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**Law Enforcement Information Systems and Strategy
Demonstration Project: *CRIMES***

FINAL PROGRAM REPORT

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Introduction

This document describes the progress achieved on the **Law Enforcement Information Systems and Strategy Demonstration Project: *CRIMES*,** by the Police Research Center of the College of Criminal Justice at Sam Houston State University (SHSU) for the Office of Science and Technology (OST) of the National Institute of Justice (NIJ). Staff members of the National Institute of Justice, National Law Enforcement and Corrections Technology Centers (NLECTC), Rural Law Enforcement Technology Systems (RULETS) Center at Eastern Kentucky University, Criminal Justice Center at SHSU, and law enforcement practitioners will find this document a useful synopsis of the demonstration project. It describes the progress achieved with NIJ funding and includes a detailed review of system capabilities.

An important goal of the Police Research Center is to provide support for law enforcement agencies with implementation for the latest in technology in a form applicable to their specific needs. The prime vehicle for this effort is *CRIMES* (Criminal Research, Information Management, and Evaluation System), a comprehensive, computerized police information system. *CRIMES* is a reliable, thorough, computerized recording, retrieval and reporting system of incident-based data for law enforcement agencies. *CRIMES* provides a police information system that utilizes the latest technologies such as client/server architecture, high-speed networking, wireless remote access, full-text search, relational database storage, and "point and click" analysis.

The Police Research Center's rich experience in evaluative research allowed us to design an analytical package that serves a full range of law enforcement needs. Police agencies throughout the nation have experienced a lack of ability to scan incident reports from nearby jurisdictions to review crime patterns that may overlap criminal activities within their own jurisdictions. Part of the National Institute of Justice support for *CRIMES* was intended to prepare the system for the incorporation of these interoperable technologies.

The following pages describe the components in detail. As specified in the funding proposal, support by NIJ was employed to develop and/or refine and optimize the following elements:

- **Advanced Search and Analytic Components**

- **Mobile Applications, including in particular Mobile Search and Field Reporting**

- **Advanced Computerized Assisted Dispatch (CAD) components, including in particular Multiple Agency Features, Remote Location Replication, and the Reports function**

- **GIS Integration**

Additionally, NIJ support allowed refinement and optimization of other modules, including the addition of primary and foreign keys to the incident and master name files. The addition of the keys virtually eliminated problems that were experienced with duplicate and orphan records.

Partner Agencies

Eleven police agencies currently employ the *CRIMES* system. They are:
- **Colleyville Police Department**
- **Euless Police Department**
- **Fort Stockton Police Department**
- **Houston Metro Police Department (Transit Police)**
- **Huntsville Police Department**
- **Jersey Village Police Department**
- **Nassau Bay Police Department**
- **Palestine Police Department**
- **Rockport Police Department**
- **Universal City Police Department**
- **Walker Co. Public Safety Department**

Additionally, during the project period discussions were initiated with the Harris County (Houston, Texas) Sheriff's Department regarding employment of the *CRIMES'* CAD module for their agency. Those discussions actively continue.

NIJ support allowed the "virtual completion" of the system. As with any software endeavor, there is always refinement and optimization that can be done. Additionally, there remains some "nice to have" supplemental modules, such as pawn shop tickets. But the system is now complete—fully functional with all routinely employed modules fully integrated.

Sam Houston State University is currently launching a substantial effort to expand the installation base. Our goal is to expand system use from the current twelve to approximately thirty agencies over the next two years. At this juncture *CRIMES* will not only be self-sufficient from an operational perspective, but will also generate sufficient income from the licensing fees to provide continual development and incorporation of emergent technology—achieving our goal of becoming a permanent national law enforcement information system demonstration project.

CRIMES Police Information System

CRIMES modules include:

1) **Computer Assisted Dispatch Module** for handling incoming requests for police services, including wireless remotes and field reporting to the police vehicles,

2) **Incident Module** for recording criminal/non-criminal activities,

3) **Master Name File Module** for name file processing, search/inquiries, and report generation,

4) **Property Room Module** for property room inventory management,

5) **Traffic Accident Module** that handles both state and commercial reporting requirements.

6) **Traffic Citation Module** that includes State of Texas SB-1074 (racial profiling) data capture and reporting,

7) **Other Support Modules** that includes Expunge and Uniform Crime Reporting, and

8) **Analysis** capabilities.

This list represents the primary functions of the *CRIMES* system. The *CRIMES* system is dynamic, with new features being evaluated and developed on a regular basis. This document is a review of the advanced capabilities included within the *CRIMES* system.

Computer Assisted Dispatch Module

The **CRIMES** Computer Assisted Dispatch (CAD) is a real-time system that allows for 24-hour, seven days a week logging of all calls received by an agency and dispatching of police, fire, EMS, sheriff, or other (public works or Department of Public Safety, for example) units. In addition to the logging of call history information, the unit tracking capability provides agencies with better information about on-going activities. CAD administrators may define fields, such as call types and call dispositions, to customize CAD to their agency's needs. Multiple dispatchers can use CAD to log calls and dispatch units at the same time. However, only one dispatcher can actively work on a particular call at a time.

The **CRIMES** CAD system is a state-of-the-art, feature-rich, real-time system. It can be operated as a single-monitor or dual-monitor application. As a dual-monitor setup, one monitor will display the active unit/pending call screen, while the other shows the CAD data entry screen. When CAD is run on a single monitor it uses a split-screen view of both panels. CAD provides hotkey combinations that allow the dispatcher to quickly access certain features of CAD without using a mouse.

Figure 1 below is a screen shot of the CAD system. Using popup dialog boxes and lookup tables, it provides a powerful tool for handling time-critical, emergency data in a user-friendly environment.
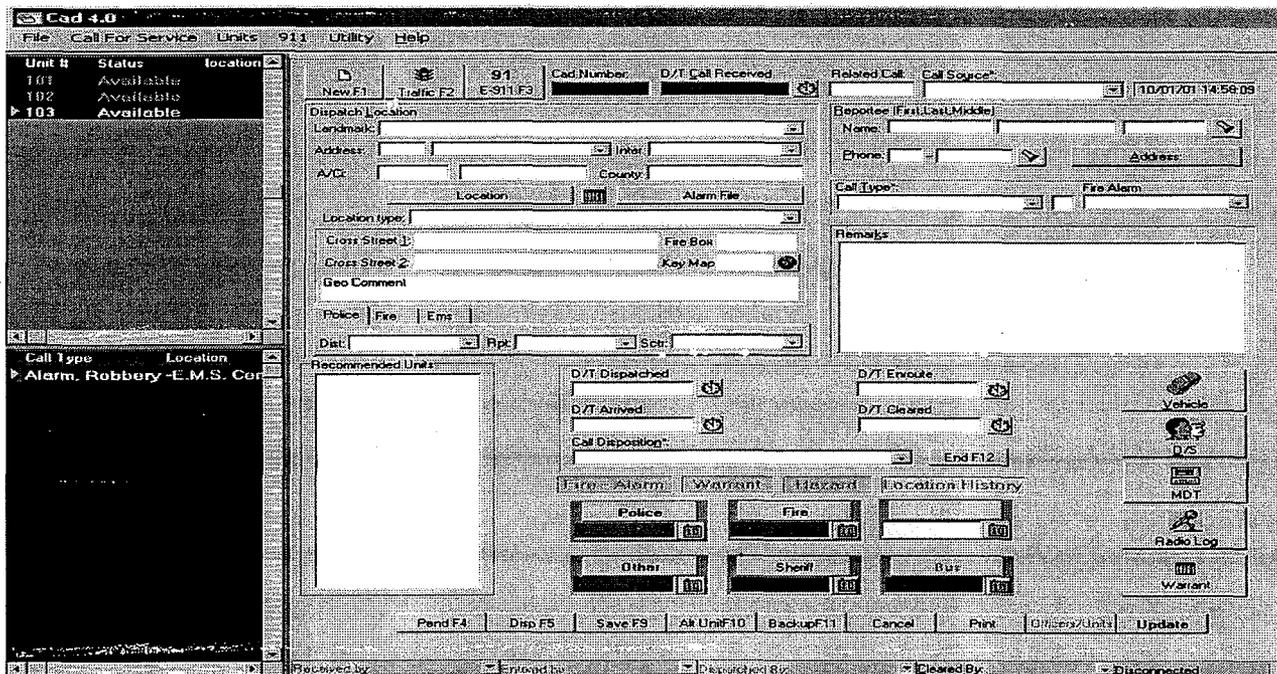
Figure 1. CAD Dispatch

A dispatch center is a common starting point for police activities. The **CRIMES** based CAD can be the terminus for delivering responses to E-911 calls, traffic stops, and other phone and agency initiated activities. CAD has been designed to facilitate many different operating environments. The advanced CAD components extend the system to provide a powerful tool for the busy dispatcher in varying dispatch center configurations. Advanced CAD components are as follows:

1. Multiple agencies can be dispatched with CAD. For example, the Walker County Public Safety Communication Center's primary dispatch responsibilities are for dispatching Huntsville Police Department, Walker County Sheriff's Department, Walker County EMS services, Huntsville Fire Department, various county volunteer fire departments, and the Texas Department of Public Safety (State Police). In addition, the dispatcher can utilize the system to dispatch public works for the City of

Huntsville. Another example of the use of the CAD's advanced design is its use by the Houston Metropolitan Transit Authority Police Department. The use of the CAD within the fourth largest city in the nation demonstrates its power to respond. Not only does it handle a large geographic and demographic area, but it also performs a special role in supporting a transit police authority.

2. For large agencies or agencies that have a dispatch center that is in a different location from the police department, a separate CAD server can be set up to perform a replication update of the *CRIMES* Record Management System.

3. CAD maintains separate case numbers for each situation. That is, there is a Call Number for dispatching information. Also separate Case Numbers are generated for each Police, Fire, Sheriff and EMS agency. For multi-agency calls (i.e., Fire and Police) each agency is allowed to trace its cases independent of other agencies.

4. Telephone E-911 systems can be connected the CAD to provide automatic phone and address information to the dispatchers.

5. Dispatchers can utilize single or dual monitors for displaying important information.

6. Addresses can be Geo-Coded to provide cross streets and fire boxes. Key Map locations can be entered and used for dispatching helicopters. Alternately cross streets can be converted to 100 block locations.

7. Landmark addresses such as businesses can be preprogrammed for fast address fill in. Landmarks contain district/beat, reporting area, and sector for police, sheriff, fire, and EMS and are pre-coded for auto-fill in.

8. A location can have a hazard/caution flag associated with it. The dispatched unit can be told of bad dogs, combative occupants, or other informative precautions.

9. Histories are kept for locations and phone numbers.

10. Dispatcher can monitor Hot Pursuits with on-going notes that are time-stamped.

11. Alarm files are accessible with information about businesses and contact persons.

12. Working in conjunction with police agencies, dispatchers can access local warrant data.

13. Dispatcher can perform an advanced partial vehicle plate search on local databases.

14. Dispatched units can have districts, reporting areas, and sectors automatically set.

15. Dispatchers have access to all pending calls.

16. Multiple backup units can be dispatched to a call.

17. Thresholds can be defined to monitor units out on a call for service. If a unit has not responded within the defined timeframe an audio alarm will sound.

18. Dispatchers have access to a built-in Radio Log for recording daily activities.

19. Reports:
    a. Detail Call Report
    b. Vehicle history
    c. Location history

   d.   Vehicle Occupant history
   e.   Bus Activity (Transit Authority Police)
   f.   Histories by officer, by call, or by location
   g.   Response Time in multiple formats
   h.   Call Analysis in multiple formats

20.   Full Call Search capabilities

21.   A CAD-Aether Interface Program (CCIP) is available to provide an automatic link between the CAD and the Aether mobile system for agencies to communicate with wireless mobile information systems.

CAD Mobile Interface. The Computer Assisted Dispatch (*CAD*) software interfaces with mobile units for wireless (voiceless) dispatching. The advantages of voiceless dispatching are well documented. Voiceless dispatching is not encumbered with the requirement that officers and dispatchers clearly and unambiguously understand spoken words. Another major advantage is the speed of dispatching/communicating with mobile units. Using the CAD Mobile Interface mobile units are able to notify dispatch of their status dynamically. This is typically noted as Enroute, Arrived, Transport, and Cleared.

The *CRIMES-CAD* interface has been implemented using Aether communication software as the support vendor. The mobile component is implemented with the following modules: Aether Packet Cluster Server, CAD-Aether Interface Program (CCIP), and the Aether Packet Cluster Mobile. The *CRIMES* software could be modified to operate in other wireless mobile environments.

Aether Packet Cluster Server. This server software must be running to transmit and receive packets of data between the CAD and the mobile computer unit. Once this server is logged in, it will display the status of all units signed on.
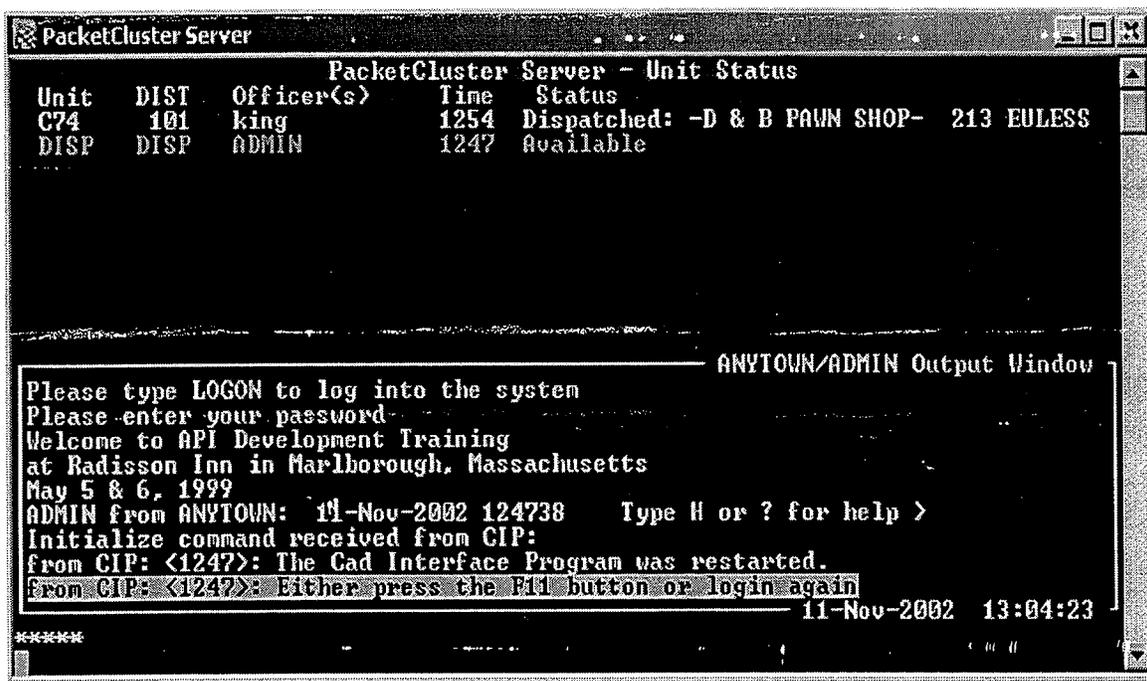
Figure 2. Aether Packet Cluster Server Screen

CAD-Aether Interface Program. The CAD-Aether Interface Program (CCIP), written by the Police Research Center, manages the messages that are sent between the CAD and the mobile units. The types of messaging available are:

- Viewing of mobile unit status.
- Automated dispatch of mobile units.
- Mobile-initiated status changes.
- Voiceless messaging between dispatch and units.
- Voiceless messaging between units.
- Status of any mobile unit is available to all units.
- Hot message and alarm capability.
- Hazard and call history are available to mobile unit via voiceless system.
- Voiceless request for additional call information.
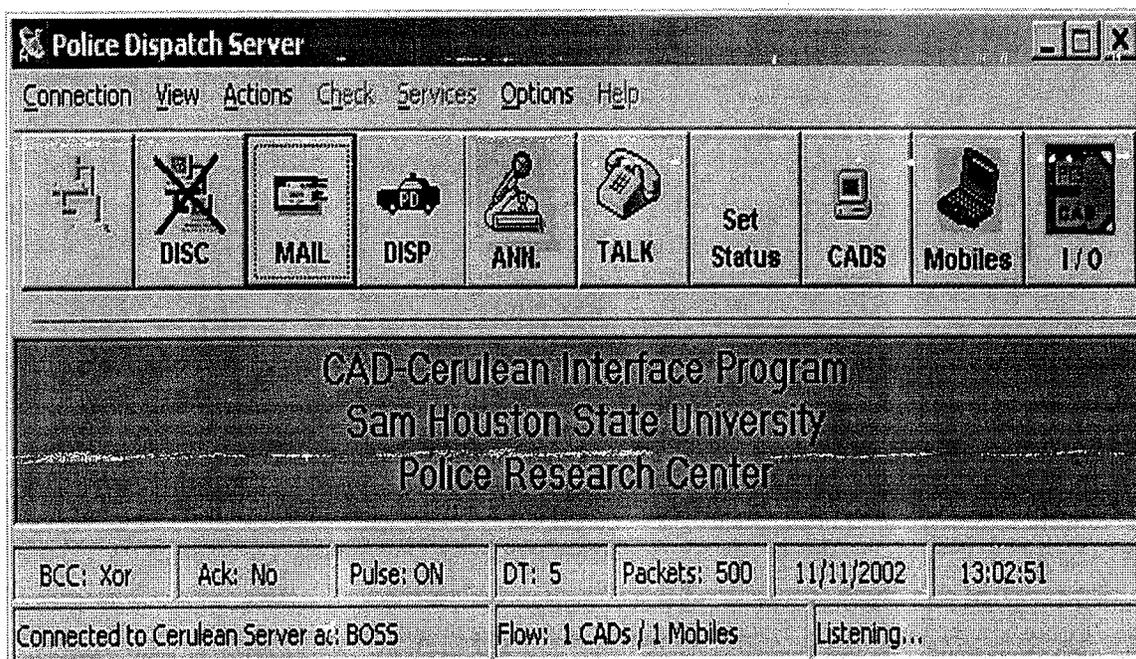
Figure 3. CAD Aether Interface Program Screen

The commands to the mobile units are sent directly to the mobile unit by the dispatcher from the CAD
dispatch as the call for service is received.   The CAD dispatch screen below displays the dispatching shown above
in the Packet Cluster Server screen.   The screen displays the dispatch of Unit 101 to the D & B Pawn Shop at 213
Euless Blvd for a minor accident. The reportee was Teresa Wright and the Police Number is 0200023993.

Figure 4. CAD Dispatch Screen

Packet Cluster Mobile. The Aether Packet Cluster Mobile program is executed in the mobile unit
(usually a laptop computer) to display the messaging between the mobile unit and dispatch as well as messaging
between mobile units. Displayed in the screen below is the dispatch of unit 101 given as in the example earlier.
There are 6 buttons on the bottom of the display.

F1 – When pressed it will send an 'Enroute' message with a time stamp to dispatch.

F2 – When pressed it will send an 'Arrived' message with a time stamp to dispatch.

F3 – When pressed it will send a 'Transport' message with a time stamp to dispatch.

F4 – When pressed it will send a 'Cleared' message with a time stamp to dispatch.

F5 – When pressed it will request that any known Hazards at this location be sent to the unit.
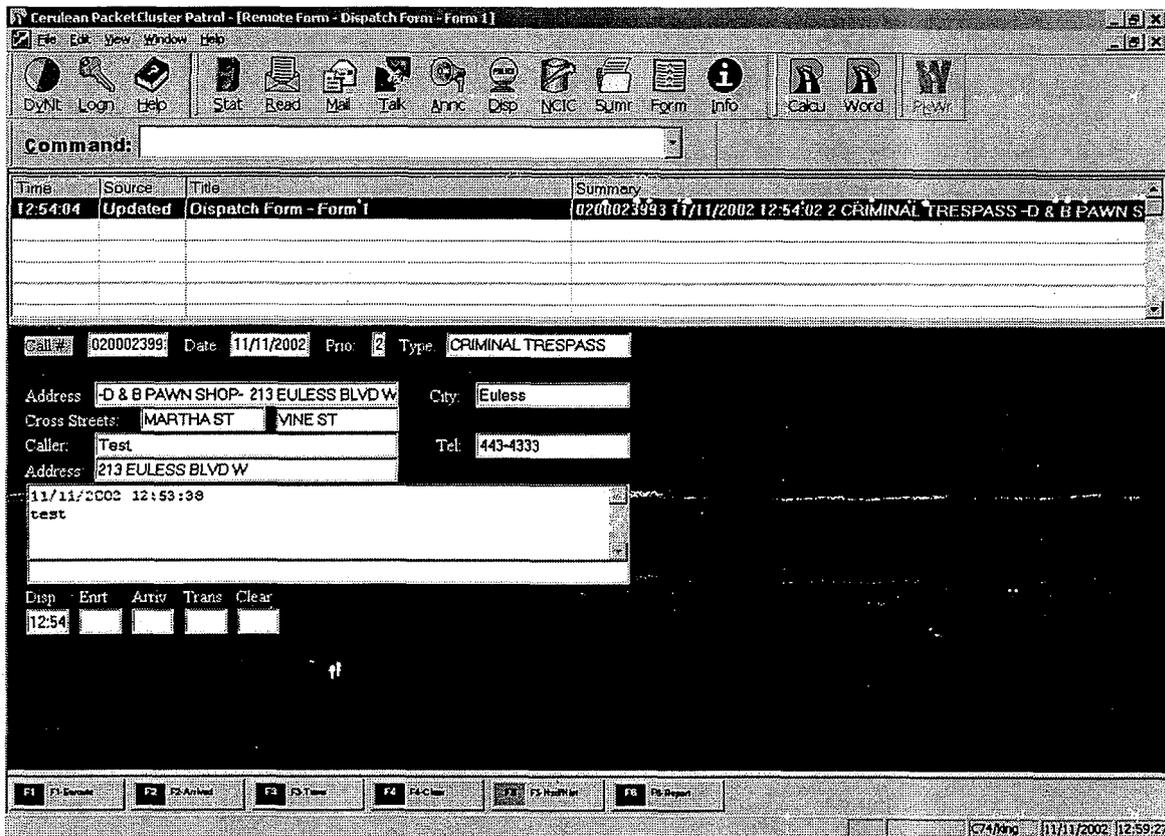
Figure 5. Aether Packet Cluster Mobile Screen

Field Reporting. The *CRIMES* Field Reporting is used in conjunction with the wireless dispatching system. It allows officers to inquire directly into the *CRIMES* Incident Module database and to prepare incident report remotely from their patrol cars.
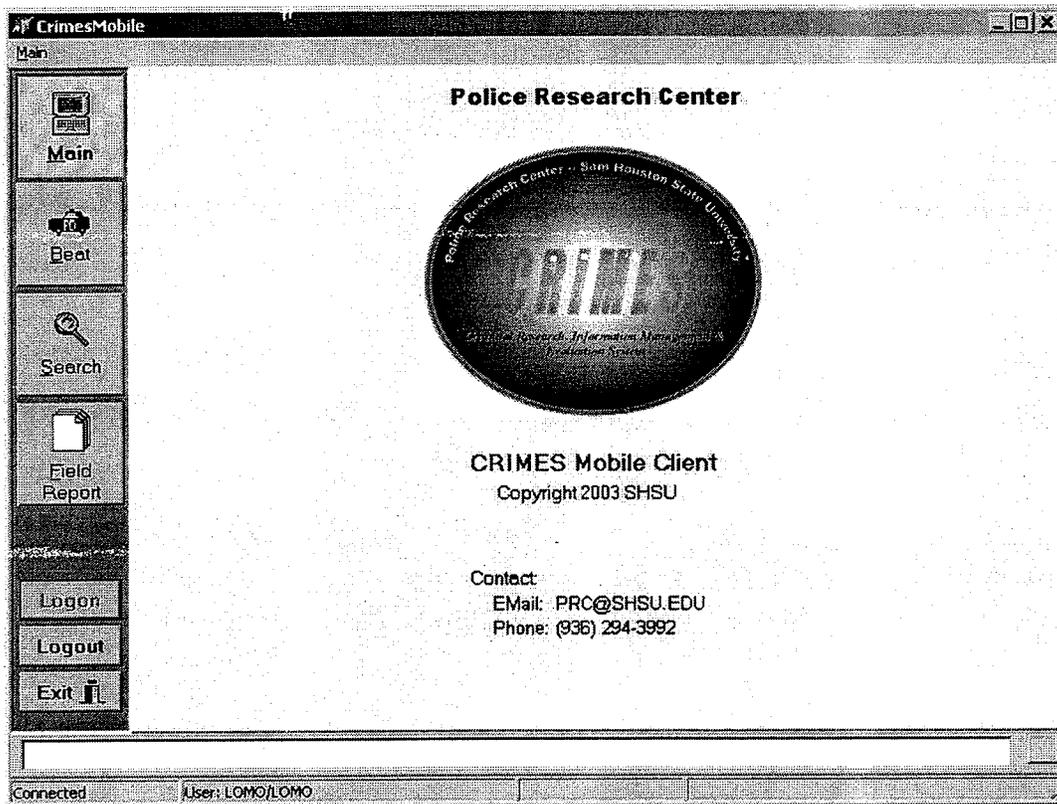
Figure 6. CRIMES Mobile Client for Field Reporting and Inquiry

This screen is used to log into the mobile client and to request other services. After logging-in the officers can review the recent activities within their areas of responsibility, search for information about individuals, calls for service, or incident reports.

Using the Recent Calls screen, officers can request information from the *CRIMES* Incident Module database about recent calls within their beat/district or from all districts. These requests can further be selected based upon time and officers responding.
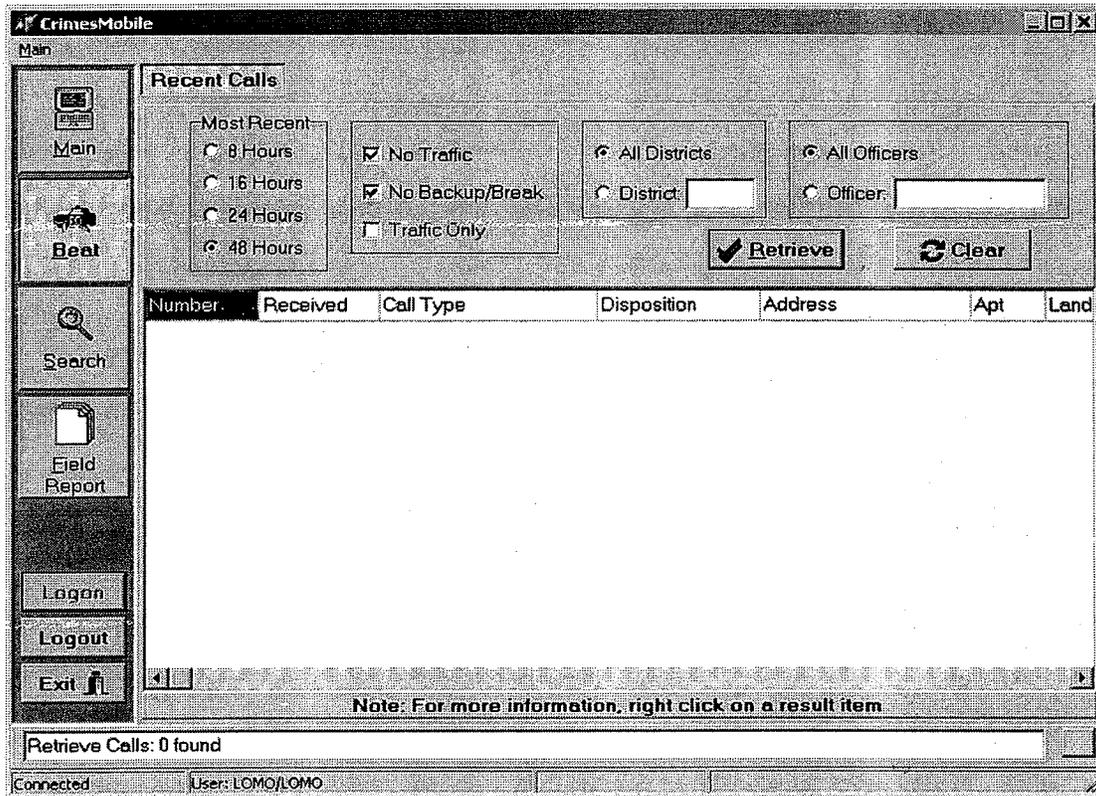
Figure 7. Recent Calls Search screen

The Person Search screen allows patrol officers to search the *CRIMES* Master Name File Module database for names that have been entered. The officer can use name, age, address, driver's license, and/or social security numbers to identify the desired individual.

Figure 8. *CRIMES* Mobile Client for Person Search

The Calls for Service Search allows patrol officers to request information about previously entered Calls for Service. Searches can use Call Number, assigned officer, call type, address, and/or date range.

Figure 9. *CRIMES* Mobile Client for Calls for Service Inquiry

The Incident Search allows patrol officers to request information about previously entered Incident reports. Searches can use Incident Number, reporting officer, offense, address, and/or date range.
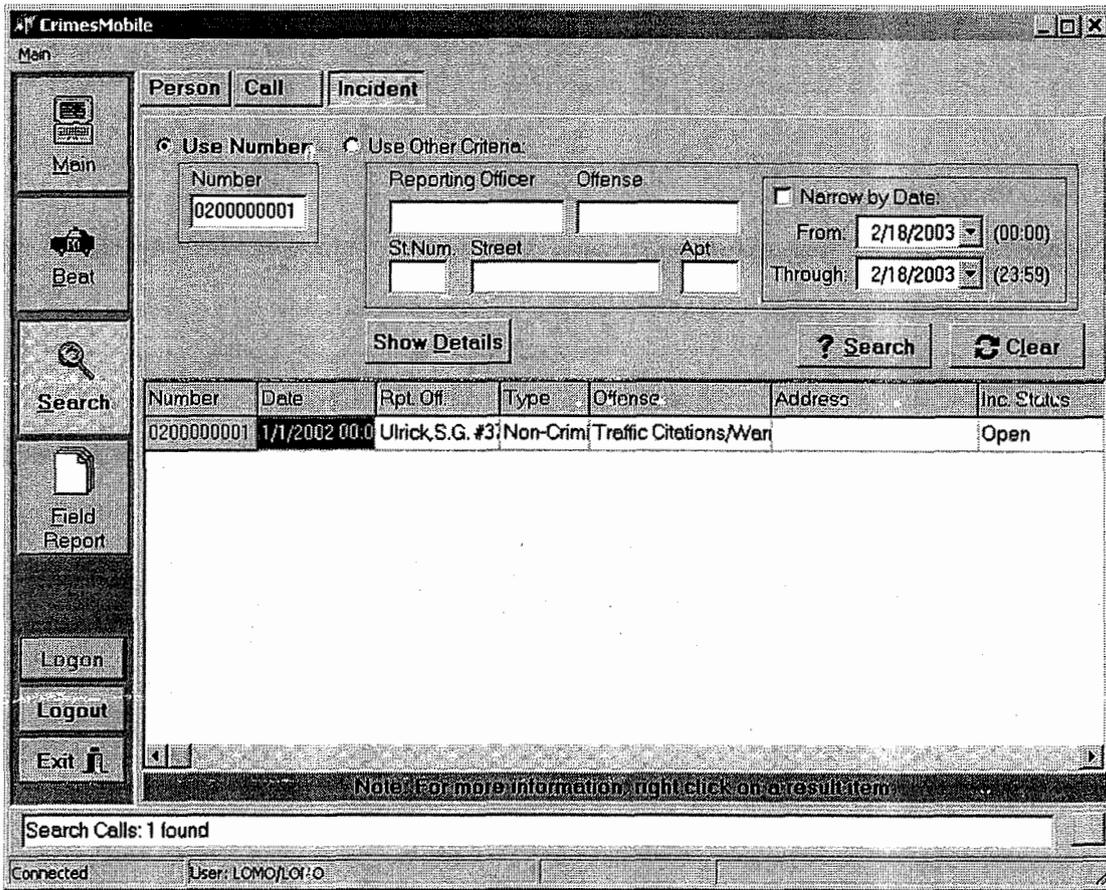
Figure 10. *CRIMES* **Mobile Client for Incident Inquiry**

Incident reports entered from the car are called Field Reports. The ***CRIMES*** Incident Module database can hold a wealth of data items to describe the incident. The Field Reports screen allows the officer to enter those key elements that describe the incident. Other data elements that further describe the incident, such as investigation activities, are entered in the police station.

Figure 11. *CRIMES* Mobile Client for Field Reporting Input Initiation

Figure 12. *CRIMES* **Mobile Client for Field Reporting Input (Initial Input)**

The Field Report entries are displayed below. Initial incident information is entered followed by data about Persons, Vehicles, Offense, and Property. (Property Screen is displayed below.) The officer also has the ability to write the incident narrative and have it transmitted to the *CRIMES* Incident Module server along with the other data fields.

Figure 13. *CRIMES* **Mobile Client for Field Reporting Input (Property)**

Incident Module

The **CRIMES** Incident Module is comprehensive and linked to all other modules. The system is built using Microsoft Windows and Microsoft SQL Server technology in a client-server networking environment. The use of an ODBC compliant, relational database provides a powerful base for data searching and reporting. The Incident Module takes maximum advantage of these capabilities.

The following is brief review of the module and demonstrates the complexity of the data that are captured. Using these data, sophisticated reporting can be accomplished.
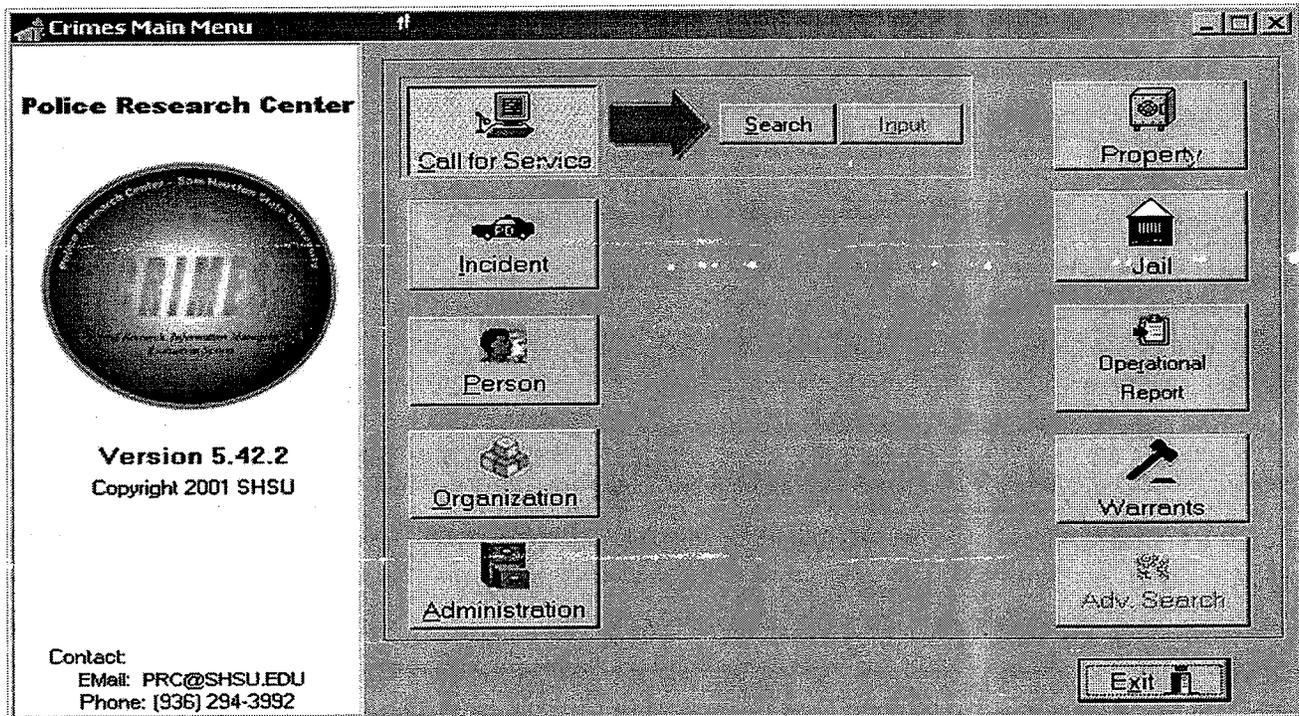

Figure 14. Incident Module Startup Screen

Call for Service. From the Startup Screen, the user can initiate numerous activities. The Call for Service button is used to review and edit information gathered by the CAD module, as well as to initiate the creation of an Incident record that is linked to the Call for Service. Using the Search feature, targeted Calls or groups of Calls can be located. That is, a user can create a dataset of calls that meets specific criteria and then produce a report on that dataset. An example of that capability is displayed in Daily Log (or Blotter) in Figure 15 below. This same functionality can be used to produce such reports as 'All traffic stops by Officer Jones in the last 6 months on Mable Street'.

Huntsville Police Dept

Call For Service Report   <u>DAILY LOG 9/28/2001</u>

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CRIMES
Police Research Center
Sam Houston State University

INCIDENT NUMBER	INFORMATION			
0100010763	CAD NUMBER:	0100010763	FIRE NUMBER:	EMS NUMBER:
02/20/2001 00:05	SHERIFF NUMBER:		OTHER NUMBER:	
	CALL TYPE:	Loud Noise		
	CALL DISPOSITION:	Gone On Arrival		
	ASSIGNED OFFICER:	Thornton, Joe 226		
	LOCATION:	2501 Lake Road		Huntsville
	LOCATION NAME	University Place Apts.		
	COMMENT:	-------------------------		
		02/20/2001 00:05		
		-------------------------		
		off of lake rd music from unknown type veh near #19		
0100010764	CAD NUMBER:	0100010764	FIRE NUMBER:	EMS NUMBER:
02/20/2001 00:39	SHERIFF NUMBER:		OTHER NUMBER:	
	CALL TYPE:	Traffic		
	CALL DISPOSITION:	Service Only		
	ASSIGNED OFFICER:	Henry, Bill 273		
	LOCATION:	1090 IH 45 South		Huntsville
	LOCATION NAME	Big E's		
	COMMENT:	-------------------------		
		02/20/2001 00:39		

Figure 15. Daily Blotter

By entering search criteria into the Call for Service, Location, or Vehicle tabs, the search performed can be constrained to the needs of the user. See Figure 16. A search can be made either for a specific call, or a class or grouping of calls. For example, a search is possible by identified locations (*CRIMES* uses the term "landmark"), such as businesses, for all calls to that location over any time period. Alternatively, one can search for all traffic calls for a given officer, or during a given shift. A *Special Arrest* button permits agencies to insert information about arrests such as warrant arrests that need to be reported on UCR but do not require the creation of an Incident record. The *Incident* button is used to create an Incident record that is to be associated with a selected call.

Figure 16. Call for Service Search Screen

The Incident record maintains the descriptive information of a committed offense. The Incident input screen for the Incident record is shown in Figure 17. It has Incident, Offense, Relationship, Weapon, Arrestee, Offense Locations, Property, Vehicle, Involved Persons, and Investigations tabs for data input. These tabs describe such entities as case numbers, date and time of incident, responding officer, juvenile status, offenders, victims, state and local statutes violated, UCR offense codes, victim-offender relationships, weapons involved, assault circumstances, locations for call and offenses, property involved, vehicles involved, other persons involved, and the management of any investigation. The Incident record contains all of the structured data, narratives, and supplemental narratives necessary for recording criminal events.

Figure 17. Incident Screen

Additionally information about managing the criminal incidents and the flow of paperwork associated with any investigations is recorded. The information system keeps data in a compatible format for reporting to Uniform Criminal Reporting (UCR) system, National Incident Based Reporting System (NIBRS), and for local authorities.

Narrative portions of incident reports are generated by automatic system launch of Microsoft Word®. The Word document is automatically "titled" (file name assigned) with the case incident number. Print commands in the *CRIMES* Incident Module provide choice for printing only the structured data fields, or both the structured fields and the MS Word associated document (narrative).

Figure 18 is a copy of an incident report. The Incident report can be rather lengthy, based upon the number of offenses involved (*CRIMES* allows multiple offenses to be listed on the same incident report), the number of involved persons, and the amount of property associated with the Incident. The Incident report is a summary of all known facts regarding the incident. The packet of reports that can make up a Case report include the report in Figure 18, an original narrative, all supplemental narratives, a detailed involved persons report, a detailed arrest report, a property report, and a vehicle report.

Huntsville Police Dept

Page 1 of _____

INCIDENT Report   !! Juvenile Incident !!

CRIMES
Police Research Center
Sam Houston State University

ORI: None   Incident No. 0100022974   10/9/2001

Incident

CAD No. 0100	Other No.	Type **Criminal**	Date Occur **04/17/2001 00:00**
Status **Open**	Clear. Date	Enter By:	Except. Clear.
Invest. Status**Active**	Report By: **Thornton, Joe 226** **04/25/2001**		Approval By:
Fam Violence**Yes**	Narrative **I0100022974.doc** Investigator **Barnes, Jim 274**		
Description			
Test Case			

Dispatch Location **350 SH 75 North Huntsville**

- *Offense No.*   *1*   Offense Recording Date **04/25/2001 10:50**

Off. Begin Date **04/17/2001 00:00**	Off. End Date	Entry Method	Attempt/Complete
Drug Seized	Gang Related	Hi-Speed Pursuit	Weapons Used
Offense Code **51080001**	Offense **ACCEPT HONORARIUM**		No. of Premises
Bias Motivation		Agg Asslt/Homic. Circumst.	
Offense Addr. **Pct. 1 Barn, 350 SH 75 North, APT: A, Huntsville, TX 77340**			Loc.Type **Government/Public**
Remarks			

Offender(s)

Name	DOB	Race	Sex	DL	Address
Jones, Little Bobby	**03/25/1922**				

Figure 18. Sample Incident (Partial) Report

Figure 19. Incident Search Screen

Very powerful search capabilities are available within *CRIMES*. Utilizing the power of relational databases, searches based upon a combination of fields within the Incident record can be performed. See Figure 7 above. When used in conjunction with the Advanced Search (described later), investigators have tremendous flexibility for finding information and relationships.

The *Public Report* button provides a report (Figure 20) that can be disseminated to the public for any incident found via the Search engine. The *Results* button provides the capability of producing summary reports based upon any grouping of incidents returned via the Search engine. For example, a report could be produced for all Armed Robbery cases between June 1, 2001 and June 30, 2001 that were assigned to Officer Joe Jones.

Huntsville Police Dept

Public Information Report

Page 1

CRIMES
Police Research Center
Sam Houston State University

| Incident No. 0100019310 | Reporting Officer: Hilley, Paul 289 | Investigator McVey, Mark 251 | 10/10/2001 |

Narrative
Possibly known suspects shot several times into a group of people and a residence, placing victims in imminent danger of serious bodily injury.

Offense: 1

Offense **DEADLY CONDUCT DISCHARGE FIREARM**   Offense Code **52130005**
Off. Begin **04/01/2001 03:05** Off. End **04/01/2001 03:06** Loc. Type **Highway/Road/Alley**   Landmark
Offense Address: **1033 Hazel Street Huntsville, TX 77340**   County: **Walker**

Victim: **Arias, Josefina**	Race: **White**	Sex: **Female**	DOB: **10/13/1973**
Address: **1033 Hazel Street Huntsville TX 77340**			Phone: **(936)295-0343**
Victim: **Bocanegra, Daniel**	Race: **White**	Sex: **Male**	DOB: **10/8/1982**
Address: **4529 Las Hacienda Dallas TX**			Phone: **(214)330-8573**

Figure 20. Public Information Report

Master Name File Module

Master Name File - Person. The Master Name File (MNF) Person record is used to record extensive information about involved and non-involved operational persons. An example of a MNF - Person record is displayed below in Figure 21 with the View All tab.

Figure 21. Master Name File Person

The MNF - Person module is the repository of data that describes persons. Persons identified in any of the other associated modules of *CRIMES*, such as Incident, Booking, Property Room, etc, are described within and referenced by these other modules. These data are accessed via the tabs of View All, Name/Roles, Characteristics, Vitals, Address/Phone, ID/Fingerprint, Employment/Military, School/Medical, Remarks, and Photos. Within these tabbed screens are input screens that allow for multiple entries. The second tab (Figure 22) allows for multiple names, addresses, phone numbers and characteristic descriptors. This tab contains names, aliases, name descriptors that allow for multiple names, nicknames and titles that describe the person. The third and fourth tabs present descriptive information about the person such as age, weight, height, sex, scars, tattoos, build, eye color, facial hair, master hand, ethnicity, place of birth, resident status, marital status, religion, etc. The fifth tab captures address and phone data, and can handle addresses and phone numbers as they change over time. The sixth tab is for ID's and fingerprints that can be used for more positive identification. These identifiers can be such things as driver's license, social security numbers, and agency arrest ID's. The seventh tab is for input about employment, occupations, and military service. The eighth tab is for education and medical conditions. Each of these tabs allow for the input of remarks for other important information that is not available in the structured fields. The ninth tab is the remarks tab and allows for a narrative to give further description if necessary. The last tab is for attaching photos to the person record. Not only can multiple digital photos be assigned to the person, so can other multimedia items such as audio, video, and scanned images. Since criminals try to make their identity difficult for authorities, the tabbed input screens described above allow multiple values to be entered for entities that it might not normally make sense. For example, with the Master Name file multiple dates of birth could be attached to a person. Figure 21 above depicts the 'View All' tabbed screen that consolidates the information in the other tabs so that it can be viewed in one place.

Figure 22. Master Name File - Person/Name tab

Figure 22 above, shows the second tab with data that illustrates some of the fields that it contains. Not only does the tab have name information, but it also shows what role the person has had in various incidents. By selecting a role in the grid and pressing the *View Incident* button, the Incident record associated with the person will be displayed. Note that the top portion of the screen displays a photo of the person and brief descriptive information. This top portion remains fixed as the different tabs are selected.

One of the advanced features incorporated in the MNF is the ability to link the input of new names to existing names. For example, if a user inputs the name Joe Smith and several Joe Smith's are already in the MNF, the user will be prompted to select an existing Joe Smith or continue inputting the name as a new name. This important feature keeps duplicate input of names to a minimum. When duplicate names occur, a software utility can be executed for sweeping the MNF to merge duplicates.

Master Name File - Organization. The Master Name File - Organization record is used to record extensive information about involved and non-involved operational organizations. An example of a MNF - Organization record is display below in Figure 23.

Figure 23. Master Name File – Organization/Name tab

The Organization module is the repository of data that describes organizations. Organizations identified in any of the other associated modules of *CRIMES*, such as Incident, Booking, Property Room, etc, are described and stored within MNF – Organization and referenced by these other modules. These data are accessed via the tabs View All, Name/Roles, Address/Phone, Remarks, and Photos. Within these tabbed screens are input screens that allow for multiple entries for describing the organization's address, phone numbers, and contact people.

The group box labeled Role displays a list of all Roles that the organization has had in incidents recorded in the system. By selecting a role and pressing the *View Incident* button, the user can open up the Incident record associated with the selected incident. This gives the user a quick history of the involvement of an organization with the police agency.

Property Room Module

The Property Room module is provided to assist agencies with managing controlled property that is in their possession. The property must be kept secure and accurately tracked. The property is often evidence for cases that are under investigation or prosecution. Items within the property room are often checked out for analysis, further identification, or trial. The Property Room module maintains an accurate Chain of Custody audit trail for all items physically removed from the Property Room's custody. These records also track movement for permanent release or destruction.
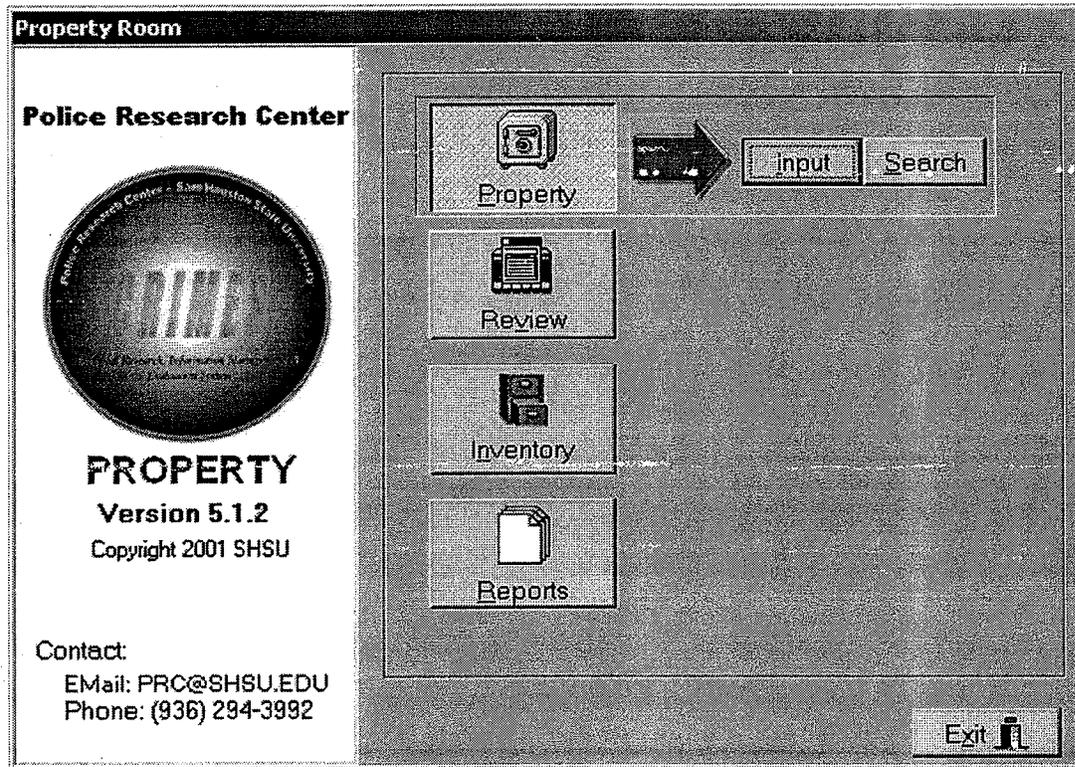
Figure 24. Initial Property Splash Screen

Utilizing the functions of the Property Room module the property room clerk can input new items into the system (see Figure 25). The input of items is categorized based upon its type and is assigned to a *CRIMES* Case number. The type of information that is captured for each item is based upon the item type, that is, for Bicycle, the wheel size data is input but for Cash, the denomination is input. As items are entered, they can be flagged for later review.

Figure 25. Property Room Input Screen

Items can have Bar Codes generated to facilitate periodic inventories. Utilizing a small, portable Bar Code scanner, the property room clerk can move throughout all of the agency's storage facilities scanning the stored items into the handheld scanner. After scanning, the clerk can transfer the data from the Bar Code scanner to the Property Room module for analysis. These inventories produce reports that will identify differences between the computer records and the physical inventory.

The Property Search screen (see Figure 26) allows for search based upon numerous criteria. After locating an item with the Search function, reports, histories, returns, or edits can be performed upon the selected items produced by the search.

Figure 26. Property Room Search Screen

The Property review screen (see Figure 27) allows the clerk to set a date on a property item for the status of that item to be reviewed. This review may result in the item being auctioned or destroyed.

Figure 27. Property Room Review Screen

Traffic Accident Module

The Traffic Accident module handles both the State of Texas ST-3 (private vehicle) and ST-3C (commercial vehicle) reporting requirements. The module can accept data in a full (long) form or short form of input. A sophisticated Search function is available to help users find accident records when a minimum amount of information is known. That is, the user could search for an accident on Main Street on January 5th or 6th. After locating the desired accident record(s), the user can edit or produce reports. The driver information is recorded into the Master Name File of *CRIMES*. This allows for the development of agency contact reports (e.g., Criminal History Reports).
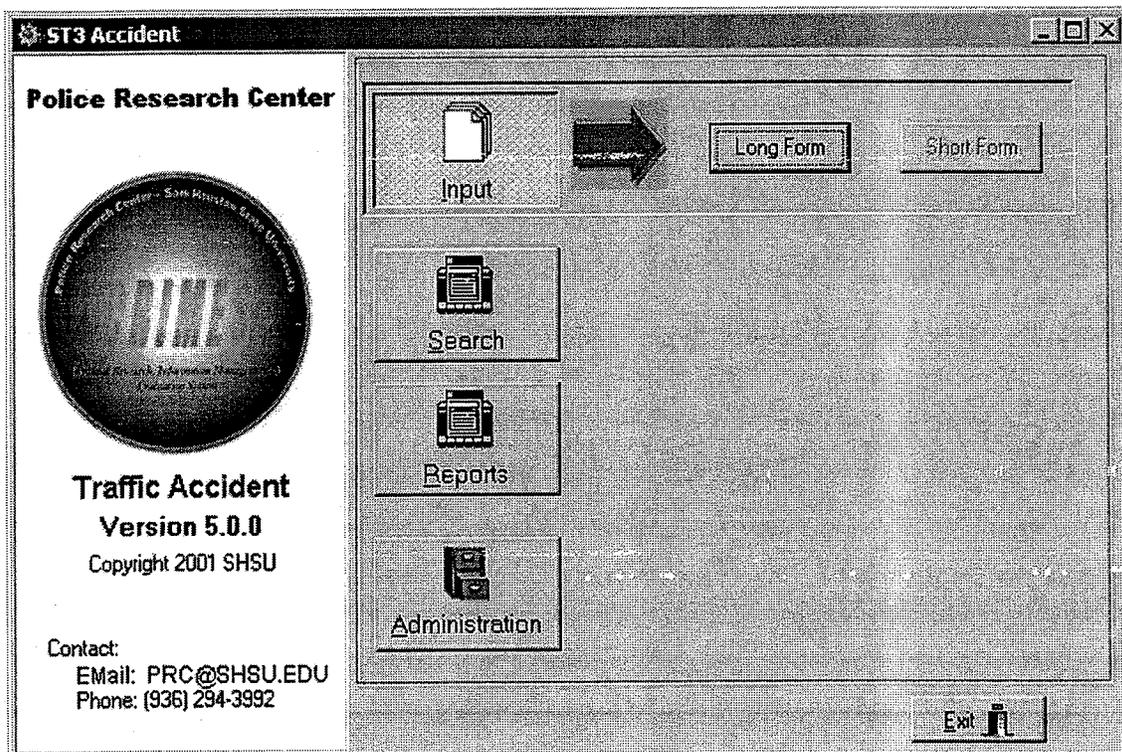
**Figure 28. Traffic Accident Splash Screen**

Detailed information can be input using the Long Form that meets the requirements of the State of Texas ST-3. The Short Form of input captures only the key fields of the accident necessary for producing management reports concerning accident locations and frequencies.

Figure 29. Traffic Accident Input Screen

Figure 30. Traffic Accident Reports Screen

Traffic Citation Module

The Citation module (see Figure 31) allows agencies to record all issued citations and warnings. These can actually be any citation or warning, such as, pedestrian, maritime, or noise violations. At the agency's option, the offender information is recorded into the Master Name File of *CRIMES.* This will allow for the development of agency offender contact reports (e.g., Criminal History Reports).
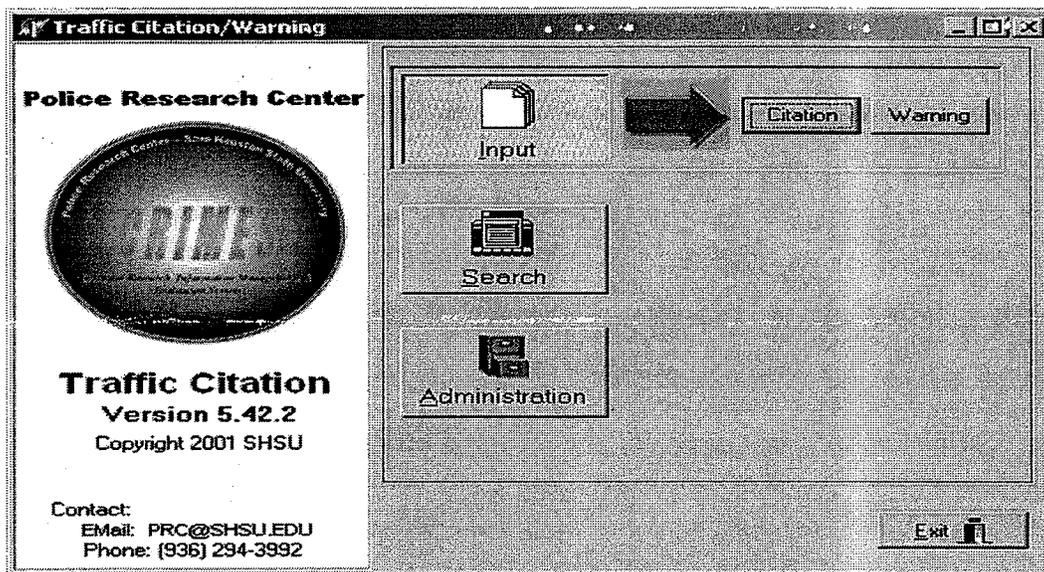
Figure 31. Traffic Citation Splash Screen

Figure 32. Traffic Citation Input Screen

A flexible Search function (see Figure 33) allows the user to seek involved persons based upon name, vehicle, location, date and time, and conditions. Once a resultant dataset is obtained, individual and summary reports can be produced or individual records can be recalled for detail information or editing.

Figure 33. Traffic Citation Search Screen

The Administration function provides the capability to add, delete, and manage the agency's violations and warning codes.

Other Supporting Modules

There are several supporting modules within the *CRIMES* Information System. Sample screens for Expunge (Figure 34) and UCR Reporting (Figure 35-36) are included below. Typical edit functions within *CRIMES* have a minimum of delete capability for security purposes, therefore, a password Expunge function is necessary.

Figure 34. Expunge Screen

Figure 35. UCR Reports Screen

Monthly Return A - Part 1

RETURN A - MONTHLY RETURN OF OFFENSES KNOW TO THE POLICE

CLASSIFICATION OF OFFENSES	2 Offenses Reported or Known to police (include "unfounded" and Attempts)	3 Unfounded, I.E., False or Baseless Complaints	4 Number of Actual Offenses (Column2 minus Column3 (include Attempts)	5 Total Offenses Cleared by arrest or Exceptional Means Include Col. 6)	6 Number of Clearances Involving Only Persons Under 18 Years of Age
1. Criminal Homicide a. Murder and Nonnegligent Manslaughter 11	0	0	0	0	0
b. Manslaughter by Negligence	0	0	0	0	0
2. Forcible Rape TOTAL 20	0	0	0	0	0
a. Rape by Force 21	0	0	0	0	0
b. Attempts to Commit Forcible Rape 22	0	0	0	0	0
3. Robbery TOTAL 30	0	0	0	0	0
a. Firearm 31	0	0	0	0	0
b. Knife or Cutting Instrument 32	0	0	0	0	0
c. Other Dangerous Weapon 33	0	0	0	0	0
d. Strong-Arm (Hands, Fists, Feet, Etc.) 34	0	0	0	0	0
4. Assault 40	0	0	0	0	0
GRAND TOTAL 77	0	0	0	0	0

View Nav Bar | Print Form | View Detail Report | Close

Figure 36. UCR Return 'A' Edit Screen

Analysis Capabilities

Advanced Analytic Search. The Advanced Analytic Search module adds versatility to the already powerful search components within the *CRIMES* system. There are separate search components within Call for Service, Incident, Person, and Organization. These components provide valuable functions to their operational capabilities, but Incident Search only searches incidents and Person Search only searches persons. The Advanced Search routine is capable of crossing module boundaries. Using Advanced Search, records clerks, investigators, and crime analysts can build custom queries. Examples of the kind of queries are detailed below.

- Return all 6' 2", male, Hispanics involved in a burglary on Main Street between Jan 1, 1998 and today. List the date of incident, date it was reported, offender full name, offender address, offender phone number, offender DL, and address of the incident.
- Return all Calls for Service to Wal-Mart that involved Forgery during the month of December 2000. List the Case number for the Incidents, the date, time of day, and the responding officer.
- Return all reported burglary of kitchen appliances from mobile home dealers during the last 6 months. List Case number, investigating officer, item stolen, victim, and date of offense.
- Return all officers assign to funeral escort this year. Produce the list sorted by officer and date.

Figure 37. Advanced Search

The Advanced Search module allows the user to specify what fields are to be returned from the query. Not only can sophisticated reports, such as those mentioned earlier, be produced but they can be exported to other software products like Lotus or Microsoft Excel®. By exporting to products like Excel, the data can easily be summarized and/or graphed. These reports and graphs can then be copied to products like Microsoft Word® and PowerPoint® presentation purposes.

The Advanced Search module provides an extendable product for building and saving queries to be run on a scheduled basis or customizing for special needs. Command staffs of the agencies can have reports of activities and actions based upon their special needs with a limited amount of setup time.

Once queries are built using the Graphic User Interface (GUI), the SQL commands that are sent to the database can be viewed and modified. This helps the *CRIMES* support staff in working with users. If a query does not produce what is expected by the user, the user can send the SQL statements to support staff for assistance. The support staff can then modify the raw SQL command and let the user save it for later use. This feature allows the user or support personnel to perform many additional operations with the SQL command language.

Advanced Operational Reports. Operational Reports take on many varieties. Illustrated here are but a few of those available within the *CRIMES* Information System. These reports provide information about calls for service, incidents, involved persons, involved organizations, and investigative matters. Some of these reports, such as Daily Logs, Incident reports, and Public Information reports have been presented earlier.
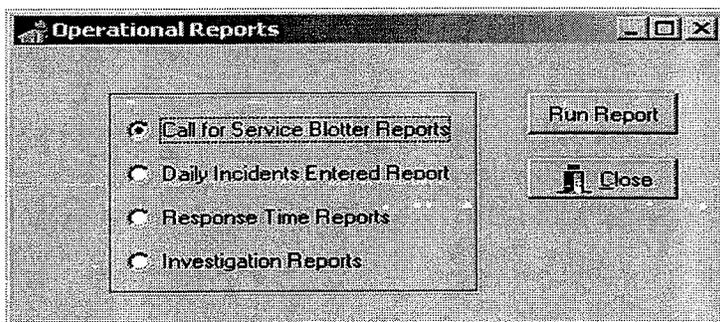
Figure 38. Operational Reports

Huntsville Police Dept

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Investigations Status Report
Date: 4/1/2001 to 9/28/2001

CRIMES
Police Research Center
Sam Houston State University

Incident No. Status	Offense	Offense Date	Last Supplement
Investigator: 3302E			
0100050027 Active	ABUSE OF OFFICIAL CAPACITY >=$200K	06/08/2001	06/08/2001 16:51
Investigator: 400F CrabbsPrairie VFD			
0100050023 Closed By Investigation		06/04/2001	06/04/2001 10:50
Investigator: Altom, Wesley 295			
0100050050 Active	ABUSE OF OFFICIAL CAPACITY >=$200K	06/11/2001	None
Investigator: Barnes, Jim 274			
0100022974 Active	ACCEPT HONORARIUM	04/17/2001	None
0100050057 Active		08/09/2001	08/09/2001 09:28
Investigator: DeHart, Keith 836			
0100022974 Active	ACCEPT HONORARIUM	04/17/2001	None
Investigator: McCurry, Robert 233			
0100014314 Active	BURGLARY OF COIN OPERATED/COLLECTION MACHINE	03/07/2001	04/05/2001 13:38
0100022762 Active	BINGO REGULATIONS	04/16/2001	06/04/2001 10:42

Figure 39. Investigation Status (Partial) Report for April 1, 2001 to September 19, 2001

COLLEYVILLE POLICE DEPARTMENT

Incidents Entered Report on 2/19/2001

Incident Number				10/10/2001

0100000912
01/08/01 17:32
- Incident Type: Criminal
- Location Type
- Offense: Outstanding Warrants
- Remarks: Subject Arrested: Outstanding Warrants; Arlington, Ft. Worth, Euless
- Report by: Miers, Bryan Off. ID
- Dispatched To: 5700 Sycamore Dr Colleyville 76034

0100004691
02/08/01 17:06
- Incident Type: Criminal
- Location Type
- Offense: DRIVING WHILE LIC SUSPENDED/INVALID
- Remarks: One subject arrested for Driving while License Suspended, Fail to ID-Fugitive, warrants
- Report by: Miers, Bryan Off. ID
- Dispatched To: 2000 Glade Rd Colleyville 76034

0100004886
02/09/01 23:35
- Incident Type: Criminal
- Location Type
- Offense: EVADING ARREST/DETENTION
- Remarks: Subject arrested for Evading Arrest and Unlawful Carrying of Weapon.
- Report by: Hildebrandt, Todd Off. ID#095
- Dispatched To: lonnegans pk lot Colleyville 76034

0100005203
02/13/01 14:23
- Incident Type: Criminal
- Location Type
- Offense: DRIVING WHILE LIC SUSPENDED/INVALID
- Remarks: Subject arrested for Driving while License Suspended.
- Report by: Walling, Kevin Off.
- Dispatched To: 700 Glade Rd Colleyville 76034

Figure 40. Incident Entered on February 19, 2001

Huntsville Police Dept

Local Criminal History

ORI: None

Name: Garza, Julio

Personal

Dob: 11/7/1983	Age: 17	Race: White	Sex Male	Ethnicity. Hispanic
Height 62	Weight 110	Hair: Blonde	Eyes: Brown	Arrest No:
DL No:	Issued:	SS No: 450-77-6129	Place Of Birth:	

Address

Address: 2720 Montgomery Road R-5	City. Huntsville	State: TX	Zip: 77340

Phones

Home: (936)436-1085   Work: Cell:

Scars/Tattos

Type	Body Part	Description

Local History

Role	Offense	Occured	Incid.No.	Description
Arrestee	UNL CARRYING WEAPON	09/12/00	0000037526	A Juvenile was arrested for Unlawfully Carrying a
Arrestee	MIP (Tobacco)	09/12/00	0000037526	A Juvenile was arrested for Unlawfully Carrying a
Arrestee	Possession Of Drug Paraphernalia	09/12/00	0000037526	A Juvenile was arrested for Unlawfully Carrying a
Arrestee	ASSAULT CAUSES BODILY INJ	01/05/01	0100000798	A known suspect Assaulted his neighbor
Offender	UNL CARRYING WEAPON	09/12/00	0000037526	A Juvenile was arrested for Unlawfully Carrying a

Figure 41. Local Criminal History

Trend and Pattern Reports. A number of "pre-programmed" analytical reports are available for Calls for Service and Incidents that are employed for routine trend and pattern tracking. These reports are illustrated below.
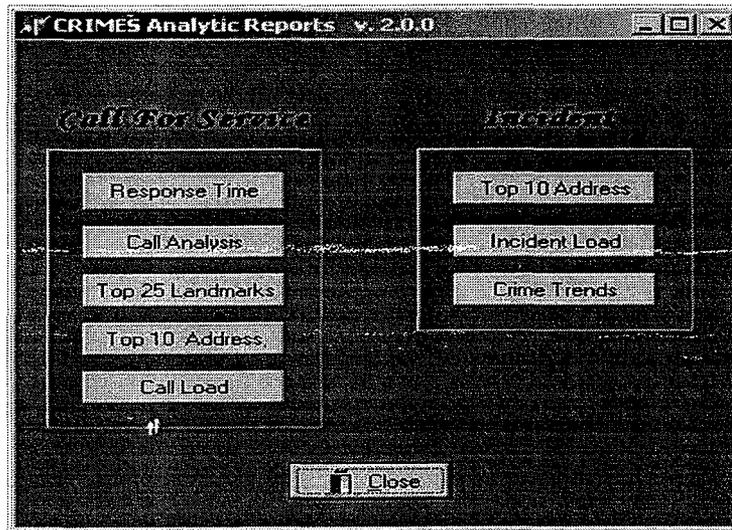

Figure 42. Analytical Reports

Huntsville Police Department

Response Time Summary: by Priority   September 2001   Shift: All   10/10/2001

Call Type	Number of Calls	Call To Dispatch			Dispatch to Arrival			Call to Arrival			Call to Clear		
		Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum
Priority 1 Calls													
Assist EMS	2	-00:05:12	-00:11:01	00:00:36	00:00:10	00:00:05	00:00:15	-00:05:02	-00:10:55	00:00:51	-00:04:52	-00:10:52	00:01:08
Elderly or Invalid Assist	1	00:00:00	00:00:00	00:00:00	00:01:10	00:01:10	00:01:10	00:01:10	00:01:10	00:01:10	00:02:36	00:02:36	00:02:36
Total Priority 1	3	-00:03:28	-00:11:01	00:00:36	00:00:30	00:00:05	00:01:10	-00:02:57	-00:10:55	00:01:10	-00:02:22	-00:10:52	00:02:36
Priority 3 Calls													
Roadway or Utility Problem	2	-00:05:58	-00:11:57	00:00:00	00:00:17	00:00:17	00:00:17	-00:11:39	-00:11:39	00:00:00	-00:04:48	-00:11:29	00:01:52
Traffic	4	00:00:17	00:00:06	00:00:41	00:01:50	00:00:00	00:07:23	00:02:08	00:00:08	00:07:29	217:03:12	00:00:28	484:16:37
Total Priority 3	6	-00:01:47	-00:11:57	00:00:41	00:01:32	00:00:00	00:07:23	-00:00:37	-00:11:39	00:07:29	144:40:32	-00:11:29	484:16:37
Total for all Priorities	9	-00:02:21	-00:11:57	00:00:41	00:01:09	00:00:00	00:07:23	-00:01:30	-00:11:39	00:07:29	96:26:13	-00:11:29	484:16:37

Figure 43. Response Time (Partial) Report by Call Priority

Huntsville Police Department

Top 25 Landmark Report (Calls for Service)   June 2001   Shift All   10/10/2001

Rank	Landmark	Count
1	D & E Quick Stop	4
2	SHSU Bearkitten Academy	2
3	5H Food	1
4	A 1 Locksmith	1
5	A 1 Tire	1
6	E.M.S. Central Station	1

Figure 44. Top 25 Call for Service Landmarks (Partial) Report for June 2001

Huntsville Police Department

Call Analysis Report : by Day of Week   2001   10/10/2001

All Calls : 10920

Call Type	Call Count	% Of All	Monday	% of Calls	Tuesday	% of Calls	Wednesday	% of Calls	Thursday	% of Calls	Friday	% of Calls	Saturday	% of Calls	Sunday	% of Calls	Line Item #
911 Hang Up	193	1.77	22	11.4	29	15.03	37	19.17	34	17.62	28	14.51	25	12.95	18	9.33	1
Abandoned Vehicle	15	0.14	2	13.33	4	26.67	7	46.67	0	0	0	0	1	6.67	1	6.67	2
Accident - Fleet	4	0.04	1	25	0	0	0	0	1	25	1	25	1	25	0	0	3
Accident - FSG/FSRA	97	0.89	14	14.43	18	18.56	8	8.25	14	14.43	19	19.59	17	17.53	7	7.22	4
Accident - Major	90	0.82	7	7.78	12	13.33	20	22.22	12	13.33	17	18.89	11	12.22	11	12.22	5
Accident - Minor	353	3.23	45	12.75	63	17.85	51	14.45	72	20.4	55	15.58	36	10.2	31	8.78	6
Aggravated Assault	10	0.09	1	10	2	20	1	10	1	10	0	0	4	40	1	10	7

Figure 45 – Call Analysis (Partial) Report for 2001 by Day of the Week

Huntsville Police Department

Call Load by District   June 2001   **Shift** All   <u>10/10/2001</u>

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Exclude all backup call types.

Call Load by District
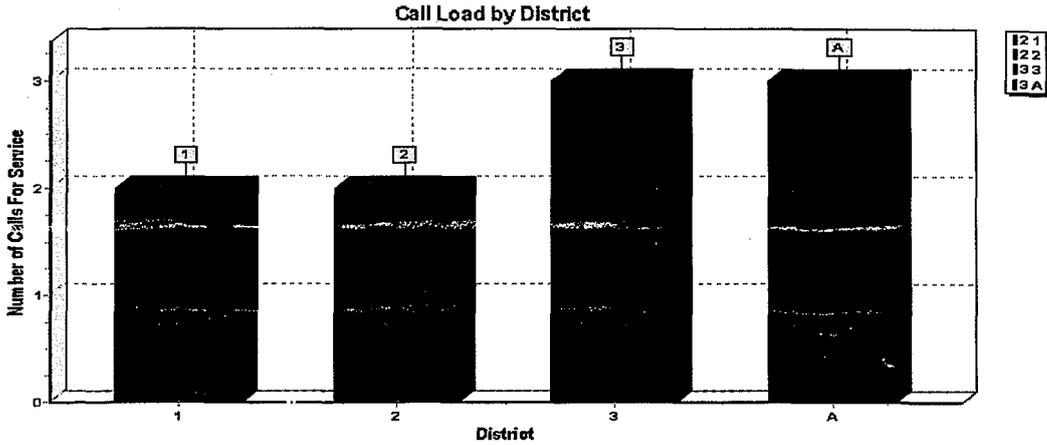
Figure 46. Call Load Graph by District for June 2001

Huntsville Police Department

Crime Trends Report   Year Ending April 2001   **Shift** All   <u>10/10/2001</u>

Page 1
CRIMES
Police Research Center
Sam Houston State University
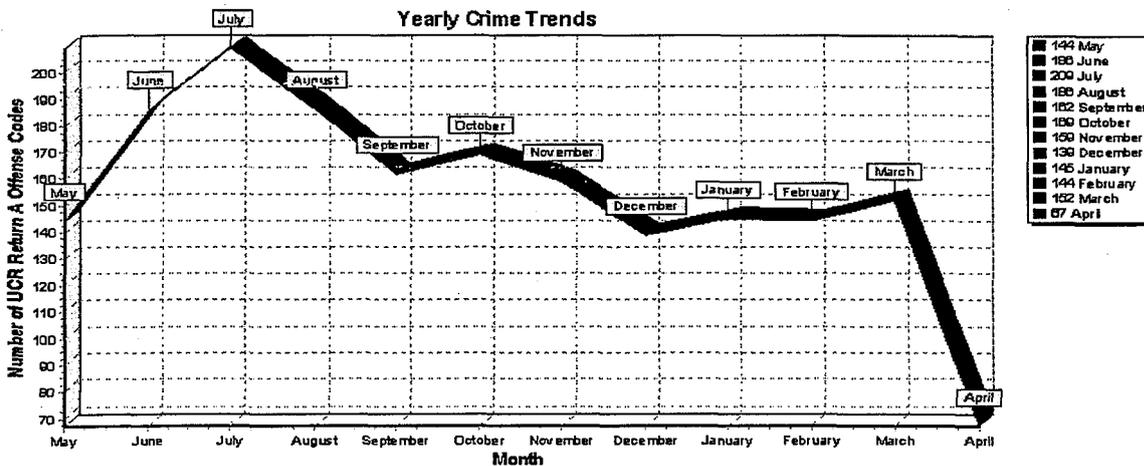
Figure 47. Crime Trend Graph for 12 Months Ending April 2001

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GIS Crime Data Analysis. Relational Databases, such as the one utilized by the **CRIMES** Incident
Module and CAD systems, provide the ability to present data in many different forms. Using off the shelf products,
such as ESRI's ArcExplorer®, criminal incidents for a quarter can be overlaid on a map of a city.
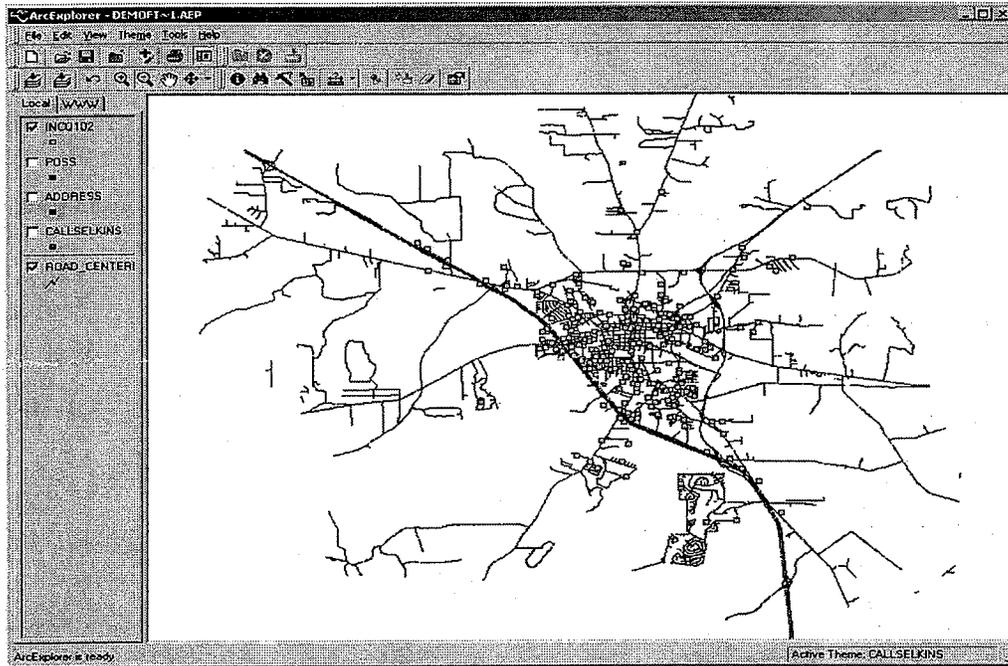
Figure 48. Incidents within Huntsville, Texas during a given quarter

Likewise, specific crimes, such as drug possessions can be mapped.
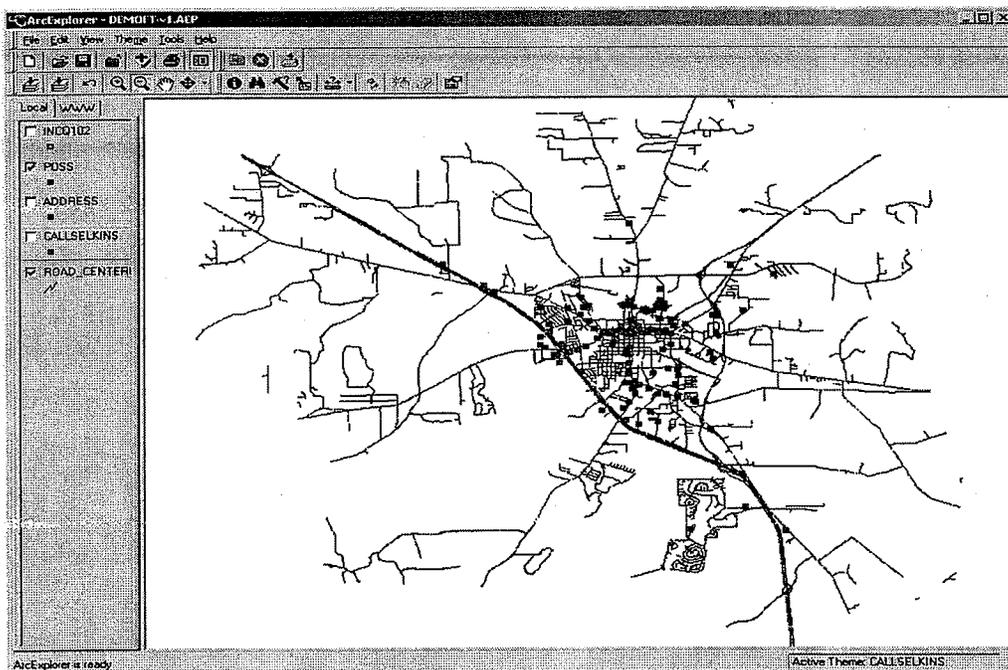
Figure 49. Drug Possession Incidents within Huntsville, Texas

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Better interfaces can be created with customized programming as demonstrated with the screens below. In these examples, the crime categories can be selected for display. The screen below presents thefts in Huntsville, Texas.
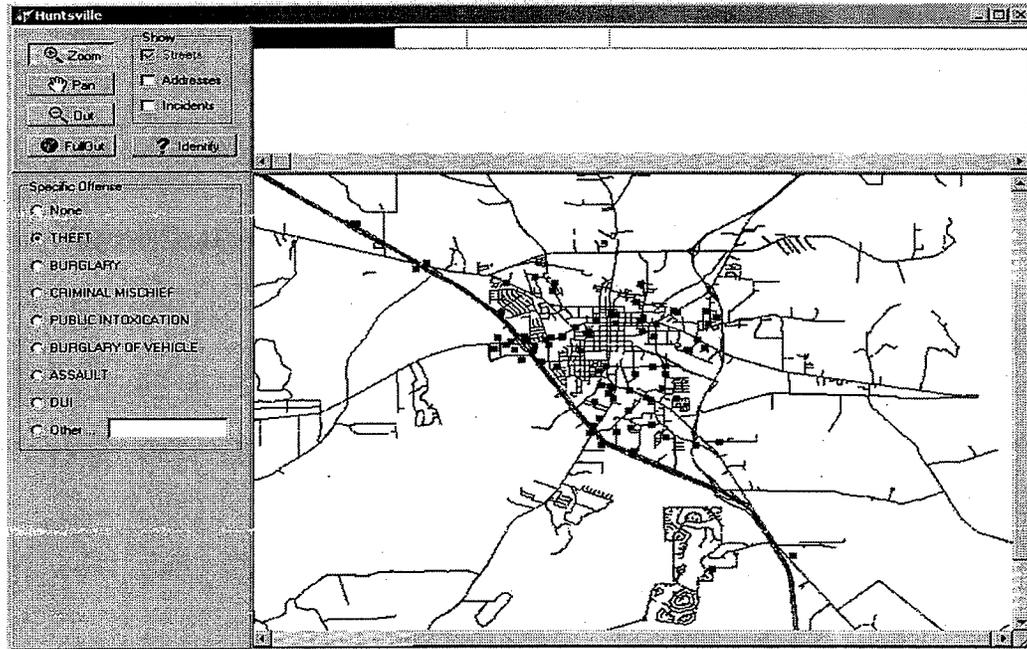

Figure 50. Theft Incidents within Huntsville, Texas

GIS implementation in *CRIMES* can be used to pinpoint a crime location. By selecting a point on the map, information about the incident is displayed on the screen.
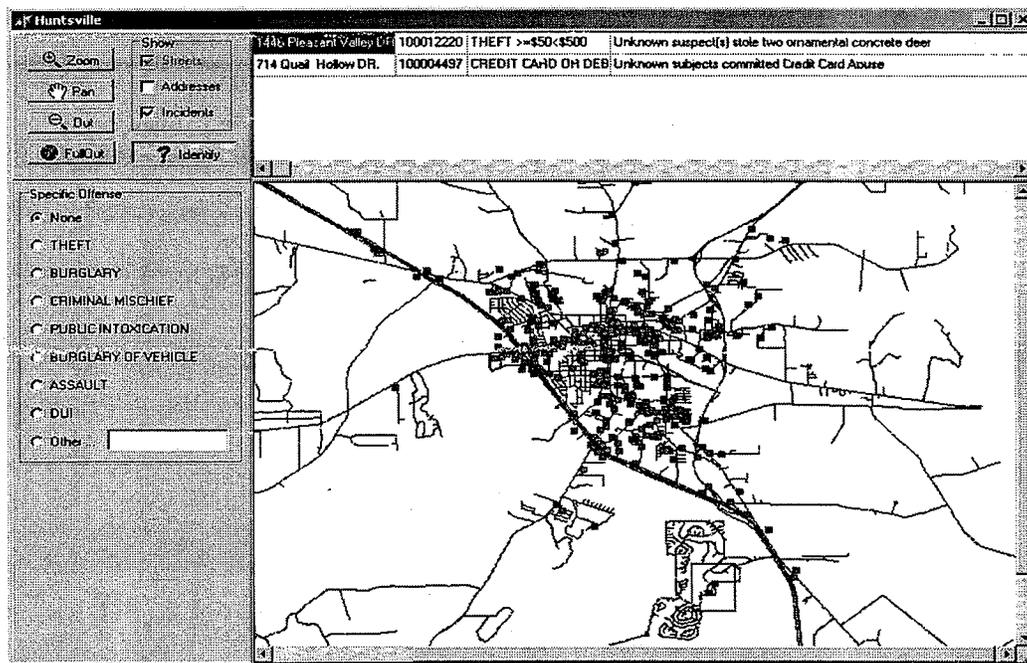

Figure 51. Incident information about Crimes in Huntsville, Texas

Aerial photos can be used as a backdrop for GIS mapping. Here *CRIMES* presents streets overlaid on a photo in Colleyville, Texas.
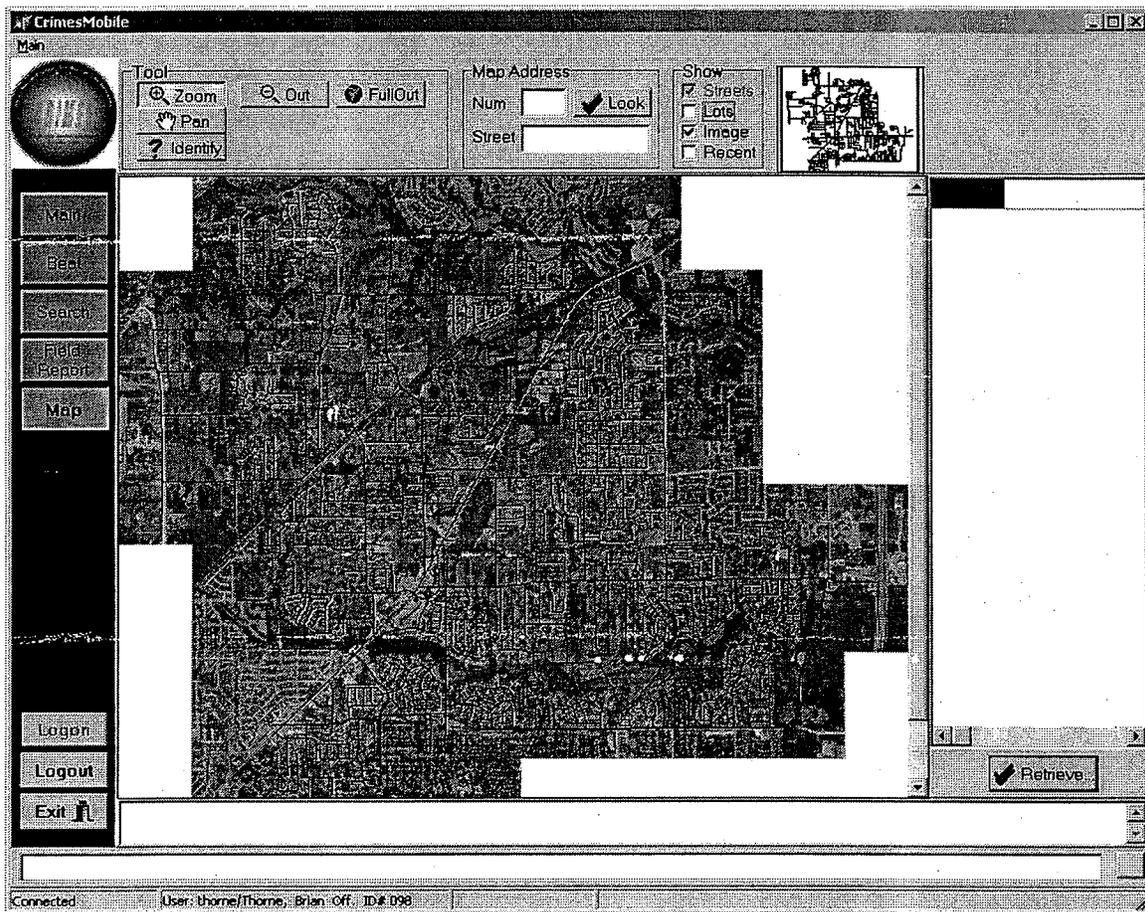

Figure 52. Streets in Colleyville, Texas overlaid on an aerial photograph.

With the power of relational databases, *CRIMES* can extract data from other city databases, such as property, to
present plat descriptions of points of interest.
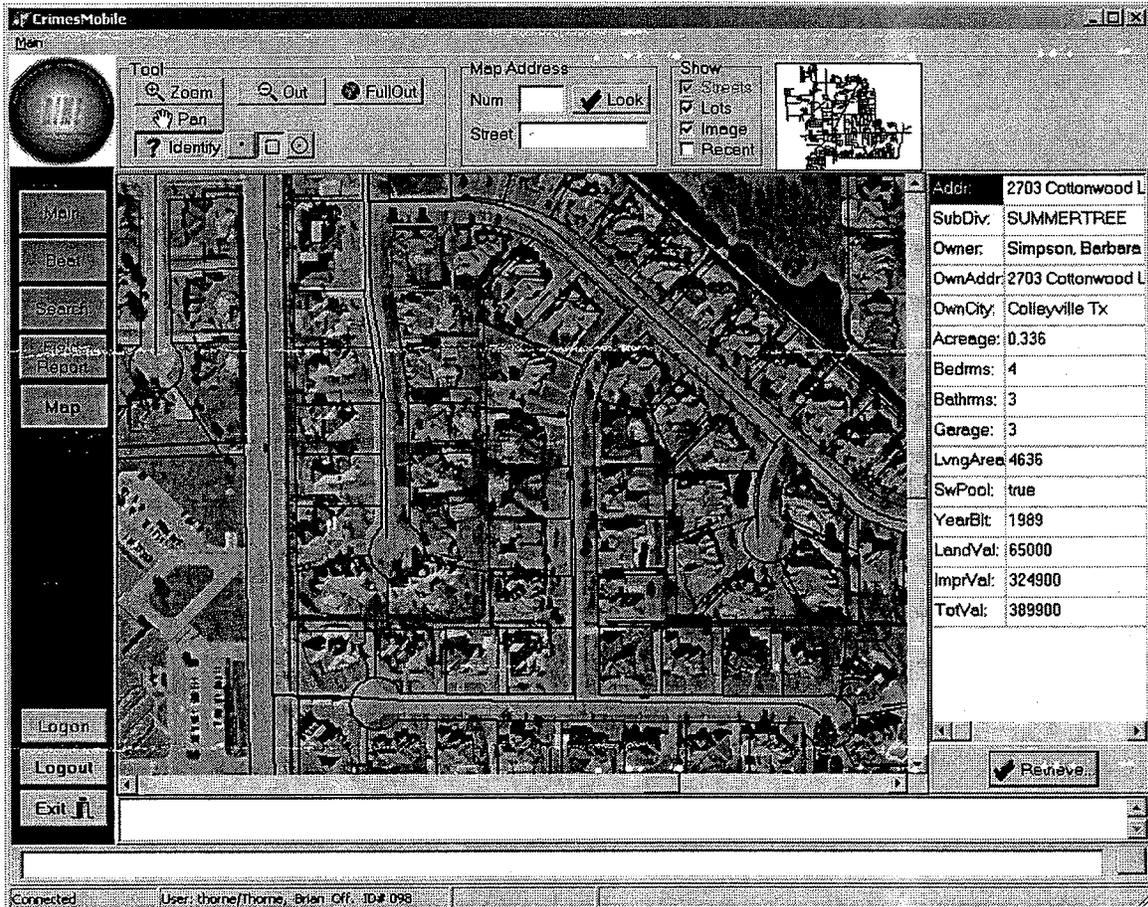
Figure 53. Residential lot data in Colleyville, Texas overlaid on an aerial photograph

The diagram below presents descriptors of entire areas of interest.
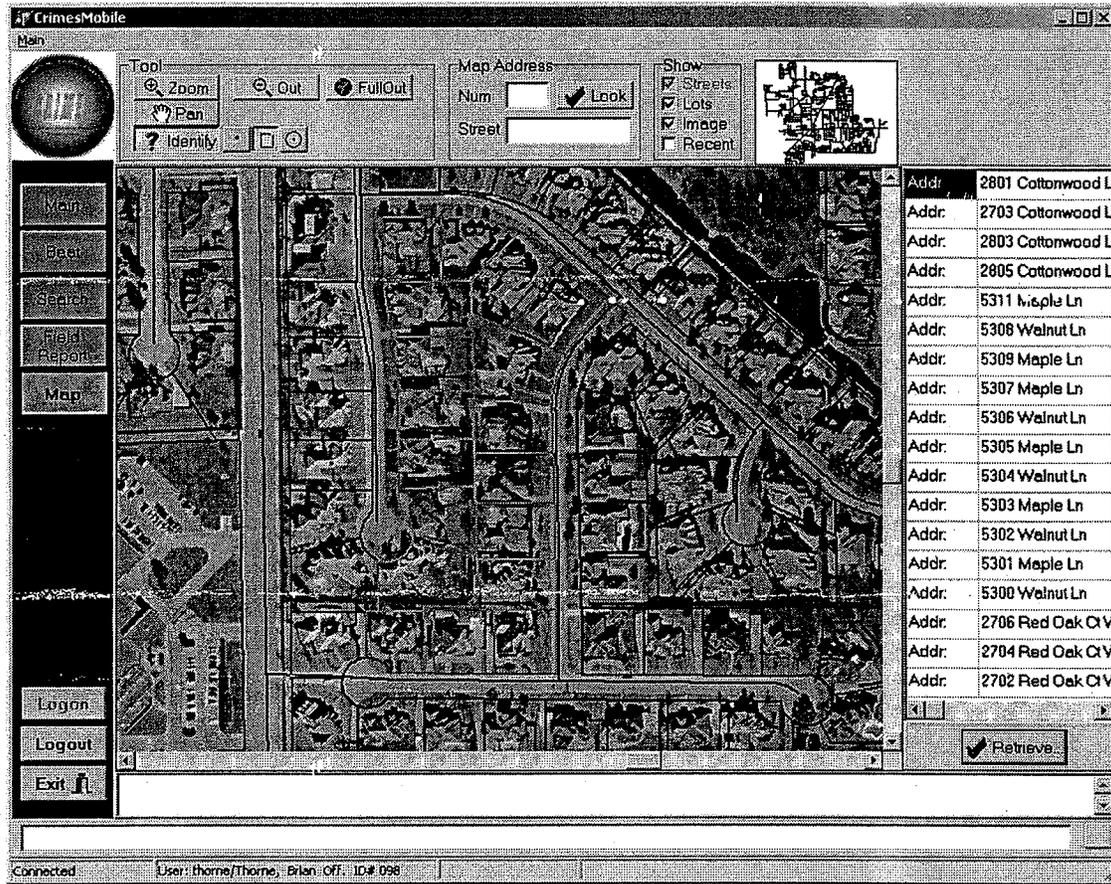
Figure 54. Block or area data in Colleyville, Texas overlaid on an aerial photograph

The screen below shows how GIS and *CRIMES* can display data about an area within 1000 feet of a point.
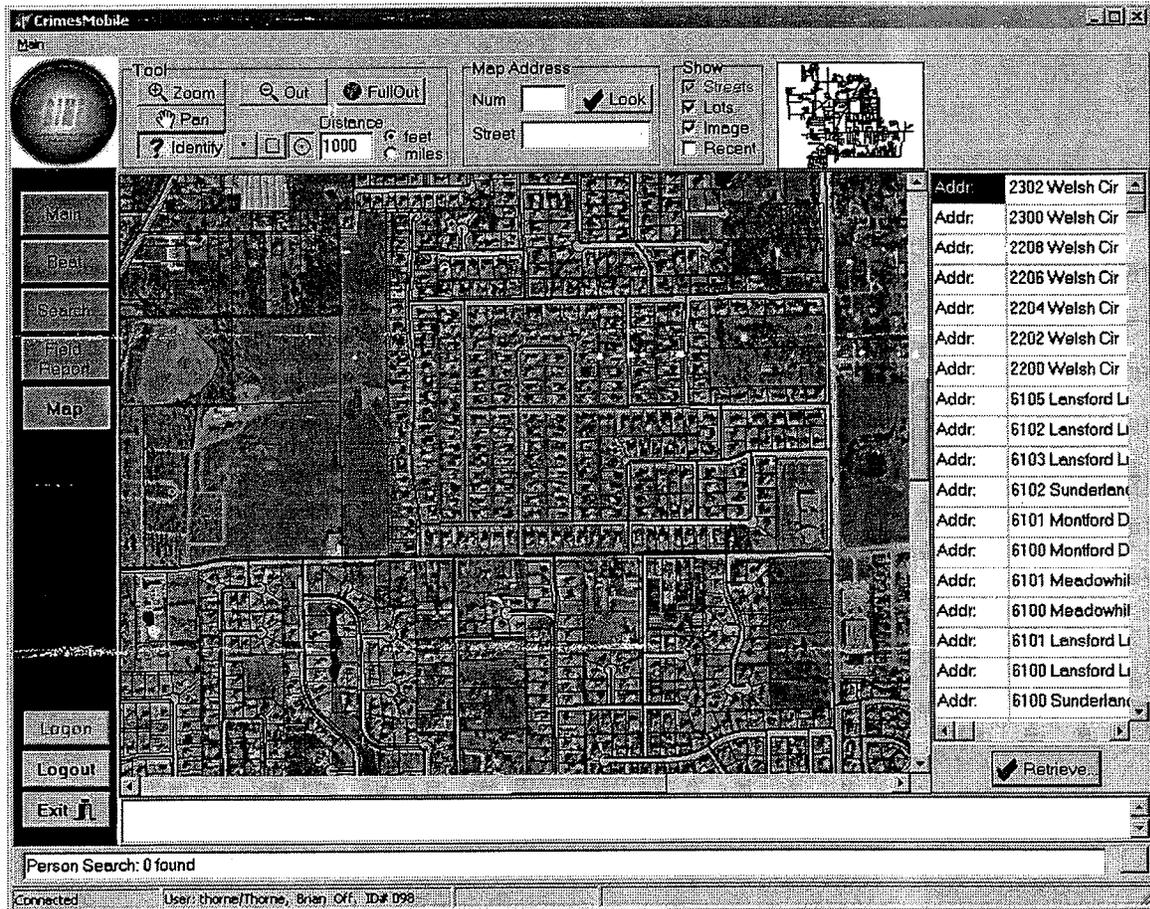

Figure 55. All lots within 1000 ft. in Colleyville, Texas overlaid on an aerial photograph

The GIS system can be used for simply displaying an aerial photo of an area of interest.
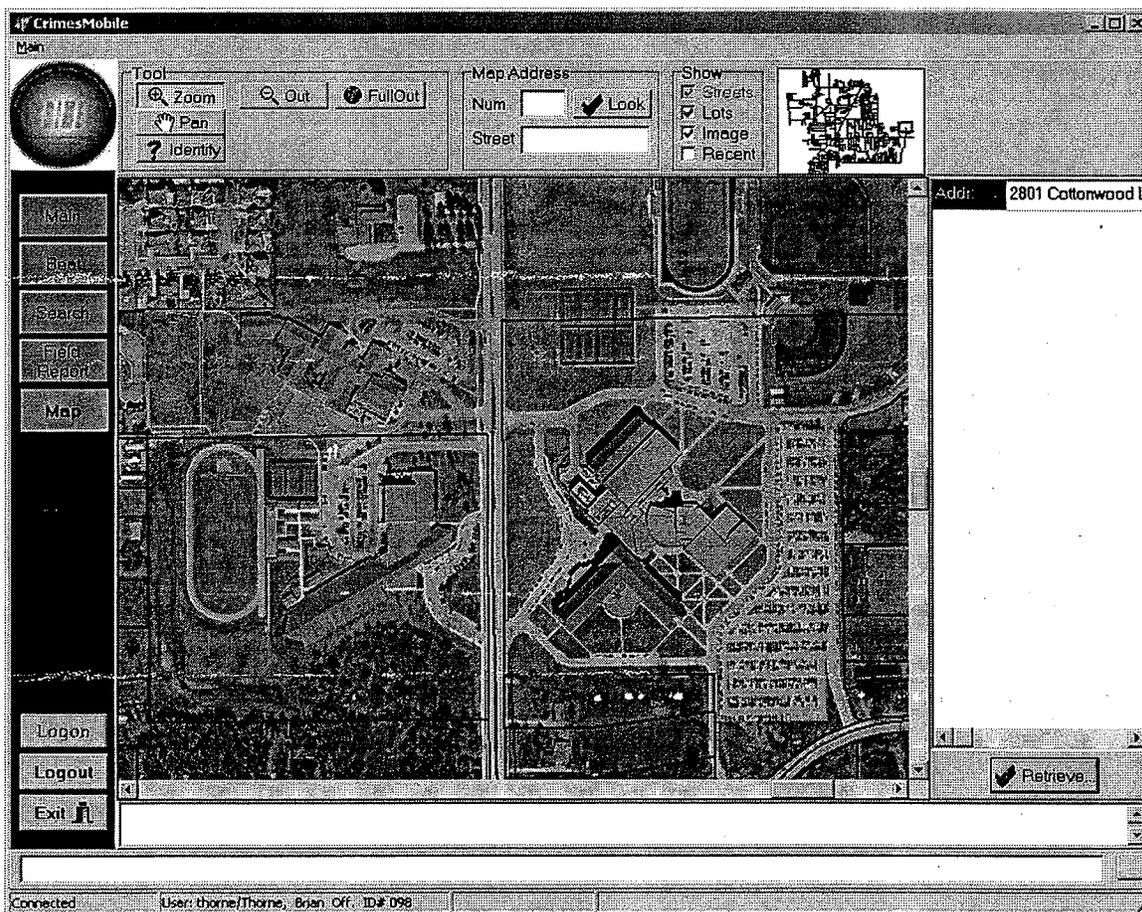

Figure 56. A school grounds in Colleyville, Texas overlaid on an aerial photograph