

Executive Summary

Pennsylvania Uniform Crime Reporting System

2001 NASCA Award for Creative Excellence Nomination

Category: E-government

In 1973, the Pennsylvania State Police (PSP) was assigned responsibility for the Pennsylvania Uniform Crime Reporting (UCR) Program. From the earliest days of the Program, little change occurred to the methods used to submit and maintain UCR data. Over time, the Program evolved to permit the submission of data by means of magnetic tape, disk, and diskette, in addition to the original paper submission, but the process continued to be labor intensive and inefficient. Problems associated with data accuracy and the outdated mainframe application began to overshadow the Program's value. It was apparent that repairs to the mainframe application were no longer viable; replacement was required.

In 1998, a bold redesign initiative began. The vision of this initiative was to develop an accurate, versatile, automated system that would maximize the use of World Wide Web technology and propel the Pennsylvania UCR Program into the 21st century. Subsequently, the UCR Automation Committee was formed. The Committee consisted of representatives from the Pennsylvania State Police, Pennsylvania Chiefs of Police Association, Pennsylvania Commission on Crime and Delinquency, and municipal police agencies representing various data submission methods. The Committee met on several occasions to discuss the features desired in a new system and specific objectives to be achieved through the ensuing project.

In the fall of 1999, the Pennsylvania State Police contracted the services of Electronic Data Systems (EDS) and Information Builders (IB) to develop a new Web-based UCR system and an aggressive implementation schedule was set. Throughout development, PSP, EDS, and IB personnel worked side by side as a unified team. As project progressed, the new system came to be known as the Pennsylvania Uniform Crime Reporting System (PAUCRS). On March 7, 2001, PAUCRS was fully implemented and agencies throughout Pennsylvania began to submit UCR data on-line. For the first time, the public could research Pennsylvania crime statistics at their convenience.

PAUCRS is based on Internet technology and provides an innovative e-Business solution for the administration of the Pennsylvania Uniform Reporting Program. It provides worldwide access to data 24 hours a day, 7 days a week, and features a user-friendly design. PAUCRS is versatile, accommodating both Summary UCR and National Incident-Based Reporting System (NIBRS) data collection. Agencies use a secure connection to submit their data by completing on-line screens, file upload, or direct file transfer. A series of edit checks ensures data accuracy prior to acceptance into the database. Once accepted, data is immediately available for reports and query, remaining available for five years. The Reports and Query functions of PAUCRS can

be customized to meet individual user needs. Users can select specific time frames, geographic areas, and data elements to be included. Output is available for download in “Excel” format to conduct additional analysis.

PAUCRS can be accessed on the Internet at <http://ucr.psp.state.pa.us>. For convenience, a link to PAUCRS is also provided on the PSP homepage, www.psp.state.pa.us. PAUCRS is part of Governor Tom Ridge’s Friction-free e-Government Initiative.

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The Pennsylvania Uniform Crime Reporting (UCR) Program was established in concert with the national program to provide government leaders, criminal justice professionals, and the public with information regarding the incidence of crime in the Commonwealth. Pennsylvania's UCR Program was mandated by the Uniform Criminal Statistics Act of 1970 (71 P.S. 307.8 and 307.9). Initially, responsibility for the program was assigned to the Office of the Attorney General. Subsequently, Reorganization Plan No. 7 of 1973 (71 P.S. 755-7) transferred responsibility for the Program to the Commissioner of the Pennsylvania State Police (PSP). Facts supporting the reassignment to PSP related to the decentralized structure of the State Police, having field installations in nearly every county of the Commonwealth and a telecommunications network capable of transmitting data from the field to a central site.

The process by which crime data was collected from approximately 1,000 police agencies within Pennsylvania had not changed substantially since the earliest days of the program. On a monthly basis, agencies would submit a series of paper documents, referred to as schedules, to their local PSP installation. State Police UCR Coordinators received the documents, performed a cursory quality control check, and forwarded the documents to their respective Troop Headquarters. At fifteen Troop Headquarters throughout Pennsylvania, the documents were hand keyed into the Department mainframe computer through administrative terminals at those locations. Following data entry, the hard copies were forwarded to the UCR Unit at PSP Headquarters for filing and retention.

Due to the vast amount of data involved, the City of Philadelphia and the City of Pittsburgh delivered their submissions in paper form directly to the UCR Unit. UCR Unit personnel then hand keyed this information directly into the Department mainframe computer.

As technology advanced, the Program evolved to permit the submission of data by means of disk, diskette, and magnetic tape, in addition to the original paper submission. Over time, approximately 220 agencies began submitting data on disks and diskettes. The City of Harrisburg developed its own records management system and began submitting its data on magnetic tape, along with data for 11 surrounding agencies. These disks, diskettes, and magnetic tapes were delivered directly to the UCR Unit where they were uploaded to the Department mainframe computer.

Monthly, the UCR Unit received various edit reports from the Bureau of Technology Services, Pennsylvania State Police, identifying submissions containing errors. These

edit reports averaged approximately 1000 pages in length. UCR Unit personnel would then review the paper documents and electronic media in an effort to find the source of errors. Often this task was extremely difficult and required personal contact with an originating agency to obtain or clarify information. UCR Unit personnel would then make the necessary corrections through an administrative terminal. Routinely, this process was repeated several times to identify and correct all errors for a given period. Occasionally, errors were so extensive that a complete resubmission of data was required by an agency.

From the beginning, the entire process had been labor intensive and prone to error. The Annual Uniform Crime Report, Crime in Pennsylvania, was the only means to disseminate UCR data. There was also no mechanism in the UCR Program to collect Incident-Based Reporting (IBR) data under the National Incident-Based Reporting System (NIBRS) guidelines. Despite the limitations, the UCR program remained the only source for management information of this kind within the Commonwealth. It had continually been relied upon to make decisions concerning resource allocation, budgeting, hiring, training, and program development. It had also served as a basis for many political decisions made by elected officials. Problems associated with data accuracy and the outdated mainframe computer began to overshadow the Program's value. It was apparent that repairs to the mainframe computer were no longer viable; replacement was required. Governor Tom Ridge recognized the need for upgrades and directed the Pennsylvania State Police to seek enhancements for the UCR Program as a part of his Program Policy Guidelines for fiscal year 1999 – 2000. Colonel Paul J. Evanko, Commissioner, Pennsylvania State Police, identified this project as a priority and provided impetus to the enhancement process.

Operational responsibility for the UCR Program is assigned to the Management Information and UCR Section, Bureau of Research and Development. Major R. Dane Merryman, Director, Bureau of Research and Development, documented the issues associated with the UCR Program and concepts for long-term solutions in an overview document entitled, "Upgrade to Pennsylvania State Police Uniform Crime Reporting Program." The document identified the ultimate goal of the project as being, "the implementation of the largest measure possible of technology solutions to four problematic process areas of the UCR Program." The process areas identified were data collection, data compilation, data analysis, and report preparation. Common to all four areas were poor data accuracy and the inherent labor-intensity. Though general in nature, this document provided definition for the task at hand and direction for the ensuing project.

Subsequently, the UCR Automation Committee was formed. This committee consisted of representatives from the Pennsylvania State Police, Pennsylvania Chiefs of Police Association, Pennsylvania Commission on Crime and Delinquency, and municipal police agencies representing various data submission methods. Meetings were held to identify additional concerns surrounding the UCR Program and define specific objectives for the project.

The objectives defined were:

- To provide a design for a user-friendly Internet-based system to automate the Pennsylvania UCR function.
- To provide a dynamic design that will accept change with minimal effort.
- To design a system that will accept input from all submitting agencies that utilize custom summary reporting and incident reporting software that meet the PSP and the FBI UCR requirements. All reporting agencies must also be capable of inputting data by direct access to the PSP site.
- To design a system capable of producing all existing PSP and FBI UCR reporting requirements. The system must provide submitting agencies the ability to do ad hoc queries and reporting to track individual crime trends based upon information entered by users. The system must provide ad hoc reporting on particular types of crime on a Statewide and Municipality basis. These reports must be able to provide summary UCR reports for individual submitting agencies in a year-to-date format.
- To design a system with on-line edits that requires the sender to immediately correct erroneous data entered and will permit only valid data to be entered into the database.
- To design a system capable of meeting the National Incident- Based Reporting System (NIBRS) requirements.
- To design a system that will accept data edits up to the FBI cutoff date for that year's data submission.
 - To design a system such that when an edit is entered, all areas of the UCR system affected by the edit are identified and changes, if necessary, are made before any data is entered into the database.

In the fall of 1999, the Pennsylvania State Police contracted the services of Electronic Data Systems (EDS) and Information Builders (IB) to develop a new Web-based UCR system and an aggressive implementation schedule was set. Throughout development, PSP, EDS, and IB personnel worked side by side as a unified team. As project progressed, the new system came to be known as the Pennsylvania Uniform Crime Reporting System (PAUCRS). On March 7, 2001, PAUCRS was fully implemented and agencies throughout Pennsylvania began to submit UCR data on-line. For the first time, the public could research Pennsylvania crime statistics at their convenience.

PAUCRS is the only system of its kind in the nation and can be easily upgraded to meet future needs. Based on Internet technology, it provides an innovative *e-Business* solution for the administration of the Pennsylvania Uniform Crime Reporting Program.

Significant features include:

- **Accessibility** – PAUCRS provides worldwide access to Pennsylvania UCR data, 24 hours a day, 7 days a week.

- **User-friendly Design** – PAUCRS was developed using industry standards and open system architecture. It offers on-line Help menus, toll free customer assistance, and a built in e-mail function to contact system administrators. A “News” tab provides the ability to quickly disseminate information to submitting agencies.
- **Security** – Security features prevent data tampering. Agencies use unique identifiers and passwords to enter a restricted area of the system for data submission.
- **Versatility** – PAUCRS accommodates both Summary UCR and National Incident-Based Reporting System (NIBRS) data collection. Data can be submitted by completing on-line screens, file upload, or direct file transfer.
- **Accuracy** – Data submissions must pass all edit checks before entry into the database. Submissions failing the edit checks are held in a storage area until the required corrections are made.
- **Data Availability** – Once accepted and transferred to the database, data is immediately available for reports and query, remaining available for a period of five years.
- **Flexibility** – PAUCRS output can be customized to meet individual needs. Assorted Web-based reports and ad-hoc queries are available for agencies and the public. The reports and query results can also be downloaded in “Excel” format, providing for further analysis.

PAUCRS is two-dimensional, containing both a production system for actual data submission and a test system for testing, training, and familiarization. Though the test system mirrors the production system, it is independent and does not interact with production. Manipulation of data within the test environment has no impact on actual data submissions. The existence of this test system created a unique opportunity to improve service to our participating agencies. Not only can agency personnel become familiar with PAUCRS without fear of data corruption, records management software vendors can be assigned agency jurisdiction numbers. This enables software vendors to thoroughly test their applications for function and compatibility with PAUCRS during development, without involving client agencies.

It is difficult to depict a “calculation of savings” associated with the implementation of PAUCRS. An area where actual savings can be quantified is the production of the Annual Uniform Crime Report, Crime in Pennsylvania. Historically, production and printing of this publication had been a time consuming, labor intensive, and costly endeavor. In prior years, mass quantities of the hard copy publication were produced for distribution. PAUCRS minimizes costs by automatically producing the annual publication in Web-based form. An Executive Summary of the publication will now be printed for limited distribution. In printing costs alone, a saving of approximately \$21,000 is expected annually.

Many of the benefits derived from PAUCRS are intangible; therefore, PAUCRS should be evaluated in terms of “value” rather than “savings.” While a considerable investment has been made to develop and implement this system, the increased service and overall benefit to users of the system are immeasurable.

Through PAUCRS, Pennsylvania crime statistics are available to anyone, 24 hours a day, 7 days a week, worldwide. Users can customize the Web-based reports and ad hoc queries by selecting time frames, geographic areas, and specific data elements. One function enables parents and students to review and compare crime statistics from college and university campuses throughout Pennsylvania, aiding in campus selection.

PAUCRS has restored data ownership to the originating agency. Each individual agency is responsible for data accuracy and submission. PSP personnel no longer perform data entry for other agencies; therefore, clerical personnel at PSP field installations are now available to perform other duties. UCR Unit personnel concentrate their efforts to the PAUCRS Help Desk, responding to telephone calls and e-mail messages.

Currently, participation in the Pennsylvania UCR Program is voluntary. There is no legislative mandate requiring Pennsylvania law enforcement agencies to submit data. An added benefit derived from the implementation of PAUCRS has been increased participation. Agencies who formerly saw little value in the program have indicated that they now wish to participate. A prime factor in these decisions has been the increased availability of and access to data.

The development and implementation of PAUCRS has raised national attention and set a new standard for UCR reporting. An early prototype of the system was displayed at the Association of State Uniform Crime Reporting Programs (ASUCRP) Annual Conference, held in Vail, Colorado, October 9 – 11, 2000. Representatives from both PSP and EDS were available to demonstrate the system and answer questions. The system proved to be a highlight of the conference, sparking interest from numerous state programs, as well as the FBI and SEARCH, The National Consortium for Justice Information and Statistics. A recent survey of the ASUCRP membership revealed that 32 other state programs are definitely interested or may be interested in deploying the technology developed by Pennsylvania. Various approaches to offer this technology throughout the nation are being explored.

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