

# TELEMASP BULLETIN

## TEXAS LAW ENFORCEMENT MANAGEMENT AND ADMINISTRATIVE STATISTICS PROGRAM

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### Crime Analysis: Tactical and Strategic Aspects

In the January 1995 issue of the TELEMASP bulletin, the administrative aspects of law enforcement crime analysis were discussed. That discussion was enhanced by data from a survey of selected Texas law enforcement agencies. Of the 32 agencies that responded to the survey, 17 had a crime analysis unit in operation, 14 did not have a dedicated crime analysis unit, and one was only weeks away from implementing a new crime analysis unit.

In this issue, tactical and strategic aspects of the crime analysis function will be presented. Particular attention will be directed towards presenting innovative uses of crime analysis as reported by the responding agencies.

#### Definitions

As a convenience for the reader, the definitions of crime analysis, and the tactical and strategic analysis functions are provided from the January 1995 TELEMASP bulletin.

Crime analysis is defined as a set of systematic, analytical processes directed at providing timely and pertinent information relative to crime patterns and trend correlations. The goal of crime analysis is to assist operational and administrative personnel in the planning and deployment of limited resources in the most effective and efficient manner. Crime analysis is used to prevent and suppress criminal activities, aid the investigative process, and increase apprehensions and clear cases. It is the function of the crime analysis unit to identify, assemble, and disseminate information concerning crime incidents, criminal behaviors and characteristics, and patterns and trends to be used in administrative strategic and tactical planning.

#### Analysis Functions: Tactical

**Crime Series/Pattern Detection:** Crime series detection is identification of offenses that are believed to be committed by the same person or group of persons; crime pattern detection, in contrast, is defined as the number of offenses that have some common characteristics but not necessarily unique to a given person or group of persons. The objective of crime series detection is apprehension, and the objective of crime pattern detection is suppression.

**Suspect-Crime Correlations:** Suspect-crime correlations identify perpetrators of known crimes by systematically matching a suspect's physical, vehicle, or M.O. information from crime reports with similar information from offender-based files.

**Target/Suspect Profiles:** Target profiles attempt to forecast the nature of the objects that might be attacked or descriptions of the types of structure and/or victims for a given crime problem. Suspect profiles can be established in the same manner. With target/suspect profiles, operational units can make more informed decisions on tactical operations.

**Crime Potential Forecasts:** Crime potential forecasts attempt to determine future crime events based on the historical analysis of cyclical, periodic, or special events as well as information from crime series/pattern detection.

### Analysis Functions: Strategic

**Exception Reports:** Crime analysis is used to alert personnel when the frequency of crime is above or below some pre-established limits for a given geographical location.

**Crime Trend Forecasts:** Crime trend forecasting requires the identification of the prevailing tendency or general movement of crime frequencies for a particular geographical area over a given period of time. Crime trend forecasts are general, covering large geographic areas and long periods of time.

**Resource Allocation:** Resource allocation models can be constructed to aid managers in determining the best use of available human resources by analyzing:

- demand for patrol and detective services and the time expended to meet those demands
- human resources available to meet service and administrative demands
- assignment of human resources commensurate with the workload requirements
- allocation of assigned human resources to shifts in proportion to frequency of service demands
- the distribution of personnel allocated to the various shifts in such a way as it relates rationally to the geography

**Situational Analysis:** Situational analysis usually takes one of two forms: area-specific analysis or crime-specific analysis. Area-specific analysis describes the physical and demographic characteristics as well as crime history of a relatively small geographical area. Crime-specific analysis, on the other hand, takes a selected crime type and, over several geographic areas, attempts to specify the particular characteristics associated with that crime type.

### Crime Analysis Unit Functions

Crime analysis units serve a variety of functions in supporting law enforcement operations. The majority of responding analysis units participated mainly in tactical roles, as shown in Figure 1.

### Crime Reductions Attributed to Crime Analysis Activities

Thirty-nine percent of the responding agencies which have active crime analysis units reported crime reductions attributable to their activities. Examples of some of these crime analysis success stories are listed below.

- Patrol and detectives were provided with target areas and names of known suspects. This resulted in the reduction of residential burglaries, auto burglaries, and criminal mischiefs (Midland P.D.).
- Some crime reductions were realized through targeting specific offenders, crimes, and locations (Abilene P.D.).
- Crime analysis led to the arrest of specific offenders. Crime was reduced due to directed patrols from the crime analysis unit (Arlington P.D.).
- Robbery, burglary, and burglary of vehicles have been deterred by crime analysis data provided to patrol and tactical units. Arrests have also increased (Wichita Falls P.D.).
- The crime analysis unit has been instrumental in reducing crime trends by taking a pro-active approach. Crime analysts are assigned sectors of the city and attempt to predict crime trends through utilization of pin maps. At first indication of such a trend, patrol officers, Repeat Offender Project Officers, and the Special Operations Unit are notified in order to saturate the area. (San Antonio P.D.).
- Auto thefts in the southern part of the city have been reduced via the identification of the problem, including dates and times of theft pattern, and the type of vehicles stolen. This reduction resulted through the deployment of officers to address problem. (Garland P.D.).

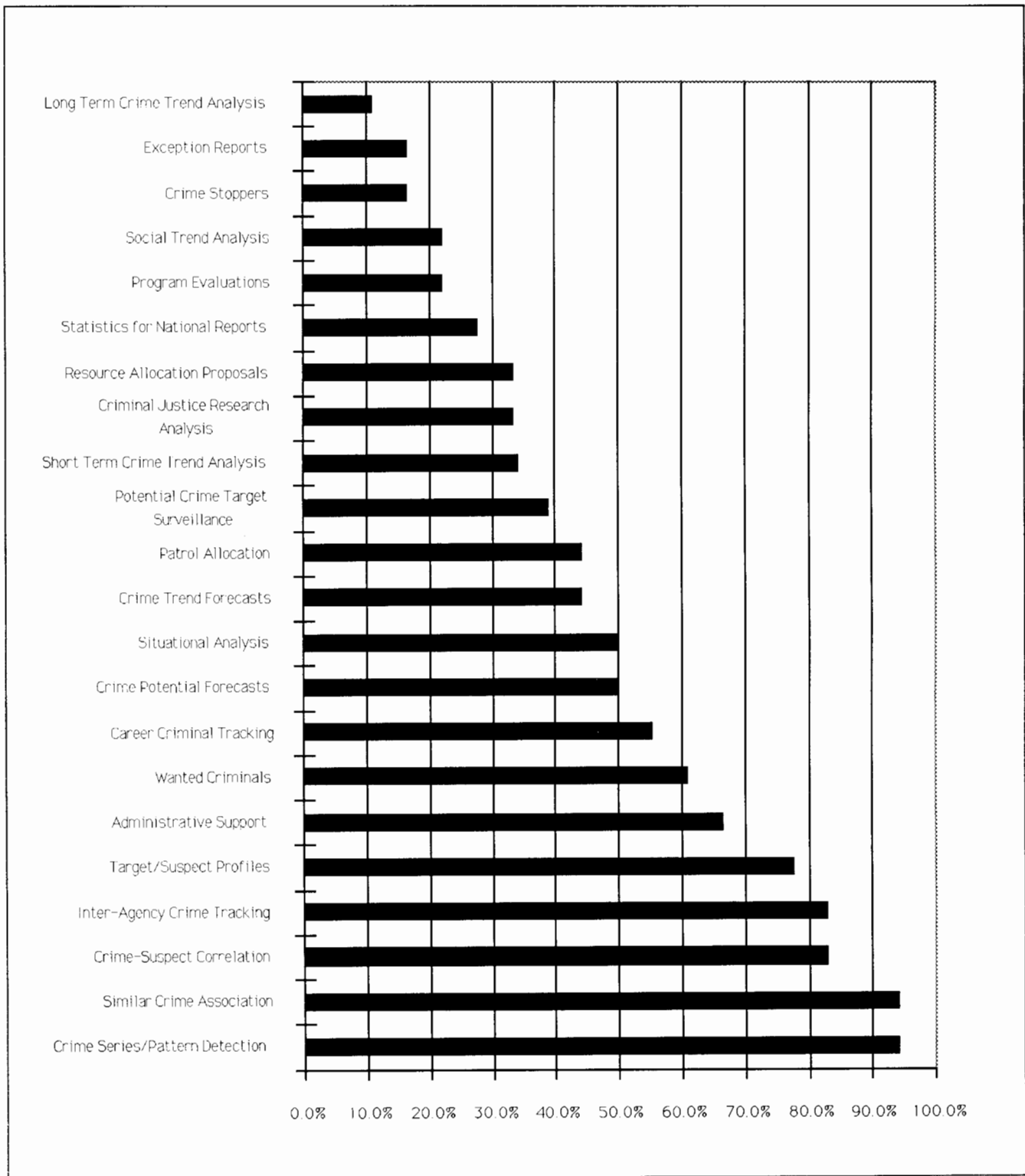


Figure 1

Functions by Percentage of Crime Analysis Units



### Information Dissemination

Information exchange is often the key to solving complex crimes. The best crime analysis unit is substantially weakened, however, without prompt access to field offense and incident reports. In Figure 2, the report acquisition time lag reported by the responding analysis units is displayed.

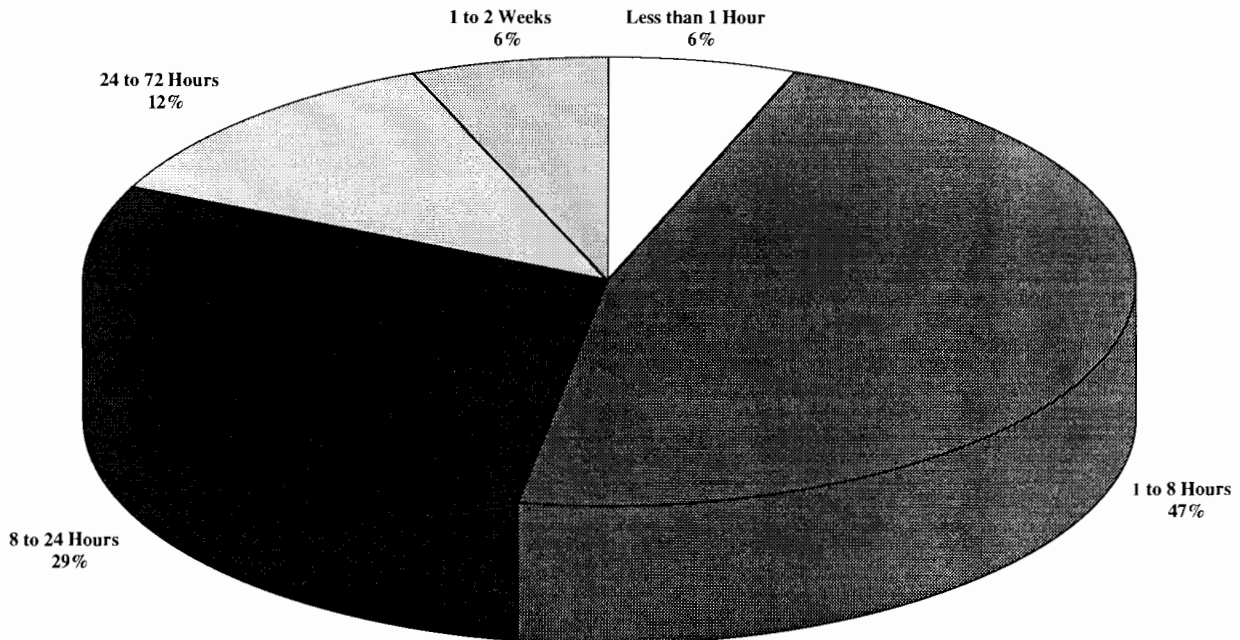


Figure 2

### Time for Report to Get from Field to Crime Analysis

The majority of surveyed agencies have exchanged crime information with other local, county, state, and federal agencies. Some agencies have initiated some degree of data-sharing through computer networks (see Figure 3). Inter-agency crime analysis networks have the potential for making crime analysis much more efficient, particularly where the offenders travel across jurisdictions. This will likely become more prevalent in the future as the Information Superhighway grows in prominence.

Law enforcement agencies are often either asked, or find it prudent to provide information about criminal activity to the public and the media. Crime analysis units are sometimes tasked with this delicate assignment. The majority of crime analysis units do not disseminate suspect names (56%) or specific crime details (56%) to the public. Victim names, however, are provided by 61% of the surveyed units, and crime scene locations are available from 94% of the crime analysis units.

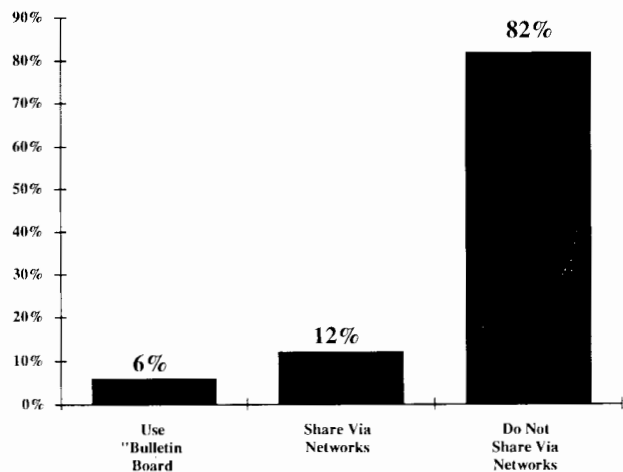


Figure 3

### Use of Computer Networks to Share Information

### Information Security

While the advent of computerization has enhanced the gathering, maintenance, and analysis of crime trend information, there is also an enhanced possibility of sensitive tactical and strategic crime data getting into the wrong hands.

All of the crime analysis units reported having taken some precaution(s) to ensure computerized data security. Computer data security is often a trade-off between ease of accessibility for users and protection of data from unauthorized personnel.

Password security is one method of data security. Password protection is used by 94% of the crime analysis units. In this method, access to data or computer systems is allowed only if the computer operator enters the correct password. Passwords have the obvious advantage in that only those knowing the password should have access. Unfortunately, the more people that know a password, the more likely an unauthorized person will learn it. One way to circumvent this problem is to change passwords frequently. Another problem with passwords is that the password programs on many (not all) programs are relatively simple and can often be circumvented by an ambitious computer hacker.

Another method of data security is data encryption. In data encryption, access to data is denied by electronically scrambling the record file so it is not readable without the proper access code. This method of data protection is seen to be more secure than password protection and requires only

slightly more effort to use. Data encryption was not reported to be in use by any of the agencies.

Data records may also be stored on removable media, such as floppy diskettes or removable hard drives. In this security scheme, it is up to the analyst to physically remove the data storage device from the computer when work is completed and secure the storage device in a locked or secure place, such as a vault. Six percent of the surveyed crime analysis units use this security method.

Data should also be protected from inadvertent loss by making back-up copies in some format. One method is to have all electronic data printed out on paper or hard-copy. Though effective, this method is very inefficient. A more efficient method is to make data back-ups on other magnetic media, such as floppy disks, magnetic tape, or separate computers. This back-up plan is followed by 47% of the units. If there is concern over the security of the building where the primary data is stored or to ensure data integrity in case of natural or man-made disasters, it may be wise to store back-up data in a different building. Remote site back-up storage is used by 53% of the agencies.

Another form of data security rests in deciding who will have access to the data. The very best electronic security systems are useless if legitimate physical access is not limited. The choice to limit access is often not an easy one, being regulated by policy, freedom of information laws, and departmental mission. The surveyed units currently have access control plans in effect as shown in Figure 4.

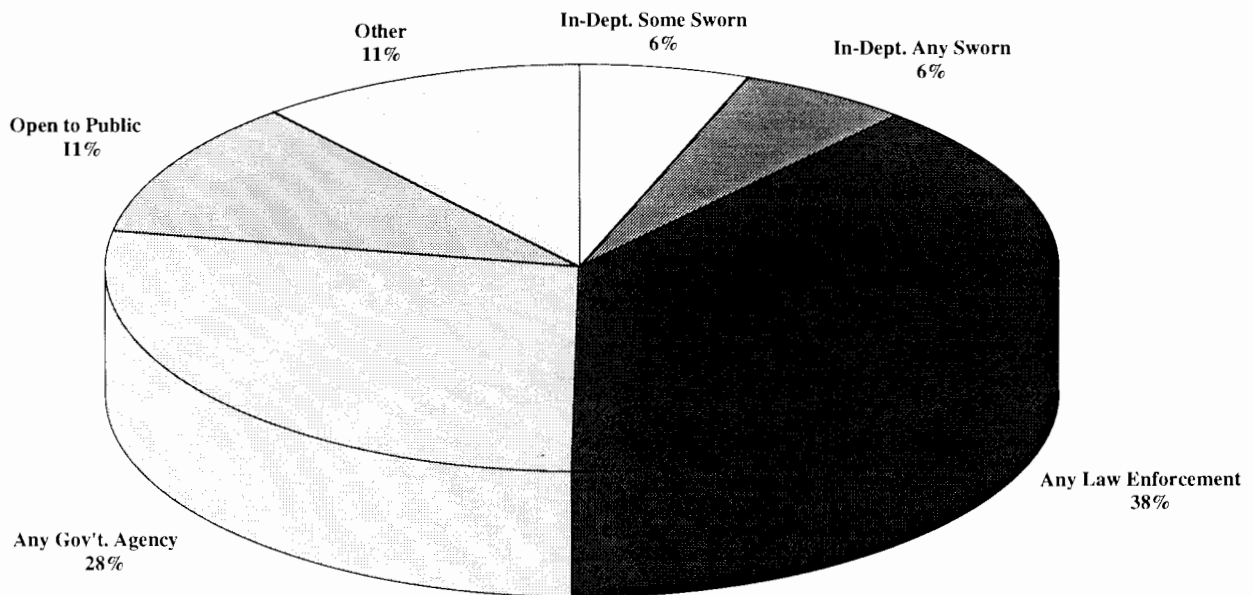


Figure 4

Who Has Access to Crime Analysis Information?

### **Unique or Innovative Crime Analysis Procedures**

- Hypnosis, crime scene assessment, Inside Line program (recorded crime information available to citizens by phone), neighborhood crime reports, daily bulletin, and a monthly crime summary (Austin P.D.).
- Crime analysis is automated to suit individual and/or unique needs when possible. In effect, each end user is able to conduct and evaluate their own analysis (Mesquite P.D.).
- Parole program: Investigative folders are made on parole violators by the centralized crime analysis. The folder is then sent to patrol stations for execution of state blue warrants (Houston P.D.).
- Crime analysis provides several informational maps, including: weekly maps of city by patrol shift showing crime patterns by area, crime, and time of day; weekly map and supporting data of known gang activity to support the gang unit; a monthly map and supporting data to Neighborhood Watch and apartment managers' groups (Garland P.D.).
- Persons of Interest to Police System (PIPS). From numerous sources, the crime analysis unit seeks out information that not only tracks known offenders' whereabouts, but also what the offenders have been involved in, what cars they have been documented in, and who they have been associated with. PIPS information is readily available to field officers on their mobile data terminals (MDT) (San Antonio P.D.).
- The crime analyst maintains a set of maps in the officer's briefing room. There are separate maps for the current and previous month's auto burglaries, and current and previous month business and residential burglaries. Patterns of drive-by shootings are provided to the investigative and juvenile units. Daily stolen lists are provided to patrol (Wichita Falls P.D.).
- The crime analysis section is combined with the intelligence section. All intelligence, field interviews, and offense reports are routed through crime analysis/intelligence for dissemination to other departmental divisions. Crime analysis works closely with all divisions (Abilene P.D.).
- An automated database program is provided to all stations. Police data and census information are integrated. (Dallas P.D.)

### **Some Plans for the Future**

- At the present time, a wide area network is being established, along with a local area network in an attempt to keep up with the information highway (Texas D.P.S.).
- Upgrade the computer system and install a geographic information system (Houston P.D.).
- Setting up several network programs to expand our database to provide better forecasting and solvability aspects to patrol and detective officers, thus assisting administration personnel in allocation and budget requests (Midland P.D.).
- Planning to add software to enable scaled, detailed homicide scene drawings. Improve and expand the repeat offender information database (Lubbock P.D.).
- More automation (Mesquite P.D.).
- Increase computer capability to enable all analysts to track crimes on PC [personal computer] software. Increase the number of personnel. Market the Crime Analysis Unit to officers within the department who are not presently utilizing our services (San Antonio P.D.).

### Future Issues

In an increasingly urbanized Texas, computerized crime information is increasingly important. Further, enhanced population mobility makes access to crime analysis capability essential even for rural jurisdictions.

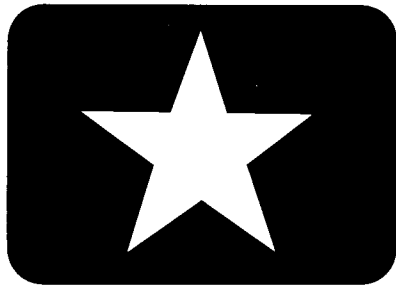
Crime analysis is at the dawn of a new efficiency, thanks to the computer revolution. Computerized mapping and trend analysis programs are currently available and are being improved daily. Even programs that can predict criminal activity are being developed.

But programs are not the only new technology available to aid crime analysis efforts. One of the most promising revelations is inter-agency sharing of tactical crime analysis data via electronic means. For agencies involved in such efforts, information on a crime in one jurisdiction could become immediately available to another jurisdiction. No longer will an officer in one jurisdiction have to complain that a crime could have been solved or prevented if only a neighboring jurisdiction had provided information in a timely manner.

The key to crime analysis, however, is the human analyst. Without a skilled and trained analyst, all the information provided by field officers is of little use. The analyst must not be forgotten in the rush to acquire technology.

**Thank you** to the following agencies for participating in this month's bulletin.

Abilene Police Department  
Addison Police Department  
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Austin Police Department  
Carrollton Police Department  
Dallas County Sheriff's Department  
Dallas Police Department  
Deer Park Police Department  
Duncanville Police Department  
El Paso Police Department  
Euless Police Department  
Fort Worth Police Department  
Galveston Police Department  
Garland Police Department  
Harris County Sheriff's Department  
Houston Police Department  
Jefferson County Sheriff's Department  
Lake LBJ Municipal Utility District Police Dept.  
Laredo Police Department  
Lubbock Police Department  
Mesquite Police Department  
Midland Police Department  
North Richland Hills Police Department  
Pasadena Police Department  
Plano Police Department  
Randall County Sheriff's Office  
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San Antonio Police Department  
Texas Department of Public Safety  
Travis County Sheriff's Office  
White Settlement Police Department  
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