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Abt Associates Inc.

**School COP:
A Software Package
for Enhancing
School Safety**

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Executive Summary¹

Recent shootings at our Nation's schools have heightened the need to document and track incidents occurring in schools. Incidents include not only criminal acts (e.g., theft, robbery, vandalism) but also bullying, defiance, and other non-criminal acts that violate school behavior and discipline rules. Unfortunately, few schools systematically collect comprehensive data on these incidents. School information systems generally capture these data if a student is suspended, expelled, or receives some other sanction, but incidents with unknown perpetrators and information about victims are typically not entered in these systems. As a result, schools typically proceed without a complete and accurate depiction of the nature and extent of schools incidents when (1) prioritizing safety problems, (2) selecting from among the myriad strategies for improving school safety (e.g., limiting accessible entrances to the school, video cameras, metal detectors, conflict resolution classes), and (3) determining whether implemented strategies are improving school safety.

A well-designed incident tracking and analysis system could facilitate school-based crime prevention and problem solving effort in a number of ways, including by:

- helping ensure consistency in the information recorded;
- simplifying the task of reporting information about incidents to school superintendents and school committees;
- keeping easily retrieved records regarding each student's disciplinary and criminal history in terms of types of misconduct and crimes, and actions taken in response to each previous incident;
- identifying students and teachers who appear to be repeatedly victimized by other students;
- documenting misconduct and crime by type of incident, location, month, school, and other variables, and displaying the information in tabular and graphic reports; and,
- identifying "hot spots" that may benefit from increased adult presence, electronic surveillance, environmental changes, or other preventive measures.

In addition, the utility that similar mapping and crime analysis systems have demonstrated in other settings, such as law enforcement agencies and community crime prevention organizations, suggests that such systems could be useful in schools. The primary value of these systems comes from providing 'local data consumers' with access to both heretofore unavailable databases and easy-to-use tools to analyze those databases, which enables these local data consumers to produce the maps and other reports that meet their own specific needs. Under the old model in which access to information is limited to, for example, only the central office (but not the district offices) or supervisory staff (but not line personnel), local data consumers are provided with maps and reports that somebody else thinks would meet their needs.

In response to this need for improved incident data collection and analysis in schools, the National Institute of Justice (NIJ) provided funding to Abt Associates Inc. to develop a software package that

¹ This Executive Summary provides an overview of the National Institute of Justice-funded project "Development of a Software Tool for Enhancing School Safety" (NIJ cooperative agreement 1999-LT-VX-K017) awarded to Abt Associates Inc. in November 1999. This project is one of several funded under the June 1999 NIJ Office of Science and Technology's "Safe Schools Technologies" solicitation, which requested proposals for developing technologies that could make our Nation's schools safer.

persons responsible for safety at elementary and secondary schools could use to enter, analyze, and map these incidents. These persons include school administrators (e.g., principals, district-level administrators, and regional- or state-level administrators), school district security staff, and law enforcement officers assigned to schools, such as School Resource Officers (SROs).

Software Overview

The name of the software package developed during the project is the School Crime Operations Package, or *School COP*. The package runs on Windows 95, 98, NT, and 2000 personal computers, and was designed so that it could be widely distributed – it is usable without formal training and requires no other software to run. The package's database follows the model recommended by the U.S. Department of Education's National Center for Education Statistics Crime, Violence, and Discipline Reporting Task Force; it includes data related to the incident (e.g., date, time, type, location) and to persons involved in the incident (e.g., name, grade, action taken). Users can pre-enter choices for many data elements, which speeds data entry and improves data quality, and define special categories of incidents or persons they especially want to track (e.g., hate crimes, gang-related incidents).

School COP balances ease-of-use and functionality by offering a variety of techniques for analyzing school incidents, including tabular reports, bar graphs, pie charts, and maps. Users will generally conduct analyses in one of three ways:

- The easiest method is to run one of the many 'canned' reports and graphs – for example, a bar graph showing the number of incidents by location over a particular date range.
- A single 'build-a-map' screen enables users to create a multi-layer graduated symbol map – for example, a map showing the building floor plan could include, for a particular date range, separate layers for drug, alcohol, and tobacco offenses.
- The most useful analysis method is first to search for a subset of incidents and then analyzing that subset. Users can search on any single field (e.g., all incidents involving a weapon) or combination of fields (e.g., all incidents occurring inside the building in which girls were victimized). Incidents meeting the search criteria can be browsed, printed in tabular form, graphed, or mapped.

A key project goal was to introduce computer mapping, a technology widely used for crime prevention and control purposes by law enforcement agencies, to schools. However, because the package was to be widely distributed, users could not be assumed to have access to a commercial geographic information systems (GIS) package or GIS-produced maps, much less have any experience working with a GIS package. As a result, the approach to mapping in *School COP* is different than the typical approach that law enforcement agencies take, which involves purchasing commercial GIS software and streets maps that have been linked to precise latitude and longitude coordinates:

- The primary map format with which *School COP* works is scanned bitmap images of building floor plans, school grounds, and other areas of concern to schools. By contrast, law enforcement agencies rarely if ever do computer mapping with bitmap images. While this limits the types of incident maps that can be produced and the types of analyses that can be performed (e.g., because two separate bitmap images cannot be linked geographically, as

GIS-produced street and neighborhood maps can), it also makes mapping more broadly accessible because nearly all schools will have access by sketches of building floor plans and school grounds.

- Users create a geographic description of their school(s) in *School COP*. Users divide each school into one or more areas, with a specific map associated with each area. For example, a modest sized two-story school might have four areas – one for each floor, one for the school grounds, and one for the bus routes. Next, users can define specific point locations within each area by clicking specific points on the associated map in *School COP*.
- When new incidents are entered, the incident location is selected from the list of pre-entered locations. Thus, once users have defined their areas and locations, geocoding, the process by which geographic coordinates are assigned to incident locations, occurs automatically.

Development and Dissemination

The initial design for *School COP* was based on input from a number of sources, including informal telephone interviews with police and school officials at 13 jurisdictions that received School-Based Partnership grants from the Office of Community Oriented Policing Services (COPS Office), on-site interviews with school administrators and safety officials at two urban school districts in New England, a review of existing articles on incident data collection in schools, and project staff's own experience designing and evaluating similar systems. An initial test version of *School COP* was then developed over a six-month period from January through June 2000. Ten sites, including six school districts, two state and regional school agencies, and two law enforcement agencies, provided feedback on the application's features, functionality, ease-of-use, and reliability. Based on feedback from these test sites, enhancements were made to the software during November and December 2000. Most of the requested enhancements were incorporated into *School COP*, although some, such as multi-user capabilities and data analysis via an Intranet, were not possible to make within the project time and budget constraints.

A fully-functioning version of *School COP*, including on-line help and a sample database containing 100 incidents at a fictitious school, was available in mid-January 2001. Soon after, project staff began disseminating the package to school safety officials who requested the package. Requests for *School COP* were received in two different ways:

- *Direct requests.* Through March 2001, project staff received 66 direct requests for *School COP* via e-mail or telephone from school administrators, school security or security support staff, and school resource officers (SROs). Persons directly contacting project staff were sent the *School COP* compact disk (CD), which includes the installation kit, the *School COP* application, and the on-line *School COP* user manual. Direct requesters heard about *School COP* from either one of four project staff conference presentations, a brief article on the beta test version of *School COP* that appeared in the newsletter "Managing Safe Schools," or referrals from other users.

The 66 direct requesters varied widely in terms of position held, location, and jurisdiction size, suggesting that *School COP* may have broad appeal. Requesters work in 31 different states and in jurisdictions that range in population from 5000 to 1,000,000. In terms of position and job category, the largest single category is school department security staff,

constituting 26 percent of the requesters, followed by school district administrators with 21 percent. Overall, school administrators (including those working at single school, school district, and state/regional administrators) constitute slightly more than half the direct requesters, with school department security staff and law enforcement officials representing the balance.

- *COPS In Schools Training Conference series.* Under a separate contract signed in late 2000 with the Office of Community Oriented Policing Services (COPS Office), Abt Associates is participating in the COPS In Schools Training Conference Series, which is one component of the agency's COPS In Schools grant program. As of early 2001, approximately 1,110 jurisdictions have received COPS In Schools grant funds, and all are required to send a school administrator and all School Resource Officers (SROs) assigned to schools under the grant program to one of the conferences. Attendance at each conference is limited to 160. *School COP* is featured in the 'Problem Solving' session at the conferences. During this session, attendees are shown the application and explained how it can facilitate school-based problem solving. At the end of the session, attendees have the option of taking with them the *School COP* CD. An estimated 130 and 110 attendees elected to take the CD at the Seattle and Albuquerque conferences, respectively, the first two conferences in which project staff participated. Eighteen more conferences are scheduled over the period March 2001 to September 2002.

Preliminary Assessment Approach

A final project task involved a limited assessment of *School COP*. Recognizing that it is common to request software, especially free software, but never actually use it, the key goal of the assessment was to determine the extent to which *School COP* is actually being used. Assuming that some requesters had completed their evaluation of *School COP*, had decided to use it, and had been entering and analyzing incidents, a second goal was to learn from these persons why they were using the package, and what benefits it brought them and their school(s).

Telephone interviews were conducted in March 2001 with 56 persons who received *School COP* by early February 2001, including direct requesters and Seattle COPS In School attendees:

- *Direct requesters.* By early February 2001, 57 individuals had telephoned or e-mailed project staff requesting the *School COP* software package. The preliminary assessment involved attempting to telephone all of these individuals. *Thirteen* of these requesters did not return at least two phone messages and six, it was discovered, were not potential users of the software. As a result, the assessment results reported below include the responses of 38 individuals who requested a copy of the software.
- *Seattle COPS In Schools Conference attendees.* Project staff attempted to conduct telephone interviews with the first 39 conference participants whose names were listed alphabetically on the roster of conference attendees. Nineteen of these participants did not return at least two phone messages; two others reported they did not take a copy of the software home with them from the conference. As a result, the survey results reported below include the responses of 18 of the 39 conference participants project staff attempted to reach.

Combining the two groups, a total of 56 persons were interviewed during the assessment. The 56 represent a fairly balanced mix of school administrators (38%), school security / security support staff (36%), and SROs (27%). Nevertheless, caution should be exercised in using the survey results to estimate future *School COP* use patterns. In particular, it is not logical to extrapolate the number of individuals in the Nation who will ultimately request or use *School COP* based on the individuals who have already learned about, requested, and used the software, particularly because the large proportion of requesters (one quarter) and conference participants (one half) whom project staff were unable to interview may disproportionately represent individuals who do not intend to use the software. Finally, many of the individuals who received a copy of *School COP* reported they had not yet had time to test it. There is no method of estimating what percentage of these individuals may eventually use the software.

Findings on Overall Level of Use

With the preceding caveats in mind, the 56 interviewed individuals reported they were in the following stages with regard to using *School COP*:

- 15 (27%) were already using it – 2 school administrators, 8 SROs, and 5 security staff;
- 7 (13%) were planning to use it – 1 school administrator, 2 SROs, and 4 security staff;
- 13 (23%) were planning to test it – 4 school administrators, 4 SROs, and 5 security staff;
- 13 (23%) might test it – 7 school administrators, 1 SRO, and 5 security staff; and
- 8 (14%) would not be using it – 7 school administrators and 1 security staff.

These percentages will change as users continue to test and evaluate the package. As a result, the number of respondents in this sample who end up using *School COP* is likely to be higher than the 22 reported individuals because some of the respondents who reported they plan to test the software are likely to end up using it. On the other hand, it is possible that most of the 34 requesters and conference participants we were unable interview have no plans to use *School COP*, which would decrease the ratio of users to nonusers.

Overall, the preliminary findings of this survey suggest that a significant proportion of individuals who obtain copies of *School COP* – perhaps one-quarter to one-half – are likely to end up using it. This proportion of ultimate users is likely to be higher among SROs and security and security support staff than school administrators.

Findings from Interviews with Current *School COP* Users

More detailed interviews with the 15 current *School COP* users provided insights into why they decided to use the package, how they are using it, and what impact it is having in their school(s). For example, the most common reason the 15 users gave for using *School COP* was that it enabled them to prepare crime and incident information for meetings with school officials and other stakeholders. Seven users gave this as their main reason, or one of their main reasons, for using the software. At least two users also gave each of the following reasons for using *School COP*:

- it is extremely easy to use—it is better and faster than paper (4 users);
- it saves time doing monthly or annual reports (3);
- it makes it possible to identify “hot spots” in the schools (3);

- it provides easily retrievable information about specific students (2); and
- the mapping feature is very helpful for getting additional school safety resources (2).

As of early March 2001, most of the 15 users had entered only between five and 30 incidents into the database. However, one user had already entered 160 incidents, another 590, and a third 680.

Three of the 15 reported they use the *School COP* mapping features on a regular basis. For example, one SRO reported that he had scanned in his entire school's building areas and grounds and that using the mapping feature was "wonderful." It is worth noting that these users produced their maps without any technical assistance from project staff. Seven of the remaining 12 users reported they planned to use the mapping feature in the near future; all but one of them said they had not had the time yet to activate it. The remaining user who expected to use the feature was waiting to obtain school maps. Four users reported they had no intention of using the mapping feature, two because their schools had no maps, one because the feature would not be worthwhile, and one because mapping would not be useful unless the software could be networked. One user was not sure whether he would eventually use the mapping feature.

The assessment found that 9 of the 15 users were already sharing *School COP* reports or data with other individuals or groups; seven of these users share data on a regular basis. Six share the information regularly with school administrators (including school boards) and three with security staff. Examples of information sharing include:

- A regional director of school safety shares data with high school principals every month by e-mail. In turn, the principals share the data with the SROs in their schools. The regional director also presents data at the monthly school superintendents' meeting. For example, she presented data showing that one district was using corporal punishment significantly more frequently than the other districts were.
- The sworn director of a city school system's in-house police department presents information on gang issues provided by *School COP* at the weekly meeting of the city's police department.
- One SRO shares data routinely with a high school's 20-person in-house sworn police department.
- A county school safety and security specialist shares information about offenders at a weekly meeting with the county juvenile probation department.

Other users share information generated by *School COP* on special occasions.

- An SRO who covers two K-8 schools has twice e-mailed information upon request to the superintendent of schools. The superintendent asked for a report summarizing all incidents by school and a second report showing the names and types of misconduct of all students involved in more than one incident.
- An SRO shares information with some parents whose children have gotten into trouble, reporting that "instead of giving them a brief description of what happens, I can immediately

print and hand them the incident report.” At the same time, he can print the student’s entire disciplinary history, “proving to the parents (and student) that there has been a history of misbehavior.”

- Upon request, the chief of security for a school district shares selected information from *School COP* with the media; for example, in response to a request from the press, he provided data on the number of explosive devices people had attempted to bring or had brought into the schools.
- The sworn director of a city school system’s in-house police department shared information with the superintendent of schools showing an increase in the number of drug arrests occurring at the schools.

In general, users had not had enough time to enter sufficient data to use the program’s capabilities in order to achieve the ultimate goals of *School COP* – that is, promote changes in prevention, enforcement, or discipline in their schools. However, three users had already used the software to effect changes.

- At a high school in a mid-sized city in the West, a rash of students complained that they were being harassed while trying to get from other parts of the school to “A” Hall. The SRO used *School COP* to print a map of the incidents to identify the corridors where the harassment was taking place. He took the map to the principal who then arranged for the Parent Teachers Organization to station parents in the problem corridors. The SRO encouraged teachers in the problem corridors to poke their heads out of their doors periodically to monitor corridor activity. The SRO plans to use the map next year to ask for more surveillance cameras in the corridors.
- A county school safety and security specialist used *School COP*’s mapping feature to identify where and when a series of locker break-ins were occurring. By using *School COP*, he found that most of the break-ins were taking place during lunchtime and after the last class period of the day. Based on these data, he arranged for school security staff to increase their monitoring of the identified locations and times of day. He then correlated which students had cut class during the times when most of the locker break-ins had occurred. The combination of increased monitoring by teachers assigned hall duty and information from *School COP* regarding who had cut classes helped him to identify and apprehend students who appeared to be responsible for the crimes. The number of incidents has since declined.
- The same safety and security specialist used *School COP* to track where and when gang activity was taking place at a number of schools and which students were involved. He then used the software program’s mapping and graphing capabilities to document to the county school board the severity and nature of the problem. As a result, the superintendent developed a school gang policy, now included in the student manual, that identifies what kinds of gang-related behavior (e.g., use of gang colors) will not be tolerated and the punishments the school will impose for each behavior.

- Use of *School COP* at a high school in a mid-sized Midwestern city helped initiate formal discussions between teachers, school administrators, and students on issues related to school safety.

A few other users had drawn on *School COP* data to ask for changes, but school administrators had not yet responded to the requests:

- A SRO who had entered 30 incidents to date at a high school used the data to provide evidence to the principal and superintendent of the relatively large number of fights that were occurring during lunchtime in a very busy area where many students have their lockers. He proposed that some of the students be assigned lockers in other parts of the school with the expectation that, by reducing the number of students at this high traffic area by an estimated 25 percent, the number of fights would decline. The two administrators asked him to document more cases and present the evidence again before they made the change.
- The director of a school's in-house police department used *School COP* to show the superintendent the number of drug arrests occurring in several schools. Based on the data, the director will ask the superintendent for additional money for increased surveillance, a request the superintendent will take to the school board.
- At a school principals' meeting, the director of research, evaluation, and training for a 40-school city school system displayed data from *School COP* showing the number and type of weapons being brought into the schools. She was hoping that the data would motivate the principals to increase their use of scanning equipment at the entrances to the schools.
- The chief of security for a school district who had logged in 160 incidents used the data to determine which schools had the most damage caused by skateboards. He has presented the data to the school board with a request for funds to purchase and install plastic protectors at the corners of the benches in selected schools to reduce the damage.

1. Introduction and Background

This document represents the final report of the National Institute of Justice-funded project “Development of a Software Tool for Enhancing School Safety” (NIJ cooperative agreement 1999-LT-VX-K017) awarded to Abt Associates Inc. in November 1999. This project is one of several funded under the NIJ Office of Science and Technology’s “Safe Schools Technologies” solicitation, which requested proposals for developing technologies that could make our Nation’s schools safer.

The technology project described herein had two major objectives:

- Develop a software package for entering and analyzing data, particularly school incidents (i.e., school rule violations and crimes) that describes the nature and extent of crime and discipline problems that exist in and around elementary and secondary schools. A key analytical technique in the package was to be computer mapping.
- Pilot test the software in schools and then make it available to schools across the Nation.

By meeting these two objectives, the project is attempting to introduce incident and crime analysis – in particular, crime mapping – to schools, thereby facilitating problem solving and data-driven decision making in schools.

The name of the software package developed in the project is the School Crime Operations Package, or *School COP*. In addition to this final report, information on *School COP* is available through the project web site – www.SchoolCOPSoftware.com.

This report contains five main sections and one appendix:

- The remainder of Section 1 provides background information on school safety, the persons and organizations responsible for ensuring safe schools, and the processes related to incident reporting in schools.
- Section 2 provides technical information on *School COP*, including its design, features, and user interface.
- Section 3 describes how *School COP* was disseminated during the project period.
- Section 4 summarizes the results of a limited assessment of *School COP* based on interviews with persons who requested the software.
- Section 5 describes some possible future efforts involving *School COP*.
- Appendix A contains the *School COP* user manual, which is distributed along with the *School COP* software application.

1.1. The School Safety Problem

Research and development efforts at NIJ (e.g., the Safe Schools Technologies initiative) and programmatic efforts at agencies such as the Office of Community Oriented Policing Services (e.g., the School-Based Partnership and COPS In Schools programs) related to school safety have coincided with the dramatic rise in concern over the safety of our Nation's schools. Much of this concern is due to several well-publicized shootings at elementary and secondary schools. Recent Gallup poll surveys underscored this concern – in August 1999, for example, 47 percent of parents surveyed indicated that they fear for their child's safety at school, up from 24 percent in a 1977 survey (Gallup, 1999).

Interestingly, some quantitative indicators of school crime suggest that schools are becoming safer. The most recent Federal government publication on school safety, *Indicators of School Crime and Safety, 2000* (U.S. Department of Education and U.S. Department of Justice, 2000), which draws data from the National Crime Victimization Survey and other surveys from the Department of Education, the Department of Justice, and the Centers for Disease Control, indicates that:

- the percentage of students who reported being victims of crime at school decreased from 10 percent in 1995 to 8 percent in 1999;
- the percentage of students who reported avoiding one or more places at school for their own safety decreased from 9 percent in 1995 to 5 percent in 1999;
- the percentage of high school-aged students who reported carrying a weapon to school declined from 12 percent in 1993 to 7 percent in 1999; and,
- the percentage of male high school seniors who reported carrying a weapon to school on at least one day within the previous four weeks also declined from 14 percent in 1993 to nine percent in 1996.

Other measures in the *Indicators of School Crime and Safety, 2000* report remained essentially constant. For example, in separate 1993, 1995, and 1997 surveys, the percentage of students who were threatened or injured with a weapon on school property in the past 12 months remained constant at around 7 to 8 percent.

In spite of whether quantitative measures of school safety have shown improvement or a worsening, many parents, students, school administrators, teachers, police, and other members of the community have a perception that the problem is serious and growing. This perception can create an environment of fear and distraction that inhibits learning by students and teaching by instructors. It can also encourage students to come to school with weapons, provoke parents to keep their children out of school or send them to private school, and create stress among teachers that leads them to take "mental health days" or even switch careers. This perception is a reality that school administrators, law enforcement representatives, and other government officials must take seriously and address.

Schools have implemented a variety of strategies to enhance a sense of safety and to curtail violence – see, for example, U.S. Department of Education and U.S. Department of Justice (2000), Green (1999), and Kenney and Watson (1998). These strategies include:

- physical changes to schools (e.g., limiting accessible entrances to the school);
- new policies and procedures (e.g., requiring staff to wear identification badges);

- technological devices (e.g., video cameras and metal detectors);
- programmatic initiatives (e.g., conflict resolution and violence prevention programs); and,
- law enforcement approaches (e.g., assigning police officers to school full-time).

The June 1999 NIJ Office of Science and Technology Solicitation for Safe Schools Technologies was designed “to encourage technology developers to be creative in working with schools and those individuals in the schools responsible for safety and security and the law enforcement agencies which serve the schools, to propose new or improved technologies that have promise for wide implementation” (NIJ, 1999). Topic areas included simulation and training, officer protection and crime prevention, less-than-lethal technology, school technology assessment, communication and information technology, and GIS and crime mapping. The project described herein addresses the latter two topic areas.

1.2. School Safety Personnel

There are many persons who are directly responsible for ensuring the safety of students and staff at elementary and secondary schools and who, therefore, potentially would be interested in using a school incident data collection and analysis system, such as *School COP*. These persons:

- *work for a variety of agencies and organizations*, including the school department, state board of education, municipal police department, school police department (i.e., a police department that focuses exclusively on schools but is organizationally separate from both the school department and the local municipal police department), county sheriff, and a private security company;
- *have responsibility for different numbers of schools*, including only a single school, more than one school, all schools in a district, or multiple districts; and,
- *have varying primary functions*, including administration, mentoring, counseling, responding to reports of crimes, investigating crimes, engaging in proactive problem solving, and providing analytic support for crime prevention or control.

In this report, persons with direct responsibility for school safety are grouped into three categories: school administrators, security and security support personnel, and School Resource Officers (SROs).

School Administrators

School safety is but one of the many issues that school administrators face. The specific crime, discipline, and safety issues administrators confront, and, as a result, their related information needs, vary according to the number of schools for which they are responsible:

- *A single school*. While principals have overall responsibility for school safety, in many schools the assistant principals (sometimes called Deans) typically handle day-to-day disciplinary and crime issues. A student accused of violating a school rule or committing a crime would be sent to an administrator’s office, where staff would handle the incident according to established rules and guidelines. As necessary and appropriate, district-level administrators or law enforcement officials would be involved in the case.

- *District-level.* At the district level, superintendents or assistant superintendents typically get involved with more serious incidents, especially those involving suspensions or expulsions. They also formulate district-wide discipline rules and handle school safety resource allocation issues (e.g., to which schools are police officers assigned) across all the district schools.
- *State or regional level.* Certain administrators at the state or regional level manage crime and discipline reporting systems (e.g., Safe and Drug Free Schools programs) that may involve aggregating school-level data for state or Federal policymakers.

Security / Security Support Personnel

In contrast to school administrators, security and security support personnel focus exclusively on safety issues, including conducting safety audits, planning for safe schools, responding to incidents, and conducting follow-up investigations of incidents. Support personnel include analysts, supervisors, and other staff that assist personnel who provide 'front line' services. As many as three different security organizations or agencies may provide security services to a particular school or school district:

- *School department security office.* Some school districts, especially the larger ones, have security offices within the school department that are staffed with either school department employees or employees of a private security company under contract to the school department. School security staff may be sworn (e.g., a retired police officer) or non-sworn.
- *Local law enforcement agency.* The local municipal police department or county sheriff's office provides security services to schools either on an as-needed (e.g., the school administration or school security office requests assistance for a particular incident) or routine basis (e.g., by directing police officers to patrol areas around certain schools at the end of the school day). Some schools hire off-duty police officers on a routine basis.
- *School police department.* Some communities have school police departments that are separate from both the school police department and the local law enforcement agency. This situation generally arises from the public's demand, again based on the perception that schools are unsafe, for a specialized sworn agency that can focus exclusively on schools. Sometimes a school incident could involve both the school police department and the local law enforcement agency if, for example, the school police department, because of its size, cannot provide specialized services, such as fingerprinting or ballistics identification.

School Resource Officers (SROs)

SROs are sworn officers from the local law enforcement agency who are assigned to one or more schools in a district for the purposes of providing a range of services, including mentoring, counseling, teaching, problem solving, and law enforcement. SROs and security / security support personnel are categorized differently in this report for two reasons. The first is to distinguish SROs from sworn officers who focus exclusively on law enforcement activities in schools. Congress, in Title I of the Omnibus Crime Control and Safe Streets Act of 1968, defines an SRO as:

“A career law enforcement officer, with sworn authority, deployed in community-oriented policing, and assigned by the employing police department or agency to work in collaboration with schools and community-based organizations to:

- address crime and disorder problems, gangs, and drug activities affecting or occurring in or around an elementary or secondary school;
- develop or expand crime prevention efforts for students;
- educate likely school-age victims in crime prevention and safety;
- develop or expand community justice initiatives for students;
- train students in conflict resolution, restorative justice, and crime awareness;
- assist in the identification of physical changes in the environment that may reduce crime in or around the school; and
- assist in developing school policy that addresses crime and recommend procedural changes.”

More recently, the Office of Community Oriented Policing Services (COPS Office) defines an SRO in terms of the officer’s three primary roles: problem solver and liaison to the community, educator, and law enforcement / safety specialist.

The second reason for distinguishing SROs and security / security support personnel is that the number of SROs is increasing rapidly, primarily because of a major COPS Office grant program called “COPS In Schools.” This program is designed to help local law enforcement agencies hire community policing officers to work in schools. As of early 2001, over 1,000 agencies are participating in this program. All awardees – and in particular all funded SROs – are required to attend a 3-day COPS In Schools Training Conference, which covers such topics as legal issues, problem solving, safe school preparation, child development, mental health interventions, and classroom strategies. Twenty conferences are planned over the period January 2001 through September 2002.

1.3. School Incident Reporting and Processing

A school incident is any event that violates a school’s set of established rules of conduct. They range in seriousness from victimless minor infractions, such as violating the dress code, to violent felonious acts. An incident is ‘reported’ if it is brought to the attention of principal, assistant principal, or other person in the school with disciplinary responsibility. Victims, other students, teachers, or other school staff report incidents; obviously, many incidents are not reported.

As the following discussion of how incidents are processed highlights, the frequency with which incidents are routinely reported to school administrators, security / security support personnel, and SROs varies. Assuming the incident is reported, and depending on the seriousness of the incident, the prior disciplinary history of the offenders, and school district reporting requirements, facts about individual incidents could potentially be recorded (e.g., in manual or automated files) in as many as three different locations:

- *At the school where the incident occurred*, if the principal, assistant principal, SRO, or other person in charge of discipline, elects to document the incident;

- *At the school district administrative or security office*, if the principal at the school where the incident occurred reports the incident to the district level administrative or security office, because, for example, a suspension or expulsion process is being initiated against an offender.
- *At the local law enforcement agency (or school police department)*, if the principal or school district personnel reports the incident to law enforcement authorities.

School-Level

Incident documentation methods in individual schools ranges from slips of paper placed in student folders to entry of information in a computer system. Many schools use a document generally referred to as a "Discipline and Referral Sheet." This is a student-based form – if six students are in a single fight, six forms will be filled out. A typical form lists the student's name, a few facts about the incident (e.g., date and time), the reason(s) for referral (e.g., profanity, open defiance), staff member's remarks, action taken against the offender, and miscellaneous remarks. Depending on the school, the form may be filed in a drawer, entered in a system for tracking incidents within the school, submitted in paper form to district administrators or the local law enforcement agency, or entered in a system for tracking incidents at the district level. For example, an assistant principal at a suburban Boston area high school uses a Microsoft Access application that he himself developed to track school rule violations. When a new violation is reported, the assistant principal brings up the student's record and enters notes about the new incident in a 'comments' field in the database. The system quickly and easily provides the assistant principal with a particular student's history of prior rule violations, which determines the sanctions for new violations. Being student-based, rather than incident-based, the system is unable, however, to produce reports containing trends about incidents.

In addition to a repository maintained by school administrative staff, a School Resource Officer (SRO) or other police officer assigned to the school may also document the incident in some type of recording keeping system. In such schools, the SRO may document incidents, even if an administrator does not.

School district rules dictate when a school administrator must report an incident to the district-level administrative or security office. This will always occur if a student offender is suspended or expelled, since these sanctions involve attendance records. Similarly, if the incident is a criminal act, the principal is required to report the incident to the local law enforcement agency.

School District-Level

At the district level, information about incidents could be recorded in two different systems. The first is the school district's main administrative system, which, among other things record and maintain students' schedules, attendance, and grades. Generally referred to as a student information systems, these systems also include a 'discipline' module. If a student is suspended or expelled, this fact will – and, in fact, must, because school funding is generally linked to attendance – be documented in the student information system. Because these systems are student-based, they can tell administrators how many times a particular student has been a suspended or how many students were expelled over a given time period, but they cannot provide information on incidents, particularly those in which no student was suspended or expelled.

Most larger school districts have security offices, whose staff provides security services throughout the district. Some security offices are staffed by sworn law enforcement officers and some by

civilians; some use a combination. The Cambridge (MA) Public Schools, for example, has 10 civilian security officers, who have received extensive training in school security, to patrol and respond to incidents at the city's 17 public schools. The Brevard County (FL) Public Schools Security Office, which provides security services for the county's 80 public schools, employs both sworn officers and civilian security specialists.

Regardless of their staffing arrangement, security offices will carefully document incident reports that school-based administrators forward to them, since documenting, investigating, and solving incidents and crimes is their primary mission. Again, the methods for documenting incidents range from manual files with index cards, to rudimentary automated filing systems using a spreadsheet or database, to custom information systems built by software vendors.

Criminal Justice System

Local law enforcement agencies can be involved in school security in a number of different ways – by assigning full or part-time SROs to a specific school (or group of schools), by assigning full or part-time non-SRO officers to a specific school (or group of schools), or by simply giving schools extra attention during events or at certain times. Smaller rural school districts generally depend on the county sheriff for police services. In addition, some school districts, such as Topeka (KS), have a school police department that is separate from both the local police department and the school department.

Local law enforcement agencies record school incidents in the same computer system used to record incidents occurring elsewhere in the community. For school police departments, their incident systems, of course, only contain school incidents. Depending on the size of the agency, these systems again range from rudimentary databases, perhaps developed by an officer, to systems purchased from software vendors. These systems will contain whatever incidents the schools report to them.

Given the potential involvement of both school and law enforcement officials in an incident, an incident sometimes results in both administrative and criminal sanctions. For example, a student who seriously assaults a teacher would likely be both expelled and arrested.

As noted earlier, criminal acts occurring on school property are supposed to be reported to the local law enforcement agency. In practice, however, the frequency with which this occurs varies by school, due in part to varying interpretations of what a 'crime' is. Also, as Kingery and Coggeshall (2001) note, some school officials may be reluctant to report crimes to the police because of political pressures to keep crime rates low. One police commander who project staff interviewed believes that "school crime is the most underreported crime," because school principals feel their job would be at risk if they reported accurate crime figures.

1.4. Potential Benefits of Incident Reporting Systems

Concern over school safety has heightened the need to document and track incidents occurring in schools. This includes not only serious crimes but also bullying and other non-criminal acts, which studies have shown actually cause more concern and fear among students than violent crime (Kenney and Watson, 1999). Unfortunately, as noted above, few schools systematically collect comprehensive data on these incidents. School information systems generally capture these data if a student is

suspended, expelled, or receives some other sanction, but incidents with unknown perpetrators and information about victims are typically not entered in these systems. Moreover, these systems are student-based, rather than incident-based: they may be able to tell safety personnel how many fights a particular student has instigated, but not, for example, whether the number of fights is increasing or decreasing, where they are most likely to occur, and who is being victimized.

School-Based Problem Solving

Given the poor state of school incident reporting systems, schools typically proceed without a complete and accurate depiction of the nature and extent of school incidents when (1) prioritizing safety problems, (2) selecting from among the myriad strategies for improving school safety (e.g., limiting accessible entrances to the school, video cameras, metal detectors, conflict resolution classes), and (3) determining whether implemented strategies are improving school safety. And, as concerns over school safety increase, an increasing number of schools will be implementing formal problem solving efforts, due in large part because of the increasing popularity of community-oriented policing. The COPS Office's School-Based Partnership Program and COPS In Schools programs, in particular, are helping to bring community policing and problem solving to elementary and secondary schools.

A well-designed incident tracking system could facilitate a formal problem solving effort in a number of ways, including by:

- helping ensure consistency in the information recorded;
- simplifying the task of reporting information about incidents to school superintendents and school committees;
- keeping easily retrieved records regarding each student's disciplinary and criminal history in terms of types of misconduct and crimes, and actions taken in response to each previous incident;
- identifying students and teachers who appear to be repeatedly victimized by other students;
- documenting misconduct and crime by type of incident, location, month, school, and other variables, and displaying the information in tabular and graphic reports; and,
- identifying "hot spots" that may benefit from increased adult presence, electronic surveillance, environmental changes, or other preventive measures.

Other Mapping and Analytic Tools For Crime Prevention

Finally, the utility that similar mapping and crime analysis systems have demonstrated in other settings suggests that such systems could be useful in schools. As a general-purpose tool for analyzing spatial data, computer mapping is used in a wide variety of industries, including sales and marketing, telecommunications, insurance, banking, healthcare, and transportation. In the criminal justice and public safety areas, mapping is most widely used by law enforcement agencies (see, for example, Rich, 1995; Rich, 1996; and Mamalian and La Vigne, 1999). Mapping is also closely linked to problem-oriented policing (Weisburd and McEwen, 1998; La Vigne, 1999). Other criminal justice-related mapping applications involve community crime prevention organizations (Rich, 1998, 2001), multi-agency efforts to reduce crime (Groff et al, 2001), and corrections agencies (Webb, 1998).

The use of mapping in schools has been limited. In 1997, NIJ funded a study to implement and test a "high-definition" geographic information system (GIS) at Temple University (Rengert, 1997). Working with the campus police department, Temple University researchers constructed digitized maps of all campus buildings, including floor plans of multi-story buildings. The campus police's records management system was modified so that crimes are geocoded to one of several hundred specific locations (i.e., polygons and lines on computerized maps) within the campus. In addition, with funding by the Office of Community Oriented Policing Services, a few police departments have begun to use mapping in a more systematic manner in conjunction with school-based problem solving. Under this grant program, police departments and schools form partnerships to develop and use the SARA (scanning, analysis, response, and assessment) and other problem solving approaches to address specific school-related crime problems.

The primary value of these and other similar systems comes from providing 'local data consumers' with access to both heretofore unavailable databases and easy-to-use tools to analyze those databases. The key benefit is that these local data consumers can produce the maps and other reports that meet their own specific needs. Under the old model in which access to information is limited to, for example, only the central office (but not the district offices) or supervisory staff (but not line personnel), local data consumers are provided with maps and reports that somebody else thinks would meet their needs.

One of the earliest examples of such a system is the Chicago Police Department's ICAM mapping system, which enables individual police officers to create their own maps and reports of current crime conditions in their assigned beats. Chicago PD management staff viewed ICAM as critical to the Department's overall community policing plan and praised ICAM for the way it empowered police officers to initiate and evaluate their problem solving efforts (Rich, 1996).

More recently, an NIJ Research in Brief examined the value of a system that provided community crime prevention organizations in Hartford (CT) with access to computerized call for service, crime, and arrest information (Rich, 2001). Community organizations used the system to accomplish a variety of objectives, including identifying and quantifying crime hot spots, targeting specific properties for civil action under public nuisance laws, raising awareness throughout a neighborhood regarding crime conditions, getting residents to focus on crime prevention and problem solving, and bolstering requests to city agencies to provide additional resources to combat specific problems.

2. Software Description

This section contains a description of *School COP*, the incident reporting and analysis system developed during the project. Topics in this section include the overall development approach (Section 2.1) and user interface (Sections 2.2 – 2.5). The *School COP* user manual, which is included in on-line form with the software package, is in the appendix.

2.1. Development Approach

Design

The initial design for *School COP* was based on input from a number of sources. For example, project staff conducted informal telephone interviews with police and school officials at 13 jurisdictions that received School-Based Partnership (SBP) grants from the Office of Community Oriented Policing Services (COPS Office). Interviews focused on the 22 jurisdictions, out of a total of 155 SBP grants in FY 1998, that proposed to use mapping in their police-school partnership activities; in total, 16 persons were interviewed at 13 of the 22 sites. A key goal of the interviews was to determine whether these sites had actually implemented school-based mapping and data analysis, and, if they had not, how they might use these techniques to help them respond to specific problems in schools. Interviews were conducted with school administrators and safety officials at two urban school districts in New England to understand their current data collection systems and how data are used to enhance school safety. Existing literature on incident data collection in schools, in particular articles by Stephens (1998) and the NCES (1996), was also reviewed. Finally, project staff also drew on their own experience in designing and evaluating crime mapping and analysis systems.

This input, combined with the overall project objective to build a system that as many agencies involved in school safety as possible would use, highlighted the following key design considerations:

- *Include key incident information.* The system had to include incident information that, when analyzed, would facilitate operational, tactical, and strategic decision making by school administrators, security staff, SROs and others responsible for school safety. This includes information specific to the incident (e.g., date, time, and location of occurrence) as well as information about students, teachers, and other staff involved in the incident (e.g., name, grade, and whether they are a victim, perpetrator, witness, or suspect). This overall data model (i.e., a single incident record related to one or more people records) is the one the U.S. Department of Education recommends for school-based incident tracking systems (NCES, 1996). The most important difference between the NCES and the *School COP* data elements is the specificity of the incident location. Whereas the NCES specification suggests coding incidents as either 'on-campus,' 'on school sponsored transportation,' or 'off-campus,' *School COP*, as discussed later in this section, allows users to define an essentially unlimited number of specific locations on- or off-campus. Specific data elements included in *School COP* can be seen on the data entry screens in Section 2.4.
- *Data entry and analysis, or just analysis.* Another basic design decision was whether the system should include data entry capabilities or a data import facility. Other software applications

available from the NIJ's Crime Mapping Research Center are 'analysis-only' systems, in which data must be imported from another source. This approach makes sense if the data already exist in another system (e.g., a police department's crime reporting system). However, as discussed in Section 1, the school information systems generally only capture discipline or crime data when a student is suspended or expelled. Thus, requiring users to have an existing automated file of incidents would be a huge, if not insurmountable, obstacle to using *School COP*. As a result, it was clearly important that *School COP* be a data entry, as well as data analysis, system. This fact is worthy of note because of the significant level of effort required to build a data entry system that is reliable, user-friendly, and ensures high data quality.

- *If possible, the system should be customizable.* Software developers must always confront the tradeoff between a 'customizable' system and a 'canned' system. In general, customizable systems are great for users (since the system can be tailored to meet specific and idiosyncratic needs) but bad for developers (because of the increased cost of maintaining multiple systems). By contrast, 'canned' systems are easier to maintain, but they force users to adapt their operations to conform to the system. Through the use of a number of code tables (see Section 2.3), *School COP* can, to a limited degree, be customized. While users cannot change the underlying database, through the use of the Special Circumstances, Special Characteristics, and other code tables (see Section 2.3), users can define their own categories of incidents and people.
- *Security is critical.* Given that the *School COP* database may include identifying information about juvenile offenders and victims and that principals and school administrators are extremely sensitive about reported levels of school incidents and crime, the system clearly had to be extremely secure, both at a technical level (e.g., through the use of system passwords) and at a visceral level (e.g., principals needed to feel that the information was secure). At the design level, security considerations played a key role in determining whether the system should be a standalone PC application (i.e., the data are stored on the user's PC) or a web-based application (i.e., the data are stored on web server). In spite of the fact that very sophisticated security procedures can be implemented to ensure the security and confidentiality of data stored on a web server, in conversations with school officials it was clear that having data stored on a web server represented an obstacle to using the system. That is, schools would be more likely to use the system if school officials knew that their data were 'on a computer they could see.' One suspects that this attitude will change in the coming years, as more and more applications become web-based. As a result, security considerations dictated that a standalone PC system be developed, rather than a Web-based system.

In many respects, this decision is unfortunate. From a technical perspective, the Web-based approach is preferable. First, the hardware and software requirements at the sites are minimal, an important consideration given public school funding constraints – users need only have a computer capable of running a web browser and a connection to the Internet. In addition, maintaining the application and the sites' data in a central location greatly simplifies software and technical support (e.g., upgrading the software or helping prepare a specific map or report).

- *Include mapping.* The interviews with the School-Based Partnership recipients found that all the mapping efforts were being initiated and planned by the police departments, rather than by school personnel. Accordingly, a key project objective was to introduce schools to computer mapping. From a technical perspective, developers who want to include mapping capabilities in a PC-based application have two choices – either build the application around a full-featured mapping

product (e.g., ESRI's ArcView) or use a mapping tool (e.g., ESRI's MapObjects) that can be 'plugged in to' a software application built with development tools such as Microsoft Visual Basic. (See 'Overall Approach to Mapping' below for an overview of how mapping was implemented in *School COP*.)

- *Include other analytic techniques besides mapping.* A recent NIJ study examined how frequently users of a mapping and crime analysis system used different methods of presenting data, including mapping (Rich, 2001). The study showed that, while mapping was the most frequently used of five data presentation methods, it still accounted for less than half the reports produced. This finding underscores that mapping is just one way, albeit an important way, of analyzing data. Thus, in addition to mapping, it was important to include other analysis tools in *School COP*, such as graphing and various tabular reports.
- *Minimize the cost to users.* Requiring users, particularly school officials, to purchase additional items, including other software or training, represents an additional obstacle to using the system. Some of the software available through NIJ's Crime Mapping Research Center, for example, requires users to purchase a commercial mapping package license (i.e., ESRI's ArcView). Given tight school budgets, project staff viewed the more than \$1,000 cost of an ArcView or similar license as a large obstacle to using the system, and, as a result, decided to use a royalty-free mapping tool (ESRI's MapObjects LT) to provide mapping capabilities. In addition, royalty-free tools for producing graphs and tabular reports were also used. As a result, *School COP* users do not have to purchase any other software licenses or packages.²
- *Easy to use, yet powerful.* All software applications trade off functionality and ease-of-use. For *School COP*, the challenge was to build a system that would not require formal training, but at the same time offer flexibility and analytic power for users, particularly for users accustomed to using other database packages. The ease-of-use requirement extends to installing and starting up the package.³

Overall Approach to Mapping

Compared to mapping at the city-wide or neighborhood level, mapping incidents inside school buildings and on school grounds presents some interesting challenges. Whereas address-level geocoding works well for most law enforcement applications, it is not clear what the fundamental unit of analysis is for school applications. For mapping purposes, some school "locations" are well-defined – a classroom can be counted as a single location, for example, since knowing in which part of a classroom an incident occurred is not relevant for problem solving. But what about incidents occurring in major hallways or on the school grounds? In these cases, it is important to be more specific regarding the location. Also, many school buildings have more than one story, which makes it harder to produce the equivalent of a city-wide crime map, much less conduct radius searches or more sophisticated geographic analyses.

² *School COP* was built using Microsoft Visual Basic and three royalty-free software tools: ESRI's MapObjects LT, which provides mapping capabilities; ProWorks' Flipper Graph, which provides graphing capabilities; and Component One's VSReports, which provides tabular report previewing and printing.

³ InstallShield Express, a widely-used software tool from InstallShield Software Corporation for developing installation programs for Windows applications, was used to build the *School COP* installation kit.

Exhibit 2.1 compares the overall approach for setting up mapping in schools using *School COP* (column 4) to that used in law enforcement agencies (column 2) and in schools with an existing GIS capability (column 3). (Additional details on how each step was implemented in *School COP* follow in Section 2.3.) For law enforcement agencies, setting up a mapping capability typically involves purchasing a commercial GIS package, acquiring a street centerline file (either from a commercial vendor or another city agency), attending an introductory training course on mapping, and establishing procedures to receive mappable data in a timely manner. The same general steps would be used by a school-based user desiring to use a commercial mapping package. The challenge for *School COP* is not only circumventing the training requirement but also providing a way to use non-GIS-produced base maps and then use these maps to build a geobase (i.e., database tables that describe schools and locations inside schools geographically).

Exhibit 2.1: Mapping Setup Process

Setup Step	Law Enforcement Agencies	Schools (Using a Commercial GIS)	Schools (Using <i>School COP</i>)
Acquire Mapping Software	Purchase commercial GIS package	Purchase commercial GIS package	Acquire <i>School COP</i>
Acquire Base Maps	Purchase commercially available street map	Build floor plan and school grounds maps using GIS package (or, overlay a grid on a scanned floor plan or school grounds image)	Using a scanner, digitize floor plans and school grounds drawings (or, use GIS-produced ⁴ map of floor plans or school grounds)
Attend Training	Take introductory GIS course through public or private organization	Take introductory GIS course through public or private organization	Not necessary
Build Geobase (Assign Geographic Coordinates to Base Map Locations)	No additional work (geographic coordinates embedded in street maps)	No additional work (geographic coordinates embedded in map during map construction process)	Display map in <i>School COP</i> , click on locations and name the point. Users decide how many locations to create. (See Section 2.3)
Geocode Incidents (Assign Geographic Coordinates to Incidents)	Enter the incident address; GIS geocoding feature returns its geographic coordinates	Click on the map at the point corresponding to the incident location (or, select a location from the list of defined locations)	Select a location from the list of previously entered locations. (See Section 2.3)

The assumption in designing *School COP* was that the vast majority of users could obtain a copy of school building floor plans and schematics of their school grounds and then have these drawings scanned and stored in digital format. Thus, *School COP* was designed to read and display scanned images of these maps. (Tips for scanning the images and using them in *School COP* are included in

⁴ Currently, the only GIS-produced maps that *School COP* reads are ESRI shapefiles.

the *School COP* user manual.) For those schools (assumed to be few in number) with access to GIS-produced maps, *School COP* will also read and display 'shapefiles' (i.e., the standard map file format used in products from ESRI, a leading supplier of GIS software and data). While using scanned images limits the types of incident maps that can be produced and the types of analyses that can be performed, it also makes mapping more broadly accessible, which is a key project goal.

Development and Testing

An overriding project objective was to make sure that the developed application was actually useful and provided value to persons responsible for safety and discipline at elementary and secondary schools. Thus, it was critical that potential users examine and react to the application. Having more than just one or two test sites was also critical, in order to ensure that the application was generic and not too idiosyncratic to any particular school or agency. At the same time, it was also important to limit the distribution of early versions of the applications, in order to avoid the risk of a large number of schools being exposed to 'buggy' software that could dissuade them from using future versions of the software. To the extent possible within existing budget and time constraints, feedback and comments from the test sites should be incorporated into the application. Finally, after feedback was incorporated into the application, it was desirable to have some school safety officials actually use (i.e., enter and analyze their own data) the application and assess their reaction to the application, so that project deliverables could include not only a fully tested and working software application, but also an assessment of whether, and if so how, the application was actually being used.

Based on the design considerations discussed earlier in this section, an initial test version of *School COP* was developed over an six-month period from January through June 2000. Using the school safety personnel categorization scheme outlined in Section 1.2, Exhibit 2.2 shows that 16 school administrators, 12 school security / security support personnel, and 1 SRO requested and received the initial test version of *School COP*. These persons heard about *School COP* from one of three sources: a *School COP* presentation at the July 2000 NIJ Research and Evaluation Conference, a *School COP* presentation at the July 2000 National Center for Education Statistics (NCES) Summer Data Conference, and an article on *School COP* that appeared in the August 2000 edition of the newsletter "Managing Safe Schools" (LRP Publications). Requesters were asked to install the package and provide comments on *School COP*'s functionality, ease of use, and usefulness.

Exhibit 2.2: Recipients of Test Version of *School COP*

Position	Number Requesting	Number Providing Feedback
School Administrator		
Single School	3	0
School District	6	2
State / Regional Agency	7	2
Sub-Total	16	4
School Security / Security Support		
School Department	10	4
School Police Department	1	1
Municipal Police Department	1	1
Sub-Total	12	6
School Resource Officer (SRO)	1	0
TOTAL	29	10

As shown in Exhibit 2.2, ten sites provided feedback on the application's features, functionality, ease-of-use, and reliability. Among the most important feedback received were installation problems that occurred on PCs running a particular version of the Microsoft Office suite, data elements that should be added, and additional important analytic features (e.g., new tabular reports, increased flexibility on generating tabular reports, and the ability to generate bar graphs and pie charts).

Based on feedback from test sites, enhancements were made to the software during November and December 2000. Most of the requested enhancements were incorporated into *School COP*. Some requested enhancements, such as multi-user capabilities and data analysis via an Intranet, were not possible to make within the project time and budget constraints.

A fully-functioning version of *School COP*, including on-line help and a sample database containing 100 incidents at a fictitious school, was available in mid-January 2001.

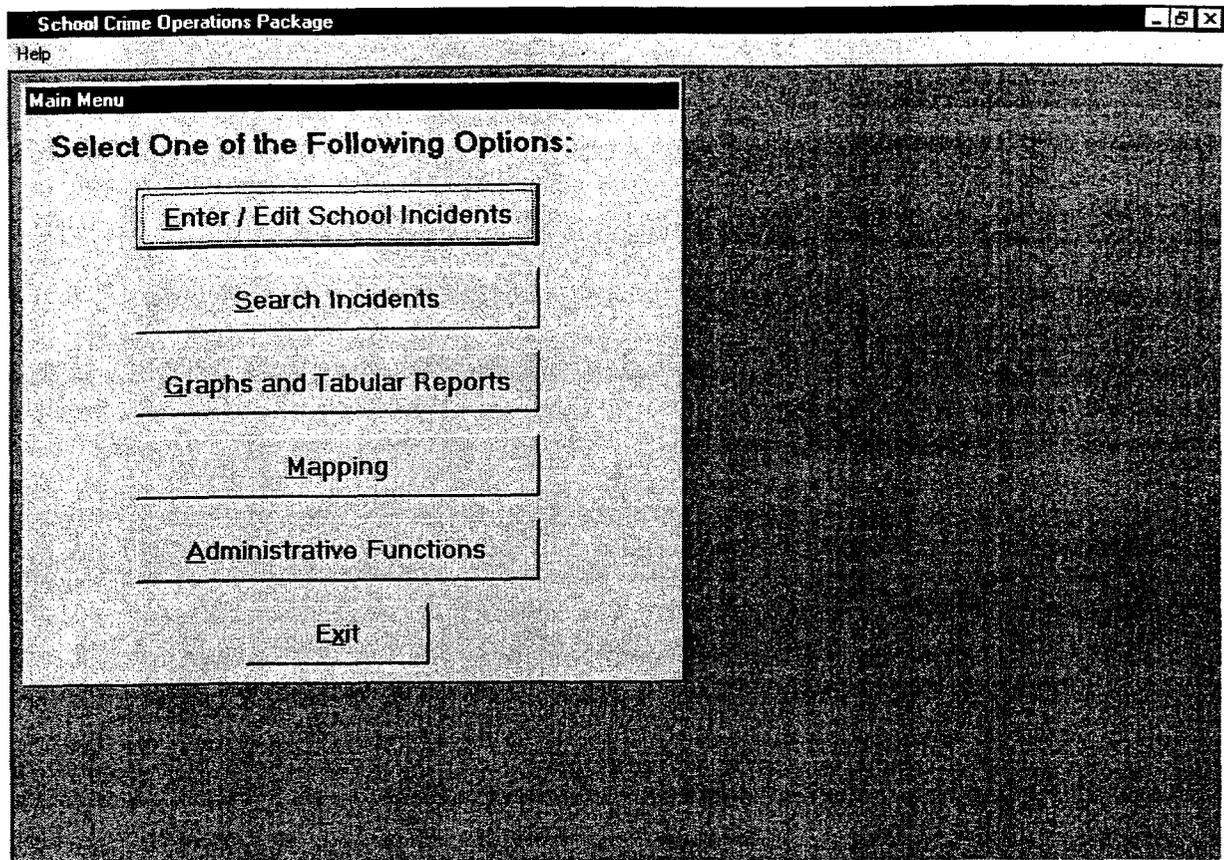
2.2. Installation and Login

An easy-to-use installation procedure is critical in order to avoid discouraging users, particular computer novices, from using the package. The *School COP* installation routine conforms to Windows standards and thus will be familiar to anyone who has previously installed any software. The installation routine creates commands off the Windows Start button for running (1) *School COP* with a sample database containing roughly 100 incidents at a mythical school; (2) *School COP* with an empty database into which the user will enter their own data; and (3) the *School COP* help system.

Starting *School COP* displays the login screen. *School COP* comes configured with one login ID and password set. Additional login IDs and passwords can be created, and users can change the admin login ID password.

After a valid login ID and password set are entered, the *School COP* main menu is displayed (see Exhibit 2.3).

Exhibit 2.3: *School COP* Main Menu



The Main Menu is the gateway for entering new incidents (“Enter / Edit School Incidents,” see Section 2.4), performing searches (“Search Incidents,” see Section 2.5), running canned reports and graphs (“Graphs and Tabular Reports,” see Section 2.5), and producing multi-layer maps (“Mapping,” see Section 2.5). The Administrative Functions button provides access to screens for building the *School COP* geobase (see Section 2.3), configuring other code tables (see Section 2.3), and performing other administrative functions, such as login ID management and backing up data.

2.3. Setup and Customization

Before starting to use *School COP* to enter their own incident data, users can customize the package to meet the needs of their school(s). Specifically, *School COP* allows users to pre-enter codes in code tables for attributes related to incidents (e.g., incident type and location) and for attributes of persons involved in incidents (e.g., how they were involved and what action, if any, was taken against them). Pre-defining code tables before entering data enables users to enter information about new incidents faster – instead of having to type in information from scratch, users simply click on the desired code from a drop-down list. This also helps ensure consistency in the information entered about each incident and protects against misspelling and typographical errors.

In all, there are 14 *School COP* code tables. Three must be built from scratch – schools, areas, and locations, which together constitute the *School COP* geobase (see ‘Geobase Construction’ below). *School COP* includes values for the other 11 code tables that can be modified to meet local needs. Five of the 11 are related to an incident:

- *incident severity*, which indicates the general seriousness of the incident (e.g., felony, misdemeanor, school rule violation);
- *incident type*, which provides a description of what happened (e.g., assault, defiance, dress code violation);
- *weapon used*, which indicates which type of weapon involved in the incident (e.g., knife, gun);
- *special circumstances*, which enables users to track specific types of incidents that are not included in the other code tables (e.g., gang-related incidents, hate crimes); and,
- *status*, which indicates whether the incident is currently under investigation or is closed.

The other six are related to people involved in an incident:

- *person type*, which indicates whether the person was a student, staff, teacher, non-student, etc.;
- *race*, which indicates the person’s racial background;
- *special characteristics*, which enables users to track specific types of persons that are not included in the other code tables (e.g., special education students, gang members);
- *grade*, which indicates the grade level of the person;
- *involvement*, which indicates how the person was involved in an incident (e.g., victim, perpetrator, witness, suspect); and,
- *action taken*, which indicates what type of sanction, if any, was given to the person (e.g., suspension, expulsion).

Code values are entered using screens such as the one shown in Exhibit 2.4, which is the status code table screen. The “Record 1 of 3” label indicates that three status codes are currently defined.

Exhibit 2.4: Status Code Entry Screen

Geobase Construction

The most important part of customizing *School COP* is building the geobase. Users create their own geographic description of their school(s) in *School COP*, using a three-tiered system of schools, areas, and locations. Any number of schools can be entered in *School COP*, using the screen shown in Exhibit 2.5.⁵

Exhibit 2.5: Defining Schools

School Crime Operations Package Help

School Information

Use this form to enter or edit information about schools for which you will be collecting incident information. Click "Exit" to return to the administrative menu.

School Name: Learning High School

School Number: 123456 District Number: 123456

Address: 1500 Main Street, Learning, MA

Principal: Dr. Raymond

Phone Number: 617-555-1212

Safety Contact: Mr. John Grandview

Safety Contact Phone Number: 617-555-1212

Record 1 of 1

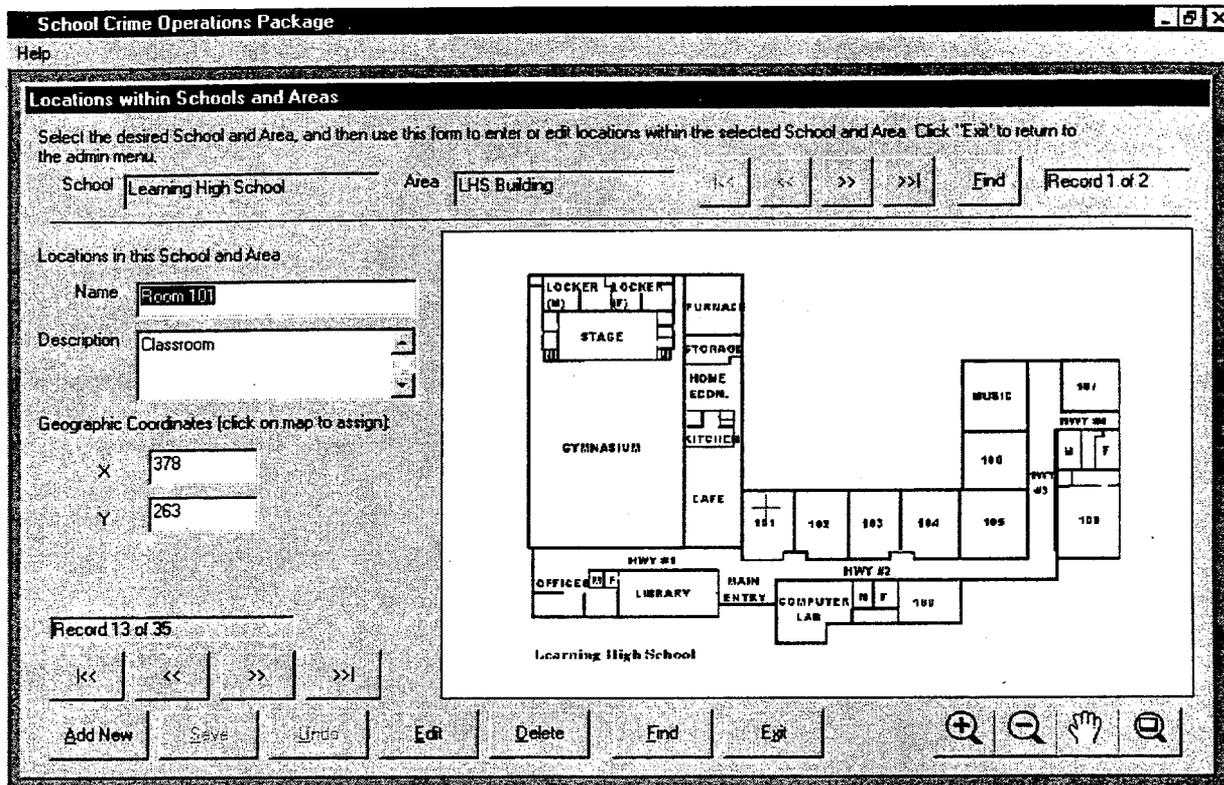
Add New Save Undo Edit Delete Find Exit

Each school that users define can be divided into one or more "areas," with a specific map associated with each area. For example, a modest sized two-story school might have four areas – one for each floor, one for the school grounds, and one for the bus routes. Exhibit 2.6 shows the map that has been assigned to the area "LHS Building," which is one area within the school named Learning High School. The label "Record 1 of 2" below the map indicates that this particular school has two areas.

⁵ The names of all schools and persons shown in the exhibits in Section 2 are fictitious.

to when the geobase is defined). It is also easier to be more precise in specifying the location of new incidents using the grid approach (e.g., rather than picking 'Faculty Parking Lot' from the list of pre-entered locations, users could simply click on the exact spot in the parking lot where the incident occurred). In the end, however, the grid approach was not selected because, again, of the project goal of making *School COP* usable by as many agencies as possible, and using the grid approach would require agencies to have and use maps to define locations. The *School COP* approach outlined in this section allows for detailed mapping, but does not *require* users to have maps. That is, schools, areas, and locations can be defined without reference to any maps.

Exhibit 2.7: Assigning Locations to Areas



Geocoding Incidents

To complete the discussion of how *School COP* implements mapping, an overview of how incidents are geocoded – that is, how geographic coordinates are associated with an incident location – follows; additional details on the data entry process, of which geocoding is one component, are discussed in Section 2.4.

When new incidents are entered in *School COP*, users indicate where the incident occurred by first selecting the school, area, and location where the incident occurred. Exhibit 2.8 shows the incident data entry screen, with a new incident that occurred in Room 101 being added. The exhibit shows that users need only choose from the pre-entered list of schools, areas, and locations. In particular, the location drop-down list shown in Exhibit 2.8 only contains the pre-entered locations associated with Learning High School and the area "LHS Building." Selecting from the lists, as opposed to typing in the location, enhances data quality by ensuring consistent spelling. Once the location is

entered and the incident is saved, the X and Y coordinates associated with the location are automatically stored in the incident record, where they can be used for producing incident maps.

Exhibit 2.8: Geocoding New Incidents

School Crime Operations Package Help

School Incidents
Use this form to enter or edit information about school incidents. Click 'Exit' to return to the main menu.

Incident #: 01-012 School: Learning High School Weapon: []
Date (mm/dd/yy): 4/17/01 Area: LHS Building Special Circumstance: []
School Year (yy/yy): 00/01 Location: Room 101 Reported By: []
Time (hhmm): 1400 Incident Type: Room 101, Room 102, Room 103, Room 104, Room 105, Room 106, Room 107, Room 108 Investigator: []
Entered By: Eric Severity: [] Status: []
Entry Date: 4/17/01 Other Agency Case Number: []

Narrative: []

Enter / Edit People Involved: []
Adding New Record: []

Reports: Incident Report, Graph, List Summary, Map

Buttons: Add New, Save, Undo, Edit, Delete, Find, Exit

2.4. Data Entry

There are two *School COP* data entry screens – one for attributes related to the incident (see Exhibit 2.9) and the other for attributes related to a person involved in the incident (see Exhibit 2.10).

Exhibit 2.9: Incident Data Entry Screen

School Crime Operations Package

Help

School Incidents

Use this form to enter or edit information about school incidents. Click 'Exit' to return to the main menu.

Incident # 01-9014 School Learning High School Weapon Gun

Date (mm/dd/yy) 4/17/01 Area LHS Building Special Circumstance Drug-Related

School Year (yy/yy) 00/01 Location Cafeteria Reported By Mr. Winger

Time (hhmm) 1200 Incident Type Weapons Possession Investigator Shawn

Entered By Eric Severity Felony Status Closed, referred to police

Entry Date 3/21/01 Other Agency Case Number

Narrative

Enter / Edit People Involved...

Record 107 of 107

K< << >> >

Add New Save Undo Edit Delete Find Exit

Reports

Incident Report Graph

List Summary Map

After the screen in Exhibit 2.9 is filled out and saved, information about people involved in the incident can be entered by clicking the button labeled “Enter / Edit People Involved...”, which displays the People Involved Screen (see Exhibit 2.10). Zero, one, or more than one persons can be associated with an incident.

Exhibit 2.10: People Involved Data Entry Screen

School Crime Operations Package Help

Persons Involved in Incident 01-9014

Use this form to enter or edit information about persons involved in the incident. Click 'Exit' to return to the main incident form.

Name (Last, First) Person Type

Date of Birth (mm/dd/yy) Gender School

Race Student ID

Special Characteristics Grade

Contact Information

Involvement In Incident

Action Taken: Type Start Date (mm/dd/yy) End Date (mm/dd/yy)

Comments

Record 1 of 1

Reports for This Person: This Incident, All Incidents

Navigation buttons: Add New, Save, Undo, Edit, Delete, End, Exit

Together, Exhibits 2.9 and 2.10 show the data elements included in the *School COP* database. Of particular note in the screens are the fields with drop down lists (i.e., fields with the pull down arrows on the far right). These fields correspond to those that have associated code tables.

2.5. Data Analysis

School COP has three main options for analyzing data: running canned reports and graphs, 'search and analyze,' and creating multi-layer maps.

Canned Reports and Graphs

The easiest method for analyzing data – geared primarily toward data novices – involves running one of the pre-formatted 'canned' reports and graphs. Clicking 'Graphs and Tabular Reports' on the Main Menu (see Exhibit 2.3) displays a list of available graphs and tabular reports. The list includes aggregate graphs (e.g., the number of incidents by location), incident lists (e.g., all incidents occurring in a specified time period sorted by date and time), person lists (e.g., persons involved in multiple incidents), aggregate incident reports (e.g., the number of incidents by school and type), aggregate person reports (e.g., the number of persons involved in incidents by school and action taken), and utility reports (e.g., code table listings).

Exhibit 2.11: List of Canned Reports and Graphs

School Crime Operations Package

Help

Graph and Tabular Report Selection Screen

Click on the desired report, and provide a title, date range, and sort order. Then click 'Show Report.'

Available Graphs and Reports

- Incident Totals: By School, Area, and Location
- Incident Totals: By Severity
- Incident Totals: By Special Circumstances
- Incident Totals: By Status
- Incident Totals: By Weapon
- Incident Totals: By Year
- Person List: Action Taken List
- Person List: Persons Involved in Incidents
- Person List: Persons Involved in Multiple Incidents
- Person List: Persons Receiving Multiple Actions Taken
- Person Totals: By Action Taken
- Person Totals: By Action Taken and Grade
- Person Totals: By Action Taken and Special Characteristics
- Person Totals: By School and Action Taken
- Person Totals: By School, Action Taken, and Grade
- Person Totals: By School, Action Taken, and Special Characteristics

Parameters

Report Title: Person List: Persons Involved in Multiple Incidents

Date Range: From 1/1/00 To 4/17/01

Sort By: Person's Name

Show Report... Return to Main Menu

Date ranges and sort orders can be selected for most reports.

Search and Analyze

Whereas the canned reports are geared toward novice database users, the search and analyze method offers advanced users an unlimited number of ways to analyze a *School COP* database.

The Search Incident screen (see Exhibit 2.12) enables users to search for incidents meeting a single condition (e.g., all incidents involving a weapon) or multiple conditions (e.g., all incidents involving a weapon at a particular school occurring during a particular time period that involved a victim). As many conditions as desired can be specified on the Search Incident screen, including values in the free form incident narrative and person comments fields. For example, Exhibit 2.12 shows a search for all incidents occurring inside the building of Learning High School that involved vandalism.

Exhibit 2.12: Search Incident Screen

Search Criteria

Specify search criterion (see note below) in as many fields as desired, and then click 'Search' to search the database.

Incident Fields	People Involved Fields
Incident #	Person Name
Incident Date	Date of Birth
School Year (yy/yy)	Gender
Incident Time	Race
School	Special Characteristics
Area	Person Type
Location	School
Incident Type	Student ID
Severity	Grade
Weapon Type	Contact Information
Special Circumstances	Involvement
Reported By	Action Taken Type
Investigator	Action Taken Start Date
Status	Action Taken End Date
Other Agency Case #	Comments (see note)
Narrative (see note)	

Note: Date and time fields can include a dash [-] to indicate a range; other fields can include a star [*] as a multiple character wildcard, a question mark [?] as a single character wildcard, or a pound sign [#] as a single digit wildcard. For narrative and comment fields, include * on either end of keyword (e.g. "drugs").

After the 'Search' button is clicked, the database is searched and the number of incidents meeting the specified conditions is announced to the user (see Exhibit 2.13). In the example shown in Exhibit 2.12, 13 incident matched the search criteria:

Exhibit 2.13: Search Results

School Crime Operations Package

13 incident records matched your search criteria. The most recently entered is displayed; use the <<, <<<, >>>, or >> buttons to view the other 12 incidents.

At this point, users have a number of options. They can view details of the records matching the search criteria (see Exhibit 2.14):

Exhibit 2.14: Browsing Search Results

School Crime Operations Package [Help] [X]

School Incidents: Search Results

Search criteria: Area = LHS Building; Incident Type = Trespassing; School = Learning High School.

Incident #	203	School	Learning High School	Weapon	None
Date (mm/dd/yy)	12/23/00	Area	LHS Building	Special Circumstance	Possible Gang-Related
School Year (yy/yy)	00/01	Location	Cafeteria	Reported By	Mrs. Winger
Time (hhmm)	1400	Incident Type	Trespassing	Investigator	Off. Ward
Entered By	Off. Ward	Severity	Misdemeanor	Status	Closed
Entry Date	7/17/00	Other Agency Case Number			

Narrative: Garner Smith was seen in the cafeteria. Off. Ward had twice previously advised Smith to stay out of the building.

Enter / Edit People Involved...

Record 13 of 13

Navigation: K< << >> >

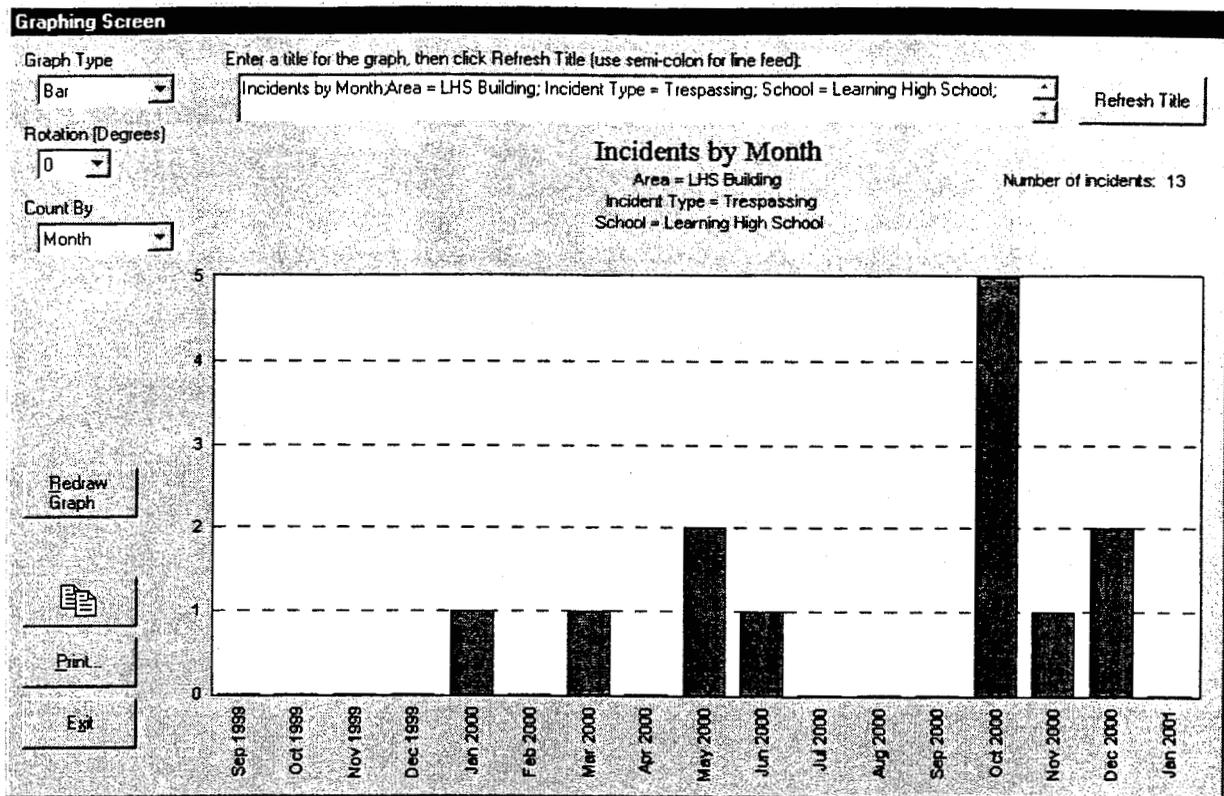
Buttons: Add New, Save, Undo, Edit, Delete, Find, Exit

Reports: Incident Report, Graph, List Summary, Map

The label "Record 13 of 13" in Exhibit 2.14 indicates the number of records matching the search criteria and the English language equivalent of the criteria is shown near the top of the screen. The navigation buttons (<<, <<, >>, >>|) can be used to view the other incidents meeting the criteria.

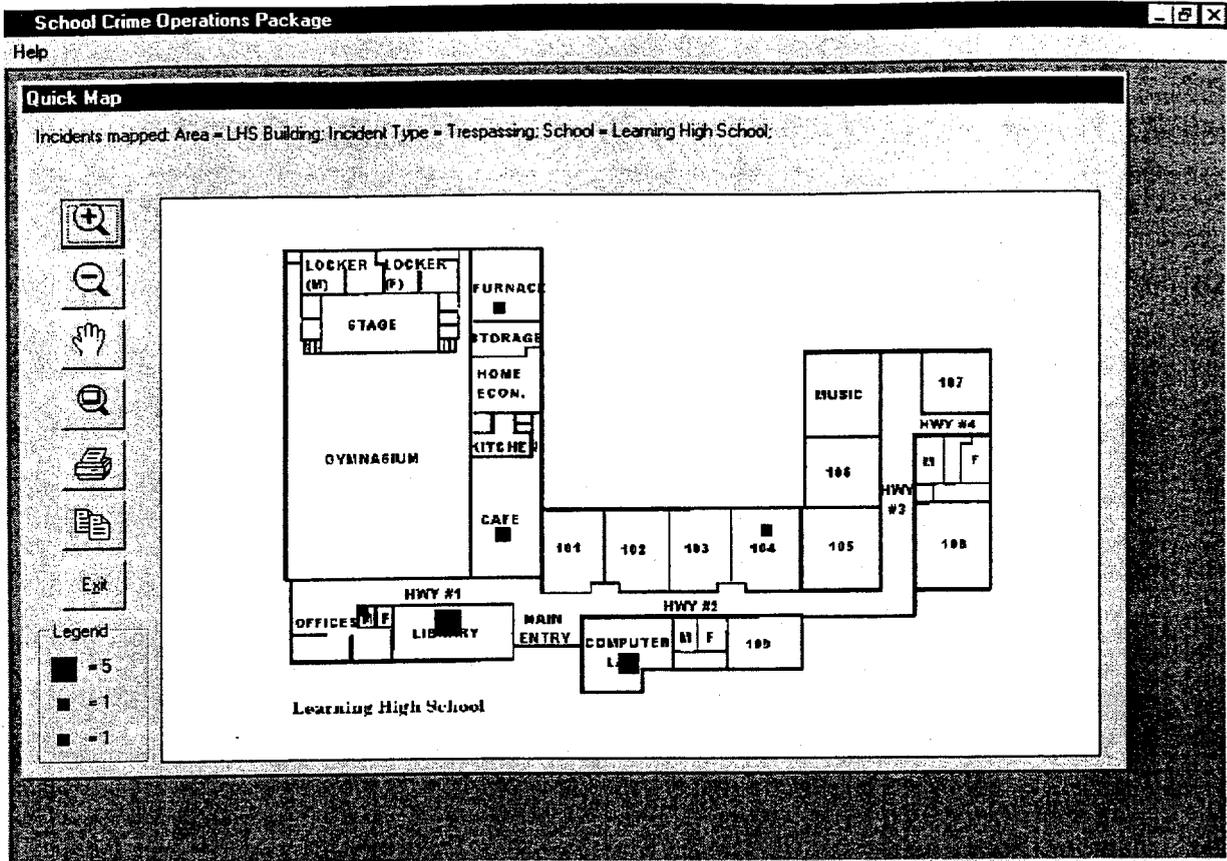
Clicking the 'Graph' button on Exhibit 2.14 displays a graph of the incidents meeting the search criteria (see Exhibit 2.15). A default graph showing the number of incidents by month is displayed, but by clicking the 'Count By' drop down, the X-axis variable can be changed to date, year, school year, time, school, area, location, incident type, severity, weapon, special circumstance, or status. Clicking the 'Graph Type' button can change the bar graph to a line graph, pie chart, or 3-D graph (in which a second variable can be included on the graph). Graphs can be pasted into word processing or presentation documents by clicking the copy button on the screen.

Exhibit 2.15: Records Meeting Search Criteria Displayed Graphically



Finally, if an incident search criteria includes a specific school and area, the results of the search can be mapped. Exhibit 2.16 shows the map produced if the 'Map' button on Exhibit 2.14 is clicked. As noted earlier in Section 2, all *School COP* maps are graduated symbol maps, in which symbol sizes vary in proportion to the number of incidents at each location. With potentially a large number of different symbol sizes displayed on the map, legends for graduated symbol maps typically do not show the value corresponding to all the different symbol sizes. *School COP* map legends show icon size associated with three symbol sizes – the maximum, middle, and minimum values. The algorithm for generating the legend sometimes yields three different symbol sizes in the legend; other times, as is the case with Exhibit 2.16, only two different symbol sizes are shown. Finally, it should be noted that, as with graphs, maps can be pasted into other documents by clicking the copy button on the screen.

Exhibit 2.16: Map of Incidents Meeting Search Criteria



Multi-Layer Maps

A general mapping screen allows *School COP* users to create multi-layer maps of school incidents. The map in Exhibit 2.17 shows incidents involving drug possession as one layer, incidents involving tobacco as another layer, and incidents involving alcohol as another layer. The legend in the lower left corner shows the maximum sized icon on the map for each of the layers.

The idea behind this screen is to present a very simple user interface for building a multi-layer map. All of the controls for building the map are shown on a single screen, as opposed to a series of "question and answer" screens, enabling users to quickly change the map and, more importantly, be reminded of what they mapped. In trading off ease-of-use, the screen does limit the user in terms of what can be mapped: currently the data layers can only include one of the incident severity or incident type codes, in addition to a date and time range. On the other hand, other map layers (e.g., police data in either bitmap or ESRI shapefile format) can be included in the map.

Exhibit 2.17: Multi-Layer Map

Mapping Screen

1. Pick Incident Type

Type	Number of Incidents
Type: Drug Possession	■ = 1
Type: Alcohol	● = 4
Type: Tobacco	▲ = 3

Any smaller icons on map represent proportionately smaller numbers of incidents

2. Pick Date and Time Range

Date: 1/1/00 to 3/9/01
 Time: 0 to 2400

3. Pick School and Area

School: Learning High School
 Area Within School: LHS Building

4. Click Here to Produce Map

Display Other Maps: <none>
 Zoom To: <none>

3. Dissemination

A fully functioning and tested version of *School COP* was available in January 2001, three months before the end of the 18-month project. As a result, project staff were able to disseminate it to school safety officials who requested the package. As discussed in this section, requests for *School COP* were received in two different ways – direct requests made to project staff via phone or e-mail (Section 3.1) and through the COPS In Schools training conferences (Section 3.2).

Through March 2001, *School COP* has been disseminated as follows:

- 66 direct requests were received from school administrators, school security or security support staff, and school resource officers (SROs).
- Approximately 130 requests were received from school administrators and SROs at the January 2001 COPS In School training conference in Seattle.
- Approximately 110 requests were received from school administrators and SROs at the February 2001 COPS In School training conference in Albuquerque.

Including two COPS In Schools conferences held in April 2001, the final month of the project, over 500 school administrators, school security or security support staff, and SROs have requested *School COP*.

3.1. Direct Requests

Persons directly contacting project staff via phone or e-mail are sent the *School COP* compact disk (CD), which includes the installation kit, the *School COP* application, and the on-line *School COP* user manual, which is also contained in the appendix to this report. Direct requesters were encouraged to contact project staff for technical support or visit the *School COP* web site for frequently asked questions and other information.

Direct requesters heard about *School COP* from three major sources:

- *School COP presentations.* Project staff made presentations on *School COP* at:
 - NIJ Annual Research and Evaluation Conference (July 2000);
 - National Center for Education Statistics (NCES) Annual Data Conference (July 2000);
 - NIJ Crime Mapping Research Center Conference (December 2000); and
 - NIJ Office of Science and Technology Process Review on Safe School Technologies Projects (March 2001).

A number of attendees asked for copies of the software at these conferences.

- *Managing Safe Schools article.* A writer from LRP Publications attended the NCES conference presentation and, subsequently, wrote a brief article on *School COP* that appeared in the August

2000 edition of the newsletter "Managing Safe Schools." The article noted that the version available was a test version and that sites were expected to provide feedback and comments to project staff.

- *Referrals.* Other direct requesters heard about *School COP* from persons who had already requested the package. For example, a *School COP* user in California showed the package to an official from the state's school crime reporting unit, who subsequently requested it. In addition, at least two school and law enforcement officials participating in the Office of Community Oriented Policing Services (COPS Office) School-Based Partnership Program heard about *School COP* from their COPS Office grant managers and requested the package.

Direct Requester Characteristics

Data available on direct requesters is limited to job position, agency name, and agency location, as no attempt was made to obtain a detailed profile (e.g., current incident reporting and documentation methods) on these persons. The data do show, however, that persons directly requesting *School COP* varied widely in terms of position held, location, and jurisdiction size.

- Direct requesters work in 31 different states. Nine states had three or more direct requesters: California (7 direct requesters), Virginia (5), New York (5), Maryland (4), Indiana (4), Wisconsin (3), Florida (3), Kentucky (3), and Oklahoma (3).
- The population of the jurisdiction in which direct requesters work (ignoring direct requesters who are state / regional administrators) ranges 5000 to 1,000,000, with 29% less than 25,000, 30% between 25,000 and 100,000, 27% between 100,000 and 250,000, and 14% over 250,000. This range suggests *School COP* may have value for both small and large schools.
- Using the school safety-related position categories described in Section 1.2, Exhibit 3.1 shows the number of direct requesters by position and job title. The largest single category, school department security / security support, constitutes 26 percent of the requesters, followed by school district administrators with 21 percent. Overall, the three types of school administrator positions (single school, school district, and state/regional administrators) constitute slightly more than half the direct requesters. Only 2 SROs directly requested *School COP*; given the positive reaction SROs have had to *School COP* at the COPS In Schools conferences (see Section 3.2), this low number undoubtedly reflects the fact that SROs are much less likely to attend the conferences listed above or network with school safety officials in other cities than high-level school district administrators.

Exhibit 3.1: School COP Direct Requesters By Position and Job Title

Job Title	Number	Percent
School Administrator		
Single School	10	15%
Principal	5	
Assistant Principal	4	
Other/Unknown	1	
School District	14	21%
Superintendent	1	
Assistant Superintendent	1	
Division Director	8	
Other/Unknown	4	
State / Regional Agency	10	15%
Safety	1	
Training	1	
Research	1	
Data Analyst	4	
Other	3	
School Security / Security Support		
School Department	17	26%
Director	10	
Security Specialist	6	
Other	1	
School Police Department	3	5%
Chief	1	
Officer	1	
Crime Analyst	1	
Municipal Police Department	10	15%
Police-School Liaison	2	
Crime Analyst	5	
Police Officer	2	
Other	1	
School Resource Officer (SRO)	2	3%
TOTAL	66	100%

3.2. COPS In School Training Conferences

Under a separate contract from the Office of Community Oriented Policing Services (COPS Office), Abt Associates is participating in the COPS In Schools Training Conference Series. As mentioned in Section 1.3, this conference series is one component of the COPS Office's COPS In Schools grant program, which provides funding to jurisdictions to deploy SROs in elementary and secondary schools. As of March 2001, there have been seven separate solicitations under this program, including one that was part of the Safe Schools/Healthy Students program which was a joint initiative with the Departments of Justice, Education, and Health and Human Services. The first announcement occurred in April 1999, and the most recent was in February of 2001. These seven solicitations have

resulted in a total of over 1060 agencies being given awards to fund over 2250 SROs. The COPS Office decided to include *School COP* in the conference series because the agency's staff felt that the package could contribute to the program's overall goal of introducing community policing and problem solving to elementary and secondary schools, and because the package did not require users to purchase additional software.

All COPS In Schools site grantees and all the funded SROs are required to attend one of the training conferences. With attendance at each conference limited to approximately 160 SROs and school administrators, 20 conferences are planned between January 2001 and September 2002. Since many sites received funding for more than one SRO, more SROs attend the conferences than school administrators. For example, at the Seattle conference, 63 percent of the 164 attendees were SROs (Rinehart, 2001).

The conferences are three days in length, with opening plenary sessions on the first day and four concurrent sessions on the second and third. *School COP* is featured in the concurrent sessions titled 'Problem Solving.' During this session, attendees are shown the application and explained how it can facilitate school-based problem solving using the SARA (scanning, analysis, response, and assessment) problem solving model (Spelman and Eck, 1987). At the end of the session, attendees have the option of taking with them a package containing the *School COP* CD and a hard-copy of the user manual.⁷ Attendees are also encouraged to contact project staff for technical assistance on setting up and using *School COP* and on using the package to address problems in their school(s).

An approximate number of CDs taken at each conference can be calculated by comparing the number of CDs taken to the conference and the number remaining at the end of the conference, minus CDs that were damaged in transit (usually 2 or 3) or taken by conference trainers, staff, or others not directly affiliated with a school. As noted at the beginning of Section 3, an estimated 130 and 110 attendees elected to take the CD at the Seattle and Albuquerque conferences, respectively. At least at the Seattle conference, the number of CDs distributed reflects the overall positive initial reaction that attendees had for *School COP*, as 78 percent of attendees indicated on their conference evaluation forms that they thought their agency would implement *School COP* (Rinehart, 2001).

Six COPS In Schools conferences are scheduled over the period April 2001 through July 2001. An additional 12 are planned, but not yet scheduled, from August 2001 through September 2002.

⁷ Beginning in June 2001, attendees will also be provided the document "Guide to Using *School COP* to Address Student Discipline and Crime Problems," which Abt Associates developed with funding from the COPS Office.

4. Preliminary Assessment

Since a large number of persons requested copies of *School COP* several weeks before the end of the project period, project staff had an opportunity to contact requesters and gauge their reaction to the package. During March 2001, telephone interviews were conducted with 56 individuals who received copies of *School COP*. This section presents the results of the interviews.

4.1. Assessment Approach

The assessment had two major goals. Recognizing that it is common to request software, especially free software, but never actually use it, the first goal was to determine the extent to which *School COP* is actually being used. Assuming that some requesters had completed their evaluation of *School COP*, had decided to use it, and had been entering and analyzing incidents, the second goal was to learn from these persons why they were using the package, what benefits it brought them and their school(s). Given the very limited time available to perform the assessment, project staff decided to conduct telephone interviews, rather than attempt a mail survey. Project staff prepared a guide to facilitate the telephone interviews. The guide focused on the following issues:

- Does the site regularly use *School COP*? If not, why not?
- What types of incidents does the site enter in *School COP*?
- Does the site share *School COP* reports or data with other agencies or individuals?
- What are the main reasons why the site uses *School COP*?
- Does the site use the mapping feature in *School COP*? If not, why not?
- Has using *School COP* led to any changes at the school or school system in terms of school safety, discipline, or relationships with others?
- Has using *School COP* had any negative consequences or caused any problems for the site?

In designing a sampling plan for the assessment, it made sense to focus on those persons who had had the package the longest. Anyone who obtains software, including both 'free' and commercial software, goes through a process of deciding whether they actually want to use it. Typically, this decision is based on a review of the software documentation, a test of the sample applications included in the package, and conversations with developers and other users. Depending on the complexity of the software, the extent to which new policies and procedures need to be instituted to use the software, and the time decision makers have available to evaluate the software, the decision process could take days, weeks, or months. Thus, for example, it made little sense to contact attendees of the Albuquerque COPS In Schools Conference, since the assessment interviews began only a week after the conference.

The interviews focused on persons who received *School COP* by early February 2001, including direct requesters and Seattle COPS In School attendees:

- *Direct requesters.* By early February 2001, 57 individuals had telephoned or e-mailed project staff requesting the *School COP* software package. The preliminary assessment involved attempting to telephone all of these individuals. Thirteen of these requesters did not return at least two phone messages and six, it was discovered, were not potential users of the software. As a result, the assessment results reported below include the responses of 38 individuals who requested a copy of the software.
- *Seattle COPS In Schools Conference attendees.* Project staff attempted to conduct telephone interviews with the first 39 conference participants whose names were listed alphabetically on the roster of conference attendees. Nineteen of these participants did not return at least two phone messages; two others reported they did not take a copy of the software home with them from the conference. As a result, the survey results reported below include the responses of 18 of the 39 conference participants project staff attempted to reach.

Combining the two groups, a total of 56 persons were interviewed during the assessment. As Exhibit 4.1 indicates, the 56 represent a fairly balanced mix of school administrators (38%), school security / security support (36%), and SROs (27%):

Exhibit 4.1: Assessment Interviewees By Position

Position	Number	Percent
School Administrator		
Single School	11	20%
School District	4	7%
State / Regional Agency	6	11%
Sub-Total	21	38%
School Security / Security Support		
School Department	12	21%
School Police Department	1	2%
Municipal Police Department	7	13%
Sub-Total	20	36%
School Resource Officer (SRO)	15	27%
TOTAL	56	100%

Caution should be exercised in using the survey results to estimate future *School COP* use patterns:

- It is not logical to extrapolate the number of individuals in the Nation who will ultimately request or use *School COP* based on the individuals who have already learned about, requested, and used the software.
- While the Seattle conference participants were selected somewhat randomly (i.e., alphabetically), they represent the participants of only one of many such conferences. In addition, there was a geographic bias, although not as large as one might suspect – of the 18 conference interviewees, half were from either West Coast or Rocky Mountain states.

- The large proportion of requesters (one quarter) and conference participants (one half) whom project staff were unable to interview may disproportionately represent individuals who do not intend to use the software.
- Many of the individuals who received a copy of *School COP* reported they had not yet had time to test it. There is no method of estimating what percentage of these individuals may eventually use the software.

4.2. Findings Regarding Actual Use of *School COP*

The discussion below first identifies how many of the 56 individuals interviewed who obtained *School COP* are, as of March 2001, using or testing the software, or plan to use or test it.

As Exhibit 4.2 shows, the 56 individuals reported they were in the following stages with regard to using *School COP*:

- 15 (27%) were already using it – 2 school administrators, 8 SROs, and 5 security staff;
- 7 (13%) were planning to use it – 1 school administrator, 2 SROs, and 4 security staff;
- 13 (23%) were planning to test it – 4 school administrators, 4 SROs, and 5 security staff;
- 13 (23%) might test it – 7 school administrators, 1 SRO, and 5 security staff; and
- 8 (14%) would not be using it – 7 school administrators and 1 security staff.

Exhibit 4.2: *School COP* Use Status by Position as of March 2001

Status	School Administrators			SROs	Security or Security Support Staff			Total
	Single School	School District	State or Region		School Dept	School Police Dept	Local Law Enforcement Agency	
Using	0	1	1	8	3	1	1	15
Plan to Use	1	0	0	2	2	0	2	7
Plan to Test	1	2	1	4	4	0	1	13 ^a
May Test	4	1	2	1	3	0	2	13
Will Not Use	5	0	2	0	0	0	1	8
Total	11	4	6	15	12	1	7	56

^a Three respondents in the "Plan to Test" group were already in the process of testing the software.

Overall, 22 of the 56 respondents (39 percent) reported they were already using or planning to use *School COP*. Only 8 respondents indicated they had no intention of using it. Thus, close to three times as many respondents reported they would use the software as reported they would not.

It should be emphasized that Exhibit 4.2 represents *School COP* use status as of March 2001. The numbers in the exhibit will change as users continue to test and evaluate the package. As a result, the number of respondents in this sample who end up using *School COP* is likely to be higher than the 22 reported individuals because some of the respondents who reported they plan to test the software are likely to end up using it. On the other hand, it is possible that most of the 34 requesters and conference participants we were unable to interview have no plans to use *School COP*, which would decrease the ratio of users to nonusers.

Given the investment of time and initiative required to evaluate *School COP* and the relatively short period of time that had passed between the time the respondents received a copy and when they were interviewed for this preliminary survey (i.e., 4 to 6 weeks), it is impressive that 15 respondents have already begun using the software on a regular basis and that another 7 have become familiar enough with the software to know that they plan to use it.

The preliminary assessment included interviews with 21 school administrators and 35 non-school administrators (i.e., security personnel or SROs). Only 3 of the 21 school administrators (14 percent) reported they were using or planning to use the software. By contrast, 19 of the 35 security staff or SROs (54 percent) were already using the software or planning to use it. The disproportionate usage rates among security personnel and SROs may reflect the greater value of the software for their needs – school administrators, for example, focus on a wide range of issues, only one of which is safety and discipline. In addition, security staff and SROs may have had more time for installing and testing the package than school administrators had. The discrepancy suggests that a larger proportion of security personnel than school administrators who request *School COP* are likely to end up using the software.

Overall, the preliminary findings of this survey suggest that a significant proportion of individuals who obtain copies of *School COP* – perhaps one-quarter to one-half – are likely to end up using it. This proportion of ultimate users is likely to be higher among SROs and security and security support staff than school administrators.

4.3. Reasons for Using and Not Using *School COP*

Respondents were asked to explain why they were using or not using *School COP*.

Reasons for Using *School COP*

Most of the 15 respondents who reported they were already using *School COP* were enthusiastic about the benefits of the software program, making statements such as “I love it,” “I really like it,” and “This is great!” An SRO said, “My chief is tickled pink. This was the best thing to come out of the Seattle [COPS In Schools training] conference.” Several users gave other evidence of their enthusiasm for the software:

- Some users had shared copies of the software with colleagues and encouraged them to use it.
- The director of security and safety for a large city asked for 13 additional copies so he could give one to every high school in the city.

- The director of security and safety for a large public school system asked project staff to provide a presentation on *School COP* to the over 200 participants of the July 2001 annual meeting of the National Association of School Safety and Law Enforcement Officers.
- The director of security at a New York State high school asked project staff to work with his State's Department of Education to make the software program the standard data collection tool throughout the state.

The most common reason the 15 users gave for using *School COP* was that it enabled them to prepare crime and incident information for meetings with school officials and other stakeholders. (Examples of this type of information sharing are presented in Sections 4.5 and 4.6.) Seven users gave this as their main reason, or one of their main reasons, for using the software. At least two users also gave each of the following reasons for using *School COP*:

- it is extremely easy to use—it is better and faster than paper (4 users);
- it saves time doing monthly or annual reports (3);
- it makes it possible to identify “hot spots” in the schools (3);
- it provides easily retrievable information about specific students (2); and
- the mapping feature is very helpful for getting additional school safety resources (2).

The director of a school's in-house police department said that, by using *School COP* to identify cases that are still open, he can ask the involved officers what is causing the delays. Two SROs reported that *School COP* enables them, as one expressed it, to “legitimize officers' role in the school by showing productivity through documentation of work and contacts.” Three users reported that *School COP* was particularly helpful for investigating incidents and crimes. One SRO said the software helps him to apply the scanning and analysis steps of the SARA problem-solving model that his department uses. The coordinator of a COPS School-Based Partnership grant in one city reported he was using the software specifically to help implement the SARA process. Further illustrations of using *School COP* for solving problems follow in Section 4.6.

Reasons for Not Using *School COP*

The assessment examined the reasons respondents who were not already using *School COP* had not done so. Sixteen of the 20 respondents who planned to use or test the software program reported they had not had the time to do so. Seven the 13 respondents who reported they might test the program also reported they had lacked the time to do so. The remaining 10 respondents who were not using *School COP* but who had not yet decided not to use the software program gave a variety of other reasons for not having used it yet. The most common reason, offered by five respondents, was delay in receiving approval from school administrators. This suggests the most important barriers to using *School COP* among respondents who had not yet ruled out the possibility of using the software were lack of time and obstacles presented by school administrators.

Eight respondents had already determined that they would not be using the software program at all. Their reasons follow:

- program does not match data collection needs (2 respondents);
- too time consuming to input the data (1);
- the software cannot be networked (1);

- old computer in use that will not run the program (1);
- a satisfactory data collection system already in place (2); and
- too late to start using a new database in the middle of the school year (1).

Only one user reported a problem associated with using *School COP* – school administrators in one large Midwestern city expressed concern about having to share the data with people outside the school system and about sharing information publicly about the levels and types of discipline problems or crimes at school.

4.4. How *School COP* Is Being Used

As of early March 2001, most of the 15 users had entered only between five and 30 incidents into the database. However, one user had already entered 160 incidents, another 590, and a third 680.

Types of Information Entered

Of the 15 individuals who were already using *School COP*, seven reported they were entering all kinds of student misconduct (i.e., non-criminal school rule violations as well as crimes) and eight reported they were entering just crimes. Two of the latter respondents said they planned eventually to enter non-criminal disciplinary matters. One SRO was entering medical information, such as seizures and ambulance calls; another was entering alarm incidents. An SRO was entering in his own administrative activities so that his police department could track how he spent his time.

Mapping Feature

Of the 15 users, three reported they use the *School COP* mapping features on a regular basis. For example, one SRO reported that he had scanned in his entire school's building areas and grounds and that using the mapping feature was "wonderful." It is worth noting that these users produced their maps without any technical assistance from project staff.

Seven of the remaining 12 users reported they planned to use the mapping feature in the near future; all but one of them said they had not had the time yet to activate it. The remaining user who expected to use the feature was waiting to obtain school maps. Four users reported they had no intention of using the mapping feature, two because their schools had no maps, one because the feature would not be worthwhile, and one because mapping would not be useful unless the software could be networked. One user was not sure whether he would eventually use the mapping feature.

Requests for Additional Features

Nine of the 15 users identified additional features they would like to see added to *School COP*. Seven users reported that the software program would be much more useful if it could be networked – that is, if several individuals could input and call up data simultaneously from different computers. (One of the eight respondents who said they did not intend to use *School COP* gave as his reason the software's not being "networkable.")

One user each reported he or she would like to see the following features added to *School COP*:

- the ability to record the number of hours spent on each incident to calculate the cost of an incident;
- the ability to print reports portrait instead of landscape; and
- darker text for the report template when printed so it is as visible as the entered information is.

A user who did not request any additional features remarked that he had tested the software in the summer of 2000 and was pleased to see that the February 2001 version incorporated all the features he had recommended.

4.5. Sharing *School COP* Data with Others

Clearly, the potential for enhancing school safety is increased if *School COP* users share data and reports with school administrators and other stakeholders, as opposed to keeping the information to themselves. The assessment found that 9 of the 15 users were already sharing *School COP* reports or data with other individuals or groups; seven of these users share data on a regular basis. Six share the information regularly with school administrators (including school boards) and three with security staff.

- A regional director of school safety shares data with high school principals every month by e-mail. In turn, the principals share the data with the SROs in their schools. The regional director also presents data at the monthly school superintendents' meeting. For example, she presented data showing that one district was using corporal punishment significantly more frequently than the other districts were.
- The sworn director of a city school system's in-house police department presents information on gang issues provided by *School COP* at the weekly meeting of the city's police department.
- One SRO shares data routinely with a high school's 20-person in-house sworn police department.
- A county school safety and security specialist shares information about offenders at a weekly meeting with the county juvenile probation department.

Other users share information generated by *School COP* on special occasions.

- An SRO who covers two K-8 schools has twice e-mailed information upon request to the superintendent of schools. The superintendent asked for a report summarizing all incidents by school and a second report showing the names and types of misconduct of all students involved in more than one incident.
- An SRO shares information with some parents whose children have gotten into trouble, reporting that "instead of giving them a brief description of what happens, I can immediately print and hand them the incident report." At the same time, he can print the student's entire disciplinary history, "proving to the parents (and student) that there has been a history of misbehavior."

- Upon request, the chief of security for a school district shares selected information from *School COP* with the media; for example, in response to a request from the press, he provided data on the number of explosive devices people had attempted to bring or had brought into the schools.
- The sworn director of a city school system's in-house police department shared information with the superintendent of schools showing an increase in the number of drug arrests occurring at the schools.

4.6. The Impact of Using *School COP* on School Policies and Procedures

In general, users had not had enough time to enter sufficient data to use the program's capabilities in order to promote changes in prevention, enforcement, or discipline in their schools. However, three users had already used the software to effect changes.

- At a high school in a mid-sized city in the West, a rash of students complained that they were being harassed while trying to get from other parts of the school to "A" Hall. The SRO used *School COP* to print a map of the incidents to identify the corridors where the harassment was taking place. He took the map to the principal who then arranged for the Parent Teachers Organization to station parents in the problem corridors. The SRO encouraged teachers in the problem corridors to poke their heads out of their doors periodically to monitor corridor activity. The SRO plans to use the map next year to ask for more surveillance cameras in the corridors.
- A county school safety and security specialist used *School COP*'s mapping feature to identify where and when a series of locker break-ins were occurring. By using *School COP*, he found that most of the break-ins were taking place during lunchtime and after the last class period of the day. Based on these data, he arranged for school security staff to increase their monitoring of the identified locations and times of day. He then correlated which students had cut class during the times when most of the locker break-ins had occurred. The combination of increased monitoring by teachers assigned hall duty and information from *School COP* regarding who had cut classes helped him to identify and apprehend students who appeared to be responsible for the crimes. The number of incidents has since declined.
- The same safety and security specialist used *School COP* to track where and when gang activity was taking place at a number of schools and which students were involved. He then used the software program's mapping and graphing capabilities to document to the county school board the severity and nature of the problem. As a result, the superintendent developed a school gang policy, now included in the student manual, that identifies what kinds of gang-related behavior (e.g., use of gang colors) will not be tolerated and the punishments the school will impose for each behavior.
- Use of *School COP* at a high school in a mid-sized Midwestern city helped initiate formal discussions between teachers, school administrators, and students on issues related to school safety.

A few other users had drawn on *School COP* data to ask for changes, but school administrators had not yet responded to the requests.

- An SRO who had entered 30 incidents to date at a high school used the data to provide evidence to the principal and superintendent of the relatively large number of fights that were occurring during lunchtime in a very busy area where many students have their lockers. He proposed that some of the students be assigned lockers in other parts of the school with the expectation that, by reducing the number of students at this high traffic area by an estimated 25 percent, the number of fights would decline. The two administrators asked him to document more cases and present the evidence again before they made the change.
- The director of a school's in-house police department used *School COP* to show the superintendent the number of drug arrests occurring in several schools. Based in the data, the director will ask the superintendent for additional money for increased surveillance, a request the superintendent will take to the school board.
- At a school principals' meeting, the director of research, evaluation, and training for a 40-school city school system displayed data from *School COP* showing the number and type of weapons being brought into the schools. She was hoping that the data would motivate the principals to increase their use of scanning equipment at the entrances to the schools.
- The chief of security for a school district who had logged in 160 incidents used the data to determine which schools had the most damage caused by skateboards. He has presented the data to the school board with a request for funds to purchase and install plastic protectors at the corners of the benches in selected schools to reduce the damage.

5. Future Efforts

Project work described in this report can be extended in a number of different ways. First, a more comprehensive assessment effort could be undertaken to better understand how *School COP* contributes to school-based problem solving and, in general, to making schools safer. This should occur after schools have had several months, or, better, at least one complete school year, to use the package and involve both telephone interviews and site visits to a variety of schools and agencies using the package. The assessment findings would also provide guidance to existing *School COP* users on how to use the package effectively and motivation to schools not collecting comprehensive incident data to begin this process.

Given the existing plans for disseminating *School COP*, particularly through the COPS In Schools training conference series, there could potentially be hundreds of *School COP* users within a year or two, particularly if the actual level of use figures described in Section 4 continue over this period. Having this many users, all using the same package, presents an opportunity to use *School COP* as the basis for making projections on the number of school incidents and crime occurring nationwide. Much like the Nielsen survey measures television ratings based on a panel of television viewers, a panel of *School COP* users could be formed, with panel members submitting their *School COP* databases, stripped of all personal identifying information, on a periodic basis to a central analysis facility. Clearly the panel would need to be carefully formed to ensure its representativeness. A small pilot project could be undertaken to examine the feasibility of such a project, both from a statistical perspective and to gage the willingness of *School COP* users to participate in the project. Such a project is needed because the only national data on school crime are based on self-reported survey figures that are difficult, if not impossible, to validate.

Another possible future effort would involve enhancements to the *School COP* software. Despite the level of interest in *School COP*, the package does have limitations. As noted in the *School COP* assessment results (see Section 4), the most critical limitation is that *School COP* is a standalone application that runs on a single PC. This limitation is particularly troublesome if *School COP* is used at the school district-level and individual schools report incident data to the district security office, where staff will enter the data into *School COP*. With the current version of *School COP*, data can only flow back to the individual schools if district security staff produce maps and reports for the schools. A network-enabled *School COP* would operate either on a wide area network or an Intranet. This would enable individual schools to view and analyze incidents occurring at their schools and compare their incidents to those occurring at similar schools across the county.

A network-enabled *School COP* could be used in conjunction with a district or state-wide effort to develop school safety standards and to help schools meet those standards. Such a project would be similar to an existing project that Abt Associates is undertaking with funding from the Office of Juvenile Justice and Delinquency Prevention (OJJDP). This project, entitled "Performance-Based Standards for Juvenile Correction and Detention Facilities," collects data from 58 juvenile confinement facilities across the country, aggregates the data, and then makes that data available to the facilities via a project Web site (www.performance-standards.org). Data reports measure individual sites against both established standards for safety within juvenile detention facilities and average values across the 58 sites. From the individual facility perspective, the ability to compare their facility's performance against the average of all the facilities provides the necessary context

from which to do self-evaluations and to determine what is "normal" and what is not. If, at a particular site, some incident type occurs at a much higher rate than at most other facilities, the system encourages site directors to ask why this situation occurs at their facility and not at others. While differences in populations may explain the different incident rates, it could also be because other facilities are doing something different with their students (e.g., different programming, counseling or mentoring). In essence, the system facilitates a process of continuous quality improvement. This overall model for performance improvement could be migrated to the public schools and implemented in a large school district or at the state level.

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Appendix A – User Manual

This appendix contains the *School COP* user manual. An on-line version of the manual, which includes an automated index and numerous hypertext links, is included with the software.



Abt Associates Inc.

School Crime Operations Package *(School COP)*

Version 1.1

User Manual

Abt Associates Inc.
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Cambridge, MA 02138

January 2001

Preface

This user manual describes how to run the School Crime Operations Package (School COP), a software application for entering and analyzing incidents (school rule violations and crimes) that occur in and around schools. An on-line version of this manual comes with the School COP CD and is also available from the School COP Web site – www.SchoolCOPSoftware.com. The on-line version contains an automated index and numerous hypertext links, which makes navigating the help material much easier.

A separate Problem Solving Guide is under development that will describe how School COP can be used to help make your school safer. For information on obtaining a copy of the Problem Solving Guide, visit the School COP Web site.

The National Institute of Justice, U.S. Department of Justice, funded development of School COP.

The Office of Community Oriented Policing Services, U.S. Department of Justice, funded development of the Problem Solving Guide.

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1. School COP Introduction

The School Crime Operations Package – School COP – is a software package that enables persons responsible for safety and discipline at schools to record, analyze, and map incidents (school rule violations and crimes) occurring in and around school property. School COP can be used at a single school, at school district offices, or at the local police department.

The National Institute of Justice, U.S. Department of Justice, funded the development of School COP, under a contract with Abt Associates Inc. For information on technical support contact Abt Associates.

Before entering your own data in School COP, you should do three things:

- Use the sample database in order to examine the features of School COP.
- Assign a person to be the School COP System Administrator, who will be responsible for performing administrative tasks, such as maintaining the system passwords and backing up the database. This person should be comfortable using the Windows operating system, including Explorer.
- Set up School COP so that it has the codes you want to use to describe incidents and the persons involved in incidents, and so that School COP knows about specific locations within your school(s).

After performing these three tasks, you will be ready to start entering incident data. Then, you will be able to search the database to find specific incidents and crimes, produce tabular reports, produce graphs and charts, and build color-coded maps. Regular maintenance on the system is also very important.

2. Getting Help

On-line School COP Help is available at any time by pressing the F1 key, or by selecting the Help menu.

In addition to on-line help, contact the School COP Project Director for information on obtaining technical support:

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Or, visit the School COP Web Site – www.SchoolCOPSoftware.com

3. Before You Start

This chapter contains important information on what you should do *before* you start to enter your own incident data in School COP.

3.1. The Sample Database

Using the School COP sample database is a good way to learn about the features and functionality of School COP. The sample database contains about 100 incidents that occurred at a mythical school.

To use the sample database:

- From the Windows Start button, select Programs > School COP > School COP Sample Database
- At the login screen, it is not necessary to enter a password. Just click 'OK.'

3.2. Setting Up School COP: An Overview

Before you begin to enter incidents in School COP, you should enter the various codes that will be used during the data entry process to describe incidents and persons involved in incidents. By entering the various codes described on this page, you will improve the quality of your data and the completeness and accuracy of your maps and reports.

To set up School COP, you should:

- **Enter codes that describe characteristics of incidents, including:**
 - *Severity codes*, which describe the relative seriousness of the incident. Be sure to enter severity codes before entering Incident codes.
 - *Incident codes*, which describe the specific type of incident that occurred.
 - *Status codes*, which describe the current status of an incident and its resolution.
 - *Special circumstances codes*, which describe incident characteristics of particular interest, such as drug-related or gang-related.
 - *Weapons codes* which describe the type of weapon (if any) used in the incident.

- **Enter codes that describe the persons that were involved in incidents, including:**
 - *Person type codes*, which describe the various types of persons involved in incidents (e.g., students, teachers).
 - *Grade level codes*, which indicate the various grade levels at your school(s).
 - *Action taken codes*, which indicate the action taken (if any) against a person involved in an incident.
 - *Involvement codes*, which describe how the person was involved in the incident (e.g., victim, witness, perpetrator).
 - *Race codes*, which describe the race of a person who was involved in the incident.
 - *Special characteristics codes*, which describe special characteristics (e.g., a member of a particular gang) of persons involved in incidents.

- **Build the School COP Geobase**, which is used to describe the location where incidents occurred. To build a School COP Geobase:
 - Read the overall summary of the School COP Geobase structure.
 - Enter information about your school(s) on the School Screen
 - Decide how many areas will be established in each school and, if you want to use School COP's mapping features, acquire a map of each area. Test the maps of the areas in School COP to ensure that the print quality is acceptable.
 - Enter the areas in each of your schools on the Area Screen.
 - Specify the locations in each of the areas on the Location Screen.

3.3. Building A School COP Geobase

The School COP Geobase is used to specify where incidents occur. It consists of three components:

- **Schools.** Most incidents that will be recorded in School COP occur on a particular school's property, either inside the building or outside on the school grounds. In addition, incidents may occur off school property but at a location where a school has safety responsibility, such as on a school bus or on a field trip. Using the School Screen, you should enter the name of the school and other information about the school. You will use the names of the schools you enter when you enter incidents, search the incident database, create maps and graphs, or run reports.
- **Areas.** In School COP, each school should have one or more areas. If you want to use School COP's mapping features, each area must have an associated map. At a minimum, we suggest you have one area for each floor in each school building and one area for the school grounds. In addition, you may want to define an area for the school bus routes feeding the school. After you enter the schools, you will use the Area Screen to enter the names of the areas and specify the name of the file that contains the area map.
- **Locations.** Each area contains one or more locations. Examples of locations include classrooms, bathrooms, and offices. After you enter the schools and areas, you will use the Location Screen to enter the names of the locations and to indicate where on the area map the location is. You need to decide how specific you want to be in defining the School COP locations. At a minimum, there should be one location for each room in the school building; one location for each major section of hallways; and one location for each major section of the school grounds (e.g., parking lots and playgrounds).

4. Basic School COP Features

This chapter describes how to perform the basic School COP tasks – entering incident data, doing searches, creating graphs and maps, and running reports.

4.1. Entering Incident Data

A basic School COP function is entering incident data. The incident data entry screen is displayed by selecting the Enter / Edit Incidents button on the Main Menu.

The incident data that are entered are grouped into two general categories:

- Data related to the *incident*, such as the incident date, time, type, severity, etc. These data are shown on the Incident Screen.
- Data related to a *person involved in the incident*, including characteristics of the person (e.g., name, grade, contact information, etc.), how the person was involved in the incident (e.g., a victim or perpetrator), and any action taken against the person (e.g., suspension, expulsion). These data are shown on the People Involved Screen. In School COP, an incident can have 0, 1, or more than 1 person involved in an incident.

The general steps for entering a new incident are:

- **Enter and save data related to the incident:**
 - Click the Add New button on the Incident Screen.
 - Add data to the fields on the Incident Screen.
 - Click the Save button on the Incident Screen.
- **Enter and save data related to people involved in the incident:**
 - Click the Enter/Edit People Involved button on the Incident Screen
 - Click the Add New button on the People Involved Screen.
 - Add data to the fields on the People Involved Screen.
 - Click the Save button on the People Involved Screen.
 - Repeat the previous three steps for the remaining people involved in the incident.
 - Click the Exit button to return to the Incident Screen.
- If desired, display and print an Incident Report by clicking the Incident Report button on the Incident Screen.

4.2. Finding Specific Incidents and Crimes

Using the School COP Search Criteria Screen, you can search for incidents that meet a variety of criteria.

The screen includes all of the fields on the main incident and people involved screens. You specify search criteria by “filling out the form” with one or more search criteria.

Listed below are examples of search criteria and how to specify them.

To search for all incidents involving vandalism:

- Enter “vandalism” (without the quotes) in the Incident Type box.
- Click the Search button.

To search for all incidents occurring at a particular school:

- Select the particular school from the School drop down list
- Click the Search button.

To search for all incidents occurring at a particular school during September 2000:

- Select the particular school from the School drop down list
- Enter “9/1/00 – 9/30/00” (without the quotes) in the Incident Date box.
- Click the Search button.

To search for all incidents occurring at a particular school during September 2000 that resulted in suspensions:

- Select the particular school from the School drop down list
- Enter “9/1/00 – 9/30/00” (without the quotes) in the Incident Date box.
- Select “Suspension” from the Action Taken drop down list (assuming that ‘Suspension’ is one of the Action Taken codes)
- Click the Search button.

To search for all incidents occurring at a particular school during September 2000 that involved 5th grade boys::

- Select the particular school from the School drop down list
- Enter “9/1/00 – 9/30/00” (without the quotes) in the Incident Date box.
- Select “5th Grade” from the Grade drop down list (assuming that ‘5th Grade’ is one of the Grade codes)
- Select “M” from the Gender drop down list.
- Click the Search button.

To search for all incidents whose incident narrative includes the word “bracelet”::

- Enter “*bracelet*” (no quote, *but include both asterisks*) in the incident narrative text box.
- Click the Search button.

4.3. Creating Graphs

The School COP can produce a variety of graphs, including bar graphs, line graphs, pie charts, and 3-D graphs.

Graphs can be created in one of three ways:

- By selecting the Graphs and Tabular Reports command on the Main Menu. This displays the Graphs and Tabular Reports Screen, which lists a number of possible graphs that can be created. When you click on a particular graph in the list and then click the Show Graph button, the Graph Screen appears with the requested graph.
- By selecting Enter/Edit Incidents on the Main Menu and then clicking the Graph button on the Incident Screen. This will display the Graph Screen containing a graph of the number of incidents in the entire database by month.
- By selecting Search Incidents on the Main Menu, entering a search criteria, and then clicking the Graph button on the Incident Screen. This will display the Graph Screen containing graph of the number of incidents matching the specified search criteria by month.

Once the Graph Screen is displayed (by any of the three methods described above), you can change the attributes of the graph, including the type of graph (e.g., change a bar graph to a pie chart) and 'group by' variable (e.g., change a graph showing the number of incidents by month to one showing the number of incidents by status).

4.4. Running Tabular Reports

School COP can produce a wide variety of tabular reports. Methods for creating tabular reports include the following:

- **Graphs and Tabular Reports Screen.** The Graphs and Tabular Reports Screen, which is displayed by selecting Graphs and Tabular Reports from the Main Menu, lists several basic types of reports, including incident lists, person lists, incident counts, and person counts. Most tabular reports on this screen allow you to select a specific date range and sort order for the report.
- **Incident Screen.** The Incident Screen contains two buttons that produce tabular reports. The 'Incident Report' button produces a one-page summary of the currently displayed incident. The 'List Summary' button produces a report that contains a one-line summary of all the incidents in the current set of incidents¹.
- **Person Involved Screen.** The Person Involved Screen contains two buttons that produce tabular reports. The 'This Incident' button produces a one-page report that includes information about the current incident and the currently displayed person. The 'All Incidents' button produces a report summarizing all the incidents in which the currently displayed person is involved.

All tabular reports are displayed on the Print Preview Screen, where reports can be sent to the printer, if desired.

¹ The current set of incidents is either (1) all incidents that have ever been entered (if the Incident Screen was displayed by clicking 'Enter / Edit Incidents' from the Main Menu) or (2) all incidents that meet search criteria (if the Incident Screen was displayed from the Search Incidents Screen).

4.5. Creating Maps

School COP offers two mapping options:

- **Map the results of an incident search.** You can map the results of an incident search if the incident search criteria includes a single school and a single area, and that particular area has an associated map. For example, you can create a map showing where incidents occurred involving drugs and 8th grade boys. The general steps for mapping the results of an incident search are selecting Search Incidents on the School COP main menu, entering search criteria that include a single school and a single area, and then clicking the Map button on the Incident screen. The results are displayed on the Quick Map Screen.
- **Use the general purpose 'build a map' screen.** Using the general purpose Mapping Screen, you can create a multiple layer² map showing a variety of incidents at a particular school and area. (With the 'map the results of an incident search' approach describe in the previous paragraph, you are limited to a single map layer.) For example, one layer might be incidents involving drugs; another might be incidents involving verbal threats; and another might be incidents involving fighting. By contrast, the Quick Map Screen offers more flexibility on the specific incidents that are mapped.

To use either of these two mapping options, you need to:

- **Explore Sample Database.** Use the Sample Database to see how both mapping options work and the type of output that they produce.
- **Define areas.** As part of the School COP Geobase setup, you need to divide your school(s) into areas. Each area for which you want to be able to do mapping must have an associated map.
- **Acquire maps for each area.** School COP can use two types of maps – bitmap images or shapefiles.
 - If you have paper copies of school floor plans, the school grounds, or the school bus routes, you may convert the paper copies to bitmap images using a scanner. The images must be saved as a bitmap and given a file name with the extension BMP. See the topic Tips On Scanning and Working With Bitmaps.
 - Your local police, planning, or public works departments may use ESRI products, such as ArcView or ArcInfo. If so, that department can provide additional information on

² In School COP, a map layer is defined by a symbol of a particular color and shape – for example, a red square, a green circle, or a blue triangle. Single layer maps, such as those displayed on the Quick Map Screen, only use a single map symbol. School COP multiple layer maps, on the other hand, may have one, two, or three different maps symbols. In either case, the size of the map symbol will vary depending on the number of incidents at a particular location.

shapefiles and perhaps make shapefiles available for use in School COP. Visit the ESRI web site (www.esri.com) for more information on shapefiles.

- Additional information on mapping and its use in crime analysis, prevention, and control is available from the Crime Mapping Research Center at the National Institute of Justice (www.ojp.usdoj.gov/cmrc).
- **Test the maps.** After you acquire the maps, you should test them – prior to assigning areas and locations to the maps -- to see how well they display on the School COP mapping screens and how well they print. To test the maps:
 - Register the maps, using the Map Registration Screen.
 - After the map is registered, select the Mapping option from the School COP Main Menu.
 - On the Mapping Screen, click on one of the drop down list boxes in the “Display Other Maps” section of the screen and select the map that you just registered. If there are no maps listed in the drop down list, the map was not successfully registered.
 - Click on the print button on the Mapping Screen and examine the quality of the printed map, in particular the map labels. If the map is a bitmap image and if the quality of the printed map is poor, review our tips for working with bitmaps.
- **Assign the maps to an area.** After you have tested the map and are satisfied with the display and print quality, you can assign the map to an area. Using the Area Screen, assign the map to a particular area within one of your schools. Next, define locations on the area map using the Location Screen. After locations are defined, you can start entering incidents. **Warning:** if, at a later time, you decide to use a different bitmap image for an area, the incidents will probably not appear in the proper location when you map the incidents on the new map.

Tips for Working With Maps That Are Bitmap Images

- If possible, images should have a landscape, rather than a portrait, orientation (landscape images will fit better in the School COP mapping windows).
- If you have an existing bitmap file in portrait mode, open the bitmap in an image editor (such as Microsoft Photo Editor) and rotate it 90 degrees.
- Prior to scanning a hard copy of a school floor plan or the building grounds, try to fill as much of the paper with the image as possible. If necessary, enlarge the image with a copy machine.
- When feeding paper into a scanner, feed the paper with the wide edge (e.g., the 11 inch side, if your paper is 8½ by 11 inches) of the paper going into the scanner. If your scanner accepts only paper that is 8½ inches wide, use an image editor to rotate the image after it has been scanned.
- If you want to annotate the scanned image (e.g., by adding room numbers) using an image editor, use a minimum of a 14 point font.
- After you scan and edit the images, you should test the maps – prior to assigning areas and locations to the maps -- to see how well they display on the School COP mapping screens and how well they print

4.6. System Administrator Tasks

The School COP System Administrator should:

- Oversee the School COP set up process.
- Control access to School COP by maintaining an up-to-date list of School COP logins and passwords.
- Backup the School COP database on a regular basis – at a minimum, once a week. Backups should be stored on diskettes or other removable drives.
- Import new School COP reports, as they become available.
- If necessary, restore a backed-up School COP database.

5. Data Entry Screens

This chapter contains a reference guide to the School COP data entry screens, including the two screens used to enter incident data (the Incident Screen and the People Involved Screen), the screens used to enter codes that are used to describe incidents, and the screens used to enter codes that are used to describe people involved in incidents.

5.1. Common Elements on All Data Entry Screens

All the School COP data entry screens – an example is shown in the figure below -- share common features:

The screenshot shows a software window titled "School Crime Operations Package" with a "Help" button in the top-left corner. The main content area is titled "Status Codes" and contains the following elements:

- Instructional text: "Use this form to enter or edit codes used to describe the status of a school incident. Click 'Exit' to return to the administrative menu."
- A "Status Code" text box containing the word "Open".
- A "Status Code Description" text box containing the text "The incident is being investigated".
- A set of navigation buttons: "|<<" (disabled), "<<" (disabled), ">>" (disabled), and ">>|" (disabled).
- A record indicator box showing "Record 1 of 4".
- A row of action buttons: "Add New", "Save", "Undo", "Edit", "Delete", "End", and "Exit".

The common features are:

- **|<< button.** Clicking the |<< button moves you to the first record in the table (i.e., the record that was entered first, in the chronological sense). This button is disabled if the current record is the first record, as is the case in the figure shown above.
- **<< button.** Clicking the << button moves you to the previous record in the table. For example, if you are on "Record 3 of 4," clicking the << button moves you to "Record 2 of 4." This button is disabled if the current record is the first record, as is the case in the figure shown above.
- **>> button.** Clicking the >> button moves you to the next record in the table. For example, if you are on "Record 2 of 4," clicking the >> button moves you to "Record 3 of 4." This button is disabled if the current record is the last record.
- **>>| button.** Clicking the >>| button moves you to the last record in the table (i.e., the most recently entered record). This button is disabled if the current record is the last record.

- **“Record n of m label.”** This label indicates how many records are in the particular table being examined and the position of the record currently shown in the screen. In the figure above, there are four records in the Status Codes table and the record currently shown is the first record in the table.
- **Add New button.** Click the Add New button to add a new record (e.g., a new incident, a new status code, a new location). When the Add New button is clicked, all the data entry fields turn yellow, signifying that data can now be entered in them. Use the Tab key to move from field to field. When the Add New button is clicked, all of the other screen buttons become disabled except for the Save and Undo button.
- **Save button.** After you have clicked either the Add New or Edit button, you can click the Save button to save the data you entered or the changes you made. This button is disabled unless the last button clicked was either the Add New or Edit button.
- **Undo button.** After you have clicked either the Add New or Edit button, you can click the Undo button to discard the data you entered or the changes you made. This button is disabled unless the last button clicked was either the Add New or Edit button.
- **Edit button.** Click the Edit button to edit the record currently displayed on the screen. When the Edit button is clicked, all the data entry fields turn yellow, signifying that data can now be edited. Use the Tab key to move from field to field. When the Edit button is clicked, all of the other screen buttons become disabled except for the Save and Undo button.
- **Delete button.** Click the Delete button to delete the record currently displayed on the screen.
- **Find button.** The Find button is a quick way to move to a specific record in the table. Clicking the Find button displays the Find Record screen. A summary of all the records in the table appears on the Find Record screen. On this screen you can:
 - Double click on the desired record. This will return you to the data entry screen, with your selected record as the current record.
 - Click cancel to immediately return to the data entry screen.
 - If the list of record[s] is long, you can type the first few characters of the desired record in the text box. This will highlight the first record that matches your criteria.
- **Exit button.** Clicking the Exit button closes the data entry screen and displays a system menu.

5.2. Incident Screen

The main incident screen provides access to the current set of incidents³ and is used to enter new incidents, change information about existing incidents, and delete existing incidents.

For general information on how to enter, edit, and browse the current set of incidents, see the discussion on buttons common to all data entry screens.

When entering new incidents, you must first fill out the fields on the incident screen (click Add New), then save the information you entered (click Save). Once you have saved the main incident information, you can enter information about persons involved in the incident by clicking the 'Enter / Edit People Involved' button. This displays the People Involved Screen.

How to display this screen.

- From the Main Menu, select Enter / Edit incidents. In this case, the current set of incidents is all the incidents in the incident database. The most recently entered incident is displayed on the screen. The label "Record N of M" indicates the total number of incidents (M) in the incident database and the position of the current incident in the database (N); *or*,
- From the Main Menu, select Search Incidents. On the Search Criteria Screen, enter a search criteria and press OK. The set of incidents that match the search criteria becomes the current set of incidents. A text version of the search criteria is displayed at the top of the incident screen. The label "Record N of M" indicates the total number of incidents that matched the search criteria (M) and the position of the current incident (N) in the list of incidents that matched the search criteria.

Fields on this screen

- *Incident #.* A unique incident number should be assigned to each incident.
- *Incident Date.* Enter the date when the incident occurred (in mm/dd/yy format).
- *School Year.* The school year field is automatically filled in, based on the incident date. This calculation assumes a July 1st end date for the school year. The default school year can be changed.
- *Incident Time.* Enter the time when the incident occurred (in military format, from 0 to 2359).
- *Entered By.* Enter the name of the person who entered the incident.
- *Entry Date.* The entry date defaults to the current date.
- *School.* Select a school from the drop down list, which contains all the schools entered on the School Screen.
- *Area.* Select an area from the drop down list, which contains all the areas associated with the selected school, as entered in the Area Screen. If no school was entered, or if the school was

³ The current set of incidents is either (1) all incidents that have ever been entered (if the Incident Screen was displayed by clicking 'Enter / Edit Incidents' from the Main Menu) or (2) all incidents that meet search criteria (if the Incident Screen was displayed from the Search Incidents Screen).

not selected from the school drop down list, then the area drop down list contains all areas entered on the Area Screen.

- *Location.* Select a location from the drop down list, which contains all the locations associated with the selected school and area, as entered in the Location Screen. If no school or area was entered, or if the school (or the area) was not selected from the school (area) drop down list, then the location drop down list contains all locations entered on the Location Screen.
- *Incident Type.* Select an incident type from the drop down list, which contains all the incident types entered on the Incident Code Screen.
- *Severity.* If an incident type was selected from the incident type drop down list, the severity of this incident type automatically appears in the severity box. The default severity may be overridden.
- *Weapon.* Select a weapon type from the drop down list, which contains all the weapon types entered on the Weapon Code Screen.
- *Special Circumstances.* Select a special circumstance from the drop down list, which contains all the special circumstance codes entered on the Special Circumstances Code Screen.
- *Reported By.* Enter the name of the person who reported the incident.
- *Investigator.* Enter the name of the person responsible for investigating the incident.
- *Status.* Select a status code from the drop down list, which contains all the status codes entered on the Status Code Screen.
- *Other Agency Case Number.* Enter a case number obtained from another agency (e.g., a police or probation department).
- *Narrative.* Enter any additional comments about the incident in the narrative section.

Buttons on this screen (other than the buttons common to all data entry screens).

- *Enter / Edit People Involved.* Clicking this button displays the People Involved Screen, where you can enter information about people involved in the incident (or look at or edit information already entered). This button is disabled if you are currently adding a new incident or editing an existing incident. That is, when entering all information about a new incident, you must first enter information on the main Incident Screen and then save this information, by clicking the Save button. Once information on the main incident screen has been saved, you can click the Enter / Edit People Involved button to add information about the people involved in the incident.
- *Incident Report.* Clicking this button displays the incident report for the currently displayed incident in the Tabular Report Print Preview Screen, where the report can be printed. The incident report can be a hard-copy document of the incident for filing in a student's folder or for distribution to other agencies.
- *List Summary.* Clicking this button displays a summary of the current set of incidents⁴ in the Tabular Report Print Preview Screen, where the report can be printed.

⁴ The current set of incidents is either (1) all incidents that have ever been entered (if the Incident Screen was displayed by clicking 'Enter / Edit Incidents' from the Main Menu) or (2) all incidents that meet search criteria (if the Incident Screen was displayed from the Search Incidents Screen).

- *Graph.* Clicking this button displays the Graph Screen and a bar graph showing the number of incidents in the current set of incidents by month.
- *Map.* Clicking this button displays the location of the current set of incidents on the Quick Map Screen. List option is only available if the current set of incidents includes only a single school and area.

5.3. People Involved Screen

The People Involved Screen is used to enter information about persons involved in incidents or to change information about persons involved in incidents. In School COP, a person can be involved in an incident in a variety of ways, including as a perpetrator, victim, or witness.

For general information on how to enter, edit, and browse persons involved in incidents, see the discussion on buttons common to all data entry screens.

Before entering any information about persons involved in an incident, you must first fill out the information on the main Incident Screen and save it. Once you have saved the main incident information, you can enter information about persons involved in the incident by clicking the 'Enter / Edit People Involved' button on the Incident Screen.

How to display this screen.

- From the main Incident Screen, click the Enter / Edit People Involved. (This button is not enabled if you are currently adding or editing information on the main Incident Screen.) The label "Record N of M" indicates the total number of persons involved in the incident (M) and the current record's position with that set (N).

Fields on this screen

- *Person Name.* Either select a name from the drop down list or, if the person is not already in the list, enter a new name, using 'last name comma first name' format. If a name is selected from the drop down list, the most recently entered demographic information on that person is displayed on the screen, where it can be updated, as necessary.
- *Date of Birth.* Enter the person's date of birth, in mm/dd/yy format.
- *Gender.* Select M or F from the drop down list.
- *Race.* Select a race from the drop down list, which contains all the races entered on the Race Code Screen.
- *Special Characteristics.* Select a special characteristic from the drop down list, which contains all the special characteristics entered on the Special Characteristics Code Screen.
- *Person Type.* Enter a person type from the drop down list, which contains all the person types entered on the Person Type Screen.
- *School.* Select a school from the drop down list, which contains all the schools entered on the School Screen.
- *Student ID.* Enter the person's student ID number, if applicable.
- *Grade.* Enter a grade from the drop down list, which contains all the grades entered on the Grade Screen.
- *Contact Information.* Enter contact information (parent or guardian address and phone number) in this box.
- *Involvement In Incident.* Select an involvement type from the drop down list, which contains all the involvement types entered on the Involvement Type Screen.
- *Action Taken Type.* Select an action taken type from the drop down list, which contains all the action taken codes entered on the Action Taken Screen.

- *Action Taken Start Date.* If applicable, enter the start date of the action taken against the student.
- *Action Taken End Date.* If applicable, enter the end date of the action taken against the student.
- *Comments.* Enter any narrative comments about the person.

Buttons on this screen (other than the buttons common to all data entry screens)

- *This Incident.* Clicking this button displays a one-page report on the Print Preview Screen that summarizes the incident and information about the currently displayed person and her/his role in the incident.
- *All Incidents.* Clicking this button displays all the incident reports that involve the currently displayed person. The format of the incident reports is the same as the report obtained by clicking the Incident Report button on the Incident Screen.

5.4. Screens For Entering Codes For Describing Incidents

Severity Code Screen

The Severity Code Screen is used to enter codes used to describe the relative seriousness of a school incident, such as "Minor Infraction" or "Criminal Act."

Other screens that use the codes entered on this screen.

- Incident code screen (to describe the severity of a particular incident type code)
- Main incident entry screen (to describe the severity of a new incident)
- Search Criteria Screen (to search for all incidents with a particular severity)
- Mapping Screen (to map all incidents with a particular severity)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Severity Codes."

Fields on this screen.

- *Severity Code*. A short (up to 30 characters) summary of the code. This code appears on the drop down lists on the incident code, incident entry, incident search, and mapping screens.
- *Severity Code Description*. A description of the severity code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Incident Code Screen

The Incident Code Screen is used to enter codes used to describe the type of incident, such as "Vandalism" or "Drug Possession."

NOTE: *Before entering an incident codes, the severity codes should be defined.*

Other screens that use the codes entered on this screen.

- Main incident entry screen (to classify an incident)
- Search Criteria Screen (to search for all incidents of a particular type)
- Mapping Screen (to map all incidents of a particular type)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Incident Codes."

Fields on this screen.

- *Incident Code.* A short (up to 30 characters) summary of the code. This code appears on the drop down lists on the incident entry, incident search, and mapping screens.
- *Incident Code Description.* A description of the incident code. The description is not used on any other screen; it can be used only to remind you what the particular code means.
- *Severity.* The relative seriousness of the incident type. The drop down list contains all the codes entered on the Severity Screen.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Status Code Screen

The Incident Status Code Screen is used to enter codes used to describe the status of a school incident, such as "Open," "Closed Internally," or "Referred to the Police."

Other screens that use the codes entered on this screen.

- Main incident entry screen (to describe the status of a new incident)
- Search Criteria Screen (to search for all incidents with a particular status)
- Mapping Screen (to map all incidents with a particular status)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Incident Status Codes."

Fields on this screen.

- *Status Code*. A short (up to 30 characters) summary of the code. This code appears on the drop down lists on the incident entry, incident search, and mapping screens.
- *Status Code Description*. A description of the status code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Weapon Code Screen

The Weapon Code Screen is used to enter codes that can describe what type of weapon (if any) is involved in an incident.

Other screens that use the codes entered on this screen.

- Main incident entry screen (to indicate what type of weapon is used in an incident)
- Search Criteria Screen (to search for all incidents that involved a particular type of weapon)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Weapon Codes."

Fields on this screen.

- *Weapon Code.* A short (up to 30 characters) summary of the code. This code appears on the drop down lists on the incident entry and Search Criteria Screens.
- *Weapon Code Description.* A description of the weapon code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Special Circumstances Screen

The Special Circumstances Code Screen is used to enter codes that can describe what special circumstances were involved in the incident (e.g., drug-related or gang-related).

Note: Special circumstances, which are used to describe incidents, should not be confused with special characteristics, which are used to describe people involved in incidents.

Other screens that use the codes entered on this screen.

- Main incident entry screen (to indicate what special circumstances were involved in an incident)
- Search Criteria Screen (to search for all incidents that involved a particular special circumstance)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Special Circumstances Codes."

Fields on this screen.

- *Special Circumstances Code.* A short (up to 30 characters) summary of the code. This code appears on the drop down lists on the incident entry and Search Criteria Screens.
- *Special Circumstances Code Description.* A description of the special circumstances code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

School Screen

The School Screen is used to enter the schools that you want to reference in the School COP system.

Other screens that use the codes entered on this screen.

- Main incident entry screen (to indicate the school where the incident occurred or the school with safety responsibility)
- Search Criteria Screen (to search for all incidents occurring at a particular school)
- Mapping Screen (to specify the school of interest for the map)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Basic School Information."

Fields on this screen.

- *Name*. The name (up to 30 characters) of the school. This code appears on the drop down lists on the incident entry, incident search, and mapping screens.
- *District Number*. A school district number can be entered for the purpose of reporting to state or federal agencies.
- *School Number*. A school number can be entered for the purpose of reporting to district, state, or federal agencies.
- *Address*. The school's address. This field is not used on any other screen; it is for reference purposes only.
- *Principal*. The name of the Principal. This field is not used on any other screen; it is for reference purposes only.
- *Phone*. The main school telephone number. This field is not used on any other screen; it is for reference purposes only.
- *Safety Contact*. The key contact person for safety-related matters. This field is not used on any other screen; it is for reference purposes only.
- *Safety Contact Phone Number*. The phone number of the safety contact. This field is not used on any other screen; it is for reference purposes only.

Buttons on this screen (other than the buttons common to all data entry screens).

None.

Area Screen

The Area Screen is used to assign areas to your school(s). The discussion of setting up a School COP Geobase describes the relationships between schools and areas.

NOTE: If you are going to assign a map to an area, be sure to test the map first.

Other screens that use the codes entered on this screen.

- Main incident entry screen (to indicate the area where the incident occurred)
- Search Criteria Screen (to search for all incidents occurring at a particular area)
- Mapping Screen (to specify the area of interest for the map)

How to display this screen.

- From the Main Menu, select “Administrative Functions,” then choose “Areas Within Schools.”

To enter an area for a specific school:

- Use the School navigation buttons (|<<, <<, >>, >>|) located near the top of the screen to move to the school for which you want to add an area.
- Click on the Add New button near the bottom of the screen to add the area. (Instead of clicking the Add New button, you can also use the Area navigation buttons (|<<, <<, >>, >>|) located near the bottom of the screen to see which areas have already been assigned to the school shown at the top of the screen. The map assigned to the area, if any, will appear in the map window.)
- After you assign a name and description to the new area, click the “Pick Map For This Area” button to specify which map is associated with the area. School COP can use two types of maps – bitmap images or shapefiles.
- Click the Save button to save the new area.

Fields on this screen.

- *Area Name.* The name (up to 30 characters) of the area. This code appears on the drop down lists on the incident entry, incident search, and mapping screens.
- *Description.* The description is not used on any other screen; it can be used only to remind you what the particular code means.
- *Map Name.* This text box shows the name of the file that contains the selected map for this area.
- *Map Type.* This text box shows the type of map, either bitmap or shapefiles⁵.

⁵ A data set used to represent a set of geographical objects, such as points, lines, and polygons. Shapefiles are the standard map file format used in products from ESRI, a leading supplier of geographic information system software and data (see www.esri.com).

Buttons on this screen (other than the buttons common to all data entry screens).

- *Pick Map For This Area.* Click the “Pick Map For This Area” button to specify which map is associated with the area. This button is only enabled if you just clicked the “Add New” or “Edit” button.
- *School navigation* (|<<, <<, >>, >>|, and *Find*) buttons. Clicking these buttons enables you to navigate between the different schools you have defined in order to view the various areas assigned to each school.

Location Screen

The Location Screen is used to assign locations to school areas. The discussion of setting up a School COP Geobase describes the relationships between schools, areas, and locations.

NOTE: If you are going to assign locations to an area, be sure to test the map first.

Other screens that use the codes entered on this screen.

- Main incident entry screen (to indicate the location where the incident occurred)
- Search Criteria Screen (to search for all incidents occurring at a particular location)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Locations Within Each Area."

To enter a location for a specific area:

- Use the School / Area navigation buttons (|<<, <<, >>, >>|) located near the top of the screen to move to the school/area combination for which you want to add an area. The area must have an associated map before you can assign locations to the area. If necessary, go to the Area Screen to create the area or to assign the map to the area.
- Click on the Add New button near the bottom of the screen to add the location. (Instead of clicking the Add New button, you can also use the Location navigation buttons (|<<, <<, >>, >>|) located near the bottom of the screen to see which locations have already been assigned to the school / area shown at the top of the screen. The location will appear as a red cross on the area map.)
- After you assign a name and description to the new location, indicate where the location is in the area by clicking on the map. If necessary, use the map manipulation tools to re-position the map.
- Click the Save button to save the new location.

Fields on this screen.

- *Name.* The name (up to 30 characters) of the location. This code appears on the drop down lists on the incident entry and incident search.
- *Description.* The description is not used on any other screen; it can be used only to remind you what the particular code means.
- *Geographic coordinates.* This text box shows the geographic coordinates of the selected location.

Buttons on this screen (other than the buttons common to all data entry screens).

- *Map Manipulation* buttons can be used to re-position the map, as necessary.
- *School / Area navigation* (|<<, <<, >>, >>|, and *Find*) buttons. Clicking these buttons enables you to navigate between the different schools / areas you have defined in order to view the various locations assigned to the different areas.

5.5. Screens For Entering Codes For Describing Persons Involved in Incidents

Person Type Code Screen

The Person Type Code Screen is used to enter codes used to describe the types of persons involved in incidents, such as "Students," "Administrators," or "Teachers."

Other screens that use the codes entered on this screen.

- People Involved Screen (to characterize a person involved in an incident)
- Search Criteria Screen (to search for all incidents involving a particular type of person)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Person Type Codes."

Fields on this screen.

- *Person Code.* A short (up to 30 characters) summary of the type of person. This code appears on the drop down lists on the incident entry and incident search.
- *Person Code Description.* A description of the person code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Grade Level Code Screen

The Grade Level Code Screen is used to enter codes used to describe the different grade levels at your school(s), such as "6th Grade," "7th Grade," and "8th Grade."

Other screens that use the codes entered on this screen.

- People Involved Screen (to indicate the grade level of a person involved in an incident)
- Search Criteria Screen (to search for all incidents involving persons in a particular grade)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Grade Level Codes."

Fields on this screen.

- *Grade Code.* A short (up to 30 characters) description of the grade level. This code appears on the drop down lists on the incident entry and incident search.
- *Grade Code Description.* A description of the grade level. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Race Code Screen

The Race Code Screen is used to enter codes that can be used to describe races of persons involved in incidents.

Other screens that use the codes entered on this screen.

- People Involved Screen (to indicate the race of a person involved in an incident)
- Search Criteria Screen (to search for all incidents involving persons of a particular race)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Race Codes."

Fields on this screen.

- *Race Code.* A short (up to 30 characters) description of the race. This code appears on the drop down lists on the incident entry and incident search.
- *Race Code Description.* A description of the race. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Special Characteristics Screen

The Special Characteristics Code Screen is used to enter codes that can be used to describe different special characteristics of persons involved in incidents (e.g., a member of a particular gang).

Note: Special characteristics, which are used to describe people involved in incidents, should not be confused with special circumstances, which are used to describe incidents.

Other screens that use the codes entered on this screen.

- People Involved Screen (to indicate the special characteristics of a person involved in an incident)
- Search Criteria Screen (to search for all incidents involving persons with a particular special characteristic)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Special Characteristics Codes."

Fields on this screen.

- *Special Characteristics Code.* A short (up to 30 characters) description of the special characteristic. This code appears on the drop down lists on the incident entry and incident search.
- *Special Characteristics Code Description.* A description of the special characteristic. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Action Taken Code Screen

The Action Taken Code Screen is used to enter codes used to describe the different types of action that can be taken against persons involved in incidents, such as "Suspended," "Expelled," and "Referred to Police."

Other screens that use the codes entered on this screen.

- People Involved Screen (to indicate the action taken against a person involved in an incident)
- Search Criteria Screen (to search for all incidents involving a particular action taken)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose " Action Taken Codes."

Fields on this screen.

- *Action Taken Code.* A short (up to 30 characters) description of the action taken. This code appears on the drop down lists on the incident entry and incident search.
- *Action Taken Code Description.* A description of the action taken. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

Involvement Code Screen

The Involvement Code Screen is used to enter codes used to describe the different ways persons can be involved in incidents, such as "Witness," "Perpetrator," and "Victim."

Other screens that use the codes entered on this screen.

- People Involved Screen (to indicate how a person was involved in an incident)
- Search Criteria Screen (to search for all incidents with a particular type of person)

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Involvement Codes."

Fields on this screen.

- *Involvement Code.* A short (up to 30 characters) description of the type of involvement. This code appears on the drop down lists on the incident entry and incident search.
- *Involvement Code Description.* A description of the involvement code. The description is not used on any other screen; it can be used only to remind you what the particular code means.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

6. Data Analysis Screens

This chapter provides a reference guide for the screens in School COP that enable you to analyze the incident data you have entered.

6.1. Search Criteria Screen

The Search Criteria Screen is used to search for a specific set of incidents, such as all incidents that occurred in a given area of a school or all incidents involving persons with certain characteristics.

The screen shows all the fields on the main Incident Screen and the People Involved Screen, any combination of which can be used in a single search. See the topic Finding Specific Incidents and Crimes for examples of search criteria.

Wildcards can be used in all fields except the incident date and time:

- The question mark (?) signifies any single character.
- The asterisk (*) signifies zero or more characters.
- The hyphen (-) can be used to specify a date or time range.

If you want to be able to map the incidents meeting your criteria, you must include a school and an area that have an associated map in your search criteria.

How to display this screen.

- From the Main Menu, select Search Incidents.

Fields on this screen (that are taken from the main Incident Screen).

- *Incident #.* Enter a complete or partial incident number in this box. For example, to search for all incidents with incident numbers beginning with 20, enter 20*. Hint: To search for a single incident with a known incident number, you can also go the main Incident Screen and click the Find button.
- *Incident Date.* Enter a single date (mm/dd/yy format) or a date range by separating the two dates with a hyphen (-).
- *School Year.* Enter a single school year (yy/yy format).
- *Incident Time.* Enter a single time (in military format, from 0 to 2359) or a time range by separating the two times with a hyphen (-).
- *School.* Select a school from the drop down list, which contains all the schools entered on the School Screen.
- *Area.* Select an area from the drop down list, which contains all the areas entered in the Area Screen.
- *Location.* Select a location from the drop down list, which contains all the locations entered in the Location Screen.
- *Incident Type.* Select an incident type from the drop down list, which contains all the incident types entered on the Incident Code Screen.
- *Severity.* Select a severity classification from the drop down list, which contains all the severity types entered on the Severity Screen.
- *Weapon.* Select a weapon from drop down list, which contains all the weapons entered on the Weapons Code Screen.

- *Special Circumstances.* Select a special circumstance from the drop down list, which contains all the special circumstances entered on the Special Circumstances Screen.
- *Reported By.* Enter a complete or partial name (using the appropriate wildcards) in this box.
- *Investigated By.* Enter a complete or partial name (using the appropriate wildcards) of the investigator.
- *Status.* Select a status code from the drop down list, which contains all the status codes entered on the Status Code Screen.
- *Other Agency Case Number.* Enter a complete or partial number (using the appropriate wildcards) in this box.
- *Narrative.* Use this text box to search for incidents whose narratives contain certain words. **IMPORTANT:** the desired word must have an asterisk on either side of it. That is, if you want to search of all incidents whose narrative include the word drugs, enter *drugs* in the text box. Entering only the word drugs will search for those narratives that contain only the word drugs.

Fields on this screen (that are taken from the People Involved Screen).

- *Person Name.* Enter a complete or partial name (using the appropriate wildcards) in this box.
- *Date of Birth.* Enter a single date (mm/dd/yy format) or a date range by separating the two dates with a hyphen (-).
- *Gender.* Select M or F from the drop down list.
- *Race.* Select a race from the drop down list, which contains all the races entered on the Race Code Screen.
- *Special Characteristics.* Select a special characteristic from the drop down list, which contains all the special characteristics entered on the Special Characteristics Code Screen.
- *Person Type.* Select a person type from the drop down list, which contains all the person types entered on the Person Type Screen.
- *School.* Select a school from the drop down list, which contains all the schools entered on the School Screen.
- *Student ID.* Enter a complete or partial (using appropriate wildcards) student ID number.
- *Grade.* Select a grade from the drop down list, which contains all the grades entered on the Grade Screen.
- *Contact Information.* Enter a complete or partial (using the appropriate wildcards) listing of contact information in this box.
- *Involvement.* Select an involvement type from the drop down list, which contains all the involvement types entered on the Involvement Type Screen.
- *Action Taken.* Select an action taken type from the drop down list, which contains all the action taken codes entered on the Action Taken Screen.
- *Action Taken Start Date.* Enter a single date (mm/dd/yy format) or a date range by separating the two dates with a hyphen (-).
- *Action Taken End Date.* Enter a single date (mm/dd/yy format) or a date range by separating the two dates with a hyphen (-).
- *Comments.* Use this text box to search for incidents whose comments about a particular person contain certain words. **IMPORTANT:** the desired word must have an asterisk on either side of it. That is, if you want to search of all incidents whose comments about a

person include the word gang, enter *gang* in the text box. Entering only the word gang will search for those comment section that contain only the word gang.

Buttons on this screen

- *Search.* Clicking the Search button executes the search and displays any incidents that match the search criteria in the main Incident Screen.
- *Cancel.* Clicking the Cancel button cancels the search and displays the Main Menu.

6.2. Quick Map Screen

The Quick Map Screen shows, on a map, where a set of incidents occurred at a particular school and area.

How to display this screen.

- From the Main Menu, select Search Incidents.
- On the Search Criteria Screen, include a school and area that have an associated map in the search criteria, then click OK.
- When the main Incident Screen appears, click the Map button.

Buttons on this screen

- Map Manipulation buttons for panning and zooming.



Click the Print button to print the map.



Click the Copy button to copy the map to the Windows clipboard. From there, the map can be pasted into other applications, such as word processing and presentation software.

- *Exit.* Click the Exit button to return to the main Incident Screen.

Other information on the screen

- *Search criteria.* A text summary of the search criteria appears above the map, both to remind you what the map icons represent and so that the search criteria appears on a printed copy of the map. Note: The search criteria text is not copied to the clipboard when the Copy button is clicked.
- *Map legend.* The map legend on the screen shows what the different size icons represent, including the icon that represents the location with the most number of incidents, the icon that represents a location with a mid-range number of incidents, and the icon that represents the location with the least number of incidents.

Map Manipulation Buttons

School COP Screens that show maps have the following buttons for changing which part of the map is currently shown in the map window:



Click the Zoom In button to show a smaller fraction of the map in the map window.



Click the Zoom Out button to show a larger fraction of the map in the map window.



Click the Hand button to shift the map position in the map window.



Click the Full Extent button to show the entire map layer in the map window.



Click the Copy button to copy the displayed map to the Windows clipboard.

6.3. Graph Screen

The Graph Screen displays a graph requested from either the Graphs and Tabular Reports Screen or the Incident Screen.

Once the requested the graph is displayed, it can be changed by clicking on various drop down lists and buttons on the Graph Screen. For example:

- a bar graph can be changed to a pie chart (by selecting 'Pie' from the Graph Type drop down list and then clicking the Redraw Graph button);
- a graph showing the number of incidents by month can be changed to one showing the number of incidents by location (by selecting 'Location' from the Group By drop down list and then clicking the Redraw Graph button).

Graphs can also be printed (by clicking the Print button) or copied to the Windows clipboard (by clicking the 'Copy' button) and pasted into other applications, such as a word processor.

How to display this screen.

- From the Main Menu, select Graphs and Tabular Reports. Then click on a particular graph shown in the list and then click the Show Graph button; *or*
- From the Incident Screen, click the Graph button.

Buttons, fields, and drop down lists on this screen

- *Graph Type.* To change the type graph, select one of the choices from the Graph Type drop down list and then click the Redraw Graph button.
- *Rotation.* To change the angle of rotation of the graph, select one of the choices from the Rotation drop down list and then click the Redraw Graph button. Selecting '0' produces a 'flat' graph.
- *Group By* (bar graphs, line graphs, and pie charts only). To change the incident attribute displayed along the horizontal ('X') axis of the graph, select one of the choices from the Group By drop down list and then click the Redraw Graph button.
- *X-Axis* (3-D graphs only). To change the incident attribute shown on the horizontal axis of the 3-D graph, select one of the choices from the X-Axis drop down list and then click the Redraw Graph button.
- *Y-Axis* (3-D graphs only). To change the incident attribute shown on the vertical axis of the 3-D graph, select one of the choices from the Y-Axis drop down list and then click the Redraw Graph button.
- *Switch Axes* (3-D graphs only). To switch the X and Y axes, click the Switch Axes button and then click the Redraw Graph button.
- *Title.* Use the Title text box to enter a title for the graph. Use semi-colons to insert a line feed in the title. Click the Refresh Title button to place the new title on the graph.
- *Refresh Title.* Click the Refresh Title button to place the title shown in the Title text box on the graph.

- *Number of Incidents.* The Number of Incidents label indicates the number of incidents depicted in the graph.
- *Redraw Graph.* Click the Redraw Graph button to re-build the graph based on the values currently displayed on the Graph Screen.
- *Copy.* Click the Copy button to copy the currently displayed graph, including the title and the number of incidents label to the Windows clipboard. Once on the clipboard, the graph can be pasted into a variety of applications, such as word processing or presentation applications. Typically, this is accomplished by opening the application and selecting Paste from the Edit menu.
- *Print.* Click the Print button to send a copy of the graph, including the title and the number of incidents label to the printer.
- *Exit.* Click the Exit button to return to the screen from which the Graph screen was called (i.e., either the Incident Screen or the Graphs and Tabular Reports Screen).

6.4. Graphs and Tabular Reports Screen

The Graphs and Tabular Reports Screen displays a list of available School COP graphs and tabular reports. These include reports that present facts about incidents meeting specific criteria and reports that count the number of specific types of incidents occurring by month. Additional reports can be made available by Abt Associates; these new reports can then be imported into School COP.

Tabular reports are displayed (i.e., previewed) on the Previewing Tabular Reports Screen. From this screen, reports can be printed, if desired. Graphs are displayed on the Graph Screen, where they can be manipulated and printed, if desired.

How to display this screen.

- From the Main Menu, select Graphs and Tabular Reports.

Fields on this screen

- *List of available reports.* The list box on the screen shows the available tabular reports. Select the desired report by clicking on the description of the report.
- *Report Title.* Enter in this box the title you want for the report. A default title is supplied.
- *Date Range.* Enter a date range that describes which incidents you want included in the report.
- *Sort By* (tabular reports only). For tabular reports, this drop down list shows the possible ways that the report can be sorted.

Buttons on this screen

- *Show Report (or Show Graph).* Clicking the Show Report button builds the report and displays it in the Previewing Tabular Reports Screen. If the selected report is a graph, the graph is displayed on the Graph Screen.
- *Return to Main Menu.* Clicking this button cancels the report and displays the Main Menu.

6.5. Previewing Tabular Reports

The Previewing Tabular Reports Screen shows the output of a tabular report.

How to display this screen.

- This screen appears automatically when a report is run, either from the main Incident Screen or from the Graphs and Tabular Reports Screen.

Buttons on this screen

- **|<< button.** Clicking the |<< button moves to the first page of the report. This button is disabled if the current page is the first page.
- **<< button.** Clicking the << button moves to the previous page of the report. This button is disabled if the current page is the first page.
- **>> button.** Clicking the >> button moves to the next page of the report. This button is disabled if the current page is the last page.
- **>>| button.** Clicking the >>| button moves to the last page of the report. This button is disabled if the current page is the last page.
- **Zoom.** Clicking the Zoom drop down list allows you to select the magnification level of the report.
- **Print Current Page.** Clicking the Print Current Page button sends the current page to the default printer.
- **Print All Pages.** Clicking the Print All Pages button sends the entire report to the default printer.
- **Exit.** Clicking the Exit button closes the screen.

6.6. Mapping Screen

The general purpose Mapping Screen enables you to build a multi-layer⁶ map showing incidents and crimes occurring in a specific school and area.

How to display this screen.

- From the Main Menu, select "Mapping."

To build a map:

- Select the school incident data you want to map (i.e., pick your data layers). Select an item in any or all of the three drop down lists under the Pick Incident Type heading.
- Pick a date and time range.
- Pick a school and area.
- Click the button "Click Here to Produce Map."

To remove a map layer

- Select the <none> item in the drop down list under the Pick Incident Type heading.
- Click the button "Click Here to Produce Map" to rebuild the map.

Map icons and legend:

- The color and shape of the map icons vary for each of the three drop down lists under the Pick Incident Type heading.
 - The first drop down uses a red square.
 - The second drop down uses a green circle.
 - The third drop down uses a blue triangle.
- In the map window, the size of the icon varies according to the number of incidents at a particular location.
- In the map legend (next to the three drop down lists under the Pick Incident Type heading), the largest size icon for the particular data layer is displayed, along with the number of incidents associated with that size icon.
 - For example, if an "8" is displayed next to the red square in the legend, 8 is the number of incidents at each location that displays this size red square. An icon in the map window with half the area of the icon associated with 8 incidents has 4 incidents associated with it.

⁶ In School COP, a map layer is defined by a symbol of a particular color and shape – for example, a red square, a green circle, or a blue triangle. Single layer maps, such as those displayed on the Quick Map Screen, only use a single map symbol. School COP multiple layer maps, on the other hand, may have one, two, or three different maps symbols. In either case, the size of the map symbol will vary depending on the number of incidents at a particular location.

Displaying Other Map Layers

- You can display other map layers by clicking any of the three drop down lists under the Display Other Maps heading. The maps that appear in the drop down lists are those that were registered on the Register Map Screen. When you select a map, it is automatically displayed; you do not need to click the Click Here to Produce Map button.
- By far the most common use for these buttons is to display shapefiles⁷. that you have obtained that overlay properly with the shapefile that you have associated with a particular school and area. Displaying other map layers on top of bitmap images generally doesn't work, either because the area bitmap file will be hidden from view or because the two maps will have different coordinate systems and thus will not overlay properly.

Buttons on this screen

- *Drop Down Lists under the heading Pick Incident Type.* Use these drop downs to select the data you want to map. If no data have been selected, <none> appears in the drop down.
- *Pick Date and Time Range boxes.* Use these text boxes to specify date and time ranges. The same date and time range apply to all the data layers.
- *Pick School and Area boxes.* Use these drop down lists to select the school and area.
- *Click Here to Produce Map button.* Clicking this button starts a search for all the incidents that meet the specified criterion and then builds a map showing the incidents that meet the search criterion.
- *Display Other Maps Drop Down Lists.* Use this button to displays maps that have been registered on the Register Map Screen. This is generally used only to display shapefiles that you have obtained that overlay properly with the shapefile that you have associated with a particular school and area.
- *Zoom To buttons in the Display Other Maps area.* Click on one of these buttons to show the full extent of a map listed in the Display Other Maps Drop Down Lists.
- *Map Manipulation buttons* can be used to reposition the map, as necessary.
- *Print button.* Clicking this button gives you the option of sending either just the map window or the entire mapping screen to the default printer.
- *Copy button.* Clicking this button copies the contents of the map window to the Windows clipboard. From there, the map can be pasted into other applications, such as word processing or presentation software.
- *Exit button.* Clicking this button closes the mapping screen and redisplay the Main Menu.

⁷ A data set used to represent a set of geographical objects, such as points, lines, and polygons. Shapefiles are the standard map file format used in products from ESRI, a leading supplier of geographic information system software and data (see www.esri.com).

7. System Administration Tasks

This chapter provides a reference guide for the School COP screens that the system administrator will use to maintain the system.

7.1. Authorized Users Screen

The Authorized User Screen is used by the System Administrator to maintain a list of logins and passwords that allow access to School COP.

To gain access to this screen, you must enter the password associated with the "admin" login ID.

Other screens that use the codes entered on this screen.

- The login screen.
- The password screen for the Authorized Users Screen.

How to display this screen.

- From the Main Menu, select "Administrative Functions," then choose "Authorized Users."

Fields on this screen.

- *Login ID.*
- Password.
- *Last Login.* This read-only field lists the last time the login ID and password were used to gain access to School COP.

Buttons on this screen (other than the buttons common to all data entry screens).

- None.

7.2. Backup School COP Database

The School COP System Administrator should backup the School COP database on a regular basis (at least once a week). Since computer hard disks can become corrupted, backups should be stored on diskettes or other removable drives.

To Backup Your Data:

- From the Main Menu, select "Administrative Functions," then choose "Backup Your Data."
- Choose a drive and folder to store your backup. Backup copies should be stored on a network drive, diskette, or other removable drive.
- Choose a filename for your backup. The default name "databaseOn<<today's date>>.mdb" provides an easy way to store your backups.
- Click the Proceed with Backup button to start the backup process.

Note:

- Backing up a School COP database makes a copy of the current School COP database.

Example:

Suppose you accepted the default installation option, but have not yet made a backup. At this point, you have one School COP database file:

- The current database (c:\program files\School COP\database.mdb)

Then, on November 1, 2000, you make a backup and store it on a network drive named F:. Now, you have two School COP databases:

- The backed up database (f:\databaseOn110100.mdb)
- The current database (c:\program files\School COP\database.mdb)

7.3. Restore School COP Databases

In the event that you want to stop using the current School COP database⁸ and start using a database that was previously backed up, you can Restore a School COP database.

To Restore a Backed Up Database:

- From the Main Menu, select “Administrative Functions,” then choose “Restore Backed Up Data.”
- Click the Pick Database To Restore button.
- Navigate to the drive and folder where the backed up database is located. Click on the database name and then click the Open button.
- Click the Proceed with Restore button to start the restore process. As part of this process, School COP verifies that the database you selected to Restore is a valid School COP database.

Note:

- Restoring a School COP database makes a copy of the School COP database that you selected to restore. The Restore process also makes a copy of the database that was the current database prior to the Restore process.

Example:

Suppose you accepted the default installation options, made a backup of your database on November 1, 2000 to the network drive (named F:), and named the backup the default name (databaseOn110100.mdb). At this point, you have two database files:

- The current database (c:\program files\School COP\database.mdb)
- The backed up database (f:\databaseOn110100.mdb)

Then, on November 15, 2000 you restored your November 1, 2000 backup. Now, you have three School COP databases:

- The backed up database (f:\databaseOn110100.mdb)
- The current database (c:\program files\School COP\database.mdb), which is identical to the backed up database (f:\databaseOn110100.mdb).
- A copy of the database that was the current database prior to the restore process (the copy is called c:\program files\School COP\databaseDiscarded111500.mdb)

⁸ The current database is the database into which new incidents are added and against which School COP searches are performed. A backed up database can be made the current database through the Restore process.

7.4. Importing New Reports

Contact Abt Associates if you would like new tabular reports or changes to existing tabular reports. Abt Associates will e-mail you a self-extracting zip file that contains the new or updated reports.

Once you receive the self-extracting zip file:

- In Explorer, double click on the file.
- From the School COP Main Menu, select "Administrative Functions," then choose "Import a New Reports Table."

7.5. Register Map Screen

There are two reasons to register a map using the Register Map Screen:

- It is an easy way to test a map to see if the display and print quality are satisfactory.
- It allows maps – other than those associated with a particular area – to be displayed on the general purpose School COP Mapping Screen. On that screen, maps that have been entered on the Register Map Screen are listed in the “Display Other Maps” drop down lists.
 - If you are using shapefiles⁹ for your area maps, you may be able to obtain from your local police, planning, or public works department other shapefiles that can be displayed on top of the area map.

Other screens that use the codes entered on this screen.

- Mapping Screen (to allow maps other than the map associated with a particular area to be displayed on the map)

How to display this screen.

- From the Main Menu, select “Administrative Functions,” then choose “Register Maps.”

To register a map:

- Click on the Add New button.
- After you assign a name and description to the new map, click the “Pick Map Filename” button to specify which the map you want to register. School COP can use two types of maps – bitmap images or shapefiles.
- Click the Save button to save the new map.

Fields on this screen.

- *Map Name.* The name (up to 30 characters) of the map. This code appears on the “Display Other Maps” drop down lists on the general purpose mapping screen.
- *Description.* The description is not used on any other screen; it can be used only to remind you what the particular code means.
- *Map Filename.* This text box shows the name of the file that contains the selected map.
- *Map Type.* This text box shows the type of map, either bitmap or shapefiles.

Buttons on this screen (other than the buttons common to all data entry screens).

- *Pick Map File Name.* Click the “Pick Map Filename” button to specify the map you want to register. This button is enabled only if you just clicked the “Add New” or “Edit” button.

⁹ A data set used to represent a set of geographical objects, such as points, lines, and polygons. Shapefiles are the standard map file format used in products from ESRI, a leading supplier of geographic information system software and data.