

INFORMATION
MANAGEMENT

ADMINISTRATIVE

OPERATIONAL

TECHNICAL

TRAINING

RESEARCH

DEVELOPMENT

IMPLEMENTATION

EVALUATION

CONSTRUCTION

PROGRAM

SYSTEM



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PHOENIX
ARIZONA
CITY OF
ADMINISTRATIVE
OPERATIONAL
TECHNICAL
TRAINING
RESEARCH
DEVELOPMENT
IMPLEMENTATION
EVALUATION
CONSTRUCTION
PROGRAM
SYSTEM



November 24, 1970

Lawrence M. Wetzel, Police Chief
17 South Second Avenue
Phoenix, Arizona 85003

Dear Sir:

In accordance with your request, we have made an investigation and study of the Phoenix Police Department, in the City of Phoenix, Arizona, with the view of recommending appropriate applications of advanced microfilm technology.

The attached report details findings which support the conclusion that the Phoenix Police Department as an independent user will find it difficult to support any currently available automated information storage and retrieval system.

We support a conclusion that your return on investment would be much better if the use of such a system, and its attendant equipment, were applied to programs of greater scope. Two of the more practical applications that come to mind are to (a) include the records of the other functions of the City of Phoenix or (b) seriously consider the many advantages to be gained in a unified Maricopa County Law Enforcement Information System.

We do recommend, however, a number of programs which, if carried through on the basis outlined in this report, will provide the department with better control as well as efficient management of its data flow.

We shall be pleased to confer personally with you and the members of your staff concerning any of the matters embraced in this report.

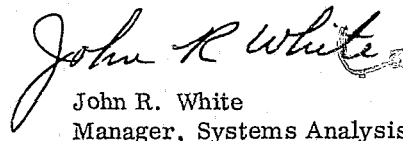
Varian ADCO is grateful for the opportunity of working with your fine organization and would like to express its sincere appreciation to those who gave so unselfishly of their time and energies in assisting us in the collection of so much information. We particularly single out Captain Beck and Captain McFarland for special consideration.

Captain Beck's assistance in arranging a number of vital meetings and conferences, as well as his staff's assistance in the compilation of procedures and data, proved invaluable.

Captain McFarland's efforts in our behalf contributed immeasurably to our ability to conduct this many faceted study. The personal effort in our behalf by Captain McFarland, as well as that of his outstanding crew under the supervision of Pete Lopez, Sgt. Yeaky and Sgt. Hurt, is to be commended.

Respectfully yours,

VARIAN ADCO


John R. White
Manager, Systems Analysis

JRW:ae

THE CITY OF PHOENIX POLICE RECORDS MICROFILM SYSTEMS STUDY

This project was supported by the State of Arizona Justice Planning Agency, Law Enforcement Grant Project No. 74 to the City of Phoenix, in accordance with the scope of the Arizona State Justice Planning Agency's Comprehensive State Plan and within the terms provided by Title I, Part C, Omnibus Crime Control and Safe Streets Act of 1968 (PL 90351). This document represents the professional judgment, findings and conclusions of Varian ADCO. Therefore, the views or opinions stated do not necessarily represent the official positions or policies of the U.S. Department of Justice, the Arizona Justice Planning Agency, the City of Phoenix, or the Phoenix Police Department.

Prepared by
VARIAN ADCO
SYSTEMS ANALYSIS DEPARTMENT

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81
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83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
FOREWORD	iii
FIGURES AND TABLES INDEX	viii
I. STUDY ORGANIZATION	1
A. Objectives and Scope	1
B. Team Composition	1
C. Police Divisions and Bureaus Contacted	2
II. MAJOR CONCLUSION	4
III. INFORMATION BUREAU REVIEW	8
A. General	8
B. Administration	8
C. Facilities	9
D. Work Load Analysis	9
1. Index Cards	9
2. Criminal Jackets	13
3. Other Jackets	16
4. Department Reports	16
5. Fingerprint Cards	18
6. Arrest Records and Warrants	19
E. General Work Load Measurements	20
1. General	20
2. Technique of Measurement	20
3. Identifying the User	22
4. Significant Findings	23
a. Work Load Distribution	23
b. Document Activity	26
c. Hourly Activity	27
d. Typical Daily Work Pattern	28
e. Typical Weekly Work Pattern	29
f. Requesting Profile	30
g. Type Request Profile	30
h. Requester Activity (Detailed)	30
i. Hourly Activity (Detailed)	30

TABLE OF CONTENTS (Cont.)

<u>Section</u>	<u>Page No.</u>
5. Service Efficiency	31
IV. OTHER DIVISIONS, BUREAUS AND SECTIONS	33
A. Headquarters Section	34
1. Phone Station	34
2. Radio	34
3. Patrol	34
4. Recommendations	35
B. Criminal Investigation Bureau	37
1. General Notes and Comments	37
a. General Recommendations	37
2. Juvenile Detail	38
a. General	38
b. Juvenile Detail Conclusions	41
c. Specific Juvenile Detail Recommendations	41
3. Forgery Detail	42
4. Homicide Detail	43
5. Persons Detail	43
6. Intelligence	44
7. Vice Detail	44
a. General	44
b. Specific Recommendations	45
8. Property Detail	45
9. Auto Theft Detail	46
C. Property Unit	47
1. Notes and Comments	47
2. Recommendations	47

TABLE OF CONTENTS (Cont.)

<u>Section</u>	<u>Page No.</u>
D. Traffic Bureau	48
1. General	48
2. File Types and Volume	48
3. User Analysis	51
4. Recommendations	52
V. DATA PROCESSING ACTIVITIES (Arthur Andersen Report)	54
A. Objectives and Scope	54
B. MIS Coordination	54
C. Current Mechanized Systems	56
1. DR Statistical Reporting	56
2. Dispatch System	58
3. Traffic Bureau Statistical Reporting	58
4. Traffic Court System	59
D. Future Systems	61
1. Officer Daily Log	61
2. Index System	61
VI. FORMS DESIGN, CONTROL AND COSTS	63
A. General Comments	63
B. Basic Recommendations	63
1. Recommendation Support.	63
2. Objectives and Goals	64
3. Problem Areas	65
C. Microfilmability	66
VII. CITY COURTS	67
A. General	67
B. Recommendations	67
VIII. SUMMARY OF RECOMMENDATIONS AND CONCLUSIONS	68

TABLE OF CONTENTS (Cont.)

LIST OF APPENDIX ILLUSTRATIONS AND TABLES

- APPENDIX ONE — A RECOMMENDED COMPUTER OUTPUT MICROFILM PROGRAM
TO AUTOMATE THE DEPARTMENTS MASTER INDEX FILES
- APPENDIX TWO — A STATISTICAL SUMMARY OF THE DEPARTMENTS RAP SHEETS
WITH A VIEW TOWARDS POTENTIAL COMPUTERIZATION
- APPENDIX THREE — MISCELLANEOUS SUPPORTING ILLUSTRATIONS, FLOW
CHARTS, TABLES, ETC.

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page No.</u>
1.	Phoenix Police Department Criminal Jacket Profile	13
2.	Criminal (R) Jacket Activity, Two Year Trend Chart	14
3.	New Department Reports (DR's), Two Year Trend Chart	16
4.	New Fingerprint Cards (Cumulative Growth)	18
5.	Information Requests (Pinkies) Processed Two Year Trend	21
6.	Work Load Distribution	25
7.	Typical Daily Work Load Pattern (Plotted Hourly at the Half Hour)	28
8.	Typical Weekly Work Load Pattern	29
9.	Traffic Accident Trend Chart	49
10.	Coding Workload, I-Bureau Phoenix Police Department	57

LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
1	Master Index Inventory	10
2	Master Index Multi Card Profile	11
3	Work Load Distribution	24
4	Document Activity Profile	26
5	Document Activity Profile (Cont.)	27

L
I
T
T
L
E
R
I
E
S
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T
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I. STUDY ORGANIZATION

As contracted, Varian ADCO conducted an in-depth analysis of the current paper flow methods of the Phoenix Police Department, hereafter referred to as "the Department". This study was conducted by Varian ADCO personnel, who were assisted by Mr. Henry Laun, a partner of Arthur Andersen and Company, Consultants, San Francisco, California, and Mr. R. Fields, a private consultant.

A. OBJECTIVES AND SCOPE

The objectives were to (1) determine the extent of the present systems of retention and dissemination of information within and between the various divisions, sections, and bureaus of the Department, (2) analyze potential applications of advanced microfilm techniques, making recommendations supported by cost and/or benefit justification, and (3) to make any other pertinent observations or suggestions for improvement based upon our study.

B. TEAM COMPOSITION

The study team consisted of four analysts, each of whom was assigned specific areas of responsibility.

1. Mr. Henry Laun, of Arthur Andersen, was asked to review the data processing activities of the Department, specifically, to
 - a. Determine the extent of the present mechanized interfaces within and between each of the police operating divisions.
 - b. Review plans for future or proposed mechanization plans for the department.
 - c. Make any other pertinent observations or suggestions for improvement.
2. The primary assignment of Mr. Dean Butterfield, Sr. Systems Analyst, Varian ADCO, was to review the current requirements of all departments,

sections, bureaus or agencies who represent the "customers" of the Department's Information Bureau. Mr. Butterfield also assisted in studies of the I-Bureau "counter service".

3. Mr. Fields conducted a study of the Traffic Bureau, performed statistical analyses of Rap sheets with the view of potential computerization, and acted as an interface agent between Butterfield and Laun.
4. Mr. John R. White, Manager, Systems Analysis, Varian ADCO, acted as the team manager, concentrating his efforts within the Information, Personnel, and Research and Development Bureau.

C. POLICE DIVISIONS AND BUREAUS CONTACTED

In total, detailed reviews were made of the following areas in the Department (See

Figure A.3.1 in Appendix 3)

1. Technical Services Division
 - Asst. Chief H. Neal
 - (a) Information Bureau
 - Captain B. McFarland
 - Records and Administration Section - Police Records Supv. P. Lopez
 - Identification Section - Sgt. Yeaky
 - Report and Review Section - Sgt. E. Hurt
 - (b) Communications Bureau
 - Capt. E. Hetz
 - Headquarters Section - Lt. Kurth
 - Communications Section - Lt. Hicks
 - (c) Detention Bureau
 - Lt. Meyers
2. Field Operations Division
 - Asst. Chief Newton
 - (a) Traffic Bureau
 - Lt. L. Hicks (Acting)
 - Administration Section - Sgt. E. Anthony*
 - Enforcement Section - Lt. L. Hicks
 - (b) Criminal Investigation Bureau
 - Capt. Orr

* Rank at time of study -- subsequently promoted.

- Property
- Auto Theft
- Crimes against persons
- Homicide - Various detectives
- Juvenile and Bicycles
- Forgery
- (c) Special Investigation Bureau - Captain Flack
 - Narcotics
 - Vice Control
- (d) Patrol Bureau -
- 3. Administrative Services Division - Assist. Chief Porter
 - (a) Research and Development Bureau - Capt. R. Beck
 - (b) Personnel - Lt. Robinson*
 - (c) Fiscal and Property Management - Lt. Robinson*

Reviews were conducted with the following sections of the City Court of Phoenix:

- 1. Court Administration - T. Loveless
 - (a) Administration Services - W. O'Leary
 - Electronic Data Processing - W. O'Leary
 - Records Division - E. Jerdu
 - Control Division - A. James
 - Criminal Division - L. Loebech
 - Financial Division - D. Barrett

In addition, the following city departments were consulted:

- 1. City Clerk's Office - D. Culbertson
 - Microphotography - A. Throne
- 2. Management Information Systems - Jack Thomas

*Rank at time of study--subsequently promoted.

LIBRARY

II. MAJOR CONCLUSION AND SUPPORT

This report avoids repeating that which has already been covered in other studies and reports. Although we may on occasion make reference to prior published studies and reports (made for and/or by the Department) we will generally reference them as applicable by means of footnotes or references. Direct quotations will be used only where special emphasis is mandatory to the content of this report.

The principal conclusion drawn from this study is that there is insufficient justification to recommend that the City of Phoenix acquire any of the currently available automated information storage and retrieval systems which use video tape or standard microfilm, *if the use of such a system and its equipment is limited to the Phoenix Police Department.*

Since the scope of the study did not provide for comprehensive analysis of other departments or functions of the city, we can only speculate (with confidence) that the use of automated systems would be more practical if applied to the whole or greater part of the total records of the city government.

On the other hand we seriously recommend that the city of Phoenix join with the county, the state and neighboring cities and neighboring communities in the development of a Maricopa County Law Enforcement Information Center. The rapport that now exists among the various law enforcement agencies of the county, coupled with an obvious need to reduce known duplication and to simplify interagency communications, provides an excellent basis upon which to proceed.

Studies should be conducted as soon as possible relative to both of these potentially advantageous uses of microfile automation.

This conclusion is based upon the usual criteria deemed necessary for such a purchase to provide a reasonable return on investment in a reasonable time frame.

Among these criteria, the following are most significant:

Note: (The supporting tabulations and data for these conclusions are to be found throughout the body of the report and its appendices.)

1. None of the available equipment can compete with the Department's present manual clerical costs. Our studies showed that of the 673.4 requests for information (pinkies) being processed per day, only 2.5% called for Arrest Records, 10.3% for Department Reports and 25.6% for Criminal Jackets or Fingerprint Cards, for a total of 38.4%. The balance of the requests were (for the most part) for index card or name file information. Calculations show that capital costs, coupled with conversion costs (for the cheapest to the most expensive of available systems) when depreciated over a five year period (flat rate) would cost the Department somewhere between \$275 and \$1100/day just to amortize the initial installation. Thus, the cost per file searched would range from a minimum of \$1.06 to a possible high of \$4.25 without any consideration for continuing system or access costs. Even at an 8-year amortization level, the costs calculate to from \$.55 to \$2.66 per file searched.
2. The total "file" activities of the Department are not yet of sufficient volume to pose a threat to its ability to provide and maintain an adequate manual service. This is especially true if our recommendations (presented later in this report) relative to facilities improvements, and card index automation, are followed.
3. We do not feel that the volume of active originals (Arrest Records (AR), Criminal Jackets (CJ), Fingerprint Cards (FPC) and Department Reports (DR) is such that there should be any real difficulty in maintaining the files (including additions, revisions and purges) in an up-to-date and timely fashion.
4. Continual surveillance of over-the-counter and telephone services showed that, with rare exception, users were not experiencing costly delays or

avoidable inconveniences because of distance or service time. To the contrary, we found that officers (in particular) were putting their "wait time" to good use by "trading" information about suspects or actions in question. This kind of tradeoff would probably be lost in a totally remote access system.

5. Admittedly, we found that the system now in use caused some needless duplication of files and effort; however, none were found that we feel are either serious problems or that could not be justified.
6. Although there is a serious floor space and facility problem throughout the department and especially within the I-Bureau, we feel that this situation can be solved economically and without a great deal of "automation".
7. Although the work load is increasing at an appreciable rate and the system is becoming somewhat complex, we feel that work simplification will dramatically relieve the situation.
8. Of all the requests processed, the majority (over 87%) are for one specific record (as opposed to two or more), and over 85% of these are for simple Kardex information.
9. There is no evidence that you are legally required to microfilm your files.
10. There is no real need to supply regularly distributed hard copy to a significant number of truly "remote" stations.

If other departments of the City or other law enforcement agencies of the county were to be included in an automated microfilm information system the greater majority of these points would, no doubt, be completely reversed. For example

1. There is a greater probability of providing a more than "adequate" service to a multiplicity of users.

2. There is more volume
3. Interagency delays are costly.
4. Duplication (especially among law enforcement groups) is significant.
5. There is a real need for remote access.

This report contains a number of suggested improvements and/or recommendations for the department, a summary of which may be found at the end of the report.

III. INFORMATION BUREAU REVIEW

Inasmuch as this bureau represents the major concern in any system of automation, this report will concentrate more heavily upon it as opposed to other "user" bureaus.

A. GENERAL

The Information Bureau is responsible for filing, storage and retrieval of criminal and criminal-related information gathered by the Department. The key to all Identification Bureau information is the master file index organized alphabetically and housed in five Kard-Veyers. The next major file holds the Criminal Jackets (CR). We estimate that the 73,000 Criminal Jackets contain approximately one million page sides of information. Another major file is the Department Record (DR) file which contains police information for crime-related activities and non-criminal activities. The DR file contains the officer's report of the victim's statements. Still another file is the fingerprint file which contains an estimated 112,000 cards. The warrant file and other miscellaneous files are also found in the Information Bureau.

B. ADMINISTRATION

We suggest that the Department would benefit immeasurably if it would budget professional training and exposure to available "Records Management Programs" for the I-Bureau's administrative and supervisory personnel. With the state of the art changing as rapidly as it is, this is as important as the Department's present pursuit of "police-type" training.

The Information Bureau (and especially the Records and Identification Section) represents the nerve center of the entire Department and the efficiency of the entire Department is directly related to the efficiency of its information and its communications. It is a credit to the management of the I-Bureau that they continue to provide the required services. A great deal of credit must go to those who developed the organization of the bureau and to those who designed and now maintain its procedures.

We believe that the present administration is doing an excellent job under rather difficult conditions. We suggest that it will become increasingly more difficult to do so unless the Department more positively recognizes the rapidly advancing state of the art in Records Management.

C. FACILITIES

Physically, the facilities of the I-Bureau are in need of general overhaul, expansion, and modernization. Regardless of any potential application of microfilm or data processing systems, we believe that the improvement of this facility should receive a maximum priority in the City's future plans. The work load of this department has increased considerably over the recent past. The volume of material stored has obviously increased and the number of people to handle this work has increased - all within an increasingly restrictive environment.

In our opinion, the efficiency of this Bureau (and hence the entire Dept.) would be greatly improved, both in terms of individual performance and overall ability to cope with increasing work loads, if these facilities were improved. In addition, they are dangerously open to serious damage from attack by present-day radicals.

One possible plan for an improved layout is illustrated in Figure A.3.2, in the appendix to this report.

D. WORK LOAD ANALYSIS

1. Index Cards

Index Cards (or "name" cards as they are often called) are contained in five Remington Kard Veyer units, each of which has a rated capacity of 3024 filing inches. The five units, therefore, have a potential storage capacity of 15,120 inches of 3 x 5 cards. A detailed count and inventory conducted by I-Bureau personnel concluded that the current file contains 8,946 inches, providing overage of 6,174 inches or 40.8%.

Two units are therefore seemingly available for surplus cards. (This hypothesis is

essentially supported upon review of the inventory that follows in Table 1). From a volume point of view, the department should be able to get by with no more than four Kard-Veyers. However, the real problem is access rather than volume. To satisfy current access needs, the file should be broken down into twice as many (smaller) units. At the same time, the alpha tab dividers need to be completely replaced (and, we suggest, reduced in number).

This file was sampled by actual count with discretionary tabulation of the contents of seventy trays (fourteen from each of the five units). The percent of samples therefore equaled approximately 5.6% (or one-eighteenth) of the file, a sample we consider quite adequate to the need. The following chart tabulates the result of the survey:

TABLE 1
Master Index Inventory

	% of File	1-Sided	2-Sided	Total Sample Count	Est. Total In File	% of File
1970 (Green) Combo Cards	2.6	51	824	875	30,582	4.6
1969 (Brown) Combo Cards	7.0	1,200	1,222	2,422	65,592	10.0
1968 (Red) Combo Cards	1.5	33	502	535	18,666	2.8
Pre 1968 Combo Cards	1.8	458	142	600	13,356	2.0
3 x 5 (White) Index Cards	76.1	26,090	286	26,376	479,916	72.5
3 x 5 (Blue) Warrant Notices	1.7	589	4	593	10,746	1.6
EMA (Blue Folder) City War.	.4	127	-	127	2,286	0.3
3 x 5 (Blue) Notifications	.6	190	-	190	3,420	0.5
3 x 5 (White) Photo Cards	.4	140	7	147	2,772	0.4
Alpha Tab Dividers	.7	223	-	223	3,996	0.6
3 x 5 (Orange) Throw Cards	5.7	1,193	8	1,921	21,762	3.3
3 x 5 (Blue) County Warrant Notices	1.5	530	3	533	9,648	1.5
	100.0	31,544	2,998	34,542	662,742	
		(91.3%)	(8.7%)			

* Only 3.3% of the file contents are (tangibly) out of date; therefore, special effort purging does not seem warranted for so low a result.

From a microfilming viewpoint, it is important to know both the type of file content and the breakdown in terms of items per subject. The following illustrates this important second characteristic.

TABLE 2
Master Index Multi Card Profile

No Cards In Set	Samples Taken	Projected File Size	% of File	Total Cards In Sample	Projected File Size	% Of File
1	28,391	511,038	92.2	28,391	511,038	82.2
2	1,702	60,636	5.5	3,418	61,524	9.9
3	401	7,218	1.3	1,203	21,654	3.5
4	162	2,916	.5	648	11,664	1.9
5	75	1,350	.3	375	6,750	1.1
6	35	630	.1	210	3,780	.6
7	15	270		105	1,890	.3
8	16	288	.1	128	2,304	.4
9	6	108		54	972	.1
10	1	18		10	180	Nil
Total	30,804	554,472	100.0	34,542	621,756	100.0

It will be noted that less than 8% of the file contains subjects needing two or more cards each, representing less than 18% of the total cards in the file. Of further significance is the fact that these numbers change to barely 2% and 8% respectively, for files of more than two cards. In other words, 98% of the file by subject and 92% of the file by volume contains one or two sheeted data. Although 13% of the file contains photo and narrative-type information (combo and photo cards), the balance contains simple index data that lends itself to computerization. We, therefore, recommend that serious consideration be given to computerization of Index Cards.

It may be that the cost of maintaining a totally on-line computer system for one half million index cards (each containing an average of 140 characters) would be difficult, if not impossible, to justify on the basis of cost alone. It is possible, however, that such a program may be "benefit" justified - especially if considered in conjunction with a Maricopa Countywide Law Enforcement Information System.

We have included in the appendix of this report a suggested Computer Output Microfilm System which, if adopted, should provide the Department with a highly efficient program of control over and access to their vital file.

Should such a program be adopted or should the Department "computerize" we suggest that a purge be conducted during the process of conversion.

Doing so should:

- (a) Rid the file of 20,000 out-of-date combo cards
- (b) Dramatically reduce the number of warrants and photo cards in file, i.e., we fail to understand why there should be so many "county" warrant notices in this file. As a matter of interest, we find that many police departments refuse to interfile county, state and out-of-state warrants with city material simply because these "outsiders" usually fail to notify the city of cancellations, etc.

Once purged, we suggest that the file (now reduced to green and brown combo cards, photo cards and active warrants) be separated into individual files, filed alphabetically. Table A.3.1 in the appendix shows that the average daily access to combo cards is only 77.5. Of additional interest is the fact that 25 of these requests were specifically for only combo cards and 50 were in conjunction with a specific request for both IC's and CC's. (The balance is the result of subsequent requests resulting from research into other types of files.)

Because of this relationship to IC's, it might be well to build into any IC-COM or computer format a "Yes - No" block identifying the existence (or lack) of Combo Cards in the file. We do not feel, however, that such will be necessary for warrants.

2. Criminal (R)
Jackets

These jackets certainly occupy the most space and, as such, represent a major problem. The jackets contain the records of persons booked by the department and are referended at the fairly active rate of 185.6 per day. Content samplings of 1% of the file disclosed that 21.3% of the average jacket contents were "rap sheets"; 3.8% were correspondence and memos; 37.5% were photos (negatives and prints); 10.2% were fingerprint cards, and the remaining 27.2% were other cards and sheets of various sizes (see Table A.3.2.).

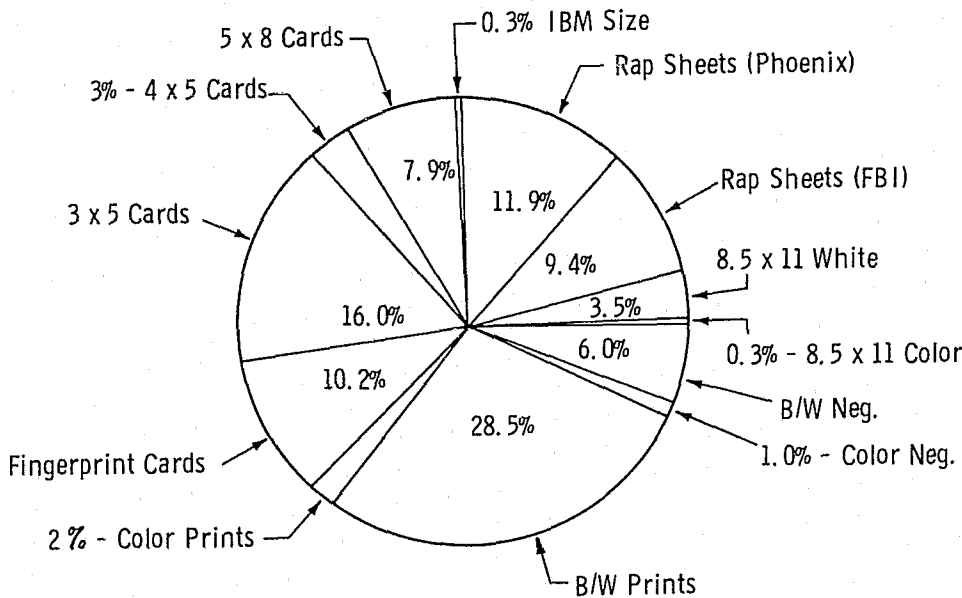


Figure 1. Phoenix Police Department Criminal Jacket Profile

A detailed inventory of 220 file drawers and the thirty 3-foot open shelves containing "R" Jackets disclosed several significant facts:

- a. As of 7/1/70, there were 73,125 "R" Jackets in the file.
- b. All file drawers and all shelves were packed beyond the limits of any possible efficiency in file access and/or maintenance.
- c. The growth (See Figure 2) presently averages 1200 Jackets/month but the rate of increase does not seem alarming.

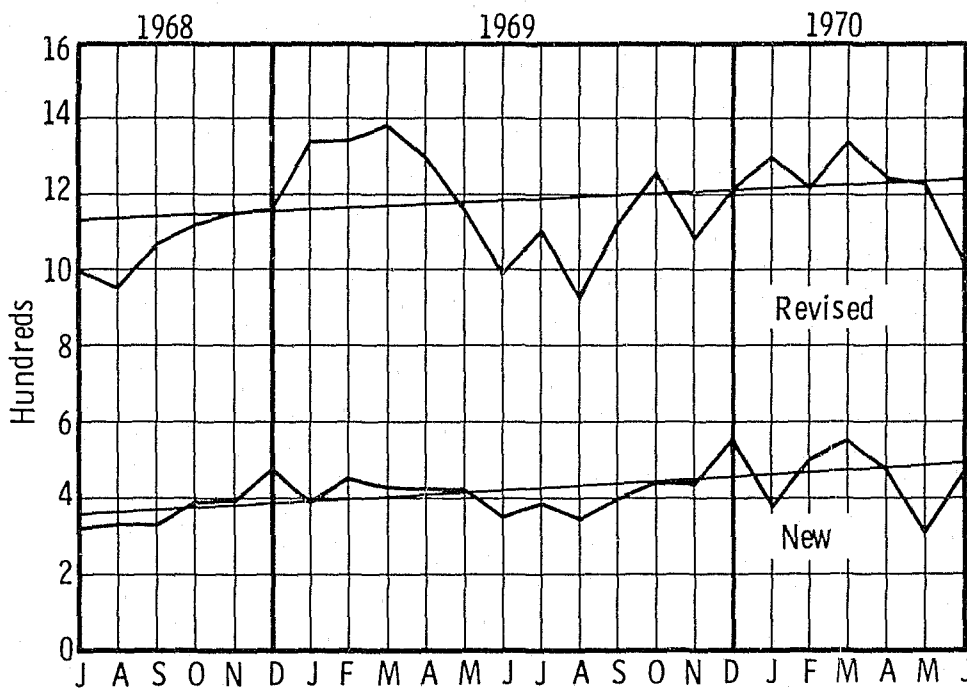


Figure 2. Criminal (R) Jacket Activity, Two Year Trend Chart

- d. It is estimated that of the daily 185.6 Criminal Jackets referenced daily, a minimum of 85% are to access only the rap sheet. It is further estimated that 85% of the clerical access for folder maintenance are for the purpose of rap updates.

With regard to these important files, we have three recommendations to make:

- a. Redesign the facility as suggested in the Appendix (Figure A.3.2), making better use of medium height open shelf filing equipment.
- b. We are sure the Department hadn't realized that 37.5% of the linear space occupied by these files is devoted to mug shots. We recommend the purchase of simple, inexpensive photo copy equipment that will permit instant duplication of any photo print (Black and White) upon demand. Therefore, the jacket need contain only one negative and print (Color) and/or one negative and print in Black and White. (We actually found several folders with as many as ten to thirty prints in the file.)

Appendix Figures A.3.3 and A.3.4 illustrate the general photo work load.

- c. We suspect that the Phoenix and the FBI rap sheets are frequently redundant. However, regardless of any duplication, rap sheets would lend themselves beautifully to an additional and beneficial use of computers (or the COM equipment suggested for index cards). We, therefore, recommend that the Department consider converting the last sheet of each Jacket's rap sheet to Computer or COM format. (Unlike the index film, however, we do not recommend free access to rap film. This access should be controlled by allowing access only after submission of a pinkie.)

The overall benefits of these recommendations are several. The above recommendations, (a) and (b), will reduce the bulk and the cost of maintenance. Recommendation (c) should have a substantial cost benefit to the Department.

Eventually, it may not be inappropriate to suggest the complete abandonment of Criminal Jackets as such. After converting rap sheets to COM, creating a simple mug shot photo file, and including fingerprint cards with the master file of such cards, what little that is left can easily be handled as has been suggested for Combo Cards and Warrants.

3. Other Jackets

These jackets represent so little activity that no suggested changes are offered

except to relocate them for more convenient access in the recommended floor plan.

We estimate their volumes to be

- M - 700 jackets (morgue)
- B - 6400 jackets (non-criminal)
- C - 3100 jackets (criminal registrations)

4. Department Reports (DR's)

These reports are valuable and useful records of miscellaneous complaints and/or

crime reports. DR's, together with their supplements (updating previously submitted reports) represent a sizable volume of work that has experienced the largest increase in workload over the past two years of any record type in the department. The average monthly input of DR's in 1969 was 137% of the 1968 average and, so far, 1970 is 116% of 1969's. (See Figure 3).

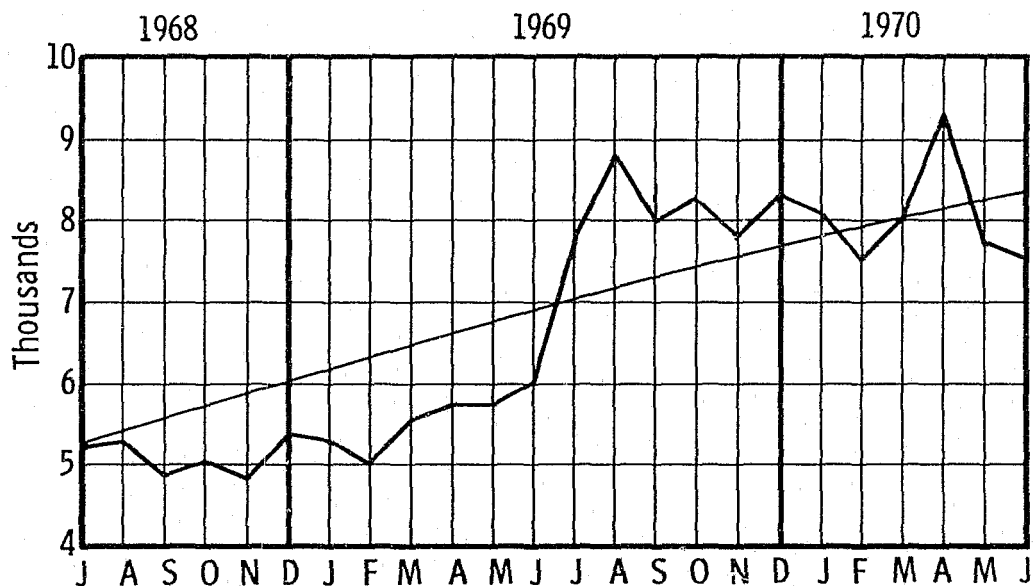


Figure 3. New Department Reports (DR's), Two Year Trend Chart

Cumulatively, the DR workload has increased almost 60% in eighteen months. The effect of this "pyramiding" is affecting every department and the records of most departments. As the number of DR's increase, so do their supplements and, as both increase, so do index cards and other reports and records.

We feel that perhaps the pendulum has swung too far. Prior to January 1969, the statistics maintained by the department, primarily for the purpose of crime reporting as well as a tool to measure the effectiveness of the force, were admittedly sketchy and often wrought with doubt. In an effort to build credence and confidence into reporting tools, the department is in the process of building a "paper tiger" which, if not controlled, will turn against the department. We suggest that a study be made of DR's with three goals in mind:

- a. Isolate, by definition, the real value of the DR and restrict its use to serving that purpose (i.e., we feel that many DR's are being created where combo cards might suffice).
- b. Create a uniform multipurpose and single form.
- c. Classify DR's by type of complaint - or crime - and establish a realistic retention schedule for each class.

It is interesting to note two additional factors:

- a. The three DR "work load reports" of 1) Headquarters Bureau, 2) the Records and Identification Section, and 3) the Coding Section of the I-Bureau do not agree, even on an annualized basis.
- b. Regardless of new DR increases into file, the referral access rate of ≈ 70 /day (Table 3) remained almost constant over the same period of time, an indication that the number of really important DR's has failed to increase in proportion to the increase in total volume.

We do not recommend any automation of this file. Its present organization is quite adequate to satisfy current access and referral needs. We do suggest, however, that disaster microfilming be scheduled on a monthly basis, filming all DR's over three months old. Referrals to four months and older DR's is insufficient to warrant hard copy retention.

5. Fingerprint Cards (FPC's)

Although fingerprint cards are being added to the various files at the rate of slightly over 1,000 per month, the use of these prints is relatively low.

Figure 4 shows that the rate of file growth has remained fairly stable for quite some time and actually seems to be decelerating. Although the monthly file growth was 7.3% greater in 1969 (over 1968), the rate in 1970 is but 0.5% higher than 1969.

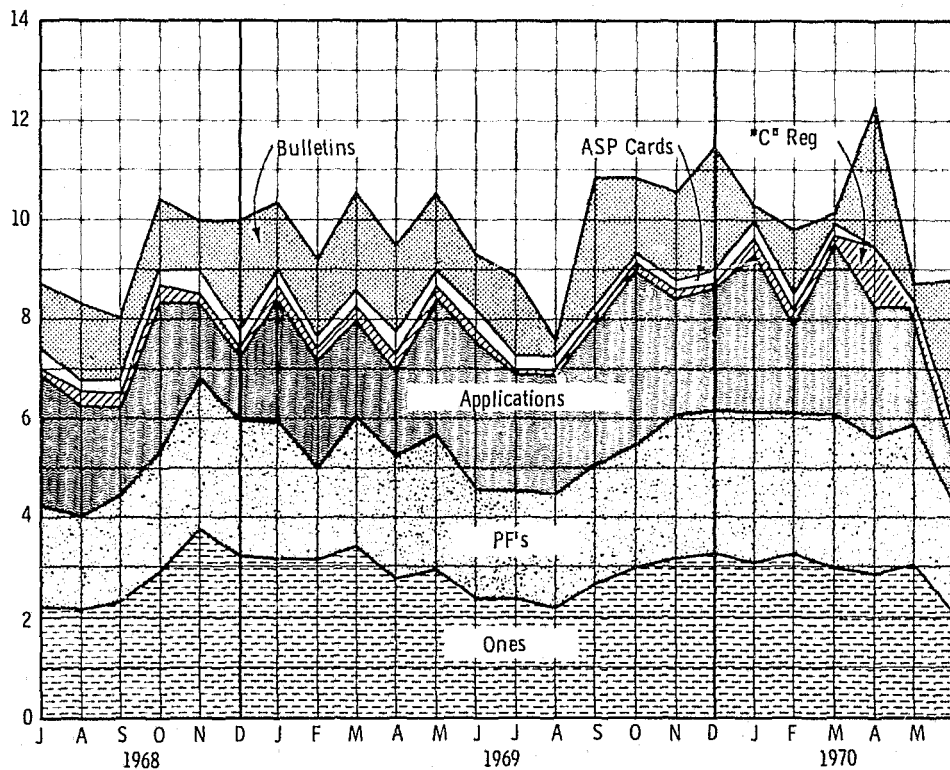


Figure 4. New Fingerprint Cards (Cumulative Growth)

We measured every file drawer, concluding that there was a total of 2506.5 compressed inches of material. Further examination disclosed that the average inch contained 45 cards and 9 dividers. $45 (2510) = 112,950$ cards in file. To be doubly sure of our count we re-estimated the file three separate times by three different analysts in three different ways, resulting in a low of 112,950, a high of 175,000 and a median of 162,340. Our confidence lies in the 112,950 number. If we include those cards contained in jackets, the total is as follows:

112,950 = cards in master FP file
105,300 = cards in Criminal Jackets
18,000 = est. cards in "B", "M", and "C" Jackets
236,250 = total estimated FPC volume

We carefully calculated that an average of 30.5% were duplicates within any one file and that among all the various repositories of FPC's duplication amounted to a total of almost 80%. We have no basis upon which to criticize this seemingly high duplication. A good many are justified on the basis of quality while others are really needed in more than one location.

Latent searches and comparisons amount to an average of thirteen per day, certainly not a sufficient number to warrant automation of the file. Even considering the need to check the 1,000 new cards per month (34 to 50 per day) against fingerprints already in file, the number does not warrant such a cost.

6. Arrest Records
and Warrants

We see little to be gained in changing the basic systems now in use.

E. GENERAL WORK LOAD MEASUREMENTS

It was important to the goals of the study to determine:

1. General
 - a. The type of services being demanded
 - b. The volume of requests
 - c. The identity of the I-Bureau's primary customers
 - d. The efficiency of services rendered.

This section (E) together with those related portions of Appendix Three, contain the basic elements necessary to a microfilm decision. At the request of the Department, this portion of the study was expanded so as to report our finding in precise detail. Such detail is supplied without comment, conclusion, or recommendation.

2. Technique of Measurement

In order to answer these critical questions in the most efficient manner, we decided to make use of Form 80-35D "Information Release Slip," hereafter referred to as the pinkie (a term in common usage throughout the Department).

It was decided that a 100% sampling would be conducted for a period of 10 days - during which time requesters would fill out pinkies in duplicate, clearly supplying all of the information called for on the form. The PRC's would check the forms for completeness, clarity, and accuracy and indicate the time of day on all pinkies.

Ten thousand pinkies were printed in duplicate at Varian using pink and white NCR stock (to avoid carbons) and delivered to the I-Bureau. The program went over without a hitch, with splendid cooperation from every department and agency that made use of the bureau's services during this 10-day period. The result was that 6,750 pinkies were consumed, leading one to believe that (at least for that month) the average pinky load was $\approx 20,250$. This compares favorably with prior I-Bureau estimates. Figure 5 illustrates the growth in this activity over the past two years.

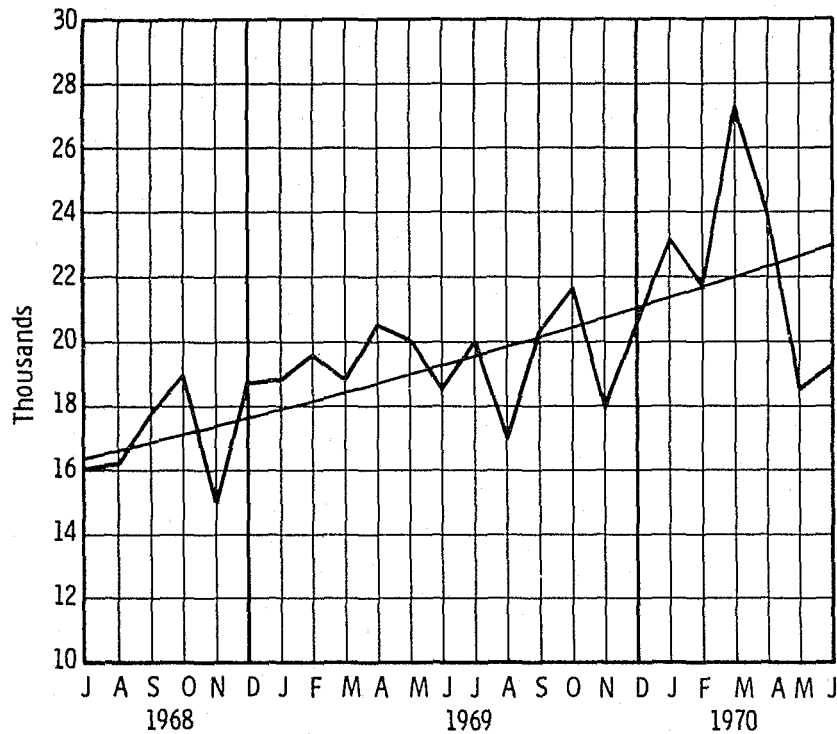


Figure 5. Information Requests (Pinkies) Processed
Two Year Trend Chart

The 6,750 pinkies were sorted and batched in order of requesting departments (each of whom was assigned a two-digit code number) and returned to Varian to be programmed for keypunching and manipulation. Every significant field of information was keypunched, resulting in several meaningful and valuable reports. Of the 6,750 pinkies processed, $\approx 5\%$ were rejected as being incomplete or lacking clarity.

It must be noted that a great deal of the statistical data, charts, graphs and tabulations contained throughout this report are a direct result of this effort. Of primary importance, however, is that the who?, when?, what?, and how much? questions were all answered.

3. User Identification

During the 10-day period, 61 separate departments, or agencies, took advantage of the services of the I-Bureau. We chose to group these into 18 identifiable groups so as to eliminate meaningless details, (i. e., the four "stations" are listed simply as "Substations", whereas the U.S. Secret Service, U.S. Narcotics Bureau, U.S. Probation, Civil Service Commission, U.S. Treasury Department, Immigration, Post Office Inspectors, Military Intelligence, Military Recruiting and the FBI are all grouped as "Federal (U.S.) Agencies," etc.).

These groups are as follows:

Group 01	Radio - (includes all Headquarters Section)
Group 02	Substation
Group 03	Criminal Investigation Bureau
Group 04	Property Bureau
Group 05	Field Operations
Group 06	Special Investigation Bureau
Group 07	Federal (U. S.) Agencies
Group 08	Other outside (non Phoenix) Police Departments
Group 09	Mail Inquiries
Group 10	Desk Sgt. - 2nd floor
Group 11	County Agencies (all)
Group 12	State Agencies (all)
Group 13	City Agencies (all except P.D.)
Group 14	Front Desk - 1st floor
Group 15	Traffic
Group 16	Chief
Group 17	Warrant Detail (City Court)
Group 18	All other departments of the Phoenix Police Department not listed above.

4. Significant Findings

Of the various combinations generated, the following are the most significant:

a. Work Load Distribution Tabulation (See Table 3 and Figure 6).

1. The daily average number of pinkies received from each of the 18 groups during each shift of the day.
2. The number and percent of these pinkies that resulted in finding and "delivering" documents and the number of documents involved.
3. The number and percent of pinkies resulting in not finding the name or requested document in file.
4. The number of total files searched.
5. Each group's contribution (as a percent) toward the I-Bureau's total pinky work load.

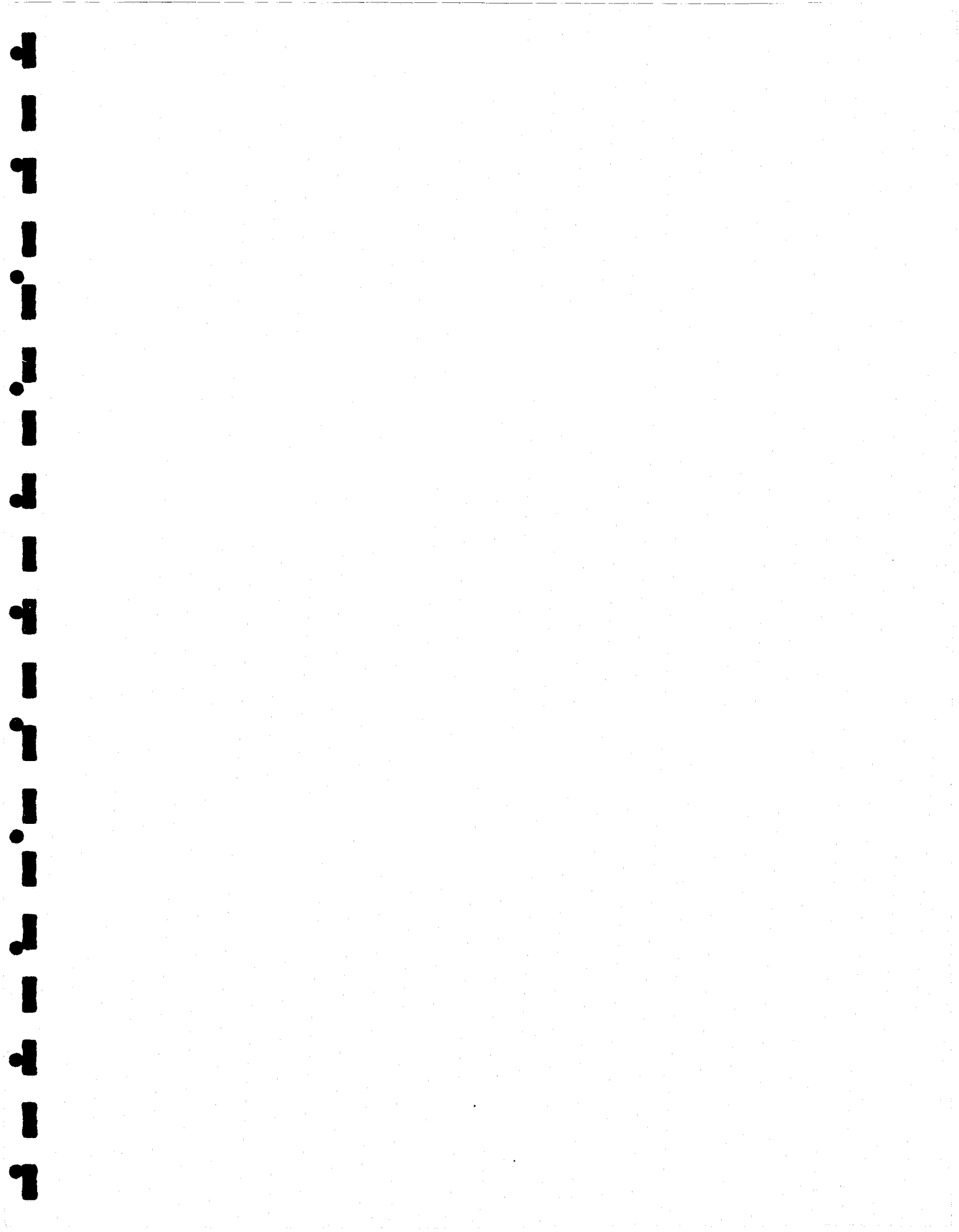


Table 3. Work Load Distribution

Requesting Agency	Pinkies Processed				Hits		Total Documents Delivered	Misses		Total File Searches	% Of Total Activity
	1st Shift	2nd Shift	3rd Shift	Total	No.	%		No.	%		
Radio	93.2	32.0	67.7	192.9	125.0	64.8	161.5	67.9	35.2	229.4	30.93
Substations	29.4	20.7	51.9	101.8	80.0	78.5	95.2	21.8	21.5	117.0	15.75
Criminal Investigation Bureau	10.8	66.8	14.3	90.9	66.8	73.5	85.1	24.7	26.5	109.2	14.73
Property Bureau	11.3	40.0	6.4	57.7	44.4	76.9	49.8	13.3	32.3	63.1	8.50
Field Operations	18.0	11.4	13.9	43.3	35.1	81.0	41.8	8.2	19.0	50.0	6.75
Special Investigations Bureau	6.6	22.6	11.1	40.3	32.8	81.3	36.1	7.5	18.7	43.6	5.88
Federal (U.S.) Agencies	0.1	27.3	0.7	28.1	12.3	43.7	14.2	15.8	56.3	30.0	4.04
Other Outside Police Dept.	3.4	6.9	4.4	14.7	9.2	62.6	11.0	5.5	37.4	16.8	2.20
Mail Inquiries	--	13.0	--	13.0	4.5	34.6	6.1	8.5	65.4	14.6	1.97
Desk Sgt. - 2nd Floor	4.1	3.8	4.7	12.6	6.9	54.7	7.5	5.7	45.3	13.2	1.78
County Agencies	2.2	6.4	3.3	11.9	8.4	70.5	9.2	3.5	29.5	12.7	1.71
State Agencies	2.2	3.9	2.3	8.4	4.6	54.7	5.3	3.8	45.3	9.1	1.23
City Agencies	0.2	4.6	0.2	5.0	4.2	83.0	6.8	0.8	17.0	5.7	1.10
Front Desk - 1st Floor	1.5	3.6	1.7	6.8	5.7	83.8	6.4	1.1	16.2	7.5	1.02
Traffic	0.1	3.7	1.6	5.4	4.1	75.9	5.4	1.3	24.2	6.7	0.90
Chief	0.1	1.4	0.3	1.8	1.5	83.3	1.8	0.3	16.7	2.1	0.28
Warrant Detail	--	1.5	0.2	1.7	1.6	94.1	1.9	0.1	5.9	2.0	0.27
Other Police Departments	0.5	6.8	0.7	8.0	5.0	63.0	4.7	3.0	36.9	8.7	0.96
Totals	183.7	276.4	185.4	645.5	452.1	70.1	549.8	192.8	29.8	741.4	100.0

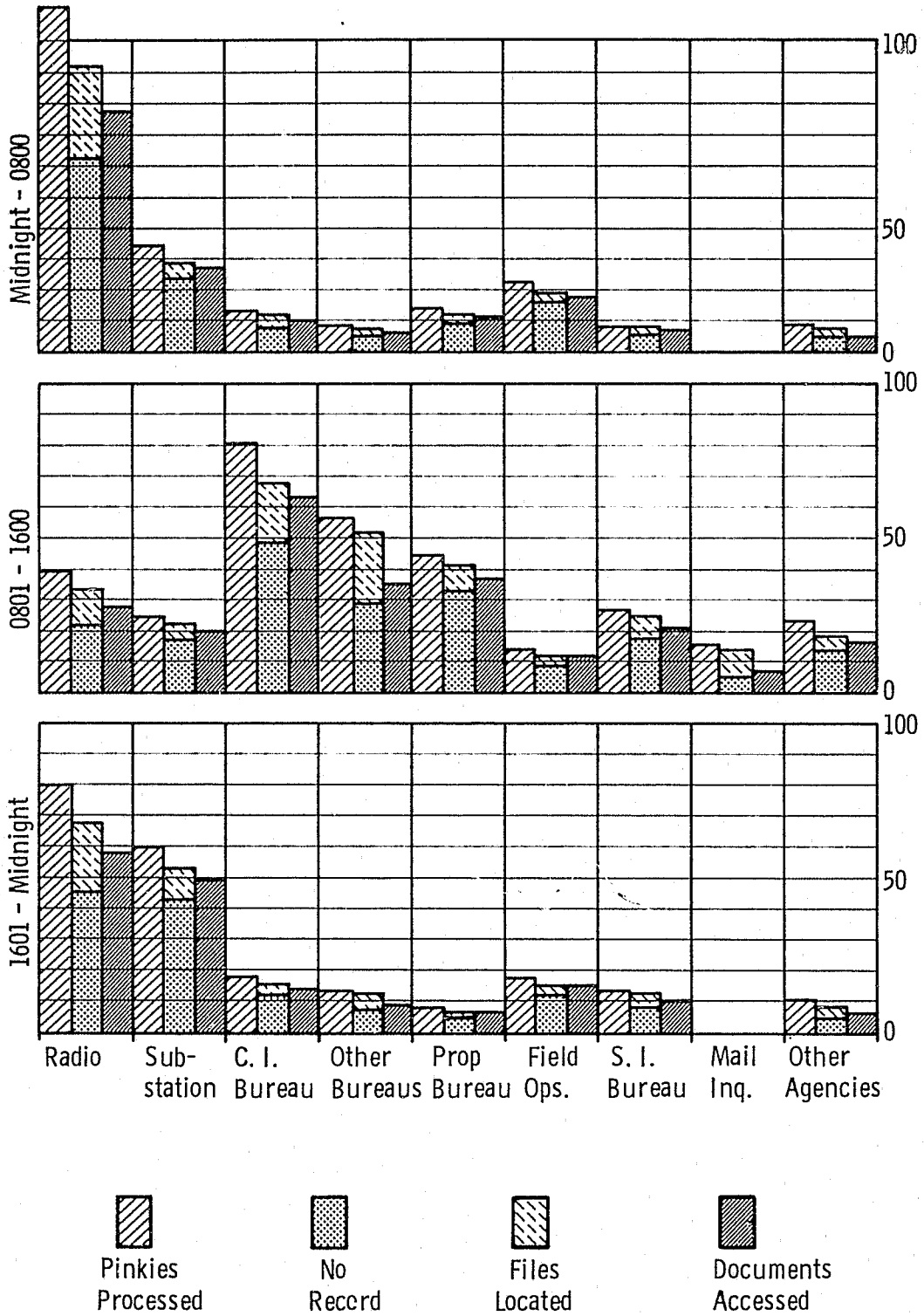


Figure 6. Work Load Distribution

b. Document Activity Profile (See Table 4)

This report summarizes the ordering habits and needs of each of the 18 users.

Table 4. Document Activity Profile

Department	Arrest Record	Dept. Report	Index Card	Criminal Jacket	Photo	Warrant	Combo Card (36)	Other	No. Record	Total Pinkies Processed
Radio	2.2	1.3	37.0	50.1	0.4	7.9	41.4	1.2	67.9	192.9
Substation	3.7	6.8	20.9	43.4	1.0	6.1	12.3	1.0	21.8	101.8
CIB	3.6	19.1	21.9	21.6	3.1	2.0	7.8	1.4	24.1	90.9
Property Detail	1.0	18.4	11.6	13.3	0.4	1.4	3.5	0.2	13.3	57.7
Field Operations	1.8	3.4	8.6	18.9	1.4	2.3	4.9	0.5	8.2	43.3
SIB	3.1	6.2	6.5	16.1	0.8	0.6	2.2	0.6	7.5	40.3
Fed. (U.S.) Agencies	2.2	2.0	3.2	4.6	0.5	0.5	0.9	0.3	15.8	28.1
Non-Phoenix P.D.	0.5	0.7	3.9	3.7	0.8	0.9	1.6	--	5.3	14.7
Mall	0.3	0.4	3.8	1.2	--	--	0.4	--	8.5	13.0
Sgt. - 2nd Floor	0.2	3.0	1.9	1.4	--	0.4	0.6	--	5.7	12.6
County Agencies	0.4	2.3	2.1	2.9	--	0.5	0.4	0.6	3.5	11.9
State Agencies	0.2	0.2	2.0	1.7	0.1	--	1.1	--	3.8	8.4
City Agencies	1.1	2.2	0.4	0.6	--	0.1	0.1	--	0.8	5.0
Front Desk	0.8	1.3	0.8	2.0	--	1.0	0.3	0.2	1.1	6.8
Traffic	0.2	1.3	1.6	1.5	0.2	0.1	0.3	0.2	1.3	5.4
Chief	0.2	0.3	0.3	0.8	--	--	0.1	0.1	0.3	1.8
Warrant	--	0.1	0.5	1.0	--	0.2	0.1	--	0.1	1.7
Other Phoenix P.D.	0.6	2.3	0.8	1.4	0.1	0.1	0.2	0.1	2.7	8.0
Total	20.5	71.3	147.8	186.2	8.8	24.1	78.2	6.4	241.7	644.3

c. Hourly Activity Profile (See Table 5)

This report identifies which document is being requested most frequently during each of the 24 hours of the day.

Table 5. Document Activity Profile (Continued)

Hour	Arrest Record	Dept. Report	Index Card	Criminal Jacket	Photo	Warrant	Combo Card (36)	Other	No. Record	Total Pinkies Processed
Mid-0100	1.4	1.7	7.6	9.1	0.3	1.1	4.0	0.2	8.6	30.6
0100-0200	1.3	1.2	8.9	8.3	0.1	1.0	5.5	--	8.7	30.2
0200-0300	1.1	1.2	8.4	8.7	0.3	1.9	6.0	--	8.7	30.1
0300-0400	0.3	0.9	5.8	7.3	0.1	1.3	3.7	0.1	9.3	25.3
0400-0500	0.6	0.5	3.2	4.5	---	0.6	2.3	0.3	5.6	14.9
0500-0600	0.5	0.9	3.4	2.2	---	0.9	2.6	--	3.3	11.3
0600-0700	0.6	1.6	2.6	3.9	---	0.6	1.7	0.2	3.5	12.9
0700-0800	1.0	4.5	5.9	7.5	0.1	0.5	2.9	0.7	8.7	28.3
0800-0900	1.3	6.9	6.1	6.1	0.5	0.4	2.1	0.2	11.7	31.7
0900-1000	1.3	6.4	8.2	9.5	1.0	1.1	1.5	1.1	9.1	35.2
1000-1100	3.1	6.1	10.7	11.3	0.8	1.0	3.3	0.8	15.5	47.0
1100-1200	1.3	6.2	7.1	7.8	0.5	0.9	2.5	0.4	9.3	32.1
1200-1300	0.5	4.2	5.0	7.2	0.3	0.7	2.1	--	8.6	27.0
1300-1400	1.1	4.5	6.8	6.2	0.4	0.6	3.5	--	13.9	33.3
1400-1500	1.7	7.2	7.2	10.3	1.2	0.7	3.6	0.6	11.1	39.1
1500-1600	1.0	4.9	6.1	10.9	0.5	0.6	2.7	0.4	9.5	32.4
1600-1700	0.9	3.9	7.1	7.5	0.4	1.1	3.1	0.6	7.1	26.7
1700-1800	0.3	2.5	4.9	9.0	0.5	0.9	2.6	0.2	6.1	22.8
1800-1900	1.0	1.3	5.6	11.5	0.5	1.2	3.6	0.1	6.0	26.4
1900-2000	0.3	1.6	4.3	7.4	0.3	1.8	3.1	--	5.3	20.4
2000-2100	0.4	1.3	4.9	7.6	0.1	1.6	2.7	0.1	4.9	20.1
2100-2200	0.2	1.2	4.8	7.6	0.4	1.9	3.4	--	3.7	19.3
2200-2300	0.5	0.5	5.6	6.8	0.1	0.5	3.3	--	5.9	20.4
2300-Midnight	0.4	1.1	7.6	8.0	0.4	1.2	5.7	0.4	7.6	26.8
	22.1	71.3	147.8	186.2	8.8	24.1	78.3	6.4	191.7	644.3

d. Typical Daily Work Load Pattern (See Figure 7)

Computing the daily work load on an hour-by-hour basis over the seven days of the week developed a consistent daily pattern, the average of which is illustrated.

Without regard to the day, the average load is 27 pinkies received and processed per hour, or less than one every two minutes. The peak loads are at 10:30 a.m. and 2:30 p.m. As might be expected, the load is greatest between the hours 8:00 a.m. and 4:00 p.m., averaging 35.4/hour. The averages during the other two shifts are almost equal at 23.1 between midnight and 8 a.m. and 21.3 between 4 p.m. and midnight.

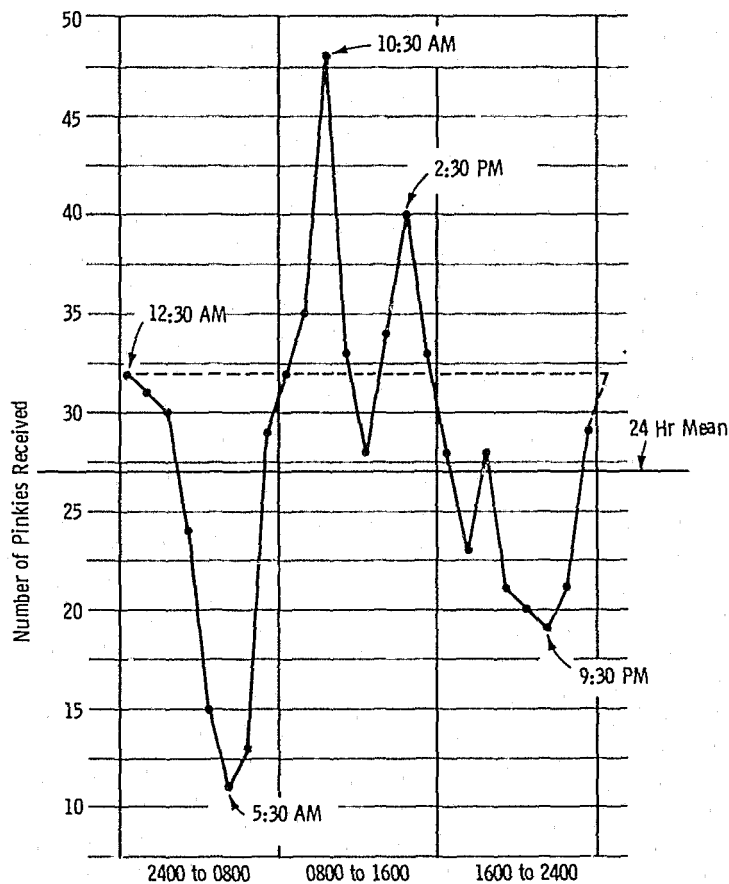


Figure 7. Typical Daily Work Load Pattern
(Plotted Hourly at the Half Hour)

e. Typical Weekly Work Load Pattern (See Figure 8)

This chart illustrates the fluctuation in work throughout the 21 shifts of a typical week. The chart shows that the work load peaks on Monday and is closely followed by Tuesday and Thursday. Wednesday is an "average" day while Saturday is very quiet. Saturday would seem like a good day to get a lot of "house cleaning" (filing, etc.) out of the way.

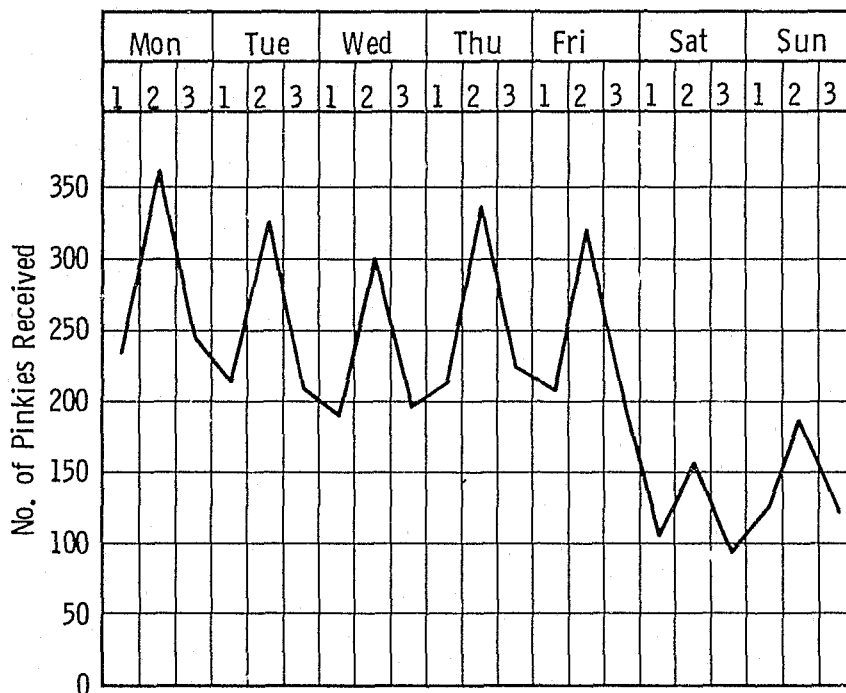


Figure 8. Typical Weekly Work Load Pattern

The following tables are located in Appendix Three of the report.

f. Request Profile (See Table A. 3. 1)

This table tabulates the quantity of separate things asked for or delivered during the total 10-day period. (i.e., 890 pinkies specifically asked for and resulted in the delivery of only IC's, whereas, another 33 pinkies "asked for" IC's and also resulted in accessing Criminal Jackets - whether or not asked for, etc.) The tabulation totals the number of all file actions as well as the total accesses to each file type.

g. Type Request Profile (See Table A. 3.3)

The purpose of this chart is to illustrate the complexity of requests. It tabulates without specific regard to individual "file" quantities, the kinds of documents being requested and in what relationship. The chart identifies the number of pinkies that either caused search of or caused delivery of which document combination and sums the number of total files that had to be searched to satisfy these pinky groups.

h. Requester Activity Profile (See Tables A. 3. 4 through A. 3. 21)

The report separates each of the 18 user groups, tabulating the number of each specific document requested during each of the 24 hours of the day. Its purpose is to identify that time of day in which each individual group most actively seeks information and to identify the kinds of data most commonly sought.

i. Hourly Activity Profile (See Tables A. 3. 22 through A. 3. 45)

This report separates each of the 24 hours of the day, tabulating the number of each specific document requested by each group. Its purpose is to identify those departments that are most active during each hour of the day.

5. Service Efficiency

The speed with which each request is dispatched is generally good. The time to make inquiries into the various files was often less than a few seconds, though frequently from two to five minutes. (The maximums observed were periods of 22 minutes, 57 seconds; 23 minutes, 42 seconds; and 29 minutes, 15 seconds.) All requests averaged out at 1.4 minutes each. "Index Card" access averaged less than 30 seconds each, whereas, Jackets etc., averaged almost 3 minutes each. In more detail and according to the over 1,000 observations and time samples taken, the average data acquisition times were as follows.

According to time samples taken and the pinky survey that was conducted, the time to fill out a pinky averaged 0.573 minutes per action and the average daily pinky count was 673. These two figures reveal that 386 minutes per day are used to fill out the pinkies or 6.43 hours out of every 24 or 2,347 hours per year (1.2 man-years). Using the 673 pinkies and the average time spent after filling out the pinky until a clerk picked up the pinky and started the search process, was 0.628 minutes per action. Thus, 423 minutes are utilized each day for this action. The yearly time spent is 7.0×365 or 2,555 hours or 1.3 man-years.

The 673 pinkies resulted in 1,080 search actions with the average search requiring 1.4 minutes. One thousand and 80 times 1.4 minutes is 1,512 minutes per day or 25.2 hours per day of waiting or 9,198 hours per year (4.63 man-years).

From these figures, 4.63 man-years are required by the file maintenance personnel to provide the service to the information requester. Also, 2.5 man-years are spent filling out pinkies and waiting for service (assuming that each pinky submitted involved only one requesting individual).

The time for all people from all departments within the building to travel to the counter and back again calculated to 4.9 hours per day or 0.9 man-year. In total:

	<u>Min/Action</u>	<u>Man-Hr/Day</u>	<u>Man-Hr/Yr</u>	<u>Man-Years</u>
Transit	1.430	4.9	1,788	0.9
Request	0.573	6.4	2,347	1.2
Wait	0.628	7.0	2,550	1.3
Search	1.400	25.2	9,198	4.6
Review	<u>5.011</u>	<u>56.2</u>	<u>20,513</u>	<u>10.3</u>
Total	9.042	99.7	36,396	18.3

To conclude that 18.3 man-years is sufficient within itself to warrant some form of automated program is understandable. However, a review of the chart shows that 57% of this time is "Review" time that cannot be saved in any event. Even if all of the remaining eight man-years could be "saved" the value of the 5.8 clerical and 2.2 professional man-years of labor is still too low to pay for a totally automated remote access program.

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IV. OTHER DIVISIONS, BUREAUS AND SECTIONS

A. HEADQUARTERS SECTION

1. PHONE STATION

(SEE FIGURE A.3.5)

It is the responsibility of this station to receive incoming calls for help or assistance.

The phone officer, as required, also writes Department Reports (see Figure A.3.6) and/or Combination Cards, etc., to record information provided by citizens who walk into the headquarters section to report an incident.

The volume of activity is estimated at an average of 1750 calls per 24-hour day, 400 of which are processed between 0800 and 1600, and 675 each during the other two shifts. Of the total number of calls received, approximately 65% require the dispatch of a patrol car. The remainder are requests for information, report data, etc.

2. RADIO

(SEE FIGURE A.3.5)

During each shift, a "blue book" is typed out on a teletype of all burglary calls made in response to dispatch cards plus all new information received on stolen vehicles, wanted subjects, missing persons, and other information pertinent to the department as a whole. When the data is typed, it is transmitted to the substations and the General Investigation Bureau with copies going to the I-Bureau, front desk, field operations and the radio room, Traffic Bureau, General Investigation Bureaus on the second and third floors, Special Investigations Bureau, and the warrant detail. Each morning the dispatch cards are released to the MIS for keypunching.

3. PATROL

The city of Phoenix is divided into four districts or patrol areas. Each of the four patrol areas is staffed on a three-shift basis with a fifth squad assigned to any one of the three patrol areas as required.

Each patrolman in the performance of his duties creates a car log, Arrest Records, Department Reports, Combination Cards, Tickets, etc. and at the end of each shift,

upon reporting to the substation, each officer turns in all tickets, department reports, and other forms created during the shift, including the log report for his patrol activities.

After each shift change, the tickets, DR's, combination cards, etc., are delivered to the Headquarters Section in the police station.

The officer's car log is turned in to the shift Sergeant who compiles a weekly/monthly activity report from the sheets for each man on his shift and a composite report for all of his men. Each substation then compiles a summary composite of activity for their substation; the three substations and extra squad are then combined on a monthly basis and routed to the field operations.

It was estimated by the officers that they spend as much as 50% of their time performing clerical or administrative functions; i. e., filling in the log sheet, writing reports.

It was noted that in some situations when two patrolmen were in a car and they jointly made an arrest, both officers stayed with the processing of the paperwork.

4. RECOMMENDATIONS

Although we make no specific suggestions regarding microfilming we do offer the following as possible procedural changes that may assist in a more efficient operation:

1. When the prisoner is taken to the substation an officer stationed at the substation could accept the prisoner until the wagon arrived, allowing the patrol car to return sooner to its patrol area.
2. By placing tape cassettes in each patrol car, or, at least, at each substation, the officer could dictate the information for a DR, combination card, etc. The officer stationed at the substation could type the reports (or possibly a service clerk could be stationed there) during the shift, allowing the officer to review and sign the report at the shift change. This should effectively reduce the report writing time by a minimum of 25%.

3. If a car with two patrolmen makes an arrest and the details of the booking/ reporting are going to require an extensive amount of time (30 minutes or more), one officer could perform the writing functions and the other officer could return to the patrol area, picking up the second officer when he had completed his functions.

B. CRIMINAL INVESTIGATION BUREAU

1. GENERAL NOTES AND COMMENTS

The individual bureaus (see Figure A.3.10) receive DR's and combination cards generated from field operations and also create DR's, Combination Cards, and Supplemental Reports to the DR's created in the field. However, each bureau handles and retains the data in a little different manner, sometimes out of necessity because of type of crime and others by preference of the individual operations.

One of the biggest differences in the operations is the handling of the DR's. In all cases, the green and blue copies of the DR's are received by the bureau having the responsibility for the type of crime or incident being reported. The green copy is held by the Detail Sergeant, and the blue copy is given to the officer responsible for the investigation. In some details, even if the incident is closed, both copies are retained for one year plus the current year in process. In other details, the yellow copy is received from Coding and retained with the blue and green copy for the same period of time as the blue and green copies. In one of the details, they are retained for five or six years. The current procedure in the I-Bureau is to film these records at the end of two years. If a detail has a requirement to have these documents after they are filmed, they could be given the data on duplicate rolls. Each detail is collecting mug shots and/or MO information for their operations.

a. General Recommendations

Investigation Bureau.

The following recommendations apply equally to each of the individual details of the Criminal

1. Create a central mug shot and photo file under the control of the I-Bureau.
Eliminate separate files.

2. Create an 'MO' system and file placing it under the control of the I-Bureau.
3. Eliminate the multi-duplication of 3 x 5 index cards, centralizing this information in the I-Bureau. (Note I-Bureau recommendations regarding computerization.)
4. Eliminate the storage of all "dead" or "closed" DR's in individual bureaus. These "private" archives quickly become inactive and are better referenced in the I-Bureau.
5. Nickname and contact files should be located in the I-Bureau and made available to all Divisions, Bureaus, Sections, etc.
6. Microfilm all special files using a unitized (card, jacket, strip-up) system regularly and no less than quarterly. Such files include:
 - a. Nickname files
 - b. Signature or handwriting sample files
 - c. Evidence files
 - d. Juvenile contact reports
 - e. Arrest records
 - f. Personal property receipts
 - g. Suspect/victim cards
 - h. Vice information sheets
 - i. Special 3 x 5 indices
 - j. Stolen property data
 - k. Pawn broker reports
 - l. Auto recovery cards, etc.

2. JUVENILE DETAIL

a. General

This detail is responsible for all runaway juvenile investigations, missing persons, school liaison, juvenile court liaison and stolen bicycles. The present staff consists of seven

officers; one on the desk, three operating in missing persons, two in school liaison, one in stolen bicycles, and all in court liaison as required.

Activity in this bureau will average 400 missing person actions (of which 15% are adults) and 750 stolen bicycles per month. By law all juvenile records are considered confidential and are required to be destroyed when the juvenile reaches the age of 18.

The files in this area consist of three types: an index card file (3 x 5) by alpha name, an index card file (3 x 5) by alpha nickname, and a Juvenile Contact Report file.

The index name file is presently maintained in a loose card file system. This file consists of all missing persons, runaways, and juvenile warrants. This is considered an active file until an individual is returned home, found, or the case against the person has been resolved, when the index card is removed from the file. Reference to this file will exceed 50 times per day with approximately 30 of these originating from the radio room.*

When an individual is reported missing or picked up on a given charge and has a nickname that is used in lieu of his given name, an index card (3 x 5) is prepared with his nickname, and given name and address, and placed in the nickname file. The activity in this file usually starts at the age of 13 with a few exceptions starting at the age of 11 for delinquent or run-away incidents that generate more than one frequency of occurrence.

Purging of these files seemed to be a constant problem.** The present filing system requires that each report be reviewed for name and/or date of birth before a determination can be made to retain or dispose of a report. Purging is accomplished as frequently during each month as time will allow.

*A new 5 x 8 Remington Rand card file has been ordered that will provide easier access to any given name being searched.

**Departmental Reports (DR's) are not maintained in this area. If reference is required by Juvenile Detail personnel, the I-Bureau is used.

The Juvenile Contact Report form No. 80-167 is maintained in five seven-double-drawer files (62 individual drawers of which are occupied). Once a report is made out, it is retained until the individual reaches the age of 18 years. At that time, the files on that individual are destroyed. There are 62 rows of these reports, averaging 21" per row. (The actual count of individual reports per juvenile was not obtainable, due to the method of filing.) The report is folded in half to shape it into a 5 x 8 form and interfiled with existing reports. In the samples pulled, it was observed that reports on individuals were not consistently filed together; in some cases, the interweaving of individual reports was quite extensive. Sampling established that there were 78 reports (15 single cards and 63 folded reports) per inch.

The creation of the Contract Report form 80-167 is accomplished by any officer making original contact. This form is completed when a person under the age of 18 is picked up and considered a dependent child, a neglected child, a witness, a victim, or has been apprehended for delinquent or other activity. Distribution of the four-part form is as follows: white copy to the Juvenile Home; orange copy to the detail for investigation (if required). If investigation leads to charges being filed, the orange copy and resulting DR is sent to the Deputy County Attorney at the Juvenile Home. He retains this copy for reference in lieu of using the white copy located in the Juvenile Home files. If the incident does not require investigation or does not lead to the filing of charges, the orange copy is sent to the home of the juvenile. If charges are to be filed, the court handles the notification of the family.

The yellow copy is sent to Coding, the cardboard "cream-colored" copy is retained in the Juvenile Detail files. If DR's are required on past activities, they are referenced in the I-Bureau.

*These files are stored in a small, unlocked room within the Detective Bureau on the second floor. Members of the police force have ready access to these files at will. There is no way of controlling the removal of documentation or of the refiling of the data that is removed. Reference to these files will exceed 90 times per day.

If, for any reason, a child is placed in a foster home, a DPW-23-07 form is completed; one copy stays in the foster home, the other copy is given to the Juvenile Court.

b. Juvenile Detail
Conclusions

1. Documentation is held to the minimum required to accomplish the assigned tasks.
2. Identification of the individuals by year and month of birth would expedite purging of files.
3. Better file identification within the contact reports would help assure that all of an individual's file was being referenced or purged.
4. Better file security would provide more file integrity of the contact files and a 24-hour staffed access capability.
5. Placing the nickname file in a central location would provide a more expeditious access to the files of all P.D. personnel on a 24-hour basis.

c. Specific Juvenile Detail
Recommendations

1. The cards for the 5 x 8 card index system should be color coded for an 8-year cycle with places to make 12 black ticks to indicate the month of the year in which the file would be pulled. At the end of each month, the cards would be pulled from an index file as well as the records for that individual. This could be accomplished in a more expeditious time frame.
2. As a contact report is created for an individual not previously in the contact file, a folder with his name should be generated and that contact report and all ensuing reports for that individual be maintained in his folder. This would help eliminate intermingling of records.

3. The contact file and its maintenance should be transferred to the operating jurisdiction of the I-Bureau.
4. The nickname file and its maintenance should be moved to the I-Bureau.
5. Eventually, consideration should be given to placing the index file and nickname file on-line in the computer, or added to the suggested COM program.
6. Microfilm all records (using a "unitized" media) regularly against disaster.

3. FORGERY
DETAIL

This detail is responsible for investigating forgery activities. It is broken down into two basic elements: checks and credit cards. The workload was stated as being directly affected by the season as well as the economical environment of the area. There are six men assigned to this activity. Files maintained by this bureau consist of picture files, handwriting sample files, victim/suspect files, evidence files (cancelled checks, stubs, etc. filed by date of crime), and DR's.

The picture files consist of mug shots, snapshots and duplicate copies of drivers' license photos obtained from the various states that require a photo on their license. Some of the photos were in one drawer, broken down by sex and then by alpha order. The drivers' license photos were in another drawer in no apparent file order (an estimated 10,000 photographs). In addition, each officer has his own set of mug shots in his drawer.

Handwriting samples are maintained indefinitely and stored in one file cabinet drawer.

The victim/suspect files are maintained on 3 x 5 index cards and consist of 7-1/2 rows measuring approximately 141 inches, averaging 153 cards per inch or 21,573 file cards. (These are probably duplicates of those cards in the I-Bureau index file.)

A merchant's file is also maintained by store name, where each incident is listed with the name of the individual convicted. This file consists of three rows of 3 x 5 cards measuring 57 inches in length, for a total of 8,721 cards. The index card files are maintained for a period of 10 years.

The evidence files contain material on cases unsolved as far back as 1961 and material for cases which have yet to go to court. The material is filed by DR number. The current material is retained in one file drawer, the remaining material is stored in boxes in a storage cabinet.

The DR file is maintained from 1965 with the yellow copy being the file copy. The green and blue copies are retained in the office until such time as the matter is scheduled to go to court. At that time, the green copy is sent to the prosecutor's office and the blue copy is sent to the court liaison. After the incident involving credit cards is closed, the blue copy is returned to forgery for one year retention. Approximately 104 (25 - 30%) of the DR's created by this bureau are from walk-in victims, the remaining 245 are created by field officers.

4. HOMICIDE
DETAIL

This detail receives all DR's concerning any death. The green and blue copies are received, logged in on the desk log, and if homicide is in evidence assigned to a member of the bureau for investigation. The investigator receives the blue copy while the green copy is placed in the bureau's file. Unsolved case files date back to 1946. On those cases that are closed, the file is retained in 14 file drawers for one year after closing. The file and the log are maintained in numeric sequence. When a case is closed, the date of closing is posted on the original line of entry.

5. PERSONS
DETAIL

The duties of this detail involve investigation of the following crimes: assault, aggravated assault, simple assault, battery, rape, obscene conduct, contributing to the delinquency and neglect of children, and bomb scares. DR's are received from the

Headquarters Section, logged in, and an officer is assigned to the case (note officer's name on the log). The green copy goes in the file (current year), and the blue copy goes to the investigating officer. In some instances, the original DR is created by the investigating officer. It was noted that certain types of crimes, particularly in this bureau, required the development of a MO file.

6. INTELLIGENCE
DETAIL

This detail maintains files on all individuals known to be affiliated with organized crime or subversive organizations. The files are in alpha order by name of the individual and contain magazine/newspaper articles, pictures of known associates, reports on activities in the Phoenix area, and reports received from the National Crime Information Center (NCIC). These files are very sensitive and can only be accessed by individuals who can provide both the authorization to access and the need to know. The files are locked at all times and consist of 10 file drawers.

7. VICE DETAIL

a. General

This detail organization is responsible for investigating gambling, narcotics, prostitution and other forms of moral depravity or corruption. This organization maintains an information sheet for each known prostitute, narcotics user/pusher and gambler in the area. These sheets usually contain a mug shot, name, last known address, description and known MO characteristics. An index card file is also maintained on known offenders. In addition, index cards are prepared from phone calls by the general public reporting suspected activities and submitted by field officers in the course of their patrol duties.

DR's are maintained in this area on current activities for one year. They are also assigned the responsibility of investigating those firms applying for liquor and entertainment licenses. When copies of the applications are received, a check is made for past actions taken in or against that establishment. If no grounds are found to withhold

the license, it is recommended. If the grounds are substantiated, evidence is produced. It was noted that all applications were retained in the file after investigation. A very small percentage of the applicants have any type of actions in their files.

b. Specific Recommendation

We recommend that those applicants having a "blue chip" clearance be either disposed of or returned to the License Bureau. If, for any reason, copies are required at a later date, they can be obtained from the License Bureau.

8. PROPERTY DETAIL

All information relative to stolen property is maintained on a 3 x 5 index card system, filed by type of material and listing the name and address of the owner, nomenclature of the item, its serial number and model number (if available). These cards are retained for a period of five years with the exception of guns and tools which are maintained on an indefinite basis. The file sequence is by type of item and filed in terminal digit sequence by the last three digits of the serial number, and, within the terminal digit, it is filed numerically by the remaining digits starting from the left. Measurement of the 46 file drawers provided an estimated file content of 87,667 index cards. The cards are color coded to provide ease of purging at the end of each calendar year.

Information is put into the files from the police force and certain local merchants who are required, by law, to report their transactions to the Police Department. Compliance is generally good. The bureau receives about 1,000 forms (No. 80-177) per month.

The green and blue copies of the DR's are received from the Headquarters Section. The (detail) sergeant records the DR number, subject, to whom it is assigned, etc., in a desk log, files the green copy, and gives the blue copy to the individual assigned to the investigation. The investigating officer, on completion of required actions, writes supplemental DR(s) required to provide required additional information and/or close the

case. An index card file is maintained on such names. This file currently consists of approximately 2,754 names. Reference to these files is quite frequent by field officers and members of other detective bureaus.

9. AUTO THEFT DETAIL

This detail has the responsibility of recording, investigating and recovering stolen, embezzled, and misplaced cars.

If a citizen misplaces his automobile for any reason, a locate card is filled out with copies going to radio, front desk and one copy retained by the Auto Bureau. This happens approximately 105 to 120 times per month and the cards are retained for one year. This type of action usually is caused by a person forgetting where he parked, repossessing action, or impounding by the city or private action.

On stolen and embezzled automobiles, a DR is written and the yellow copy is maintained for a year plus the current year.

If an automobile is found, a recovery card is made out and maintained in a file for one year.

C. PROPERTY DETAIL

1. NOTES AND COMMENTS

The Property Unit is responsible for receiving, identifying, indexing, storing, and releasing physical property impounded or "found" by the police department. The unit also handles requests for criminal analysis on property. Operationally, the property receipt is issued by the property custodian who then indexes his copy of the property invoice by "book, page, and line." An index card is filled out showing the property owner's name, if known, the location where it is stored, and the "book, page, and line" location. These cards are filed alphabetically by name. There are approximately 32,000 active index cards and 50,000 inactive index cards. The "active" card becomes an "inactive" card when the property is released or disposed of. The inactive cards are retained because of possible legal reference. It has been estimated that forty accesses per day are made to the inactive and active cards. Since a majority of the property is used for evidence, it has been estimated that 15% of the property is cleared within one year of receipt, 60% in the second year and 70% in the third year.

2. RECOMMENDATIONS

The Property Unit appears to be well organized and efficient from a records keeping and retrieval standpoint. We make no recommendations for change except that a more active microfilming of these records be activated if for no other reason than disaster protection.

D. TRAFFIC BUREAU

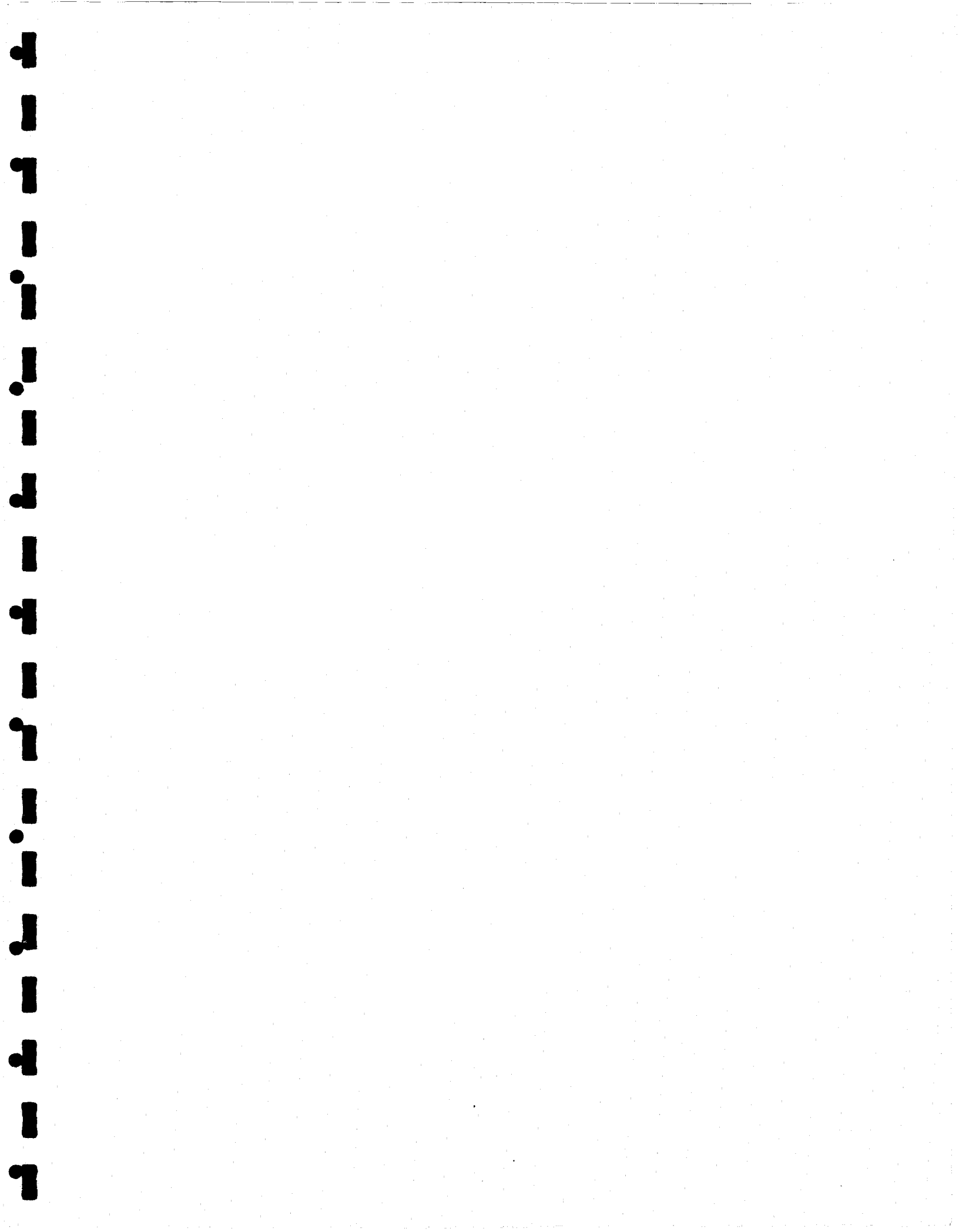
1. GENERAL NOTES AND COMMENTS

One of the primary responsibilities of the Traffic Bureau (see Figure A.3.11) is investigating, reporting and releasing information on traffic accidents. The investigating officer fills out an "Arizona Traffic Accident Report" for all major accidents and a "Form 5" for minor accidents. In 1969, there were about 21,000 traffic accidents in Phoenix, see Figure 9, or about 100 accidents per day. Of these accidents, about 17,000 were reported on the Arizona Traffic Accident Report and about 4,000 were reported on the "Form 5." The total accident rate has been increasing at the rate of approximately 10.2% per year. This is primarily due to an increase in population and, therefore, an increase in vehicles - automobiles, trucks, motorcycles, bicycles, etc. Pedestrian/vehicle accidents are also included in the accident report. As is apparent, if the traffic accident rate keeps increasing, the importance of the Traffic Bureau and their files will correspondingly increase.

2. FILE TYPES AND VOLUME

The Traffic Bureau maintains the following types of files:

1. Current accident report (30 days) filed by date.
2. Older accident reports (1968, 1969, and 1970) filed by street location.
3. Driving while intoxicated (alcohol influence) reports (1969-70) filed by name - Confidential.
4. Witness reports (1970) filed by accident report number - Confidential.
5. Form 5 reports (1969 and 1970) filed by date.
6. Miscellaneous reports - police vehicle accident reports, pedestrian, bike and Safety Council reports, etc.



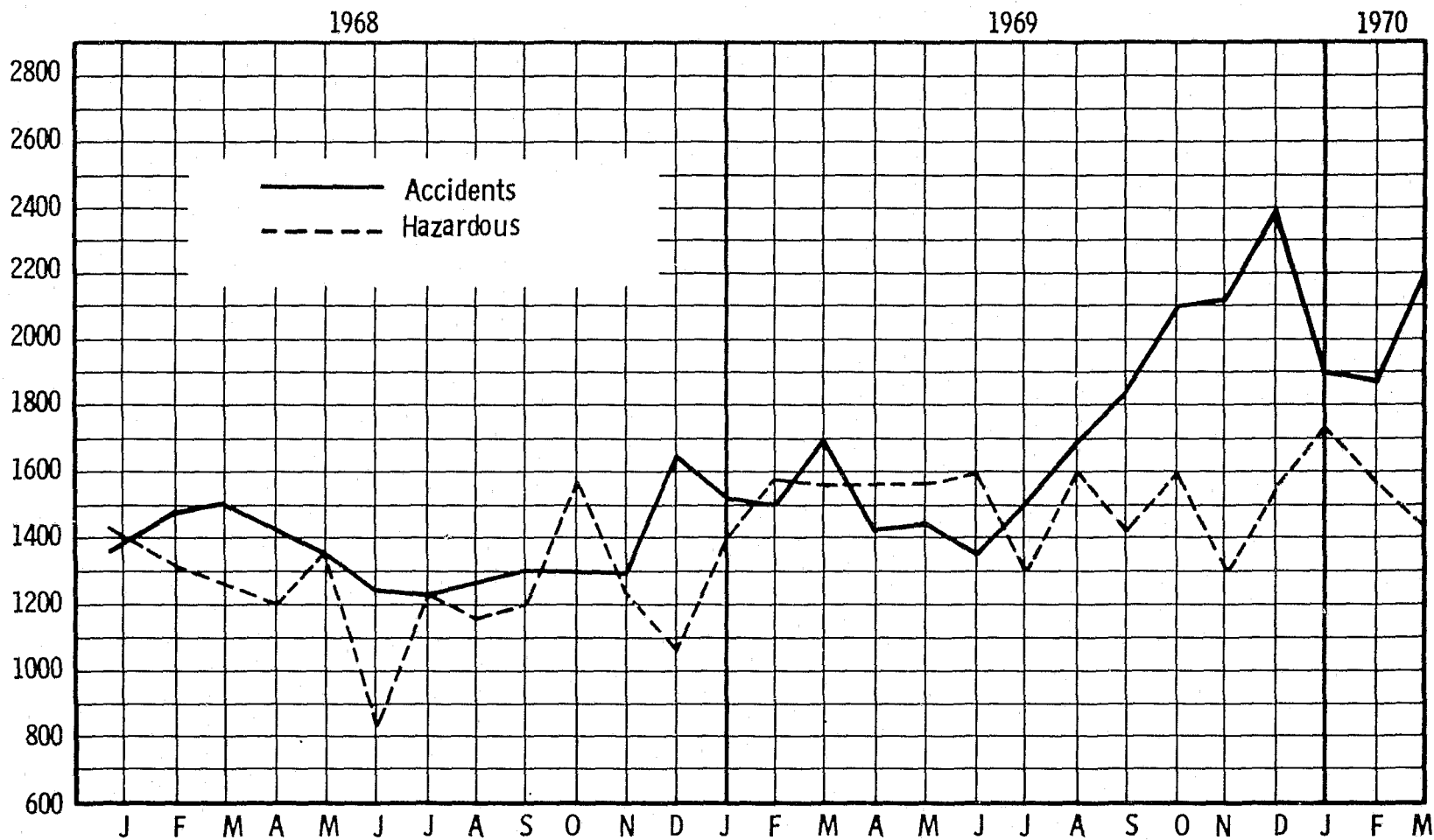


Figure 9. Traffic Accident Trend Chart

Currently, the use level of Form 5 has decreased by about 50% and the longer Arizona Traffic Accident Report is being used. The following estimates of the number of pages is supplied:

1.	Current Accident Reports	-	3,000 pages
2.	Older Accident Reports	-	110,000 pages
3.	Driving While Intoxicated	-	10,000 pages
4.	Witness Reports	-	300 pages
5.	Form 5 Reports	-	4,000 pages
6.	Miscellaneous	-	<u>5,000 pages</u>
	Total	-	130,000 pages

The following is an analysis of the number of page sides for one day's Arizona Traffic Accident Report (not including separately filed reports such as alcohol influence reports, etc.):

<u>Page Sides</u>	<u>Number</u>	<u>Percent</u>
2	38	63
3	17	28
5	5	9
<u>Total</u>	<u>60</u>	<u>100</u>

Table 6. Distribution of Arizona Traffic Accident Reports, Page Sides

The two page-side report is the standard accident report; the three page-side report is the standard accident report with an accident diagram attached; and the five page-side report is two standard accident reports plus an accident diagram. Out of these 60 accident reports, there were 3 (5%) driving while intoxicated accidents and 9 (15%) hit and run accidents. These 12 reports will have two to four additional page-sides each, appended to the traffic section of the report when unitized. However, the current system maintains the additional pages in separate files — partially because they are Confidential and partially for ease in use of the files.

Using the above statistics, the number of total page sides in the enumerated list above is estimated as follows:

1.	Traffic Accident Reports (All)	-	290,000
2.	Driving While Intoxicated	-	20,000
3.	Witness Reports	-	600
4.	Form 5 Reports	-	8,000
5.	Miscellaneous	-	<u>7,500</u>
			325,000 page sides

This estimate is probably accurate within $\pm 25\%$, based on the limited samples taken.

3. USER ANALYSIS

The majority of requests are from the following sources:

Mail

Insurance Companies	-	40 per day
Other Agencies - Law Enforcement and Governmental	-	1 - 2 per day

Counter

Insurance Companies	-	15 per day
Attorneys Individuals Private Investigators	} -	25 per day

Departmental

Hit and Run	-	5 per day
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Interdepartmental

Detective Bureau Records and Information Bureau	} -	5 per day
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Courts

Traffic Superior	} -	<u>10 per day</u> 100 Requests per day
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The above distribution is based on estimates supplied by police department personnel. The level of requests varies somewhat with the accident rate as attested to by the estimate that 85% of all traffic accidents will have insurance requests. Average response time to satisfy requests has been estimated to be between 5 to 15 minutes. This appears to be consistent with file activity.

The flows of information and records to and from the Traffic Bureau are relatively simple and straightforward. These flows are illustrated on a separate flow chart for the primary Traffic Bureau record - the Arizona Traffic Accident Report. It should be noted that Hit and Run accidents are intensively investigated by the Hit and Run detail where it has a "clearing and closing" percentage of between 70 to 90% per month.

4. RECOMMENDATIONS

For the most part, information and records are readily accessible and fairly compact. However, the suggestion of one of the Traffic Bureau clerks to put the prior Arizona Traffic Accident Report in order by "accident number" rather than by "location" should be implemented and is recommended by the study analyst. The reasons for this suggestion and recommendation are straightforward:

1. The Traffic Engineering Department apparently does not make regular use of the Traffic Bureau files to make studies of traffic engineering problems. Also, they have other sources for this information.
2. The infiling and retrieval to the "location" file is much more time-consuming, requiring the log to be searched and location determined. Organization by "accident number" requires only limited search because it is the prime identifier.
3. Purging of the "location" file is very time-consuming, requiring each major location to be searched for purgeable accident reports. If the "accident number" organization is used, purging becomes a simple procedure of removing a single continuous block of reports.

4. File integrity is increased because missing reports are easily identified. Some thought might be given to unitizing the traffic accident records for ease of record retrieval and file integrity, but the current staffing and file activity appears to be consistent.

V. REVIEW OF PHOENIX POLICE DEPARTMENT DATA PROCESSING ACTIVITIES

The following section is a review of the Phoenix Police Department (PPD) Data Processing activities, submitted by Mr. Henry Laun of Arthur Anderson and Co., San Francisco. The high-spot review was made in connection with the detailed micro-film study described in this report.

A. OBJECTIVES AND SCOPE

The objectives of this review were to (1) determine the extent of the present mechanization interfaces with each of the police operating divisions and the City Courts, (2) review plans for future proposed mechanization plans for the PPD and, (3) make any other pertinent observations or suggestions for improvement based on our review.

We reviewed the following mechanized systems:

1. DR, Adult Arrest, and Juvenile Referral statistical reporting.
2. Dispatch system
3. Traffic Bureau statistical reporting
4. Traffic Court system

We also reviewed the organizational and mechanized systems plans of the City of Phoenix Management Information Systems Department (MIS). Our observations and recommendations are discussed in the following section of this report.

B. POLICE DEPARTMENT COORDINATION WITH MIS

Two important steps have recently been taken which should improve the coordination between these departments — (1) the assignment of a full-time MIS coordinator to the PPD and Traffic Court EDP activities, and (2) the hiring of qualified full-time systems personnel by the PPD. These people should work closely together.

MIS is currently developing a long-range EDP plan for the entire city. The PPD should play a significant role in determining what the priorities should be so that the resources allocated to the PPD can be used to best advantage. The first priority should be to make the current EDP systems more responsive to the needs of the PPD. Several recommendations for improving these are made later in this report.

A mutual agreement on scheduling MIS work should be established in writing. One control desk should be set up in the PPD which would control all data input to MIS, balance all output reports to these controls, check their quality and distribute them to the proper locations, and compare actual to scheduled performance. Potential problems will thereby be discovered on a routine basis so that they can be quickly brought to the attention of the proper parties and resolved.

C. CURRENT MECHANIZED SYSTEMS

1. DR, Adult Arrest and Juvenile Referral Statistical Reporting

The Coding section is a part of the Records and Identification Division and is responsible for coding all DR's, supplements, arrest records, and juvenile referrals, and preparing month-end statistical reports.

There is an immediate need to establish a workable schedule with MIS for this work. The mechanized system could be improved as follows (none are major needs):

1. Certain control fields in year-to-date data are not working properly. These should be corrected.
2. Cards should be keypunched throughout the month. A program to edit and validate the data should be run at least weekly so that corrections can be made on a current basis. (This data is now processed only after the month-end closing.) Also, the edit and validation programs could be changed to identify the errors and make corrections easier.
3. Reports should be reformatted to directly fit FBI requirements and the City Manager's report. Perhaps cards could be furnished to the FBI in their format to eliminate their keypunching efforts. This will require some integration of the DR, Adult Arrest, and Juvenile Referral systems.
4. The computer system should print grid coordinates alpha-numerically as they are actually used rather than in numerical codes only, which require cross referencing.
5. Certain report data is not used (e. g. , DR data by hour, day of week, and location grid). This information should be reviewed and either changed to be made usable or discontinued.

6. Analysis of officer assault data should be included in any systems revision.
7. Disposition of arrest records should flow through coding on a routine basis. Now, Coding periodically checks each pending file to see if disposition has been made. This is not only more time-consuming, but could also result in inaccuracies.

Certain duplications exist between Coding and the Dispatch Office in the review and control of DR's. In addition, the Coding section has peaks and valleys in its work load because of its one-shift, five-day-a-week operation. The coding function would fit more logically as part of the review and control procedures within the dispatch section. Figure 10 shows that the workload of this department remained fairly stable until July of 1969 when it experienced a sudden jump. Since then it has leveled off at the higher rate.

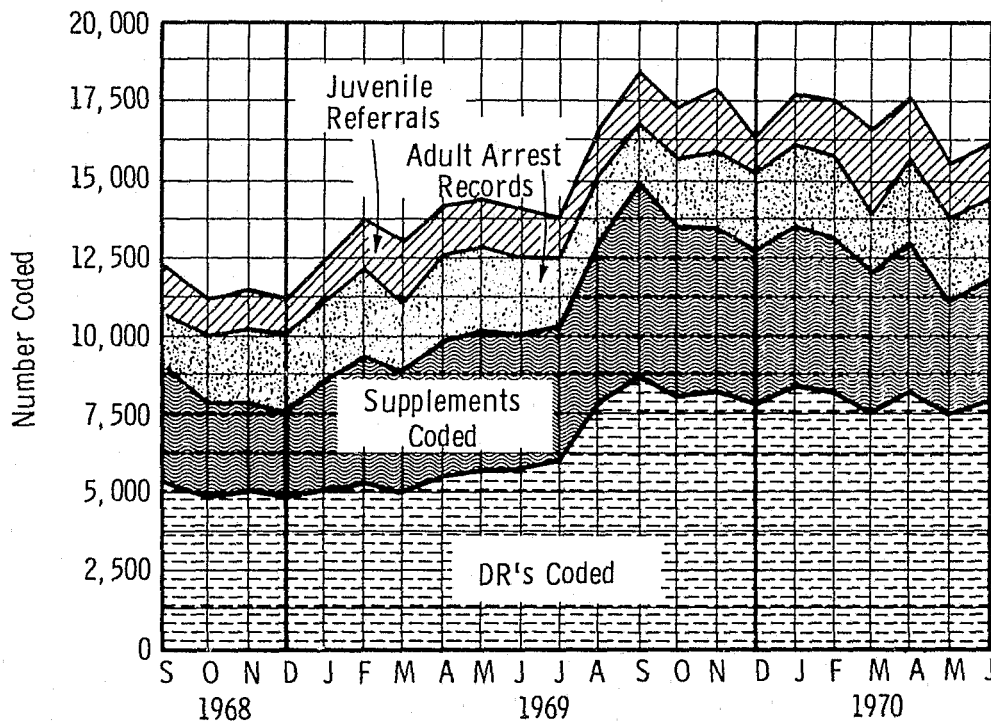


Figure 10. Coding Workload, I-Bureau Phoenix Police Department

2. Dispatch System

Dispatch cards are keypunched and the data is used to prepare weekly police manpower forecasts and monthly statistics. The weekly forecast is not currently used at the operational level. To be more useful, the data should be presented in a more simplified manner with some pre-analysis work already done by the computer and/or headquarters personnel. Such selective reporting should help the beat personnel grasp the significance of the data in a shorter time.

Several special analyses are made manually from the reports. Several of these could be mechanized. Also, the data base could be arranged so that selective information could be extracted when required.

The use of mathematical and statistical techniques could be used to better project and correlate expected criminal activity based on past history. We understand that a special project will be established within the PPD to do this type of analysis on certain Part I offenses.

At the present time, information on dispatch cards is sent via teletype to the district offices. The cards are then keypunched for computer statistics. Punched paper tape could be produced automatically as a by-product of the teletype operation, then converted automatically to punched cards, eliminating the keypunching function. This would save about \$15,000 per year in keypunching costs.

3. Traffic Bureau
Statistical Reporting

Statistics from this department are captured and computer-processed by both MIS and the Arizona State Traffic Safety Division — a complete duplication of effort and cost. An agreement should be worked out with the State so that as a minimum, data is only captured by one user and is transferred to the other user in machine readable form (punched cards or magnetic tape). If it works best for the State to do the capture, con-

sideration should be given to redesign of the form for mark sensing. (The State now apparently recodes each report onto another form that can be read by mark sensing.) We understand that some attempts have been initiated to coordinate these programs.

There is a great interest in installing a State plane coordinate system to more specifically locate accidents. There apparently are a lot of problems that must be worked out before this system can be implemented. If such a system is delayed, certain location analyses could be done on the computer with street locations, even though this may not be as accurate or the best long-term approach. Further investigation should be made to determine the extent of accuracy which would be obtained using current methods of designating street locations.

4. Traffic Court
System

A new computer system has been designed and is being programmed for a November conversion.

It appears that the new design is well-planned and should provide substantial improvements in procedures and cost savings over current methods of operation.

Considerable thought should be given to the development of the manual procedures which interface with this system so that the necessary training can be given to provide a smooth conversion.

Consideration should be given to having the system prepare bench warrants (which are still manual) and citation statistics by officer. (These are manually kept at the district office. See section on Officers' Daily Log.)

We understand that some thought has been given in the design of the new system to making warrant data available for direct inquiry at a later time. Since warrants are important but only a part of the information on the index file at the Records and

Identification Division, it would appear that it would be more practical to have this system feed a mechanized index file rather than stand as a separate system. (See paragraph on mechanization of index files.)

Significant extra work is required because of rejects from poor handwriting on the citations. The habitual poor writers should be identified and given special training.

Further details on the activities of the Traffic Court can be found in Appendix Three.

D. FUTURE SYSTEMS

1. Officer's Daily Log

A detailed log is maintained for each officer.

It is recapped and many statistics are manually prepared in the district offices. Most of the data on this log is or will be captured and processed on various computer systems as follows:

<u>Data</u>	<u>Computer System</u>
Calls	Dispatch System
Citations	Traffic Court System
DR's	Coding System
Arrest Records	Coding System
Juvenile Referrals	Coding System
Warrants	Traffic Court System (Oct. '70)
Subpoenas	Traffic Court System (Oct. '70)

Except for certain other information on interrogations and special reports, all of the statistical data could be accumulated mechanically by officer, shift, beat, etc. In any future systems development the use of this log should be analyzed and considered as an integral part of the total systems picture. Each of the computer systems should be integrated to bring together all of the needed statistical data.

2. Index System

Arthur Andersen agrees that the index file system could be mechanized so that file searches could be

made in several ways by the computer (e.g., name, aliases, fingerprint ID, drivers license number, social security number, physical attributes, MO information, etc.). Such mechanization should provide for more accurate, quick, and complete searches for data than can presently be obtained on a manual card index system.

This type of system, however, would require on-line computer capabilities and would probably have to be justified on other than a cost basis (particularly if on-line capabilities

must be obtained specifically for the PPD). Also, some considerable thought would have to be given for provision of back-up in case of computer failure. Usually, this is handled by a second back-up computer which would add significantly to the costs.

This application has the most potential in the PPD for future mechanization. It should be thoroughly studied in terms of data which should be on the index, file size requirements, theoretical response times, computer search techniques, specific equipment requirements, and costs of programming, installation and processing.

VI. FORMS DESIGN, CONTROL, AND COST

A. GENERAL COMMENT Business as we know it today would be quite impossible without the discipline of forms, and it is easy to see how these forms can get out of control in style, usage, flow, and costs. After reviewing some 140 forms now "most commonly used" by various functions of the Phoenix Department, we feel that some observations and a word of caution are in order.

B. BASIC RECOMMENDATION Generally speaking, the Department's use of forms is good. We found relatively little to criticize directly.

We suggest the creation of a formal Forms Control Office and that it report as a function of an administration group. This new office should concern itself with more than simply keeping track of and numbering those forms designed by and for various departments (a practice that lacks control over costs, and — more importantly — over the process of management). We cannot recommend too strongly that "Forms Control" become a real function and that it be totally responsible and accountable for the design, description, usage, and procurement of all forms used by the Department.

1. Recommendation Support Those symptoms that serve as indicators of the need for a formal program of forms control are:
 - a. Routine clerical tasks and reports frequently incomplete.
 - b. Management's lack of confidence in operating reports.
 - c. Difficulty in understanding or interpreting reports.
 - d. Frequent clerical errors.
 - e. Excessive turnover of clerical work force.
 - f. Need for typing additional copies due to insufficient copies originally prepared.
 - g. Distribution of too many copies.
 - h. Using two or more forms with similar basic data which could be combined into one standard form.

- i. High printing costs due to using more expensive processes and papers than necessary.
- j. Shortage of filing space.

These symptoms only indicate the need for a program. The creation of a formal program centers around one basic requirement — the desire to control forms. Management must initiate and support the program if it is to be effective. Since planned programs pay profits, it is imperative that this support be given.

Various authorities state that an organization, establishing its first formal program, can expect cost savings of 20% in printing costs alone. These same authorities also point out that for every dollar spent in the "physical" costs of a form (design, procurement, printing, inventory, invoicing, space, and user labor), \$25.00 will be spent in clerical and administrative costs.

2. Objectives and Goals

Just as in other management procedures, objectives or goals must be set for a forms program.

The four basic goals of a forms control program are listed below and will be discussed in turn.

- a. Establish simple, uniform forms.
- b. Eliminate unnecessary forms.
- c. Insure that the forms are purchased economically and that forms produced internally are produced economically.
- d. Review periodically all forms for determining their usefulness, efficiency, and need.

Goal a. The establishment of simple, uniform forms, is the first task of the program. All too often we allow our forms to be born helter-skelter amid a mixture of requirements. Result — there is little or no uniformity among the various types of forms as to their functions, paper grade, inks, sizes, and other factors that can and should be made uniform.

With the advent of high-speed electric typewriters and automatic equipment, the simpler the form is, the faster it can be filled in. In bygone days when most forms were filled in by hand, simplicity was less important; today, it is very important.

Goal b. Eliminating unnecessary forms is an area that demands constant concern.

Goal c. Insuring economies for both purchased and internally produced forms is an important area for large cost reductions. While in most instances sizeable economies are available, they are the kind of savings which are not very obvious. However, they are available to anyone who knows how to look for them. Examining or answering the following questions will help you purchase forms economically:

- (a) How are you buying your forms?
- (b) Are you taking advantage of the principle of combined printing runs?
- (c) Could you cut down on the number of times a form is ordered?
- (d) Are forms shipped to you in bulk or packaged in appropriate units?
- (e) Could you get a better deal by working with one printer under a formal arrangement?

Goal d. The periodic review of all existing forms to determine their usefulness, efficiency, and need is the most difficult objective.

3. Problem Areas

The first three goals require a series of specific actions. But this fourth goal also should be pursued methodically and intensively. With these goals in mind we suggest that you take a look at the following simply as examples of the things to look for.

- a. Most if not all of those forms now in use — which have both "draft" and "carbon set" versions (i.e., 80-31-D and 80-31) — were printed from two separate plates even though both are exactly the same in form and content.
- b. Many of your forms could be combined since they seem to serve the same basic purpose (i.e., 80-13D and 80-14D; with respect to this specific example, the tag 80-63 could be a by-product of 80-13D).

- c. We could not find a single form which was specifically identified as a "Department Report (DR)" and yet a great many forms refer to "DR No. ____."
- d. With exception of the 35 "Personnel" forms, formal forms descriptions are nonexistent.

C. MICROFILMABILITY

From a "microfilmability" point of view, the following are important considerations in any form

design.

1. All type should be sanserif.
2. Avoid lower case characters.
3. Open type styles should be selected, preferably those with medium to bold "bodies", avoid "condensed type".
4. Avoid type smaller than a 6-point body size.
5. Avoid crowding type and related line work.
6. Do not employ low contrasting colors, especially for that copy to be microfilmed (i.e., black on blue, brown on yellow, etc.). All standard microfilm cameras are designed to be principally concerned with black and white material, and since most microfilm is panchromatic, the image will appear to be less sharp if chromatic aberration exists. The wider the light waveband for which correction (filtering) must be made, the more difficult and complex the problem becomes.

VII. CITY COURTS

A. GENERAL

Our concern with the city courts, both Traffic and Criminal was the potential interface of information between it and the Department. Of primary concern to the Department was Traffic information. Inasmuch as the city has now installed a vastly improved computer interface, we see little additional improvement to be realized.

B. RECOMMENDATIONS

1. We do suggest that the city consider the use of a roll film system for the storage and retrieval of Criminal complaint and Judgment forms. These forms (estimated at 75 volumes of 700 forms each) date back to 1947 with an estimated access rate of 30 per week though not enough to warrant a sophisticated system, a simple roll system would save both time and space.
2. A direct teletype line to the I-Bureau could alert them that a warrant has been satisfied.

VIII. SUMMARY OF RECOMMENDATIONS AND CONCLUSIONS

We recommend that:

1. A study be conducted relative to potential microfile system application involving several city departments.
2. A study be conducted relative to potential microfile system application encompassing all law enforcement agencies operating in Maricopa County.
3. Lead or supervisory personnel should have an opportunity to secure further formal leadership training.
4. The I-Bureau's director should be supported in attending records management conferences (including EDP and Microfile).
5. There should be a greater exchange of records experiences and knowledge among various city, county and state records personnel.
6. The I-Bureau facilities need considerable modernization.
7. Index cards are ideally suited to a computer or "Computer Output Microfile" program. The potential saving is about \$45,000/year.
8. Rap sheets are also potentially computer oriented.
9. Out of date 3 x 5 cards should only be purged when the decision to computerize is made.
10. Mug shots should be produced on demand as opposed to the current excessive production technique now employed.
11. Department Reports need definition, classification and a uniform multipurpose format.

12. Every record worthy of retention should be microfilmed on a regularly scheduled basis (at least quarterly) for disaster protection.
13. Finger print card duplication should be reduced if not eliminated.
14. "Phoenix and FBI" RAP sheets should be combined.
15. Non-Phoenix warrants be removed from master index file.
16. Eliminate retention of the "Pinky".
17. Days off for some PRC's be changed to Thursday and Friday so as to provide more "catch up" help over the weekends.
18. Create one central mug shot file.
19. Create an MO system.
20. Eliminate multiduplication of 3 x 5 index cards.
21. Eliminate storage of "dead" or "closed" (colored) DR copies.
22. Expand use of nickname file.
23. Centralize all records in the I-Bureau.
24. Reorganize traffic accident reports in order by "accident number" rather than "location".
25. MIS and the Department should work more closely together.
26. MIS work be formally scheduled.
27. The Department should play a more significant role in determining priority so that allocated resources can be used to better advantage.

28. A workable schedule be established with MIS for coding work.
29. Coding cards should be keypunched throughout the month.
30. Reports should be reformatted to fit FBI requirements and the City Managers' report.
31. Computer should print grid coordinates alpha-numerically.
32. Reports not being used should be revised or discontinued.
33. Arrest Record disposition should flow through coding.
34. Coding function would fit more logically as a part of the dispatch section.
35. The dispatch system should be simplified.
36. Key punching could be eliminated by the use of punched paper tape as a by-product of the teletype operation for a potential savings of \$15,000/year.
37. A complete duplication of effort and cost exists between MIS and the Arizona State Traffic Safty Division in the computer processing of statistics.
38. Consideration should be given to having the new Traffic Court computer system prepare bench warrants and citation statistics.
39. In any future systems development, the use of "The Officers Daily Log" should be analyzed and considered as an intergral part of the total systems picture.
40. Establish a formal "Forms Control" program so as to provide more direct and continuous supervision over the design, control, usage, and cost of forms.

41. Establish a direct teletype line between the city courts and the I-Bureau for quicker response to warrant "recalls".
42. Criminal complaint and Judgement Forms in the Criminal Courts should be roll filmed for simple retrieval and low cost storage.



END