 - 1230 Analyze inputs (source documents, volumes, delays)
Status: Complete.
 - 1240 Analyze outputs (reports, volumes, distribution)
Status: Complete.
 - 1250 Analyze present files (retention, description, usage)
Status: Complete.
 - 1260 Review of internal controls
Status: Complete.

- 1300 Project Definition
- 1310 Collect symptoms (indication of inefficiencies, inaccurate results, delays, high costs) of present system
- Status: Complete.
- 1315 Formulate problem definition from above symptoms
- Status: Complete. Documentation is adequate for symptoms section. Includes some statements of problems.
- 1320 Identify an ideal approach to solve problems
- Status: Complete. Documentation is adequate; however, some statements of symptoms are included in this section.
- 1325 Determine a project scope
- Status: Complete.
- 1330 Formulate a project definition which describes what is to be accomplished in the project
- Status: Complete, but detail does not adequately describe what will be accomplished in the development and implementation segments of this application.
- 1400 Data Processing System Definition
- 1410 Establish goals of proposed system (Goals are broadly stated benefits)
- Status: Complete.
- 1415 Establish objectives of proposed system (Objective is a deliverable of specific capability which supports one or more goals)
- Status: Complete.

- 1420 Describe, conceptually, the environment of the new system in terms of possible personnel, equipment, software support, and programming language
- Status: Complete. Documentation does not reflect projected personnel necessary to support new system.
- 1425 Describe, conceptually, the system functions in very broad sense and its interface with other systems
- Status: Complete.
- 1430 Describe, conceptually, the proposed inputs and outputs (reports, source documents, terminal screen formats)
- Status: Complete. Documentation should specify output reports and data elements.
- 1435 Describe, conceptually, audit and control requirements and procedures
- Status: Complete.
- 1440 Describe, conceptually, security and integrity requirements and procedures
- Status: Complete.
- 1445 Describe, conceptually, the proposed external procedures (interface between the using department and computer in terms of numbers and type of personnel required, etc.)
- Status: Complete.
- 1450 Describe, conceptually, the management information requirements (new administration regulation, department instruction, etc.)
- Status: Complete.

1455 Processing concepts

Status: Complete.

1460 Describe, conceptually, implementation requirements
(conversion of existing system, parallel operation,
personnel commitment for implementing, etc.)

Status: Complete.

1500 System Effectiveness

1510 Establish measurements of effectiveness for the
proposed system. (Effectiveness measures focus on
relating actual results to ideal results; that is,
on how well the goal or objective is accomplished
without regard for the cost.)

Status: Complete.

1515 Establish methods of measuring effectiveness of
proposed system

Status: Complete.

1600 Cost Benefit

1605 Cost/benefit concepts

Status: Complete.

1610 Estimate the proposed system development costs

Status: Complete.

1615 Estimate the proposed system recurring costs after
implementation

Status: Complete.

1620 Determine any cost avoidance that would occur if
the new system were to be implemented

Status: Complete.

1625 Determine any intangible benefits of new system
Status: Complete.

1690 Summary of development costs
Status: Complete.

1700 Project Management

1710 Define the lines of responsibility for both data processing and police department personnel during development of the project (FI, arrest, etc.)
Status: Complete.

1900 Management Presentation

1910 Present the preliminary analysis to Data Processing Technical Committee for approval of design approach
Status: Complete.

1915 Present preliminary analysis to Users' Task Force for review and input
Status: Complete.

1920 Prepare a work plan for System Specifications (Phase 2000)
Status: Complete.

Arrest Application

- 1100 Project Identification and Start-up
 - 1110 Conduct arrest application start-up activities
Status: Complete with adequate documentation.

- 1200 Current Situation Related to the Existing System
 - 1210 Investigate present system, describing the historical aspects, goals, objectives, organizations, and functions
Status: Complete. Functions of the arrest system are not included in this section.

 - 1220 Review methods and procedures
Status: Complete.

 - 1230 Analyze inputs (source documents, volumes, delays)
Status: Complete.

 - 1240 Analyze outputs (reports, volumes, distribution)
Status: Complete.

 - 1250 Analyze present files (retention, description, usage)
Status: Complete. Documentation of usage is not included in this section.

 - 1260 Review of internal controls
Status: Complete.

1300 Project Definition

1310 Collect symptoms (indications of inefficiencies, inaccurate results, delays, high costs) of present system

Status: Complete. Several problems have been combined with the symptoms documentation.

1315 Formulate problem definition from above symptoms

Status: Complete.

1320 Identify an ideal approach to solve problems

Status: Complete. The ideal approach established for this application does not take into consideration that ability of the Police Department to provide both the development and support resources. Time requirement of output available to the user has not been reflected in the approach. All arrest application data has been treated as time critical.

1325 Determine a project scope

Status: Complete.

1330 Formulate a project definition which describes what is to be accomplished in the project

Status: Complete.

1400 Data Processing System Definition

1410 Establish goals of proposed system (Goals are broadly stated benefits)

Status: Complete.

1415 Establish objectives of proposed system (Objective is a deliverable specific capability which supports one or more goals)

Status: Complete.

- 1420 Describe, conceptually, the environment of the new systems in terms of possible personnel, equipment, software support, and programming language
- Status: Complete. Documentation does not reflect projected personnel requirements to support the application.
- 1430 Describe, conceptually, the proposed inputs and outputs (reports, source documents, terminal screen formats)
- Status: Complete. Documentation does not attempt to identify all output data elements that will be contained in the application since all output reports have not been defined.
- 1435 Describe, conceptually, audit and control requirements and procedures
- Status: Complete.
- 1440 Describe, conceptually, security and integrity requirements and procedures
- Status: Complete.
- 1445 Describe, conceptually, the proposed external procedures (interface between the using department and computer in terms of numbers and type of personnel required, etc.)
- Status: Complete.
- 1450 Describe, conceptually, the management information requirements (new administration regulations, department instructions, etc.)
- Status: Complete.
- 1460 Describe, conceptually, implementation requirements (conversion of existing system, parallel operation, personnel commitment for implementing, etc.)
- Status: Complete.

1500 System Effectiveness
Status: Not completed.

1600 Cost/Benefit
Status: Not completed.

1700 Project Management
Status: Not completed.

1900 Management Presentation
Status: Not completed.

Automated Worthless Document Index

- 1100 Project Identification
 - 1110 Conduct case application start-up activities
Status: Complete.
 - 1115 Preliminary analysis work plan
Status: Complete.
- 1200 Current Situation Related to the Existing System
 - 1210 Investigate present system, describing the historical aspects, goals, objectives, organizations, and functions
Status: Complete.
 - 1220 Review methods and procedures
Status: Complete.
 - 1230 Analyze inputs (source documents, volumes, delays)
Status: Not completed.
 - 1240 Analyze outputs (reports, volumes, distribution)
Status: Not completed.
 - 1250 Analyze present files (retention, description, usage)
Status: Complete.
 - 1260 Review of internal controls
Status: Complete.
 - 1270 Document present system
Status: Complete.

- 1300 Problem Definition
 - 1310 Collect systems (indications of inefficiencies, inaccurate results, delays, high-costs) of present system
Status: Complete.
 - 1315 Formulate problem definition from above symptoms
Status: Not completed.
 - 1320 Identify an ideal approach to solve problems
Status: Not completed.
 - 1325 Determine a project scope
Status: Complete.
 - 1330 Formulate a project definition which describes what is to be accomplished in the project
Status: Not completed.
- 1400 Data Processing System Definition
Status: Not completed.
- 1500 System Effectiveness
Status: Not completed.
- 1600 Cost/Benefit
Status: Not completed.
- 1700 Project Management
Status: Not completed.
- 1900 Management Presentation
Status: Not completed.

Crime Analysis Application

Status: Development of this application has not been initiated even though research into other systems has been accomplished. The project team expects to complete the preliminary design of this application by the end of the initial project period.

Manpower Resource Allocation Application

Status: Development of this application has not begun, however, considerable research has been conducted and documentation gathered by the project team on techniques developed by other systems in the area of manpower resource allocation. The project team expects to complete the preliminary design of this application by the end of the initial project period.

Personnel Application

Status: Development has not been initiated but completion of the preliminary systems analysis is expected by the project team by the end of the initial project period.

Property Application

Status: Development of this application has been shifted to another project.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The project team indicated that tasks in all applications will be complete to the system specifications (series 2000) level by the end of the initial project period. The preliminary analysis phase (series 1000) was established by the project team on recommendation of the Data Processing Center to be the basis for determining project scope during the initial project period. Activities outlined in the first project application were considered excessively ambitious after the project was begun and project activities were scaled back to provide the completion of the preliminary analysis phase of project development as defined by the project work plan. The project scale-down is considered realistic and necessary by this evaluator.

Existing systems documentation including the analysis of system input and output was satisfactory, however, problems identified relative to the existing system were not adequately translated into updated user requirements. Requirements for types of information not available in the existing system were not reflected in the system requirements documentation. To provide for complete user requirements it is recommended that the documentation be expanded to reflect specific system outputs including data elements to be contained in the reports. Output report format design should remain in the systems specifications section (phase 2000).

The inadequate documentation of user requirements created problems in designing the "ideal approach" and in generating the cost/benefit analysis. Because specific system outputs were not determined, system storage and processing requirements could not be established. This prevented the generation of accurate system development and support cost projections as well as a realistic "ideal approach" design. The "ideal approach" reflected in the documentation appeared to be far beyond the fiscal capability of the user and does not reflect user needs as presently viewed. The previously outlined recommendation to define specific system outputs will provide the vehicle for more accurate cost projections as well as a more realistic "ideal approach" design.

To provide the project team with assistance in determining user requirements and identifying specific system outputs it is recommended that expertise be added to the project team in the area of law enforcement computer systems design. Specific experience should be added to the team in determining the law enforcement systems related requirements of the ARJIS project. Currently the San Diego Police Department is providing the necessary law enforcement operations related background and the City of San Diego Data Processing Center is providing the data processing development support to the project. However, the project team configuration is inexperienced in the development of computerized law enforcement systems. The addition of expertise in automated law enforcement systems design would provide a fully balanced project team.

The ARJIS project is intended to be a regional information system to support criminal justice in the San Diego region and the San Diego Police Department has assumed the responsibility of developing the law enforcement portion of ARJIS. The law enforcement related ARJIS applications are intended to serve all law enforcement agencies in the San Diego area; however, development to the present has been centered around the needs of the San Diego Police Department with minimal participation by other law enforcement representatives. After viewing the design complexities created by attempting to develop each application for multiple agency utilization, the approach taken by the project team has been modified. The new approach will primarily serve the largest agency with provisions for other agencies to utilize desired portions of each application. The San Diego Police Department is the largest agency in the region. It appears that this is the most realistic approach to the design of the regional system; however, it is recommended that the project team provide for additional representation from potential law enforcement users. Additionally, it is recommended that all applications in the ARJIS system be designed modular in nature so that other users may select desirable features. It appears that the law enforcement applications currently under development will be useful on a limited basis to agencies other than the San Diego Police Department.