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"to protect and to serve"
May 21, 2001



RICHARD J. PENNINGTON
SUPERINTENDENT

La Vigne

Debra Stoe
Program Manager
Office of Justice Programs
National Institute of Justice
633 Indiana Avenue, N.W., 8th. Floor
Washington, D.C. 20531

RE: 97-IJ-CX-K006
Affordable Crime Mapping and Information Sharing Technology

Dear Ms. Stoe:

The New Orleans Police Department would like to submit its Affordable Crime Mapping and Information Sharing Technology (97-IJ-CX-K006) Cooperative Agreement final report. The report is submitted in the format requested by your office.

If you have any questions or we may be of further assistance, please contact us.

Sincerely

[Handwritten Signature]
RICHARD J. PENNINGTON
Superintendent of Police

Attachment(s)

RJP/glc

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Executive Summary
97-IJ-CX-K006
CMIS

In October 1996, the New Orleans Police Department implemented a decentralization plan which affected every aspect of policing. NOPD centralized units were decentralized and unified as District Investigative Units (DIU) under the command of their respective District Captain. Concurrent with decentralization, the Department was expanding established community policing programs and implementing new Department of Justice, Community Oriented Policing (COP) initiatives. COP initiatives focused on enhancing the effectiveness of community policing officers, increase citizen interaction and information sharing, citizen awareness of local crime and quality of life issues. Provide District Commanders and command staff with real time information to effectively deploy resources. The COP initiatives were the impetus on which municipal government sought collaborations with local universities and to seek federal funding to enhance NOPD's crime mapping capabilities.

National Institute of Justice (NIJ) Affordable Crime Mapping and Information Sharing (CMIS) technology grant was sought to enable NOPD to enhance its crime mapping capabilities and provide low cost, affordable technology to other law enforcement/criminal justice agencies. CMIS also comprised the basis for a university-law enforcement technology collaborative. A team was assembled composed of representatives of the New Orleans Police Department (NOPD), the University of New Orleans (UNO), and the City of New Orleans Mayor's Office (CNO-MO). The NOPD group consisted of planners, system administrators and community policing officers. The UNO group consisted of computer, system development and evaluation experts. The CNO-MO representative coordinated municipal and neighborhood based planning efforts.

As in any multi-organization collaborative, modifications occur in personnel through promotions, transfers and reductions. Technological evolutions occur in computer hardware, software and programs, and research interest and theory are impelled by technological evolutions. Throughout all the modifications in personnel and technology which have occurred since 1997, we have sustained our collaborative efforts with UNO. The CMIS software does exist and did function while installed on the UNO system. The software problems encountered by NOPD are the results of transferring the software from the lab and attempting to use it in the field. Certain software features remain inoperable and require follow up support by UNO design teams to resolve remaining software technical issues.

We encourage collaborations between universities and law enforcement agencies, and look forward to future collaborations with universities to advance community policing and effective policing concepts and programs. Universities have expertise in cutting edge technology, multi-faceted training opportunities, multi-disciplinary evaluation models and resources for both short and long term evaluations. Law enforcement agencies abound in data and details which can enable theories and concepts to become realities and sound practices. Law enforcement and university collaborations can only engender successful law enforcement practices and programs, and provide qualified individuals to implement and evaluate the practices and programs. The outcome of enhanced public safety practices will be ensured by continued collaborations between law enforcement and universities.

Background

In October 1996, the New Orleans Police Department (NOPD) implemented a decentralization plan which affected every aspect of policing. Traditionally centralized units, Homicide, Narcotics, Property Crimes, were decentralized and unified as District Investigative Unit's (DIU), within each of the eight (8) Districts, under the command of each District Captain. Creating and implementing crime strategies in areas of reduction, investigation and prevention was and remains the responsibility of each District Captain. Concurrent with decentralization, the Department was expanding established community oriented programs, implementing new Department of Justice Community Oriented Policing initiatives, and seeking innovative programs in the areas of report writing, inter and intra agency communications, and crime mapping to enhance intra agency information exchange and police community communications.

In October 1996, at the onset of decentralization, NOPD's crime mapping capacity consisted of a static map display, with pin mapping crime capabilities based on mapping information programs. Our technology was non internet and non network capable. Due to limited technology funds on the municipal government level, the Department sought grant program funding to enhance its crime mapping and crime analysis efforts to match its newly implemented community policing programs.

Purpose

NIJ's Crime Mapping and Information Sharing Technology grant provided NOPD the opportunity to develop an innovative system built on proven technologies that provides community oriented policing officers and community residents with the ability to see and share information effectively to solve problems that cause crime. The technology was to incorporate the following features: Allow for use by beat officers and crime analysts, facilitate information sharing among police officers, facilitate information sharing between community police officers and community members, and provide affordability and adaptability to the law enforcement community.

Goals/Objectives

Goals and objectives were multi focus to incorporate all domains of the principles of community oriented policing: enhance the effectiveness of community policing officers, increase citizen interaction and information sharing, awareness of local crime and quality of life issues. Provide District Commanders and command staff with real time information to effectively deploy resources.

Projected Outcome

We sought to improve the effectiveness of community oriented policing officers by providing real time crime analysis capability to identify crime "hot spots" at the community level, also enhance an officer's ability to share information with the community concerning criminal activities and quality of life problems which contribute to criminal activities. We also expected to provide a user friendly mechanism for community members to share information with police officers which

could be incorporated into a common information system, provide a comprehensive view of a community relative to criminal activity and those quality of life elements within a community which contribute to crime. Intra agency expectations were to provide base line data for comprehensive management of resource allocations and officer deployment. Increase community awareness of local crime and quality of life issues through the provision of advisory circulars and information bulletins distributed and addressed during community meetings. Enable District Commanders and command staff to allocate or re-allocate officers to address neighborhood crime issues and utilize real time information to create efficient and effective short term and long term deployment strategies.

With the onset of enhanced and new community policing initiatives, CMIS technology would both encourage and educate the community in aspects of crime patterns, realtime information and their information's impact in reducing and controlling crime. Information exchanges during community meetings would become focused on current issues and environmental factors affecting a community's conduciveness to crime.

Collaborations

In order to address grant goals and objectives, a team was assembled composed of representatives of the New Orleans Police Department (NOPD), the University of New Orleans (UNO), and the City of New Orleans Mayor's Office (CNO-MO). The NOPD group consisted of planners, system administrators and community policing officers. The UNO group consisted of computer, system development and evaluation experts. The CNO-MO representative coordinated municipal and neighborhood based planning efforts.

The management team, consisting of one ranking NOPD officer and one lead Ph.D. reviewed and clarified responsibilities as per the grant award, identified user capabilities and selected a touch screen menu driven operation system with interactive instructions. The design was created for field and management level use. The Field level would encompass basic mapping and information features with available limited crime analysis features. Management features would include accessible advanced GIS and crime analysis techniques. The system was planned to provide maximum real time information and real time dissemination to field officers. A *key* element would allow patrol officers, DIU officers, task force members and community policing officers to enter "street contact" information as a source of shared knowledge from patrol to ranking officers. The system's focus was to afford community policing officers insight into the location and behavior of criminals, identify trouble spots and times of occurrence, detecting crime site point patterns and solving crimes through identifying relationships between quality of life issues and crime.

In order to address the field level usage, a simple system would be developed to visualize a spatial arrangement of objects and events on a map in a symbolic manner, e.g., symbol of a vehicle overlay on a district map depicting auto theft. Environmental System Research, Inc.'s MapObjects, released in May 1996 was selected as a component of software development. MapObjects as a third party control object was added to Visual Basic toolbox allowing custom GIS based mapping powerful applications, yet non-proprietary on the Visual Basic form. Based on 1996 technology standards, Microsoft's Visual Basic was one of the most complete object-

oriented application development environments. One of the strongest features of Visual Basic is Open Database Connectivity (ODBC) and Object Linking and Embedding (OLE). ODBC allows for connection to existing windows based databases. OLE provides a link through which two applications can communicate and exchange requests and messages in real time mode. A rudimentary mapping and information application was developed to test MapObjects. The mapping and information development process commenced after the municipality executed professional services contracts with UNO for systems design and development by grant specified Ph.D.'s and graduate students, and upon procurement of hardware/software by the municipality mandated state bid standards. A UNO Ph.D. candidate at the time of grant submission, was designated grant supervisor/ manager by NIJ and UNO. Beginning in 1997, and continuing into the present (2001), the management team met, discussed and exchanged statistical, and programmatic requirements.

Key Issues

In September 1997, the grant supervisor/manager transferred to the University of Central Florida. NIJ was notified of the grant supervisor /manager's association with the University of Central Florida and allowed the grant supervision / management responsibilities to remain with the individual, via e-mail and telephone contact. The UNO contact became one of the original grant specified Ph.D.'s. Without the long term on site manager, ongoing grant tasks, events and activities begin to lag, even though communications between the grant supervisor/manager, UNO and NOPD remained active. NOPD and UNO encountered problems in the areas of missed communications, scheduling, equipment, hardware and software. NOPD received notification of NIJ site visits to UNO two to three weeks after the actual visits. The communications mishaps involved late e-mails, and forgotten notification assignments, which occurs in all large organizations. Equipment mishaps included failed hard drives, software problems, different operating programs, soft code malfunctions, unrecognized passwords, individual missing program files which were recovered or rebuilt and connectivity between networks. Since 1997, hardware and software capabilities have undergone vast improvements in computer processing speeds (486 to Pentium) and data paths, increase in laptop functions and availability, and expanded software capabilities in crime mapping software designed for web and internet technologies, all of which have become the essential basis for law enforcement crime tracking presentations and crime analysis requirements.

Product Outcome

During the first quarter of 2001, NOPD and UNO attained a successful demonstration of the CMIS software at UNO utilizing the UNO network with original NOPD data. Crime Analysis querying abilities exists on several areas of interest. Crime Mapping capabilities was demonstrated with existing data. NOPD received from UNO, the CMIS software application in CD ROM format. NOPD installed the software on our crime analysis network computer and experienced a software failure. UNO personnel reinstalled the software on an NOPD stand alone computer. The Crime Mapping component functioned on a stand alone PC with preexisting data, but with no connectivity to NOPD databases. After several attempts the Mapping program was installed on a networked server, but did not function. Certain software features remain inoperable

and require follow up support by UNO design teams to resolve remaining software technical connectivity issues.

The CMIS software developed through a collaboration between NOPD and UNO, to meet the requirements of this grant, does exist and did function while installed on the UNO system. The software problems encountered by NOPD are the results of transferring the software from the lab and attempting to use it in the field. Once the software connectivity issues are resolved, the software is projected to attain 1997 grant goals and objectives.

University/ Law Enforcement Collaborations

The university and law enforcement collaboration is a positive concept, which should be further engendered to advance community policing and effective policing concepts and programs. Universities have expertise in cutting edge technology, multi-faceted training opportunities, multi-disciplinary evaluation models and resources for both short and long term evaluations. Law enforcement agencies abound in data and details which can enable theories and concepts to become realities and sound practices. Yet it must be recognized that each entity has built in bureaucracies, processes and a predominate "constant of change" in staffing levels, personnel promotions, transfers, resignations, retirements, limited funding opportunities, research topics, concepts and theories. All or any one factor may impair expeditious project implementation, continuation and completion.

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