



PROVIDING 21<sup>ST</sup> CENTURY TOOLS  
FOR SAFE COMMUNITIES

**REPORT OF THE TASK FORCE ON CRIME MAPPING AND DATA-DRIVEN MANAGEMENT**

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**U.S. Department of Justice**

**National Partnership for Reinventing Government**

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# FOREWORD

All of America's communities should have safe streets and neighborhoods.

We are moving closer to that vision. Nationally, crime rates have fallen for seven straight years. More police on the streets, more effective management of police resources, new technologies, and a new partnership forged between law enforcement agencies and communities have all contributed to this major accomplishment.

But we can do more.

This report—the work of the Department of Justice and the National Partnership for Reinventing Government—describes what some of the most innovative law enforcement agencies in the country are doing. They are applying cutting-edge information technologies such as crime mapping to drive management decisions and to create real partnerships with communities to prevent and reduce crime.

The report recommends how we can help spread these best practices so that they benefit communities across the country. It describes specific steps that the federal government can take to support local law enforcement agencies and help communities across the nation make their streets and neighborhoods safer.

We are committed to turning these recommendations into reality. Together, they can make a real difference to the safety and security of families and communities and to the face of law enforcement as we move into the next century.

Vice President Al Gore

Attorney General Janet Reno

# I. INTRODUCTION

Crime rates, particularly for violent crime, have dropped dramatically in cities and towns across the United States. The FBI's [preliminary 1998 figures](#) show a decline in serious crime for the seventh consecutive year. Just from 1997 to 1998, serious crime declined 7 percent nationally. Experts cite more police on the streets, tighter controls on guns, and more effective policing—including the use of crime mapping and data-driven management—as contributing to these unprecedented drops in crime.

On October 1, 1998, Vice President Al Gore announced the creation of a Task Force on Crime Mapping and Data-Driven Management to further the efforts of the Clinton-Gore Administration to reduce and prevent crime. He asked the Task Force, a joint activity of the [Department of Justice](#) and the [National Partnership for Reinventing Government](#), to learn how crime mapping and data-driven management are being used by law enforcement agencies and to find ways to increase their use to further reduce crime. Chaired by Associate Attorney General Ray Fisher and Morley Winograd, Director of the National Partnership for Reinventing Government, the Task Force surveyed current activities in the Department of Justice and other federal agencies and reviewed reports by various academic groups, the General Accounting Office, the Department of Justice, and others. It held an Expert Roundtable on Crime Mapping and Data-Driven Management; conducted interviews with federal, state, and local law enforcement officials and community leaders; and held a meeting of law enforcement officials to review the use of performance measures as a management tool. The Task Force also conducted site visits to some of the country's law enforcement agencies and communities with the most successful records of improving public safety over the past decade.

The Task Force found that some of the most dramatic improvements in public safety are being made as law enforcement agencies reach out to and work with communities to achieve clear goals, use good information, and implement effective strategies and tactics. Community leaders and law enforcement officials across the country are finding new ways to work together to make communities safer and more secure. They are using cutting-edge information tools to map crime and solid, current information to document and understand problems. They are bringing community police officers, professionals from a variety of disciplines, community leaders, and others together to develop tactics and strategies based on a shared understanding of crime data. Together, they are putting a new face on law enforcement.

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## CRIME MAPPING: THE POWER OF PLACE

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*Maps can represent every dimension of a community . . . They can show how healthy a community's children are, where social services are most needed and most effective, and ways to protect the safety of each citizen . . . innovative communities are using maps to mobilize resources to solve their toughest problems.*

—Vice President Al Gore

Mapping has a long history as a tool to understand crime. It is generally traced back to 19<sup>th</sup> century France, when cartographers first analyzed national patterns of crime. This promising beginning soon dissipated, however, with resistance to the burden of drawing maps by hand and with a shift of intellectual attention from geographic and statistical patterns of crime to social and individual roots. Even in the 1960s, when police used pins and paper maps to plot the location of crimes, few felt the need to share crime results with the community, with scholars, or even with other parts of local government.

Today, mapping uses computers with greatly increased capacity and is a powerful tool for displaying where problems and resources are and for mobilizing action. More powerful computers allow the development of geographic information systems that include a wide range of information, including data on crime, community perceptions, risk factors, and community resources. Police officials in [New York](#), Baltimore, New Orleans, and many [other cities](#) meet to review data displayed on maps and charts, dissect crime patterns, and plan action. New mapping software is letting many more people see the relationship between crime and place. Police departments are regularly publishing [crime maps](#) on the Internet and are thereby being held accountable for public safety.

[Crime maps](#) help police identify problems at the block or [neighborhood level](#). In fact, police officers in some locations will soon be able to produce maps of their beat showing events of the previous 24 hours. Because the boundaries and scales of computer-produced maps are not fixed, maps can be produced that describe patterns and share information at the level of a neighborhood, a ZIP code, a city, a region, or even the entire nation. Thus, the same tool that is being used to support community policing can also be used to support new forms of cooperation across a region and across agencies.

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## DATA-DRIVEN MANAGEMENT: THE POWER OF INFORMATION

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*I think an important explanation for the popularity of mapping is that law enforcement at all ranks and levels recognizes the value of spatial information as a tool to drive decision making.*

—[Attorney General Janet Reno](#)

The belief that crime can be reduced through good management is as essential to 21<sup>st</sup> century policing as is new information technology. If crime is not simply a function of individual pathology or inevitable cycles, then it can be affected by how and where resources are deployed, and by what strategies and tactics are employed. Goals must be set, and decisions must be based on good information.

As Attorney General Reno has noted, law enforcement must “use data and information as the basis for law enforcement decision making and strategy development.” Used together, crime mapping and data-driven management are powerful tools in the fight against crime. When police departments bring together a cross-section of community stakeholders to look at crime data visually displayed on local maps, the discussions inevitably lead to more effective solutions for community problems and stronger police-community relationships. Partnerships, mapping, data analysis, and

data-driven decision making are key elements of a new approach to solving a wide variety of social problems.

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## THE POWER OF PARTNERSHIP

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*Several cities in the United States have distinguished themselves in the fight to reduce crime over the past decade. These cities have surpassed national decreases and dramatically reduced crime through collaborative partnerships and the use of targeted policy and program strategies to address priority crime and quality-of-life concerns. [Cities on the crest of the crime prevention wave](#) have demonstrated a capacity to fuse grassroots support, political and bureaucratic will, and crime prevention best practices into a distinct and sustained way of doing business.*

—Six Safer Cities, National Crime Prevention Council

Across the country, law enforcement agencies are reaching out to and working in partnership with communities. There are dramatic examples of the results of partnerships in [Minnesota](#), Hillsborough County, Florida, and elsewhere. One of the best known is in the city of Boston where an effective partnership has been able to reduce youth homicide significantly: for 18 months, there was not a single youth homicide in the city.

[Boston's success](#) has been explained in a variety of ways. It was based on good data and analysis. The homicides were mapped, the gangs involved identified, and effective strategies developed and tested with the support of the Kennedy School of Government, Harvard University. The police worked with a wide variety of community groups. The faith community, through the [Ten Point Coalition](#), played a critical role, communicating that this kind of violence was no longer acceptable in Boston and working with criminal justice to get offenders into the correct remediation. The U.S. Attorney brought federal prosecutions in support of the effort, working closely with other federal, state, and local law enforcement agencies. Flexible federal funds spurred community groups to get involved. Private groups and public resources created jobs for youth. The media helped by monitoring and publicizing progress.

No single answer or group can explain what happened in Boston. Rather, as in the other communities that are reclaiming their neighborhoods, the *whole* community—federal, state and local, public and private, law enforcement officials and law-abiding citizens—came together in common cause and turned the tide.

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## VISION FOR 21<sup>ST</sup> CENTURY LAW ENFORCEMENT

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In October 1998, the Task Force convened an Expert Roundtable to explore issues related to crime data, mapping, and analysis as well as the role of law enforcement management. The Roundtable was comprised of police chiefs, crime experts, community members from across the nation, and federal officials. The discussion led to a description of a future vision of policing and communities.

Law enforcement agencies in the 21st century will have a clear sense of their public safety goals and a problem-oriented approach to strategies and tactics. Law enforcement decisions will include more discussions with stakeholders, including community members, elected officials, and other government managers. Law enforcement agencies will regularly share information with the public, across agencies and jurisdictions, and work in partnership with other government agencies such as housing, transportation, schools, and social services to reduce and prevent crime.

The management and culture of 21<sup>st</sup> century law enforcement will be accountable to all members of its community. Law enforcement departments will build an organizational structure based on geographic responsibility, allowing front-line officers to work more effectively with neighborhoods and communities, supported by specialized units and headquarters. All levels of the workforce will have the skills and desire to work collaboratively with communities as well as with technology. Law enforcement agencies in the 21<sup>st</sup> century will rely on current, integrated information; will employ advanced mapping and analytic techniques; and will have both external and internal performance expectations and measurements. The focus of the entire agency organization, its funding decisions, and the management of its resources will be tied to the achievement of agency goals.

In this report, the Task Force recommends steps that the federal government can take to help the nation's law enforcement community succeed in the next century. It describes specific actions that the federal government can take to support community policing with 21<sup>st</sup> century tools (chapter II), encourage the development of basic information to support public safety (chapter III), and strengthen federal law enforcement agencies through similar tools and approaches (chapter IV). It also includes highlights from cities that are using the techniques of mapping and data-driven management (chapter V). This report is intended to be a useful resource document, as well. Hyperlinks to Web sites and contact persons are located throughout the document; click on the underlined word or words for additional material and information. The URL for the report is: <http://www.npr.gov/library/papers/bkgrd/crimemap/content.html>.

## II. SUPPORT COMMUNITY POLICING WITH 21<sup>ST</sup> CENTURY TOOLS

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### BACKGROUND

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Many of the most successful law enforcement agencies in the country are using crime mapping, good analysis, and data-driven management to support community policing, solve problems, and prevent and reduce crime.

Mapping is a particularly important tool. Leading police departments are mapping everything from quality-of-life complaints to car thefts, serial crimes, homicide patterns, place-based incidents such as robberies at ATMs or liquor stores, and the “path to crime” showing distances between where a victim is abducted and later found. Front-line officers may use maps created by crime analysts to deploy resources strategically when they see the pattern or to work with community groups to discuss the best approach for solving neighborhood complaints.

But without good management, crime mapping, and even its analysis, is—as was emphasized by the Expert Roundtable and in the various interviews and discussions hosted by the Task Force—like a hammer without a carpenter. Leadership is what “data-driven management” is all about. This report repeatedly links crime mapping and data-driven management because leadership sets the tone; leadership provides the vision; leadership engenders cooperation; leadership focuses on results; leadership empowers front-line officers with the skills and tools to solve community problems, prevent and reduce crime, and build new partnerships. In their discussion, participants at the Expert Roundtable emphasized the critical role of law enforcement leadership in the shift to accountability for crime reduction and improved relationships with neighborhoods and communities.

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### NEED FOR CHANGE

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Not all law enforcement agencies are benefiting from the rapid changes in information technology in terms of access to and use of crime mapping, geographic information systems, and other modern problem-solving tools. In a [1997 survey](#) by the National Institute of Justice, 36 percent of police departments with more than 100 sworn officers reported using computerized mapping. Among smaller departments, only 13 percent reported using this tool. Nonetheless, the use of this technology is spreading rapidly: 20 percent of the law enforcement agencies not yet using computerized geographic information systems had plans to purchase mapping software within the next year.

Many departments—especially small and medium-sized ones—simply do not have the resources or expertise to use or develop geographic information systems or to take full advantage of crime mapping and other tools for analysis, planning, and problem-solving. They cite a number of obstacles, including the costs of the technology, the costs of developing and maintaining the data,



and lack of training in its effective use. Several jurisdictions suggest more regional cooperation to share data and meet the information technology needs of smaller departments at a reasonable cost.

Data-driven management is being promoted through the efforts of individual departments and consultants, and through peer learning and professional meetings. For example, one major department has established a leadership and management training course for all of its executives with the city's business school. Regular meetings of the "Major City Chiefs," a group of the police chiefs of the nation's 50 largest cities, have had, in the words of one participant, "a significant impact on the spread of best practices among the heads of large police departments." However, few formal courses and programs are in place; and many officers, especially those in smaller departments, have little access to this kind of support.

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## RECOMMENDATIONS

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### **1) MAKE CRIME MAPPING SOFTWARE AVAILABLE TO COMMUNITIES AND LAW ENFORCEMENT AGENCIES**

Not long ago, the Seattle Police Department mapped a puzzling series of robberies using [software](#) developed by the Department of Justice. The pattern that emerged was so clear that the police department was able to predict the next crime site and arrest the robber at the scene. The federal government is playing an important role in stimulating the development of easy-to-use specialized mapping applications that respond to key needs identified by law enforcement agencies and communities. For example, the National Institute of Justice's [Crime Mapping Research Center](#)—through a cooperative agreement—is developing new policing software for use on laptops by line officers. The software will let them generate and personalize their own maps by adding such information as the names and locations of businesses, community leaders, and resources on their beats. Technical staff in the Department's Criminal Division are also developing software to encourage regional integration of data; this product is now being tested by law enforcement agencies in the Baltimore-Washington region. In addition, the Department of Housing and Urban Development worked with the Caliper Corporation to develop [Community 2020](#), software that allows communities to map a wide range of information pertaining to housing and community.

As interest grows in using mapping in the public sector, the private sector will respond with more commercial off-the-shelf software. For example, the [National Association of Counties](#) and Intergraph have developed a geographic information systems starter kit that it provides at no cost to member counties. To encourage private sector development of applications, the National Academy of Public Administration has recommended that federal agencies develop cooperative research and development agreements and other collaborative mechanisms whereby both parties contribute to the development of useful products.

## New Crime Mapping Software for Communities

**Electronic Community Policing Beat Book:** Under a cooperative agreement with the National Institute of Justice, the [Environmental Systems Research Institute](#) will create a “Beat Book” designed to support crime analysis by front-line officers and community-oriented policing available free of charge to all interested law enforcement agencies. **Contact:** [Lnelson@esri.com](mailto:Lnelson@esri.com)

**Crime Analysis Extension:** The National Institute of Justice has also funded development of a crime analysis extension to Arcview geographic information system software. The extension will let crime analysts conduct common analysis queries and generate maps with a standard look and format. It will be available at no charge to interested law enforcement agencies and will include a data loader, which will allow law enforcement agencies to use the interface with their current database structure. **Contact:** [Lnelson@esri.com](mailto:Lnelson@esri.com)

**Regional Crime Analysis Geographic Information System (RCAGIS):** This powerful, yet easy-to-use geographic information system contains mapping, analysis, and reporting tools for police officers, crime analysts, and police managers. RCAGIS is designed to promote information sharing across police jurisdictions. One of the system’s most important features is that each police department will have the ability to query, view, and analyze crimes outside of its own jurisdiction. The programming code will be available at no cost to any interested law enforcement agency or region. RCAGIS contains three modules:

- **QuickMap** is designed for police officers, detectives, and managers. It guides the user through a series of “wizard” style form menus to quickly generate informative maps and reports.
- **Analysis** incorporates *CrimeStat*, developed by Dr. Ned Levine. Analysis provides tools for cluster analysis, pattern analysis, linkage analysis, forecasting, and detecting offender movement patterns.
- **Automated Reports** provides daily/weekly/monthly reports; incident report summaries; auto theft and recovery reports; and office/manager “accountability” reports that show 28 day comparisons, time of day summaries, and day of week summaries.

**Contact:** [John.devoe@usdoj.gov](mailto:John.devoe@usdoj.gov)

**Juvenile Violence:** Within the next year, the Department of Justice’s Office of Juvenile Justice and Delinquency Prevention will make an affordable, easy-to-use software package widely available to community-based initiatives so that they can map factors related to juvenile crime and community safety. **Contact:** [Jeff@ojp.usdoj.gov](mailto:Jeff@ojp.usdoj.gov).

### ACTIONS:

- **Make crime mapping tools supported and developed by the Department of Justice and other federal agencies widely available to law enforcement agencies and communities.**

- **Continue to work with a wide range of private sector vendors and make use of cooperative research and development agreements to stimulate the development of off-the-shelf crime mapping applications that meet the needs of the criminal justice community.**

## **2) EXPAND TRAINING FOR LAW ENFORCEMENT OFFICIALS IN CRIME MAPPING AND DATA-DRIVEN MANAGEMENT**

Despite the growing use of crime mapping tools and a focus on results in local law enforcement, training and learning opportunities are limited and often expensive. As individual police departments successfully use these tools and then search for ways to provide additional training, budgets are strained. Private software vendors such as [Intergraph](#) and [MapInfo](#) offer Internet- and classroom-based training on the use of geographic information systems for local government and law enforcement agencies. Hands-on, classroom-based, federally funded training exists at the [National Law Enforcement and Corrections Technology Center](#) in Denver and six cities in [North and South Carolina](#), but space is limited. Illinois, North Carolina, and South Carolina are among the few states that offer training to support statewide, integrated geo-based mapping systems, but these are the exception and not the rule. There are also no nationally recognized programs that specifically teach data-driven management in law enforcement settings. Data-driven approaches to law enforcement are thus spreading from jurisdiction to jurisdiction in a largely ad hoc manner.

As we approach the 21<sup>st</sup> century, new technologies are changing the face of training and education. These new technologies include live satellite presentations, interactive video conferences and satellite downlinks, Web-based courses, Internet-based “chat rooms,” cybercasts (desktop access to satellite or taped presentations), videotape and audiotape courses, and archives of taped presentations accessible through a central Web site or as a video library. The Federal Technology Training Initiative challenges all federal agencies to create learning environments for anyone, anywhere, anytime using such technology-based training. The benefits of electronic delivery of training include leveraging existing resources to serve more students; increasing access to the best instructors; reducing travel and printing costs; accessing front-line experts who have mastered specific mapping applications; providing self-paced coursework to accommodate differences in skill levels, learning styles, and learning paces; and continuous improvement of the educational curriculum through updates and links to new information or case studies.

To improve the capacity of criminal justice agencies to build and use crime mapping systems, to promote data-driven management in the field, to dramatically increase opportunities for regionally available and easily accessible training and learning, and to meet the Department of Justice’s commitment to provide such training to any law enforcement agency in the country that wants it, the following actions should be taken.

## **ACTIONS:**

- **Expand [crime mapping and data-driven management training](#) for managers, analysts, and trainers at federally supported training sites, including the 5 National Law Enforcement and Corrections Technology Centers and the 31 Regional Community Policing Institutes.**
- **Appropriate funds for the 21<sup>st</sup> Century Policing Initiative, which includes the COPS Community-Oriented Networking and Enhanced Communications Technology program that offers hands-on training for crime analysts (see recommendation II.4, below).**
- **Partner with vendors that offer mapping and geographic information systems training via the World Wide Web to expand opportunities and reduce costs.**
- **Expand the use of electronic and on-line means to provide information and training on crime mapping and data-driven management.**
- **Working with the Federal Law Enforcement Training Center, develop a data-driven management training module to be used by federal agencies offering management training and to be offered to state and local officials through professional associations and other police executive leadership programs.**
- **Working in cooperation with professional associations and other police executive leadership programs, encourage schools of business and management to develop training materials and courses tailored to the emerging needs of law enforcement leadership.**

### **3) SPREAD BEST PRACTICES THROUGH PEER-TO-PEER NETWORKS**

Communities and law enforcement agencies across the country are doing cutting-edge work that is having a real impact on crime. Information technology offers an opportunity to greatly increase the spread of successful innovation and to support peer-to-peer communication about successful strategies and tactics. A network of law enforcement officials and communities working on similar problems, supported by a Web site that gives information and support as needed and “just-in-time,” should be created. This network, and its Web site, would facilitate:

- a) access to practical problem-solving assistance from other law enforcement officials;
- b) links to best practices, guidelines, model statutes from the International Association of Chiefs of Police, the Police Executive Research Forum, the Major City Chiefs, the National Organization of Black Law Enforcement Executives, other police organizations, academic institutions, the National Ten Point Coalition, the Department of Justice, the Department of the Treasury, and others;

- c) technical support from peers and mentors on problem definition, planning, and implementation and support for cross-jurisdictional collaborative projects focused on common results; and
- d) access to research results—for example, from the [National Institute of Justice](#) and academic institutions.

The Web site will begin with a focus on gun violence and be designed to support partnerships between law enforcement agencies and community groups that are committed to significantly reducing gun violence in their communities. Reducing gun violence is a good initial focus for several reasons. While gun violence remains a problem in many communities, a variety of successful strategies are contributing to a nationwide 27 percent decline in crimes committed with firearms (see the Department of Justice report, [Promising Strategies to Reduce Gun Violence](#)). Gun violence can be targeted effectively by both state and federal laws. The federal government is supporting a number of partnerships to reduce gun violence initiatives that could benefit from being linked to each other and to good information. Further, this focus would support the efforts of the U.S. Attorneys and Alcohol, Tobacco and Firearms Special Agents in Charge in all 94 judicial districts who are preparing integrated plans to reduce gun violence and who are seeking the participation of other law enforcement agencies, public officials, and community groups. These plans, which are to be completed by the end of August 1999, will contribute to an integrated national plan to reduce firearms violence.

#### **ACTION:**

- **Launch a Web site-supported network to assist and promote local law enforcement agencies and communities committed to reducing gun violence.**

#### **4) INCREASE FUNDING FOR INFORMATION TECHNOLOGY TO SUPPORT LAW ENFORCEMENT**

As noted above, the cost of introducing various crime-fighting technologies is a limiting factor for many communities. In response, President Clinton has proposed a [21<sup>st</sup> Century Policing Initiative](#) to provide local law enforcement agencies with crime mapping and other tools. The initiative builds on the success of the [Community Oriented Policing Services](#) (COPS) program by providing more community police officers and crime-fighting technologies to communities across the country. The President's fiscal year 2000 budget calls for a \$350 million investment in crime mapping and other technologies.

The initiative will fund the next generation of crime-fighting hardware and software and will allow multiple law enforcement agencies to share and access information such as crime maps, arrest records, criminal justice data, arrestee photos, and more through regional networks. Having access to this information will enhance the crime analysis, investigation, apprehension, crime prevention, and recidivism reduction operations of all participants.

## **ACTION:**

- **Appropriate funds for the 21<sup>st</sup> Century Policing Initiative, including:**
  - **state-of-the-art technology for police;**
  - **improved information flow among criminal justice agencies; and**
  - **integrated information systems (including geographic information systems) required for successful field operations, investigations, and problem-solving.**

## **5) HELP COMMUNITIES FIND FEDERAL RESOURCES**

Communities and law enforcement agencies need and want easy access to federal resources that could help them build their capacity to use crime mapping and data-driven management. The Department of Justice has promising efforts under way to make information more accessible to the public. The Attorney General has created a Department of Justice Response Center to help local law enforcement agencies locate grants by topic area. The Center's toll-free number (1-800-421-6770) is an excellent first point of contact for communities seeking additional information. The Department of Justice's on-line services, such as the [Crime Mapping Research Center](#) Web site, have general information on grant opportunities. The Department plans to increase the amount of information available on training and technical assistance opportunities and to make it easier for communities to find information about funding for crime mapping hardware and software. In addition, the Department is developing a National Integration Resource Center for information on funding opportunities.

## **ACTIONS:**

- **Expand information resources available through the Crime Mapping Research Center Web site.**
- **Provide information about funding, training, and technical assistance for crime mapping and management through the Department of Justice Response Center and the National Integration Resource Center.**

### **III. PROTECT AND SUPPORT COMMUNITIES WITH INTEGRATED INFORMATION**

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#### **BACKGROUND**

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When lives and property are at stake, law enforcement officials and others responsible for public safety need good information to respond. Whether to analyze a crime or answer a 911 call, a fire, a flood, a spill of hazardous materials or other disaster, public safety officials need basic geographic information that is accurate, timely, and complete. Lives, time, and money can be saved if agencies are able to share this basic public safety information across agency lines and boundaries.

With such shared information, public safety officials responding to a shooting in a school or a fire in a nursing home could readily find the best route—even if they came from a neighboring jurisdiction—and could get the floor plan of the building when they arrived. Law enforcement officials could readily map incidents and exchange information about the modus operandi of a serial rapist with neighboring police departments. Federal, state, and local emergency officials could easily find maps to help them coordinate disaster responses. And the school system, police, and local social services agencies could share information and cooperate more effectively to solve problems.

Recent efforts at the local level show the demand for a wider range of integrated information as well as illustrate the potential of interagency data sharing. One such example is the Department of Justice's Strategic Approaches to Community Safety Initiative, which is promoting data-driven problem-solving in five U.S. cities. Each city is sharing data through a common geographic information system, broadening its capacity to make links and identify patterns related to crime. A new effort—Community Mapping, Analysis, and Planning for Safety Strategies (COMPASS)—will go still farther and promote interagency data sharing enhanced by neighborhood-level surveys and other data collection efforts (such as the [local victimization survey](#) and the [Arrestee Drug Abuse Monitoring](#) program). COMPASS will be initiated at a pilot site to be selected in August 1999; the full program is pending congressional budgetary action as part of the President's 21<sup>st</sup> Century Policing Initiative (see recommendation II.4, above).

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#### **NEED FOR CHANGE**

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Today, information is, for the most part, compartmentalized by agency and by jurisdiction. The planning offices and police departments within a city may use different mapping software or base maps. One county may have dozens of police departments, each with its own information system or even its own geographic information system. Citizens' lives and property are literally at stake when agencies cannot share community and regional data about crime and other information affecting public safety. Rather than facilitate the smooth transfer of critical data, investments in



information technology may actually stand in the way of effective cooperation if those investments were uncoordinated and poorly managed, and resulted in incompatible or duplicative purchases.

There are promising efforts that demonstrate the benefits of systematic cooperation across jurisdictional and agency lines to share information and protect public safety. With support from the Department of Justice and state and local police officials, 13 counties in Maryland have placed crime data in an integrated database, which can be accessed by crime analysts in any of the counties. Recently, this integrated information helped officials from Baltimore and Howard Counties solve a spate of serial robberies that had spanned their borders. Extending beyond law enforcement to address broader public safety needs, Vermont has developed a statewide expanded 911 system based on an integrated geographic information system that covers both urban and rural areas. Wayne County, Michigan, is mapping its entire county to support the delivery of a range of public safety and other services. North Carolina and New Jersey have made substantial commitments to the development of integrated basic spatial information to serve their citizens.

States and localities from New York to California are interested in developing more integrated information and promoting cooperative investment in integrated spatial information because of the potential for significant returns in terms of efficiency and public safety. The partnership between states, localities, and the federal government recommended by the [National Performance Review](#) and established by [Presidential Executive Order 12906](#) to build the National Spatial Data Infrastructure can be a springboard for accelerating the availability of basic spatial information to meet public safety needs.

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## RECOMMENDATIONS

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### **6) PROMOTE INVESTMENT IN BASIC INTEGRATED SPATIAL INFORMATION TO PROTECT PUBLIC SAFETY**

Promoting cooperative investment in spatial data can vastly benefit the nation from a public safety standpoint, specifically in terms of 1) significant reductions in the loss of lives and human suffering, cost to taxpayers, property loss, and response time to public safety events; 2) better coordination of efforts and dollar expenditures by all levels of government; and 3) improved decision making support for the public safety of our nation.

We will need to make significant investments over a period of years to collect basic spatial data on a national basis. Substantial resources can be generated from 1) better coordination of current investments by federal, state, and local governments to avoid duplication and maximize benefits (current investments are not small: the National Academy of Sciences estimated that the federal government alone spent \$4 billion on acquiring geographic data in 1993); 2) protocols for sharing information by utilities and other public and private entities for the purposes of public safety; and 3) possible bond or other financing for information infrastructure.



## **ACTIONS:**

- **Establish a Public Safety Working Group to accelerate the development of the National Spatial Data Infrastructure so that it supports the public safety needs of the nation's states and communities.**

The Public Safety Working Group should include representation from the National States Geographic Information Council; the Federal Geographic Data Committee; the Intertribal GIS Council; and the emerging local government spatial data consortium of the National Association of Counties, National League of Cities, International City/County Management Association, National Partnership for Reinventing Government, and federal agencies such as the Federal Emergency Management Agency. The working group will:

- a) identify—in consultation with local, state, and federal government, law enforcement, and other concerned entities—the spatial data needs and analytical requirements to support public safety decisions at various levels (local, regional, etc.);
  - b) assess the role of government sources and mandates for the collection of spatial data to protect public safety;
  - c) describe required information flows between and among public and private organizations;
  - d) promote investment in basic spatial data to serve law enforcement, emergency management, and other entities concerned with public safety;
  - e) identify necessary partnerships and other strategies to achieve spatial data development, coordination, and sharing among organizations and across geographic areas;
  - f) encourage and document innovative data development or data sharing partnerships between public and private organizations (service providers, data suppliers, utilities, etc.) to support public safety;
  - g) identify best practices in and among local, tribal, state, and federal agencies across the country; and
  - h) stimulate rapid implementation and diffusion of spatial data and information technology tools to support public safety.
- **As a new member of the Federal Geographic Data Committee, the Department of Justice should determine how it can contribute to the development of the National Spatial Data Infrastructure as well as how greater cooperation with other federal, state, and local agencies can benefit law enforcement agencies.**

- **The Federal Geographic Data Committee should encourage the participation of law enforcement agencies in its Cooperative Agreements Programs, which provide seed grants to organizations to support the development of data standards and to participate in information clearinghouse activities.**

## **7) SUPPORT MEDIUM-SIZED AND SMALL COMMUNITIES THROUGH REGIONAL APPROACHES**

State and local law enforcement agencies attend to crime patterns within their own jurisdictions, but many criminals do not respect these jurisdictional boundaries when committing crimes. Further, different aspects of a single crime—the location of the incident, the home address of the victim, the home address or workplace of the suspect, the arrest location, the weapon recovery location, the body recovery location—may each be in a different jurisdiction or be the responsibility of different criminal justice agencies. Neither criminals nor crimes belong to a single law enforcement agency or to a single section within a department. Thus, both cross-jurisdictional and interagency analysis of crime and criminal behavior are vital in promoting effective crime control and prevention efforts.

To support crime fighting across jurisdictions, law enforcement agencies in the Baltimore-Washington area are testing the Regional Crime Analysis Geographic Information System (RCAGIS) developed by the Criminal Division of the Department of Justice. The resulting system will be a powerful, yet easy-to-use geographic information system, complete with mapping, analysis, and reporting tools for police officers, crime analysts, and police managers (see above box regarding crime mapping software).

### **ACTION:**

- **Make the Regional Crime Analysis Geographic Information System programming code available at no cost to any interested law enforcement agency or region.**

## **8) PROTECT THE PRIVACY OF INDIVIDUALS**

Protecting sensitive data is a concern for all users of geographic information systems. Making information about crime widely available and more understandable to the public by publishing maps and crime statistics has many benefits, but also increases the need for safeguards that balance the public's right to know with victims' rights to privacy. Some believe that making crime statistics and maps more widely available will make such illegal practices as denying loans to residents of poor or high-crime neighborhoods easier. Others argue that the best protection is making the information long held by businesses and financial institutions more widely available.

Most police departments that post crime maps on the Web aggregate data, limit zooming capabilities, and locate crime incidents at the nearest intersection to protect the identities of individuals. The [Minneapolis Police Department](#) provides recent crime statistics on its Web site introduced by a discussion of how to interpret them. A California police official commented on the

steps he takes to encourage productive uses of the data and discourage misinterpretation: “We attempt to partner with the community and share all the information we may legally share. We offer our expertise in the interpretation of the data/maps and suggest programs that can benefit the user. Finally, when someone misuses the information, we have to deal with that act and make the attempt to bring them to the table to discuss the negative impact of their actions. However, we cannot expect to control how our data is used once it leaves our hands.”

Crime maps currently being posted employ privacy protection techniques that need to be rigorously tested, researched, evaluated, or identified as reliable. Additionally, the federal government has taken a number of steps to ensure the protection and privacy of information in the context of new technologies such as crime mapping:

- a) The Information Infrastructure Task Force published Privacy Principles in June 1995 that were developed through extensive consultation and endorsed by the private sector U.S. Advisory Council on the National Information Infrastructure.
- b) The Federal Geographic Data Committee, chartered by Executive Order 12906 to coordinate federal geographic information policies, has published a [national policy](#) on the confidentiality of geospatial data.
- c) The Crime Mapping Research Center has held a roundtable meeting to address the issues of privacy and confidentiality in geographic information systems in law enforcement; this will result in a white paper for distribution to the field.
- d) The Attorney General has established a privacy council, and the Office of Justice Programs has set up a privacy task force, to review issues surrounding the sharing of criminal history records.

Because of the rapid proliferation of crime-related information that is being mapped and published on the Internet and federal support for systems that facilitate the sharing of information, there may not be adequate policies in place to protect the privacy and security of citizens: for example, no professional standards, model policies, or formal guidelines are specific to crime mapping.

#### **ACTION:**

- **As part of its ongoing review of privacy policies, the Department of Justice should determine if there are any particular issues surrounding the use of spatial data in the criminal justice field, determine if current protections are sufficient, and identify any additional steps needed to protect citizens’ privacy.**

## **IV. STRENGTHEN FEDERAL LAW ENFORCEMENT'S CAPACITY TO USE DATA AND MAPPING IN MANAGEMENT AND OPERATIONS**

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### **BACKGROUND**

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Like their local counterparts, U.S. Attorneys and federal law enforcement agencies are harnessing the power of crime mapping and data-driven management. Whether coordinating drug enforcement efforts on the Southwest border or enhancing public safety in Indianapolis, Winston-Salem, and other cities participating in the Strategic Approaches to Community Safety Initiative, federal law enforcement agents are using timely information and geographic display and analysis to increase their effectiveness.

In particular, some U.S. Attorney's Offices, which are at the crossroads of every federal investigation and prosecution, are finding that sophisticated information tools and techniques facilitate cooperation among federal agencies. For example, beginning in 1992, the U.S. Attorney's Office for the Southern District of New York began to work with local and other federal law enforcement officials to select neighborhoods with skyrocketing murder rates attributable to entrenched gang activity. In an innovative use of federal racketeering statutes, the prosecutor's office began a sustained effort to arrest and incarcerate the groups of murderers responsible for those rates. In every neighborhood in which these cases were brought, murder rates dropped by more than 50 percent following gang arrests.

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### **NEED FOR CHANGE**

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In interviews and meetings held by the Task Force, local and federal law enforcement officials emphasized that additional federal leadership could have a tremendous impact on public safety—as could greater federal use of the tools and principles of data-driven management that are proving so effective at the local level. The officials strongly endorsed a concerted, long-term effort to strengthen data-driven management in federal law enforcement agencies and to use mapping, other analytic tools, and more timely data to support the strategic and coordinated deployment of federal law enforcement resources.

As one example, supporting the initiative to strengthen the role of the U.S. Attorney and the Alcohol, Tobacco and Firearms Special Agents in Charge in combating gun violence with information about best practices, mapping, and other tools could enhance its impact. Although federal prosecutions represent only 5 percent of all prosecutions in the nation, they are usually aimed at the most serious offenders and thus can have an impact well beyond the mere number of defendants and arrests. Federal prosecutors have been able to demonstrate in Boston, Richmond,

and Minneapolis that they can work in support of local authorities and have a measurable impact on gun violence—using good information to help identify worthy targets and then using appropriate federal laws to arrest the suspects.

As part of its charge, the Task Force was asked to review performance measures currently being used by federal law enforcement agencies. The Task Force convened a group of federal, state, and local officials to look at ways to make a closer link between law enforcement performance measures and desired outcomes. The group made the following observations:

- a) It is possible for the federal government—through its leadership, programs, and activities and working in partnership with states and localities—to have a significant impact on public safety. Although federal law enforcement represents only a small proportion of the total law enforcement capacity of the country, participants agreed that there are a number of ways the federal government can help states and localities. To achieve significant results, however, federal agencies need to work in partnership with each other and with state and local agencies.
- b) Current performance measures of federal law enforcement agencies emphasize measures of activity such as arrests and case counts rather than effectiveness. Because of the [Government Performance and Results Act](#), federal agencies, especially regulatory agencies, are grappling with similar challenges, and many are developing innovative approaches to [linking their performance measures to outcomes](#). The Environmental Protection Agency, for example, is experimenting with ways to give “extra credit” to cases that have positive environmental benefits, thus linking case work to environmental outcomes. The [Internal Revenue Service](#) has developed a set of balanced measures that give equal weight to business results, including accuracy of returns, customer satisfaction, and employee satisfaction.
- c) In most cases, the data needed to measure performance of federal law enforcement agencies are not yet adequate or timely. As the [Office of National Drug Control Policy](#) found in working with the 50 federal agencies involved in federal drug efforts, “the most critical challenge pertains to the lack of data.” There is an urgent need for real-time data that are readily available in consistent formats to all federal law enforcement agencies. Information on crime, availability of detention and jail space, demographic and socioeconomic trend data, and intelligence data related to drug seizures and the apprehension of illegal aliens are a few of the many data elements that could be quite useful to federal agencies if they were available on a timely basis and in a standard unit of analysis. For example, Uniform Crime Report data at the county level are extremely helpful to federal law enforcement agencies. However, county level data are not available in a usable form for almost two years after the issuance of the annual report.

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## RECOMMENDATIONS

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### **9) EXPAND FEDERAL LEADERSHIP IN THE DEVELOPMENT AND USE OF MAPPING AND DATA-DRIVEN MANAGEMENT TOOLS**

Within the federal law enforcement community is a growing recognition of the profound effects the tools that are transforming local law enforcement could potentially have on federal systems. In 1998, for example, the Department of Justice developed a pilot geographic information-based system to map the location of its law enforcement personnel across the nation alongside population and crime rates in order to make better—that is, more data-driven—decisions about how its personnel are allocated. As a result, the Department found that, historically, base resources—which generally comprise about 95 to 97 percent of total resources—are static within programs and among field programs. The maps the Department has produced are a useful tool in promoting more systematic sharing of information across components and in making more informed decisions about the allocation of law enforcement personnel.

The federal law enforcement community can—and should—be both a user of, and an advocate for, new tools and technologies. To this end, the Crime Mapping Research Center—notably through its [annual conference](#)—and other federal programs are playing an important role in documenting best practices, developing new applications, and carrying out research on effective uses of new technologies.

#### **ACTIONS:**

- **Continue an active crime mapping research program to explore other criminal justice areas that would benefit from enhanced mapping and analysis capabilities; encourage research and applications for federal law enforcement agencies; and foster linkages between academic institutions and law enforcement practitioners.**
- **In the near term, explore the application of mapping technologies by the corrections community. Build on the August 1999 corrections mapping roundtable to be sponsored by the National Institute of Justice.**
- **Encourage federal law enforcement agencies and federally supported programs to use integrated geographic information systems and data-driven management to strengthen their effectiveness. For example, expand the use of tactical maps provided by the National Guard to support operations in High Intensity Drug Trafficking Areas.**
- **Enhance the strategic capacity of the offices of the U.S. Attorneys by developing mapping tools that support them; by providing them with more timely and useful data; and by recognizing their efforts to partner with federal, state, and local law enforcement officials to achieve public safety goals.**

- **Map the location of federal law enforcement personnel resources and use data on need and potential impact in strategic resource allocation.**

## **10) STRENGTHEN THE PERFORMANCE MEASURES USED BY FEDERAL LAW ENFORCEMENT**

Getting the performance measures for federal law enforcement right is difficult, but the risks of getting them wrong are serious. The Attorney General has been emphatic that “Department of Justice personnel must never be influenced by ‘bounty hunting’—striving to reach a targeted goal or activity level for its own sake without regard to the activity’s larger purpose.” The challenge for federal law enforcement is to link its performance measures to its larger purpose: “providing federal leadership in preventing and controlling crime and ensuring fair and impartial justice for all Americans.”

Increasingly, law enforcement officials are looking for ways to link such traditional measures of productivity as numbers of arrests and prosecutions to their intended goals. They are looking for performance measures that encourage a greater focus on the ultimate outcomes, cooperation across agency lines, and both prevention and enforcement actions to achieve results.

### **ACTION:**

- **Establish a Federal Law Enforcement Performance Measurement Working Group that will:**
  - a) recommend changes so that all federal law enforcement agencies use balanced measures to assess agency performance;
  - b) encourage pilot projects and research that better link performance measures to public safety and other outcomes;
  - c) develop more timely, usable data sources, which may include improving the availability and timeliness of Uniform Crime Report crime data at the county level;
  - d) identify the common data elements most federal law enforcement agencies need for effective data-driven management;
  - e) develop an action plan to collect, analyze, and use the needed data, which could be included in the Attorney General’s Management Initiatives Tracking report; and
  - f) assess the feasibility of a law enforcement data warehouse to serve the needs of federal law enforcement agencies.

## **11) EXPAND THE TRAINING OF FEDERAL LAW ENFORCEMENT OFFICIALS TO INCLUDE FUNDAMENTALS OF CRIME MAPPING AND DATA-DRIVEN MANAGEMENT**

Although some federal agencies have had success with mapping applications and data-driven management—notably in gun tracing at the Bureau of Alcohol, Tobacco and Firearms and in combating drug trafficking at the Office of National Drug Control Policy—training courses for federal law enforcement do not reflect these trends. Even as training opportunities for local law enforcement officials are expanded, federal law enforcement officials should also be trained in the fundamentals of crime mapping and analysis and data-driven management. Task Force members from the National Institute of Justice have met with representatives of the [Federal Law Enforcement Training Center](#) to identify cost-effective ways of providing training in crime mapping and data-driven management to federal law enforcement officials.

### **ACTION:**

- **Working with the Federal Law Enforcement Training Center, develop courses in the fundamentals of crime mapping and data-driven management for federal law enforcement officials.**



## **V. HIGHLIGHTS IN CRIME MAPPING AND DATA-DRIVEN MANAGEMENT**

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### **BALTIMORE: COMMUNITY OUTREACH**

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The Baltimore Police Department is using crime mapping and data-driven management to identify and track progress in high-crime areas. The department identified areas of crime associated with youths and revitalized the Police Athletic League to reach out to inner city youth. There are now 26 PAL centers in Baltimore, serving almost 10,000 young people. The program has four components: homework and academics (no athletics until homework is done), athletics, character development, and arts and culture. Families help tutor students, organize neighborhood watch groups, volunteer in the police department, and participate in activities that stamp out “crime and grime.” A recent study showed that violent attacks on juveniles have decreased 44 percent in the community directly surrounding the Goodenough PAL center.

The city has also developed a comprehensive drug strategy. Baltimore has 59,000 addicts out of a population of 675,000. These addicts drive the robbery, burglary, and felony rates. With court and police systems overwhelmed (nonviolent felons are often released early, and 74.8 percent of misdemeanors are dismissed), community policing and problem-solving provide an alternative approach. “We simply can’t arrest our way out of this,” says the Police Commissioner. “We must reach out to the community, emphasize prevention, and find more treatment resources.” Through an agreement with the police department, addiction treatment providers must reserve 35 percent of their slots for criminal justice offenders. The Commissioner notes, “We make our referrals to those providers who use graduated sanctions and have the best rates of treatment success, and then we measure results.” The PAL program is another component in the city’s drug strategy, since many addicts say that they had made their decision to do or not do drugs by the age of 10.

The Baltimore Police Department has introduced other innovations to serve its community. Notably, this was the first city in the nation to use 311 as a non-emergency police number, which has taken much of the burden off the 911 system. Currently, 35 percent of calls to police are coming through on 311. This has resulted in a 60 percent reduction in the average time to answer emergency calls and has created up to two hours of discretionary time per officer per shift, since they are no longer running from call to call and can put more time into proactive community policing.

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## **BOSTON: PARTNERSHIPS FOR SAFETY**

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Boston is enjoying its lowest crime rates in three decades. As Police Commissioner Paul Evans noted in his 1997 annual report, “All major categories of crime decreased throughout our City, resulting in . . . 6,873 fewer victims than one year ago.” Its successful initiative to reduce youth homicide is also well-known (see chapter I, “The Power of Partnership”). What is less widely known is the strategic and data-driven management approach the department uses to achieve its mission: to work in partnership with the community to fight crime, reduce fear, and improve neighborhood quality of life.

In the 1970s and 1980s, the work of Boston’s police was driven by 911 calls for service. In the 1990s, on the other hand, the focus has shifted from answering phones to taking proactive measures that reflect public safety and the department’s philosophy of neighborhood policing. The department not only tracks and reports on serious crimes, but also on district-specific goals, selected as part of neighborhood strategic planning processes, and on citywide measures of neighborhood safety and complaints. Additionally, twice each month, the Commissioner chairs a Crime Analysis Meeting at which each district in turn makes a presentation to the leaders of the police department, the heads of all specialized units, and representatives of the city’s 11 districts. The meeting’s purpose is to promote accountability and create a learning organization by spreading best practices and lessons learned across the department. Public reaction to this philosophy of accountability has been highly positive: The percentage of residents who said they felt safe walking in their neighborhood at night increased from 55 percent in 1995 to 75 percent two years later, according to the [Boston Public Safety Survey](#).

Collaborative strategic planning and analysis of crime and other safety problems facing communities are part of Boston’s approach to policing. For example, in 1994-95, the police department prepared a 16-volume strategic plan that reflected months of work with [neighborhoods](#) across the city. Each district worked with stakeholders to develop district-specific plans, soliciting input from citizens as well as from patrol officers. Beat teams in each district now use the SARA (Scanning, Analysis, Response, and Assessment) problem-solving process to address a priority problem in their neighborhood. The districts also map crime and other statistics and routinely use a geographic information system to analyze problems.

Perhaps the most striking feature of Boston’s approach is the wide variety of partners involved at both the neighborhood and citywide levels to promote community safety. The Commissioner notes that what is making a difference is the willingness of “people to step outside of traditional roles.” The clergy are working with the police. The police are working with communities and large industries such as John Hancock. Nonprofit organizations are engaged in developing and achieving strategic plans. And the Department of Labor and the U.S. Attorney are working with police to find jobs for high-risk youth.

According to the FBI’s Uniform Crime Report, serious crime in Boston declined 44 percent from 1992 to 1997.

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**CHARLOTTE-MECKLENBURG: DATA INTEGRATION**

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“Trying to prevent the next crime” is the goal of the [Charlotte-Mecklenburg Police Department](#) of North Carolina. To this end, the department has a community policing philosophy that relies—and relies heavily—on mapping crime statistics alongside other information. Currently, street officers have access to 14 pages of separate data elements, ranging from parole violations to bus stops and streetlight locations—collected by multiple city and county agencies, including the tax assessor’s, public works, planning, and sanitation departments. The police department is thus able to make links between disorder and crime that have been instrumental in supporting the community policing philosophy.

The way it works is this. The Charlotte-Mecklenburg Police Department intervenes in crime and social disorder problems by gathering information from any and all city agencies to determine the most reliable remedy for a given problem. Information integration is the key. It is the basis for the department’s analysis of a given situation and for a preventive, proactive approach that is fueled by the linking of databases from agencies in the city, county, or surrounding jurisdictions. By compiling information from as many sources as possible, officers and analysts are able to increase their understanding of the problem they may be facing.

For example, an abandoned building attracts criminal activity. Through its geographic information system, the police department can identify the owner, the residents, the tax status of the property, whether the property is illuminated by a streetlight, and how close establishments selling

alcohol are to the property. Using this information, analysts and officers look for the best course of action by addressing the underlying causes that contribute to crime.

The police department is now equipping officers with laptop computers and encouraging them to share information with the public. The county has established an on-line resource—“[Charlotte's Web](#)”—that gives the public easy access to social service information.

Although the data are not precisely comparable because of the merger of the Charlotte and Mecklenburg Police Departments, serious crime has declined significantly, dropping an estimated 34 percent between 1992 and 1997.

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## **CHICAGO: NEW TOOLS FOR POLICE OFFICERS**

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[ICAM](#)—Information Collection for Automated Mapping—is an easy-to-use computerized mapping program designed to help Chicago police officers analyze and work with the city's communities to solve neighborhood crime problems. With ICAM, beat officers and other police personnel can pull up timely, accurate maps of beat, sector, district, or citywide crime incidents, analyzed by time of day and day of week. This “snapshot” of what is going on helps officers look for trends and hot spots; it then lets them work together with community members to develop responses to problems. The system also provides maps that are shared with Neighborhood Watch, Ameritech Cellular Phone Patrols, and other community groups.

Using ICAM, the 24<sup>th</sup> District detected a pattern of armed robberies with a knife near Clark and Greenleaf within the same three-hour time period. Officers set up surveillance and arrested an offender as he was trying to steal a purse at knifepoint. In the 3<sup>rd</sup> District, after residents attending a beat meeting complained about an unusually high level of criminal activity, officers returned to the station to more closely analyze the beat using ICAM. The maps showed a recent increase in burglaries and robberies. Tactical officers set up surveillance and, with a tip from the community, arrested three offenders for armed robbery with a handgun. Another ICAM success story, which made the national press, occurred last year. When the Chicago Bulls won the NBA championship in 1991, Chicago celebrations turned into riots, with cars burned and people injured. When the Bulls

won again last year, the Chicago Police Department mapped incoming 911 calls to find out where mobs were forming, fires were being set, and shots were being fired—and got police to the scene fast. This tactic helped keep the celebrations from again erupting into riots.

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## **MINNESOTA: POLICE-BUSINESS PARTNERSHIPS**

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In late 1996, a consortium of Minnesota corporations—including Honeywell, Allina, Abbott Northwestern Hospital, General Mills, and 3M—reached out to state and city officials, especially those in Minneapolis and St. Paul, to focus attention on violent crime. The goal was to develop a fast-track plan that would significantly reduce violent crime, particularly the spiraling homicide rate. What's unique about what came to be called the [Minnesota HEALS](#) (Hope, Education, and Law and Safety) project is that no new government money was sought: Rather, this was—and remains—a corporate-community partnership. And it's a partnership that works.

The HEALS project comprises two main working groups: a law enforcement working group, focused on crime analysis; and a corporate-community working group, which looks at prevention in terms of job training, mentoring, housing, legislation, and the overall corporate role in community building.

The law enforcement group met for the first time in February 1997 and included representatives from the mayor's and police departments of Minneapolis and St. Paul, the Minnesota State Bureau of Criminal Apprehension, the County District Attorney, probation and parole offices, the U.S. Attorney's Office, the Bureau of Alcohol, Tobacco and Firearms, the Drug Enforcement Agency, and the FBI. They looked at successful crime reduction programs in Boston, New York, and elsewhere, and then contracted with Harvard's Kennedy School of Government to do a detailed analysis of homicides. This homicide study went back 3 ½ years and looked at every homicide in the city of Minneapolis. The conclusion was that the dramatic increase in homicides was disproportionately gang-related, carried out by chronic offenders, and included a cycle of retaliation.

The working group briefed the community on its findings and developed a strategy focused on the most violent gangs. It quickly carried out a two-pronged plan of attack. The police department's gang unit, the U.S. Attorney's Office, and the Bureau of Alcohol, Tobacco and Firearms picked up the core of the city's most violent gang on federal weapons charges.

Simultaneously, teams of police and probation officers visited the city's top 300 gang members. The message they carried was that Minneapolis would no longer tolerate violent gang crime.

Meanwhile, the corporate-community working group focused on crime prevention in the community. The efforts included housing (Honeywell committed to build 53 units of housing in one neighborhood); jobs (Abbot Northwestern Hospital and Allina agreed to make available 150 jobs for neighborhood residents); increased corporate mentoring; and political pressures to extend the school day from 1:45 p.m. to 3:15 p.m.

What had been an escalating homicide rate was reversed almost immediately. Homicides from 1996 to 1997 dropped from 86 to 58. All told, it took six months to put the operation in place, and its impact on homicide was quick and dramatic. To have a broader impact on serious crime in the region, Minnesota HEALS is now working on violence and drugs.

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## **NEW YORK: THE COMPSTAT CRIME CONTROL MODEL**

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In 1994, when William Bratton became Police Commissioner of the New York Police Department, he adapted many of the strategies he had used in successfully reengineering the city's Transit Police Department. He used focus groups, interviews, and other techniques to assess the state of the department and then, relatively quickly, established seven objectives to provide direction to a fragmented organization of 31,000 sworn members: get guns off the streets, curb youth violence in the schools and on the streets, drive drug dealers out of the city, break the cycle of domestic violence, reclaim the city's public spaces, reduce auto-related crime, and root out corruption and build organizational integrity in the police department itself.

CompStat—a computer-supported crime statistics mapping and management system—was introduced to support achievement of these objectives. CompStat rests on four principles:

- **Accurate and Timely Intelligence:** In 1994, New York crime data were available on a quarterly basis only, although law enforcement officials and academics alike believed that timely and rapid analysis of crime information was essential. NYPD leadership began mapping crime incidents, using accurate and current crime data, and holding twice-weekly discussions of the data displayed on maps with all command staff present.
- **Effective Tactics:** Until the early 1990s, most police operations were reactive in nature: Patrol consisted primarily of answering calls for service in a well-defined beat and taking reports. In contrast, “effective tactics” are proactive and bring about crime reduction when they are developed after studying and analyzing accurate and timely crime intelligence. NYPD takes the effective tactics route through regular meetings held for the explicit purpose of examining problems and applying every possible idea and resource to solving those problems. CompStat facilitates this process. Needs for cooperation are addressed on the spot, and no one leaves the meeting until the tasks, and the cooperation needed to accomplish them, are well-defined.
- **Rapid Deployment of Personnel and Resources:** Once a tactical plan has been developed, an array of people and other necessary resources are promptly deployed. These are generally drawn from several units to operate as a team; CompStat allows for their prompt identification and deployment.
- **Relentless Follow-up and Assessment:** The final element of the CompStat crime control model is perhaps the most difficult—and most important—element to sustain. The NYPD literature on CompStat explains: “By knowing how well a particular tactic worked on a particular crime or quality of life problem, and by knowing which specific elements of the tactical response worked most effectively, we are better able to construct and implement effective responses for similar problems in the future. The follow-up and assessment process also permits us to re-deploy resources to meet newly identified challenges once a problem has abated.”

According to the FBI’s Uniform Crime Report, serious crime in New York declined more than 70 percent between 1992 and 1997.

Police departments implementing CompStat-like processes include Baltimore, Boston, Jacksonville (Florida), Los Angeles, Minneapolis, New Orleans, Newark, and Prince George’s County (Maryland).

*New York’s CompStat is perhaps the most publicly reviewed mapping and management system in the country. For more information about it, see: James L. Heskett, “NYPD New,” case study for class discussion (Cambridge, MA: Harvard Business School, 1996); NYPD, Office of Management and Analysis, “The COMPSTAT Process” (1995); and Eli B. Silverman, “Mapping Change: How the New York City Police Department Re-engineered Itself to Drive Down Crime,” Law Enforcement News, John Jay College of Criminal Justice, City University of New York 22(457): 12.*

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**PITTSBURGH: MAPPING AND COMMUNITY POLICING**

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In Pittsburgh, mapping and community policing have evolved together over time, with resulting dramatic drops in crime. Community policing began in Pittsburgh in 1992 and is now the guiding philosophy of the entire department, with all officers trained in community policing techniques. At least one community police officer is assigned to each of the city's 88 neighborhoods to walk the beat, interact with residents, identify problems, and attend community meetings where a structured, collaborative approach is used to solve problems. These community police officers regularly lead or attend neighborhood-based and zone council meetings. "Community Meeting Sheets" are generated to list problems, ideas or recommendations and—more importantly—to write out the collaborative action plan showing how each problem or solution will be funneled to the right city department and who will do what to follow up. All community police officers have pagers; residents know both their community officer and his or her beeper number, and many non-emergency calls that would normally go to 911 now go directly to the community officer.

Mapping technologies have also been used by the [Pittsburgh Bureau of Police](#) since 1992. Today, all streets have been mapped, and command staff and community officers use these maps and crime data daily. Police officials hold monthly meetings so all command staff review all crime statistics and develop strategies for attacking specific problems.

From 1992 to 1997, the serious crime rate in Pittsburgh went down 41 percent. The city's emphasis on community policing has had important qualitative effects as well, notably a new sensitivity to cultural diversity and gender. The police department is creating a cultural diversity program, including a survey on race relations. Also, the department ranks among the top few in the country for women officers, both on the force and in command positions.

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## REDLANDS: A HOLISTIC APPROACH TO POLICING

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The [Redlands, California](#), Police Department has transformed its mission from simply apprehending criminals to controlling crime before it occurs. As the city's Police Chief, Jim Bueermann, explains, "We need to understand the nature and location of risk factors—in families, communities, schools, peer groups—and develop strategies to solve and prevent community problems. We are paid to get criminals, but our added-value is found in the other, long-term approaches we are taking to make the community safer." By consolidating housing, recreation, and senior services into the police department; melding geographic information systems technology with social research; and utilizing the concept of risk-focused policing; the department supports a comprehensive set of strategies to make Redlands a safe and protective community for its youth and their families.

For example, Redlands uses maps that show at-risk neighborhoods to set priorities for its housing dollars. First-time homebuyers or families seeking funds to rehabilitate housing in at-risk neighborhoods go to the head of the list for funding.

The department uses similar techniques to prevent adolescent problem behaviors such as substance abuse, delinquency, violence, dropping out of school, and teen pregnancy. It conducted surveys of public school students and then pinpointed the neighborhoods to which resident youth feel little attachment; this sense of alienation is one of the risk factors that might predict delinquency. The department then created a mobile recreation program as a way to introduce after-school services in these neighborhoods. It provided its mobile command post, which had previously only been used in emergencies, as a safe, quiet place where youth could do their homework.

The department has found that maps are compelling ways to present data to community groups. Recently, the Police Chief shared department maps showing high-risk neighborhoods with members of the faith community. The congregations immediately stepped forward with special offerings to start Peace Leaders—a violence prevention program for K-12—in the public school in the most high-risk neighborhood. Police Chief Bueermann comments, "The police department is our community's largest consumer of tax dollars, and we need to be good stewards of that investment. It is our contract with the communities we serve. Mapping risk and protective factors lets us put tax dollars, and the resources of our community partners, where there is a high concentration of risk factors and strategically leverage the community's investment in public safety and problem prevention."

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**SAN DIEGO: NEIGHBORHOOD PROBLEM-SOLVING**

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The [San Diego Police Department](#) has used computerized crime mapping since 1989 as part of its [successful crime reduction strategy](#). Its earliest crime mapping efforts were simple snapshots of criminal activity with little analysis. In 1994, however, the department reorganized itself around the concept of neighborhood problem-solving and delineated patrol beats by neighborhood rather than by precinct. This proactive strategy of neighborhood problem-solving takes direct aim at the elements that contribute to criminal activity by encouraging officers to look beyond an individual crime to the underlying causes of crime.

The strategy relies on a form of a data-driven problem-solving model known as SARA: Scanning, Analysis, Response, and Assessment. In practice, this means that beat officers work very closely with crime analysts trying to detect the conditions that drive crime. They use sophisticated crime mapping tools and laptop computers in the field to detect patterns and neighborhood hot spots. Once separate, officers and crime analysts now work together to solve neighborhood problems. They also use crime mapping technology to bring residents and business owners into the problem-solving process. The enhanced communication between the two groups is mutually beneficial. Crime analysts are exposed to the micro, “street level” approach to fighting crime as seen through the eyes of the line officer. And officers are exposed to crime at a macro level where neighborhood patterns are clearly visible. The relationship leads to better communication and a heightened ability to analyze problems through a collaborative approach.

Between 1992 and 1997, serious crime—including murder, rape, assault, and burglary—declined 61 percent in San Diego, one of the most dramatic declines in the nation.

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## TAMPA BAY-HILLSBOROUGH COUNTY: A PROBLEM FOCUS

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Hillsborough County, Florida, suffered an unprecedented 34 [domestic violence](#) homicides in 1994. In response, the Tampa Police Department; the Hillsborough County Sheriff's Office; the Spring of Tampa Bay, Inc., a certified domestic violence shelter; the State Attorney; and the 13<sup>th</sup> Judicial Circuit formed a task force to create a seamless system to reduce domestic violence homicides. They declared a zero tolerance philosophy, asserting that coordinated and early intervention would stop the cycle of violence and prevent homicides.

Immediately, police began a mandatory arrest policy, and the prosecutor's office agreed not to drop domestic violence cases brought by complainants. As a longer term initiative, the task force established a three-day Domestic Violence Investigator's School, which has since trained 600 area law enforcement officers. Training includes how to properly investigate domestic violence calls, what to do for early intervention, and victim advocacy. Currently, there is a waiting list to get into this nationally recognized program.

The task force also found ways to reinvent and streamline the bureaucracy facing the victims, holding each agency accountable for problems and bottlenecks. The task force found, for example, that men and women who came to the courthouse to file protective "no contact" injunctions had to sit together in the same waiting room. Members visited the courthouse, found an 8x10-foot broom closet, and transformed it into a men's waiting room. Similarly, when certain forms were found to be confusing, the task force had local broadcasters tape "how to fill it out" videos in English and Spanish. The task force also developed a successful follow-up strategy—the Firehouse Squad—whereby every fire station has a police officer (on each of two shifts for 24-hour-a-day service) who contacts complainants within 7 to 10 days to assess their needs and safety. Through this mechanism, the victim feels supported by the multiple city departments, and the message to the abuser is clear: the victim is no longer alone.

The county's efforts have paid off. From 1994 to 1997, domestic violence homicides dropped 85 percent, from 34 to 5 (by comparison, homicides dropped 35 percent overall). And in 1997 in the city of Tampa, not one woman died due to domestic violence (there was one male fatality). Overall, there was a 29 percent decline in serious crime between 1992 and 1997.

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