

TELEMASP BULLETIN

TEXAS LAW ENFORCEMENT MANAGEMENT AND ADMINISTRATIVE STATISTICS PROGRAM

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Information Management Systems Survey

In response to concerns from law enforcement administrators throughout the state, the Police Research Center conducted a survey to determine the current state of Information Management Systems utilized by law enforcement agencies in Texas. Administrators have expressed concerns regarding rapidly increasing technological advances and the impact of these advances on law enforcement agencies. Administrators are concerned with their abilities to remain apprised of innovations in Information Management Systems. Of paramount importance to administrators is the necessity of taking advantage of increased technology, as well as improving the efficiency of law enforcement organizations.

In July 1994 surveys were mailed to 195 law enforcement agencies in the state, including sheriff's departments, with 25 or more sworn personnel. Seventy-nine surveys were returned to the Police Research Center.

SAMPLE CHARACTERISTICS

Of those responding to the survey, 82% (n=65) were police departments and 18% (n=14) were sheriff's departments. Agencies ranged in size from 14 sworn personnel in the Frisco Police Department, to 2,882 sworn personnel in the Dallas Police Department. The following is a summary of agency size of respondents:

<u>Number of Sworn Personnel</u>	<u>Percentage of Sample</u>
1-25	8%
26-50	33%
51-100	21%
101-250	24%
251-499	5%
500+	9%

The Information Management Systems Survey consisted of questions about agencies' computer software, such as type of word processing or database program used and hardware, such as type of computer(s), hard drive size, and central processing unit type. Respondents were also asked about the capability of their current systems to manage various types of information, such as arrest records, inventory control and Uniform Crime Reports. The survey contained a list of items which asked respondents to rate on a scale of 1 to 5 their preferences for using a unified system which integrated various software and which could perform various functions, such as tactical crime analysis, providing parole and probation records and street gang intelligence information. Finally, agencies were asked about satisfaction with their current systems and whether or not they had any short or long term plans to upgrade their current systems. The following is a summary of responses to the items in the survey. It should be noted that missing data prevents some items from totaling 100%.

TYPES OF COMPUTERS USED

Respondents were asked what type of computers they had available within their agencies. Multiple responses were permissible.

<u>Computer</u>	<u>Percentage Using</u>
Mainframe	47%
Mini-Computer	41%
Stand-Alone PC	86%
Networked PC	58%
Local Area Networks	53%
Wide Area Networks	9%

Bill Blackwood Law Enforcement Management Institute of Texas

MAINFRAMES

Forty-seven percent of the respondents reported using mainframe computers.

Brand Names

A variety of brand names were given for mainframe computers. IBM or IBM clones were the most frequent responses, followed by DEC. Additional responses included Hewlett Packard, Unisys, Motorola and McDonnell Douglas.

<u>Physical Size of Hard Drive</u>	Percent <u>Using</u>
40 MB or less	1%
41 to 60 MB	0%
61 to 80 MB	0%
81 to 120 MB	0%
121 to 210 MB	1%
211 to 329 MB	0%
330 to 675 MB	5%
676 to 1200 MB	9%
Other	28%
Multiple Answers	1%

Removable Media

Tape Drives	37%
Optical Disks	0%
CD Rom Drives	0%
Write-once, read-many (WORM)	0%
Multiple Answers	1%

Hard Drive Interface Type

Modified Frequency Modulation (MFM)	0%
Run-Length Limited (RLL)	0%
Small Computer System Interface (SCSI)	0%
Enhanced System Device Interface (ESDI)	3%
Intelligent Drive Electronics (IDE)	5%
Multiple Answers	3%

Types of Operating Systems

Respondents indicated that IBM RPG was the most frequently used operating system. DOS, Unix, OS 400, VMS and VSE/ESA are also used by agencies.

MINI-COMPUTERS

Fifty-six percent of the respondents reported using mini-computers.

Brand Names

IBM or IBM clones were the most widely used brands of mini-computers. DEC, VAX, McDonnell Douglas and Alpha Micro were given as additional responses.

<u>Physical Size of Hard Drive</u>	Percent <u>Using</u>
40 MB or less	1%
41 to 60 MB	0%
61 to 80 MB	1%
81 to 120 MB	1%
121 to 210 MB	3%
211 to 329 MB	1%
330 to 675 MB	8%
676 to 1200 MB	6%
Other	28%
Multiple Answers	4%

Removable Media

Tape Drives	42%
Optical Disks	0%
CD Rom Drives	1%
Write-once, read-many (WORM)	0%
Multiple Answers	10%

Hard Drive Interface Type

Modified Frequency Modulation (MFM)	1%
Run-Length Limited (RLL)	0%
Small Computer System Interface (SCSI)	23%
Enhanced System Device Interface (ESDI)	0%
Intelligent Drive Electronics (IDE)	3%
Multiple Answers	3%

Types of Operating Systems

Unix and VMS were the most frequent operating systems utilized by the respondents. DEC, OS 400, RPG II and AIX were additional responses.

STAND-ALONE PERSONAL COMPUTERS

Eighty-six percent of the agencies reported using stand-alone personal computers.

Brand Names

There was a wide variety of brands of personal computers cited by respondents. IBM or IBM clones were the most frequently reported. Other brands identified were Texas Instruments, Compaq, Gateway, Dell and Leading Edge.

<u>Physical Size of Hard Drive</u>	<u>Percent Using</u>
40 MB or less	6%
41 to 60 MB	1%
61 to 80 MB	1%
81 to 120 MB	12%
121 to 210 MB	18%
211 to 329 MB	9%
330 to 675 MB	5%
676 to 1200 MB	1%
Other	21%
Multiple Answers	12%

Removable Media

Tape Drives	33%
Optical Disks	0%
CD Rom Drives	4%
Write-once, read-many (WORM)	1%
Multiple Answers	18%

Hard Drive Interface Type

Modified Frequency Modulation (MFM)	0%
Run-Length Limited (RLL)	0%
Small Computer System Interface (SCSI)	0%
Enhanced System Device Interface (ESDI)	0%
Intelligent Drive Electronics (IDE)	26%
Multiple Answers	26%

Types of Operating Systems

The most frequently used operating system was DOS, followed by Windows and Windows NT. Unix, OS2 and AIX were additional responses.

NETWORKED PERSONAL COMPUTERS

Fifty-eight percent of the respondents reported using networked personal computers.

Brand Names

Respondents identified DTK and DEC as the most frequently used brands of computers employed in Local Area Networks. Additional brands were Hewlett Packard, IBM, Compaq, Dell and Gateway.

<u>Physical Size of Hard Drive</u>	<u>Percent Using</u>
40 MB or less	0%
41 to 60 MB	0%
61 to 80 MB	0%
81 to 120 MB	4%
121 to 210 MB	16%
211 to 329 MB	4%
330 to 675 MB	5%
676 to 1200 MB	4%
Other	18%
Multiple Answers	5%

Removable Media

Tape Drives	28%
Optical Disks	1%
CD Rom Drives	0%
Write-once, read-many (WORM)	0%
Multiple Answers	9%

Hard Drive Interface Type

Modified Frequency Modulation (MFM)	0%
Run-Length Limited (RLL)	0%
Small Computer System Interface (SCSI)	17%
Enhanced System Device Interface (ESDI)	4%
Intelligent Drive Electronics (IDE)	14%
Multiple Answers	14%

Types of Operating Systems

DOS was the most common operating system for Network PCs. Windows, Novell Netware and DEC Pathworks were also identified by respondents as operating systems currently in use.

SOFTWARE USAGE

Respondents were given an open-ended question asking what types of software they currently used for various functions. The most frequently appearing responses are provided below.

Word Processing Software Percent Using

Word Perfect	78%
Microsoft Word	14%
Displaywrite	4%

Desktop Publishing Software

Aldus Pagemaker	12%
Ventura	4%
Corel Draw	4%
Freelance	3%

Other software identified by respondents for desktop publishing includes Printshop Deluxe, Powerpoint, Harvard Graphics, and Publish It.

Database Management Software

Paradox	13%
DBase	12%
Access	10%
Q & A	9%
RBase	5%

Respondents also identified Filepro, Clipper, Visual Basic, Oracle and Dataease as database management software in use currently.

Spreadsheet Software

Lotus 1-2-3	38%
Quattro Pro	21%
Excel	17%

Graphics Software

Harvard Graphics	23%
Coreldraw	8%
Freelance	4%

Additional software identified by respondents for graphics were Press Maker, Powerpoint, Visual Basic, PrintShop and Draw Perfect.

Mapping Software

MapInfo	13%
ArcInfo	4%
Atlas	4%

Respondents indicated that Autocad, Landtrak, Automap, and Streets were also in current use as mapping software.

Utility Software

Percent Using

Norton Utilities	27%
PC Tools	12%
XTree	4%

Procomm, Syscon, Powerhouse, Fastback, Centerpoint, Quarterdeck, and Direct Magic were also indicated to be utility software currently in use.

Graphical User Interface Software

Windows	64%
OS2	1%
Norton Utilities	1%

Full-Text Software

A majority of agencies (96%) did not respond to this item. Of those responding, DOS edit, PCDocs, and CJIS/CQCS/IQ were types of full-text software currently in use.

If nonresponse to an item in this section can be assumed to mean that the agency does not utilize any type of software for the function listed, a pattern may be seen among respondents. All of the agencies provided a response to the type of word processing program in use, indicating that word processing capabilities are of great importance to agencies in the sample. Software for database management, spreadsheet creation, and graphical user interface was identified by respondents currently in use in over 60% of the cases, indicating moderate usage of these programs. In contrast, less than half of the respondents provided answers to items asking about graphics software, utilities software, desktop publishing, and mapping software, indicating minimal usage of these types of software. Only three respondents identified a type of full-text software currently in use, indicating rare usage of full-text software.

Note that responses to open-ended questions concerning short and long-term plans for information management systems in the agencies indicated that many were interested in acquiring software which could perform some of the functions, such as mapping capabilities, which are currently in moderate to minimal use.

SOFTWARE FUNCTIONS

Respondents were asked what functions their software perform as well as the degree to which their agencies utilize the function.

<u>Function</u>	<u>Availability</u>		<u>Minimal Usage</u>	<u>Moderate Usage</u>	<u>Maximum Usage</u>
	<u>Yes</u>	<u>No</u>			
Arrest or Crime Records	98%	1%	4%	13%	77%
Case Disposition Reports	78%	21%	10%	21%	42%
Case Management	69%	27%	10%	19%	37%
Citation Control	64%	32%	15%	15%	28%
Crime Analysis	69%	27%	18%	27%	21%
Criminal Histories	81%	17%	5%	22%	49%
DWI/DUI	65%	30%	14%	19%	30%
Drug Law Violations	68%	30%	14%	21%	30%
Evidence Management	76%	24%	18%	23%	30%
Field Contact Reports	74%	23%	23%	24%	23%
Fraud Offenses	72%	24%	15%	22%	31%
Inventory Control	50%	45%	21%	14%	13%
Jail and Booking Records	73%	23%	6%	13%	49%
Juvenile Records	77%	18%	15%	13%	44%
Modus Operandi	67%	24%	23%	21%	19%
Name Index	90%	8%	5%	10%	69%
NIBRS	24%	60%	9%	4%	8%
Parking Tickets	36%	56%	16%	5%	9%
Report Writing	82%	17%	10%	14%	53%
Stolen Property	94%	6%	12%	31%	47%
Summons Management	35%	59%	4%	8%	19%
Traffic Tickets	58%	37%	9%	9%	35%
Traffic Accidents	72%	24%	6%	27%	35%
UCR	90%	5%	9%	12%	67%
Victim-Witness Information	90%	8%	13%	15%	58%
Wanted Persons	65%	30%	9%	10%	42%
Warrants	72%	26%	13%	6%	47%

UNIFIED SYSTEM

Respondents were asked to indicate the software modules that they would like to see integrated into a unified system, rating these on a scale of 1 to 5, with five being the most important. The following are the mean scores for each item. The items with the highest scores indicate the most desired software modules.

<u>Module</u>	<u>Mean Score</u>
General Records Management	4.53
Jail/Booking Records (PD=3.89; SD=3.90)	4.00
Evidence and Seized Property Mgt.	3.97
Interagency Communication and Exchange	3.94
Paperless Booking with Mug Shots	3.87
Street Gang Intelligence	3.72
Crimes against Children Case Mgt.	3.66
Tactical Crime Analysis	3.59
Serious Habitual Offender	3.59
Option to Print Color Photos	3.25
Weapon and Vehicle Management	3.13
Citation and Warrant Admin.	3.01
Access to Probation/Parole Records	2.95
Parking Citation Management and Collection	1.77

Future Plans for Information Management Systems

In two open-ended questions, respondents were asked to indicate what plans they had to upgrade their systems in fiscal year 1995-96 and what their long-range plans were for their systems. There were a wide variety of responses, but some commonalities were identified in the responses to both questions. In responses to both questions, agencies indicated that upgrading both hardware and software were primary. However, purchasing additional equipment such as lap tops for use in vehicles, color terminals, fingerprint imaging systems and video mugshot systems was also mentioned.

Regarding plans for fiscal year 1995-96, agencies were most interested in keeping their existing systems current with computer technology. Education of users and continuous evaluation of systems were indicated by some respondents as being important. Additionally, agencies reported concerns about being current with the computer advancements and not losing historical data.

Agencies' responses to long-range plans for information management systems were quite similar. A majority of agencies were interested in establishing local area law enforcement networks as well as networks with other criminal

justice agencies such as courts and parole and probation. Some agencies also indicated a desire to include public utilities and fire departments in area networks. Many of the agencies indicated wanting to implement paperless and wireless reporting systems. Incorporating geographic information systems for crime analysis and manpower allocation into existing systems was frequently cited as being a part of the long-range plans of agencies.

Summary

Responses to this survey indicate that information management systems in law enforcement agencies in Texas vary to a degree but have many elements in common. Most agencies (86%) rely on stand-alone personal computers for their information management systems. Sizes and brands of computers vary to a degree but many of the agencies use IBM or IBM compatible equipment and hardware of moderate computing capacity (286-386). A clear majority (90% or >) of agencies currently use existing software for arrest or crime records, stolen property, Uniform Crime Reports, victim-witness information and name indexing. Respondents indicated that if offered a unified system with various functions, they would be most interested in having general records management, jail and booking records management, and evidence and property management as part of the system, followed closely by interagency communication and exchange capabilities.

Most respondents (66%) indicated that they were very satisfied or satisfied with their current information management systems. Most were interested in improving existing systems, however, to provide for more efficient and effective law enforcement.

SATISFACTION WITH CURRENT INFORMATION MANAGEMENT SYSTEM

Respondents were asked their satisfaction with their current information management system.

<u>Satisfaction Level</u>	<u>Percentage</u>
Very Satisfied	26%
Satisfied	40%
Not Sure	8%
Dissatisfied	17%
Very Dissatisfied	9%

INFORMATION MANAGEMENT SYSTEMS SURVEY RESPONDENTS

Abilene Police Department
Addison Police Department
Alvin Police Department
Amarillo Police Department
Austin Police Department
Baytown Police Department
Bell Co. Sheriff's Department
Bellaire Police Department
Benbrook Police Department
Bexar Co. Sheriff's Department
Bowie Co. Sheriff's Department
Brazoria Co. Sheriff's Department
Bryan Police Department
Bunker Hill Village Police Department
Carrollton Police Department
Cleburne Police Department
Conroe Police Department
Coppell Police Department
Copperas Cove Police Department
Corpus Christi Police Department
Corsicana Police Department
Dallas Police Department
Deaf Smith Co. Sheriff's Department
Deer Park Police Department
Denton Police Department
Denton Co. Sheriff's Department

Duncanville Police Department
El Paso Co. Sheriff's Department
El Paso Police Department
Eules Police Department
Fort Bend Co. Sheriff's Department
Fort Worth Police Department
Frisco Police Department
Gainesville Police Department
Grand Prairie Police Department
Grapevine Police Department
Greenville Police Department
Harlingen Police Department
Highland Park Public Safety
Huntsville Police Department
Hurst Police Department
Irving Police Department
Kerrville Police Department
La Marque Police Department
La Porte Police Department
Lewisville Police Department
Longview Police Department
Lubbock Police Department
Mansfield Police Department
Mesquite Police Department
Midland Police Department
N. Richland Hills Police Department

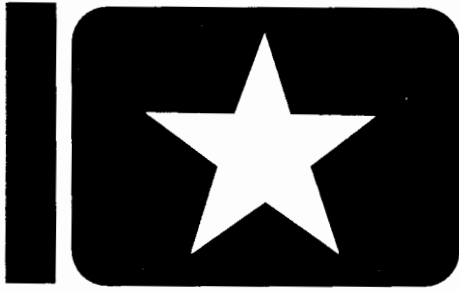
Panola Co. Sheriff's Department
Parker Co. Sheriff's Department
Pasadena Police Department
Plainview Police Department
Plano Police Department
Richardson Police Department
Rosenberg Police Department
Round Rock Police Department
San Angelo Police Department
San Antonio Police Department
San Benito Police Department
San Patricio Co. Sheriff's Department
Seguin Police Department
Sherman Police Department
Sugar Land Police Department
Tarrant Co. Sheriff's Department
Temple Police Department
Texarkana Police Department
Texas City Police Department
Travis Co. Sheriff's Department
Tyler Police Department
Universal City Police Department
Waco Police Department
Watauga Police Department
White Settlement Police Department
Wichita Co. Sheriff's Department
Wichita Falls Police Department

ANYONE INTERESTED IN PARTICIPATING IN AN
INFORMATION MANAGEMENT SYSTEM
DEVELOPMENT PROJECT WITH THE
POLICE RESEARCH CENTER
SHOULD CONTACT:

**MS. JAMIE TILLERSON
POLICE RESEARCH CENTER
COLLEGE OF CRIMINAL JUSTICE
SAM HOUSTON STATE UNIVERSITY
HUNTSVILLE, TX 77341-2296**

CORRECTION

The September *TELEMASP Bulletin*, "Juvenile Curfews," Vol. 1, No. 6 indicated that El Paso did not have a curfew ordinance. The city of El Paso does, in fact, have a curfew ordinance. We apologize for this error.



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