



National Institute of Justice

Predictive Policing Symposiums

First Symposium: November 18, 2009

Second Symposium: June 2-3, 2010

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NCJ 242222 (First Symposium)

NCJ 248891 (Second Symposium)

Predictive Policing Symposiums

NIJ has convened two symposiums where researchers, practitioners and law enforcement leaders developed and discussed the concept of predictive policing and its impact on crime and justice. Learn about:

- [First Predictive Policing Symposium](#)
- [Second Predictive Policing Symposium](#)

First Predictive Policing Symposium

Los Angeles, November 18, 2009

Researchers and practitioners gathered to discuss the emerging framework and its impact on the future of law enforcement.

Participants explored the policy implications, privacy issues and technical elements of predictive policing. Agencies that had received competitively awarded grants to implement and evaluate predictive policing programs reported on their plans for the next 12 months.

The Los Angeles Police Department hosted the symposium and opened its doors for participants to tour its new headquarters and Regional Crime Center, both state-of-the art facilities that provide an ideal setting to apply predictive policing principles.

The symposium was sponsored by the National Institute of Justice and Bureau of Justice Assistance.

View summaries of sessions:

- [Future of Predictive Policing](#)
- [The LAPD Experiment](#)
- [What Chiefs Expect](#)
- [Demonstration Projects and Evaluation](#)
- [Policy and Practice](#)
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See also:

- [View the symposium agenda.](#)
- [Read a summary of the meeting \(pdf, 10 pages\).](#)

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Second Predictive Policing Symposium

Roger Williams University in Bristol, Rhode Island, June 2-3, 2010

At the second symposium, researchers and practitioners examined what predictive policing would mean for smaller departments struggling with limited budgets and personnel.

View summaries of sessions:

- [What Chiefs Expect](#)
- [Policy and Practice](#)
- [Technical Issues](#)

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The Future of Prediction in Criminal Justice

Defining Terms and Introducing Issues

Theron Bowman, Ph.D., Chief of Police, Arlington, Texas

Dr. John Morgan opened the discussion by introducing a working definition: "Predictive policing refers to any policing strategy or tactic that develops and uses information and advanced analysis to inform forward-thinking crime prevention." This definition and the five elements of predictive policing that Morgan introduced appear in a Harvard Executive Session paper being drafted by Dr. Morgan, Chief Bill Bratton and Lieutenant Sean Malinowski.

[For more discussion on the definition and elements, visit the Technical Breakout Session.](#)

Ultimately, predictive policing is intended as a framework to advance strategies like community policing, problem-oriented policing, intelligence-led policing and hot spots policing.

Dr. Theron Bowman provided a working example of predictive policing from the Arlington (Texas) Police Department. Chief Bowman explained how his department uses data on residential burglaries to identify hot spots, and then compares these locations to places with code violations in the city. With analysis, the data serve to monitor the relationship between things like neighborhood physical deterioration and crime.

Given the social disorganization traditionally associated with a large amount of code violations, Arlington has developed a formula to help identify characteristics of a "fragile neighborhood." As a result, the police department and other city agencies now apply resources more efficiently to these fragile neighborhoods, ultimately preventing crime.

Jeremy Crump, director of strategy for the National Policing Improvement Agency (the British sister organization of NIJ), discussed police prediction in the United Kingdom. He said that although the term "predictive policing" has not yet been used in the U.K., the fundamentals are drivers of change. For example, the U.K. has been using a national database (Police National Computer) for 35 years.

Crump stressed the importance of adapting to changing conditions and focusing less on the hierarchy that exists within many agencies. For predictive policing to make a difference, departments need to be willing to explore that change.

[For more information, visit the National Policing Improvement Agency's Web site.](#)

Dr. Craig Uchida discussed the role of research and theory in predictive policing. He emphasized the need for theories to drive the information being analyzed. Uchida stated that prevention theories are already available; this information must now be integrated with data that is also available. He discussed how situational crime prevention, social disorganization and collective efficacy theories may include predictive analytics, and suggested that they should be used in guiding policing strategies and tactics.

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The LAPD Experiment

Charlie Beck
Chief, Los Angeles Police Department

Note: The Los Angeles Police Department is one of seven agencies that were awarded a planning grant from the National Institute of Justice. [For more information on the other six, see the summary of the Discussion on the Predictive Policing Demonstration Projects and Evaluation.](#)

Police Chief Charlie Beck discussed how the LAPD has used COMPSTAT, intelligence-led policing and problem solving to reduce crime over the last eight years.

Predictive analytics have been used by businesses to determine sales strategies. Wal-Mart, for example, analyzes weather patterns to determine what it stocks in stores. The results indicate that Wal-Mart should overstock duct tape, bottled water and strawberry Pop-Tarts before a major weather event. The Pop-Tarts represent a “nonobvious relationship” and Beck noted there are many of these relationships in law enforcement that can be explored with predictive policing.

Beck emphasized that predictive policing is not meant as a replacement strategy, but one that will build on the successes thus far.

Colleen McCue illustrated the potential of predictive policing. For example, every New Year’s Eve, Richmond, Va., experienced an increase in random gunfire. The Richmond Police Department looked at the when, where and what of these cases and found that the gunfire was actually limited to certain areas of the city within a two-hour timeframe. McCue said this was not a complicated analysis, but by looking at the data with a different eye, the department deployed resources more efficiently. The result was a 47-percent reduction in random gunfire, a 246-percent increase in seized weapons and a savings of \$15,000 with 50 fewer officers deployed.

Dr. Sean Malinowski explained that the predictive policing movement began in the LAPD seven years ago on a grassroots level. Today, the LAPD has significant momentum for its predictive policing efforts in counterterrorism, robbery and social network analysis.

At first, crime was summarized annually. The analysis improved, and the department began to look at data monthly, then weekly and eventually in real time. The department expects to forecast crime by 2010, resulting in smarter policing overall.

Capt. Justin Eisenberg summarized three of the LAPD’s predictive policing projects that are in different stages of development:

- **Debriefing Project:** Officers debrief arrestees to obtain information unrelated to the crime for which they were arrested. Officers will capture anything that arrestees are willing to provide, including information on social networking, terrorism, bomb making and more. This information will be used to identify nonobvious relationships. Currently, the department is finalizing a Web-based database for the project.
- **Social Networking Analyses:** Specific to gang investigations, this project involves adding an identification software tool for social networking analysis to the work that the University of Cincinnati and the Cincinnati Police Department have done. The LAPD hopes to identify gang decision cycles to remove main players from the street.
- **Gang Homicides:** This project involves mapping the details of gang homicides to more effectively predict future murders.

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What Chiefs Expect From Predictive Policing - Perspectives From Police Chiefs

Chief George Gascón, San Francisco Police Department, Calif and Chief Tom Casady, Lincoln, Neb.

- [First Predictive Policing Symposium](#)
- [Second Predictive Policing Symposium](#)

First Predictive Policing Symposium

At the First Predictive Policing Symposium, in Los Angeles, November 18, 2009, Dr. Ellen Scrivner described the excitement and energy at the Predictive Policing symposium as similar to the enthusiasm at the NIJ Conference in the early 1990s, when people were talking about the new concept of community policing. Similar to that conference, and building on the momentum of the new Harvard Executive Sessions, the work from this symposium will help frame the concept of predictive policing.

Chief Jim Bueermann wondered how he would explain predictive policing to his colleagues when he returns home. He said everyone at the symposium shares a similar responsibility to explain this concept to their stakeholders, including mayors and council members, and to convince them that predictive policing is something different.

Bueermann also noted the power of predictive policing. He said predictive policing holds the promise of enhancing police legitimacy in the community, but if departments are not prepared, it could cause more harm than good, and we need to guard against that.

Chief Tom Casady questioned whether predictive policing is actually a new paradigm or just a coalescing of concepts that are already available. Using technological advancements of surveillance cameras as an example, Casady suggested that police are not necessarily doing anything new or innovative with data; they are doing the same thing but doing it better and quicker. What has changed is the amount of information available to departments because people are collecting data everywhere. He agreed that this information can be used to put predictive policing into action.

Casady said that if we want to create a new paradigm, we need to think about predictive policing in a new way — using information and our capability to implement strategies to prevent crime.

Casady also noted that analytics should be applied to much more than just crime prevention because police work involves more than crime and cited examples such as traffic control and missing persons.

Chief George Gascón said his presentation involves an unpopular topic: the cost of crime and the economic impact of policing on communities. Gascón acknowledged the current economic climate and said even in communities that are doing well, funding for social services is diminishing (libraries are closing, for example). Although intended to save money, the impact on the community and quality of life is significant.

Gascón said that police departments have a social responsibility to respond to these economic times. Predictive policing offers the tools to put cops at the right places at the right times, ultimately doing more with less. Gascón also noted that because police departments do not offer the same types of pensions or health care as they did in the past, officers are not staying for 20 years or longer. As a result, departments may also need to deliver more efficient services with less people. By becoming more efficient with predictive policing, this will be possible.

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Second Predictive Policing Symposium

At the Second Predictive Policing Symposium, police chiefs agreed that predictive policing is needed but acknowledged that any change must be incremental and that the approach would differ based on locality and type of crime. They noted that predictive policing is an opportunity to involve young, data- and tech-savvy officers.

Challenges to predictive policing for small- and medium-size departments include the high cost of technology, interoperability concerns and complicated software. Participants questioned how to sustain a program once initial funds run out and how to address an identified problem with limited personnel. They recognized the need for more regionalization, but noted that records management systems tend to vary across jurisdictions, making regional analysis difficult.

Participants discussed using volunteers and university students to help with data analysis, but pointed out that once trained, these people leave the agency. The smaller departments said they need something simple that their officers could use. They called for NIJ or the International Association of Crime Analysts to standardize predictive policing software and fund open-source projects that do not have sustainability costs.

Participants identified additional strategies for overcoming challenges:

- Have a scalable plan for moving forward.
- Develop regional partnerships. Use a common records management system within a county, creating a virtual fusion center.
- Conduct more research about what is working. Highlight and disseminate success stories to academics, the public, leadership and officers to get buy-in.
- Provide training.
- Raise expectations about data quality.

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Discussion on the Predictive Policing Demonstration Projects and Evaluation

Hemali Gunaratne,
Boston Police Department

In 2009, seven police agencies received planning grants through NIJ's competitive solicitation process. At the First Predictive Policing Symposium, representatives from six sites introduced plans for their projects. The analytic support and evaluation grantee, the RAND Corporation, also discussed its role. The Los Angeles Police Department is the seventh site. [For information on its plans, see the session on The LAPD Experiment.](#)

Hemali Gunaratne explained that the Boston Police Department plans to develop, test, implement and evaluate a predictive policing model for property crime, which comprises 77 percent of the city's crime. The goal is to develop a model to be used in management planning activities, officer deployment and COMPSTAT.

Cmdr. Jonathan Lewin said that a primary goal for the Chicago Police Department is to produce technology and products that officers on the street can use. The focus of the grant is to build on several efforts already in progress, including work with SPSS/Spadac, Oracle and Carnegie Mellon University.

Philip McGuire noted that since 2001, the New York Police Department (NYPD) has replaced its record management system, constructed a data warehouse, provided more online access and significantly upgraded various tracking systems. These changes will facilitate predictive policing implementation. NYPD will use its grant to review all competing analytic options and decide on a set to employ under the predictive policing umbrella. The department will then analyze the effect on operations.

Speaking for the Maryland State Police Department, Philip Canter explained that the goal of the program is to use analysis tools, technology infrastructure and governance to ensure all analysis is supported. Dr. William Pottenger explained that his focus for the project was on analysis tools and the technology infrastructure. Currently, he is looking at Plug 'n Play open-source Web 2.0 framework.

Representing the smallest department of the seven in the demonstration projects, Susan Reno explained that the Shreveport Police Department is developing an in-house project using out-of-the-box software. A goal for this project is to design a predictive model for tactical crime and police districts based on previous research. The project will test the hypothesis that a group of suspicious and disturbance calls is a leading indicator for "tactical crime" (e.g., shootings, robbery, burglary and auto thefts).

Brenda Eich described the strategic crime briefings conducted by the District of Columbia Metropolitan Police Department. With the NIJ grant, she said the plan is to pattern crime by time and space to be more predictive. The first phase of the project is to compile information by using multiple statistical models during development. The goal is real-time forecasting.

Dr. Greg Ridgeway said that in the planning phase over the next year, RAND will provide technical assistance to the seven sites by providing analytical support. In future years, RAND will ensure data collection abilities are available. Other considerations for RAND include:

- Establishing a scientific steering committee to develop logic models for each site.
- Reviewing and refining implementation, data collection and evaluation plans.

Update: In 2011, two of the original seven sites (Chicago and Shreveport) won competitively awarded grants to continue into Phase 2 of their demonstration and evaluation of predictive policing strategies. The Chicago Police Department was awarded \$1.5 million. The Shreveport Police Department was awarded \$516,474. Both Departments are working with researchers to evaluate the strategies they developed in Phase 1. Chicago's efforts are focusing on gang conflicts. Shreveport is focusing on tactical crime prevention.

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Policy and Practice Breakout Session

Craig Uchida, Ph.D.
President, Justice & Security Strategies, Inc.

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First Predictive Policing Symposium

At the first Predictive Policing Symposium, participants broke into smaller groups and reported the key elements of their discussion back to the larger assembly.

Dr. Craig Uchida's group discussed how hot spots analysis has become increasingly commonplace. Predictive Policing on the other hand is still evolving. There should be less focus on violent crime and more focus on the other 90 percent of things that police do.

Several questions were raised during the session. Can we actually predict? With the tools and technology that exist, and the data that is available, participants felt the next level of prediction is possible. Other questions included: What predictive elements are we looking at? Are we looking at individuals? If so, participants suggested that we "tread carefully."

How does community policing differ? One participant said that that there does not seem to be much difference from what departments are doing now, but perhaps predictive policing is more "high technology, high touch" because it develops relationships with the community.

Participants discussed communication. How can departments share more advanced data collection and data analysis? Some options included using BlackBerries and MP3s.

The group also addressed the need for resources, especially with current budget cuts. However, the focus should be on outcomes. Is the data being measured the most effective in terms of performance? The real value is to do more with existing or diminishing funds.

In Steve Mastrofski and Shellie Solomon's group, participants noted that good crime analysts are already practicing predictive policing. Marginal improvements can be made and are areas of opportunity. The group highlighted the gap within agencies between crime analysts and

management. Analysts gather information and make recommendations to department administrators, but those recommendations do not make it to the street-level cop.

A key point raised was that predictive policing should be community-based. Community leaders and the public must accept the concept for it to be successful.

Additionally, departments must hire individuals trained to care about data. To succeed, predictive policing involves changing the culture of policing by placing a higher value on information and its use.

Commander Jonathan Lewin provided the summary for the group that was also facilitated by Ed McGarrell and Captain Gary Lee. Members asked whether they could ethically pilot predictive policing in just one area. If so, a cultural shift is necessary in some organizations. He said that there was a need for accountability within departments to ensure success.

The group also discussed the need for data sharing and interoperable systems since crime does not respect agency boundaries. To this end, there is a need to incorporate nontraditional data, including demographics and building foreclosures for more sophisticated analysis.

Lewin explained how analysis is done in Chicago and how a cultural shift has occurred there. Every officer is considered a crime analyst for his or her beat. Predictive policing will not replace the human component, but it would enhance that effort. Further, the new data sets and tools of predictive policing won't replace crime analysts but will assist them. There will always need to be a human component. But the group acknowledged that there is too much data for one person to manage, so these tools are necessary.

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Second Predictive Policing Symposium

At the Second Predictive Policing Symposium, participants noted the importance of building a relationship with the community and working with crime analysts. They recognized that mental health, probation, parole, corrections and other law enforcement agencies should be involved in the predictive policing discussion. Other potential collaborators include police academies, universities, fusion centers, community agencies, faith-based initiatives, public service agencies, policymakers, nonprofit organizations, crime labs, medical examiners' offices and the media.

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Privacy and Legal Issues Breakout Session

Thomas O'Reilly opened the discussion by emphasizing that privacy and civil liberty issues are critically interrelated with predictive policing. Ensuring that predictive policing is constitutional from the start will provide a solid and just foundation moving forward. Additionally, engaging privacy advocates and community leaders from the outset will help alleviate concerns that predictive policing will violate any privacy rights.

Russell Porter noted that outcomes are important, but strategically it is imperative to build community trust by putting privacy, civil liberty and civil rights at the forefront. History has shown that serious legal consequences follow when appropriate consideration is not given to privacy rights.

Cmdr. Joan McNamara emphasized that the past informs the future. When suspicious activity reporting (SAR) was developed in Los Angeles, attorneys were involved from the beginning. Transparency, auditing and due diligence are critical to developing a process that is trustworthy, protects privacy and produces good outcomes. It is critical to train personnel to understand the difference between information and intelligence.

John Wilson said that developing a thorough privacy policy is vital since law enforcement has the power and ability to affect people's rights in a harmful way. Privacy policies are not new. If predictive policing is going to be driven by information-gathering technologies, there must be a clear understanding of how to use them properly. Consideration should be given to using privacy impact assessments in developing a policy, and information should be shared and discussed with civil liberty groups from the beginning.

Dr. David Carter said that he sees a lack of clarity in predictive policing at this point and identified two weaknesses: a lack of strategic priorities with no clear vision of what is to be accomplished, which leads to confusion about the difference between intelligence and information, and the absence of good critical thinking in the analysis of quantitative data and qualitative information.

The group made suggestions for the Second Predictive Policing Symposium, and a session summary provided the following key points:

- There is a rich history dealing with privacy and mistakes, and these issues have yet to be resolved.
- The SAR effort provides lessons for how to develop a privacy policy.
- There will come a time when training in privacy issues is considered as important to a policing program as the firearms policy.
- Transparency is critical to establishing community trust.
- Understanding what behaviors have a nexus to crime provides a valid law enforcement purpose.
- Predictive policing must be constitutional.

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Technical Breakout Session

John Morgan, Ph.D.,
Office Director, Office of Science and Technology, National Institute of Justice

When NIJ and BJA convened the Predictive Policing Symposiums, seven police agencies were developing strategic plans for doing predictive policing in their jurisdictions.

[For more information on these agencies see the summary of the Demonstration Projects and Evaluation.](#)

First Predictive Policing Symposium

At the First Predictive Policing Symposium, Dr. John Morgan emphasized that the technical breakout session would provide an opportunity to discuss what information should be applied to these programs.

Morgan offered the following definition of predictive policing from the Harvard Executive Session paper: "Predictive policing refers to any policing strategy or tactic that develops and uses information and advanced analysis to inform forward-thinking crime prevention."

The group commented on specific elements of the definition:

- "*Advanced analysis*": Some felt the word "advanced" was not appropriate because simple methods could be used for prediction. Another felt that "analysis" is a powerful word that can stand on its own.
- "*Crime prevention*": Some suggested that the definition should include any activity in which police might engage, not just crime.
- "*Forward thinking*": Some questioned if this needs to be included. Others noted that "forward thinking" implies backward thinking.
- "*Predictive*": A number of participants felt that "predictive policing" might not be the most appropriate term. Suggestions of terms to consider included "proactive policing," "preventative policing," "adaptive policing," "evidence-based policing" and "data-driven policing."

Morgan reintroduced the five elements of predictive policing presented in the opening panel session ([The Future of Prediction in Criminal Justice: Defining Terms and Introducing Issues](#)), and participants offered their comments:

- *Integrated information and operations*: There are no silos to effectively integrate information and operations. One participant noted that strong leadership will be necessary to develop network-centric policing. Other participants said that there are analysts producing good products, but their products are not used because of their civilian status.
- *Seeing the big picture*: Prevention is as important as response, and every incident is an information-gathering opportunity. Someone noted that with definitions, there is a top-down focus; to welcome a network-centric environment, a bottom-up approach is necessary.
- *Cutting-edge analysis and technology*: There is a wealth of tools and technology already available and it is imperative that departments learn how to use them.
- *Linkage to performance*: Most participants agreed about the importance of this relationship.
- *Adaptability to changing conditions*: This concept highlights the need for flat-networked organizations, training in how to adapt to strategies based on information and high professional standards. This discussion generated a number of comments, including the need for a reward structure based on how officers use information provided by crime analysts. Another commented on the fundamental lack of technological understanding within police departments.

The group developed a comprehensive list of 41 potential ways to use predictive policing and how predictive information might be valuable. [Read the complete list.](#)

Group members chose to look more closely at vehicle theft/automated early warning system. The group examined how predictive techniques would be used in vehicle theft. Morgan explained that this kind of exercise is useful because departments have the ability to measure their effectiveness. In other words, did predictive policing make a difference?

The Use and Value of Predictive Policing

Participants from the Technical breakout session of the Predictive Policing Symposium discussed the following applications and values of predictive policing:

- Time and location of future incidence in a crime pattern or series
- Identify individuals who are likely to reoffend
- Inmate radicalization risk assessment (i.e., identify inmates who are in danger of being radicalized)
- Drug market displacement (i.e., where next open air drug market will pop up)
- Disorder and environmental variables
- Likely impact of specific operations.
- Disruption of criminal organization (criminal leadership)
- Prediction of criminal adaptation (not only law enforcement efforts but also media, etc.)
- Data analysis and support of crime suppression analysis
- Patrol staffing and resources allocation
- Localized crime spikes
- Identify juveniles likely to be involved in violent crime
- Risk assessment of sex offending in juveniles
- Early identifications of career criminals
- Identify victims of unreported crimes
- Evaluation of interventions
- Impact of drug enforcement on markets and allied crimes
- Identification and analysis of crime-prone events and locations
- Individual-specific analysis
- Travel of serial offenders
- Analysis of predatory patterns
- Correlation of environmental factors outside of crime like weather (i.e., nonobvious correlations)
- Threat and vulnerability assessment
- Prioritization of sources
- Unstructured data extraction (e.g., police reports, blogs, Internet, incident reports and social network analysis)
- Predicting acts of terror
- Predicting riots
- Social network analysis
- Video analytics (including behavioralistics)
- Use of NIBRS to help prediction
- Wide-area surveillance for video fusion
- Precursors and leading indicators to crime (including nonobvious predictors)
- City/neighborhood planning
- Design of spaces; economic development; police, security resource allocation; infrastructure protection
- Offender monitoring, predicting behavior, endpoint sentencing
- Traffic management, crowd control
- Management of police personnel
- Professional development, recruitment
- Risk for excessive use-of-force, discipline

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Second Predictive Policing Symposium

At the Second Predictive Policing Symposium, Debra Piehl, president of the Massachusetts Association of Crime Analysts, explained that most small- and medium-size departments struggle with the analytic process, particularly where to start and how much will it cost. Departments must look at the operational impact and efficiency gained from crime analysis. She warned, however, that the only way the process can move forward is by incorporating data quality measures into business practices.

Jim Mallard, technology director of the International Association of Crime Analysts, agreed that data drive everything else. "Analysts must have good, clean data that are readily available," he said. Mallard urged participants to sit down and have a frank discussion about the quality of the data in their data management systems. "The size of the agency does not matter," Mallard continued. "If you have 50 or 500 officers, you can still manage data using programs like Microsoft Access."

Participants identified potential non-traditional data sources like social networking sites. They agreed that the data are limitless, and they need to be creative in what they look for. Susan Smith, a crime analyst in the Shawnee (Kan.) Police Department, encouraged departments to look at new kinds of data such as eviction data, school data, zoning information and mental health data.

Jim Lucht, director of the Providence Plan, discussed one particular tool that agencies can use to access data on returning prisoners. His group worked with NIJ, the Department of Corrections, the Providence Police Department and a reentry service organization to build a system that maps people coming out of prison, offense type and available services based on offense type. "The Internet-based system allows for easy communication between police and probation," Lucht said. The system also enables reentry groups to give service referrals and get statistics from policy initiatives.

Participants also emphasized the importance of having an effective analyst: "If your department is too small, borrow an analyst from a larger neighboring agency," Smith suggested.

"We are changing the way we do police work," explained Michael Freeman, civilian analyst/reserve officer at the Dallas Fusion Center. "It is no longer reactive — it is proactive," he said. "We can throw a dot on a map, but we must know what is behind that dot, what is behind that crime problem." Freeman stressed the importance of having an analyst with a police background. "Crime — analysts who lack a police background often look at the information and do not see that something is missing," he said.

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Agenda

The symposium was held across from the LAPD headquarters

Researchers and practitioners gathered at the First Predictive Policing Symposium to discuss this emerging framework and its impact on the future of law enforcement. The symposium was held in Los Angeles on November 18 – 20, 2009.

Keynote Speakers

- William Bratton, Former Chief, Los Angeles Police Department and CEO, Altegrity Security Consulting.
- George Kelling, Ph.D., Professor, School of Criminal Justice, Rutgers University-Newark.
- John Miller, Assistant Deputy Director of National Intelligence for Analytic Transformation and Technology, Office of the Director of National Intelligence.

Opening Remarks

Kristina Rose, Acting Director, National Institute of Justice. [Read her remarks.](#)

Laurie O. Robinson, Assistant Attorney General, Office of Justice Programs. [Read her remarks.](#)

James H. Birch, Acting Director, Bureau of Justice Assistance.

Panel Discussions:

1. **The Future of Prediction in Criminal Justice: Defining Terms and Introducing Issues**

Panelists:

- Theron Bowman, Ph.D., Chief of Police, Arlington (Texas) Police Department
- Jeremy Crump, Director of Strategy, National Policing Improvement Agency (United Kingdom)
- Craig Uchida, Ph.D., President, Justice & Security Strategies, Inc.
- Moderator: John Morgan, Ph.D., Office Director, Office of Science and Technology, National Institute of Justice

[Read a summary of the panel.](#)

2. **The LAPD Experiment**

Panelists:

- Charlie Beck, Chief, Los Angeles Police Department
- Justin Eisenberg, Captain, Los Angeles Police Department
- Sean Malinowski, Ph.D., Lieutenant, Los Angeles Police Department
- Colleen McCue, President and CEO, MC2 Solutions, LLC
- Moderator: John Morgan, Ph.D., Office Director, Office of Science and Technology, National Institute of Justice

[Read a summary of the panel.](#)

3. **What We Expect From Predictive Policing: Perspectives From Three Police Chiefs**

Panelists:

- Jim Bueermann, Chief of Police, Redlands (Calif.) Police Department
- Tom Casady, Chief of Police, Lincoln (Neb.) Police Department
- George Gascón, Chief of Police, San Francisco Police Department
- Moderator: Ellen Scrivner, Ph.D., Deputy Director, National Institute of Justice

[Read a summary of the panel.](#)

4. **Discussion on the Predictive Policing Demonstration Projects and Evaluation**

Panelists:

- Boston Police Department, Hemali Gunaratne
- Chicago Police Department, Jonathan Lewin

- Maryland State Police, Philip Canter and William Pottenger, Ph.D.
- Metropolitan Police Department, Brenda Eich
- New York Police Department, Philip McGuire
- Shreveport Police Department, Susan Reno
- RAND Corporation, Greg Ridgeway, Ph.D.

[Read a summary of the panel.](#)

Breakout Sessions

1. Policy and Practice Breakout Session

Facilitators:

- Craig Uchida, Ph.D., President, Justice & Security Strategies, Inc.
- Steve Mastroski, Professor, George Mason University; Shellie Solomon, CEO, Justice & Security Strategies, Inc.
- Edmund McGarrell, Director and Professor, School of Criminal Justice, Michigan State University
- Jonathan Lewin, Commander, Chicago Police Department
- Gary Lee, Captain, Cincinnati Police Department

[Read a summary of the breakout session.](#)

2. Privacy and Legal Issues Breakout Session

Facilitators:

- Thomas O'Reilly, Senior Policy Advisor, Bureau of Justice Assistance
- Russell Porter, Director, State of Iowa Intelligence Fusion Center
- Joan McNamara, Commander, Los Angeles Police Department
- John Wilson, Senior Research Associate, Institute for Intergovernmental Research
- David Carter, Ph.D., Professor, School of Criminal Justice, Michigan State University

[Read a summary of the breakout session.](#)

3. Technical Breakout Session

Facilitator

- John Morgan, Ph.D., Office Director, Office of Science and Technology, National Institute of Justice

[Read a summary of the breakout session.](#)

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Predictive Policing Symposium: Opening Remarks

Remarks for Kristina Rose
Acting Director, National Institute of Justice
Predictive Policing Symposium
November 19, 2009

Good morning. For those of you not at the dinner last night, my name is Kristina Rose and I'm the Acting Director of the National Institute of Justice. I want to welcome all of you to this first symposium on predictive policing.

It's wonderful to see all of you here. When the word got out that we were going to have this symposium, we were inundated with requests to attend. It was obvious that we had touched upon a topic of significant interest both in the law enforcement and the research communities.

I want to thank our partners in this effort: the Bureau of Justice Assistance and Chief Beck and the Los Angeles Police Department. This has been a truly collaborative venture and I especially want to thank the working group members from these three agencies that put so much time, energy and thought into this symposium.

I want to recognize former LA Police Chief Bill Bratton for the enthusiasm he brought to planning this event and really serving as the catalyst for bringing predictive policing to the forefront.

I also want to thank Laurie Robinson, our Assistant Attorney General at OJP for her tireless support of our efforts, especially in the area of predictive policing.

We are also very fortunate to have with us representatives from the Ministry of Public Security in Israel and the National Policing Improvement Agency in the United Kingdom. They, too, are exploring the predictive policing concept and we welcome them to this meeting and look forward to hearing their perspectives.

The question we hear most often when referring to predictive policing is, quite frankly, "What IS it?"

My guess is that if you asked 10 people, you might get 10 different answers. But when you have too many definitions for one concept, you run the risk of having that concept lose its meaning entirely.

So, with this symposium, we hope to answer this and other pertinent questions by taking a close look at what we really mean by predictive policing and examining how it is being implemented in different jurisdictions around the country. All of you in this room — the researchers, the officers, the crime analysts, the technologists — were all specifically invited to be here because of the expertise and guidance you can offer as we sort through the myriad issues and challenges of predictive policing over the next few days. *We expect, want and invite* your frank and candid comments and observations throughout this meeting.

As many of you may be aware, earlier this year, NIJ released a solicitation asking for proposals from law enforcement agencies interested in taking part in a predictive policing demonstration initiative. The goal of the demonstration was to develop, test and evaluate predictive policing in a real-world, real-time context. We received many thoughtful and innovative applications and ultimately issued awards to seven jurisdictions. We have invited them here to this symposium to talk about their project ideas. The grantees are:

- Boston Police Department
- Chicago Police Department
- Maryland State Police
- Los Angeles Police Department
- DC Metropolitan Police Department
- New York Police Department
- Shreveport Police Department

Congratulations to all of you and we are very much looking forward to your presentations.

In addition to funding the planning grants for the demonstration initiative, we funded a team from the Rand Corporation to evaluate the demonstration so that by the end of the initiative we will have a good sense of what works, what doesn't, and what's promising in the area of predictive policing and can share that evidence with the field.

We have planned an ambitious and what we hope will be a thought-provoking meeting for you. We will kick it off with an opening panel that will address the definitional and other issues around predictive policing.

Afterwards, we will hear about how the Los Angeles Police Department is approaching predictive policing, including a discussion of "what's in it for the cop on the street?"

At lunch, former LA Police Chief Bill Bratton will provide the keynote address. Afterwards, we will split off into breakout groups for more specific discussions around policy and practice, technical issues and privacy and legal issues.

Later in the afternoon, we will go to the new LAPD headquarters and the Regional Crime Center for tours and demonstrations. Logistical details will be presented in a few minutes.

Tomorrow, we will hear the perspectives from three police chiefs on what predictive policing means to them and how they think it will change policing in the future.

Afterwards, we'll hear from NIJ's predictive policing grantees who will discuss their different projects.

Tomorrow's lunch keynote address will be presented by John Miller, the Assistant Deputy Director of Intelligence Analysis at the Office of the Director of National Intelligence.

After lunch, the facilitators will report on the breakouts from the previous day. So, as you can see, we've packed a lot into the next day and a half.

In closing, I want to tell you how we plan to disseminate what we learn from this symposium. Within two weeks, we will have a symposium recap Web page available that will feature a summary of the conference, text of all the remarks and pertinent links to additional information. An article, based on this meeting, will be published in an upcoming issue of the [NIJ Journal](#), and we have plans to do a Web chat in the early spring to continue the discussion around predictive policing. We encourage all of you to be an active part of our dissemination efforts by sharing what you learned and keeping the conversations going long after you leave this meeting.

Again, I want to thank all of you for joining us here in Los Angeles for this very important symposium.

Predictive Policing Symposium: Opening Remarks

**Remarks for Laurie O. Robinson
Assistant Attorney General, Office of Justice Programs
Predictive Policing Symposium
November 19, 2009**

Thank you, Kris. I'm so pleased to be here. It's great to be here with my friends in law enforcement. I'd like to begin by thanking Chief Beck and the LAPD for hosting this symposium. It's always great to be here in L.A. In fact, I was concerned that my confirmation wouldn't get through the Senate in time for me to make the trip. I'm thrilled that it did.

I'd also like to offer Chief Beck my congratulations on his appointment, which is much deserved. Chief, I look forward to working with you in the months and years ahead.

I also want to thank your predecessor — Bill Bratton — for his extraordinary service. We all know the incredible job he's done here in L.A. — and my voice, no doubt, will be lost in the chorus of praise — but I do want you to know, Bill, that the United States Department of Justice is extremely grateful not only for what you've accomplished, but for how you've accomplished it here in Los Angeles and for America — with characteristic professionalism and an eye always on the big picture.

I'm very excited about this symposium, and I know I speak for my colleagues Kris Rose and Jim Burch when I say how eager we are to begin the discussion. We are, after all, talking about nothing less than the future of policing in America. And even though the Attorney General couldn't be here, this symposium is very much on his mind. I've talked to him about it on several occasions, and I can tell you that he is very anxious to get a report on what we discuss.

Many of you know that the Attorney General held a law enforcement summit back in April — some of you were there — and this topic of predictive policing came up. Eric Holder is thinking a great deal about where we are in the evolution of law enforcement. He knows, as all of you do, that we're at a point where some very strategic, and collaborative, thinking is in order.

Crime, nationally, has been trending downward for some time now, but we all know that national trends don't give us a complete picture of where we stand. Far from it. In fact, we know that beneath the general good news are some very complex challenges that require intensive focus. The Department of Justice, for the last few years, has been content with looking at the bigger trends and ignoring the more intractable problems bucking the trends. But this Administration and this Attorney General know that we must go deeper.

This symposium — like the AG's law enforcement summit and the White House conference on gang violence and crime control that was held in August — is a continuation of the Administration's commitment to repairing the relationship between the federal government and state and local law enforcement. And so we want this to be a frank discussion of the issues and how we can address them.

So what are our goals here over the next two days? What are we trying to accomplish?

I think our first order of business is to define what we mean by "predictive policing." We've become so accustomed to labels in law enforcement — community-oriented policing, problem-solving

policing, evidence-based policing, intelligence-led policing, and the list goes on. Is predictive policing just another label for another policing model? Or is it a larger concept — something that incorporates many policing paradigms?

Law enforcement leaders are using predictive techniques in a variety of forms, but we don't necessarily have a handle on all of them. I think that's another thing we should be talking about here: where is predictive policing — however you define it — being practiced, and what can we learn from those experiences?

We often talk about forecasting and the use of business analytics as a predictive model. But what about privacy and civil liberties issues — how do we ensure that we're not overstepping? The very phrase, "predictive policing," raises questions in many people's minds. How do we assure the public that our goal is to be less intrusive, not more? I've mentioned this symposium to several friends back in Washington, by the way, and gotten pretty wary looks — and a couple of allusions to that old Tom Cruise movie, "Minority Report."

And how do we communicate what we're doing in terms that the community will understand and accept? I think one of Bill Bratton's most important achievements as chief in L.A. was improving the department's legitimacy among residents. I think that really is key to law enforcement effectiveness. How do we convince the public that we're operating in good faith?

Predictive policing also relies on a variety of tools — information technology, in particular. How do we ensure that these tools are being used with a clear idea of their strategic importance? And how do we at OJP leverage those tools toward more effective law enforcement practices?

Of course, at the bottom of all this is the marriage of science and data with practice. Many of you are leaders in this area. But for all the attention that programs like COMPSTAT have gotten in recent years, this idea of using data analysis to inform crime-fighting is still underapplied. We need to figure out how to take it to the next level. And I'm glad that our predictive policing grantees are here for the next two days to talk about how they will help us do that.

This really is a great opportunity to help define for the field how we should be moving forward to meet the challenges of law enforcement in a new era. I hope that we can come up with some really concrete ways to advance this concept of predictive policing — that we can give it some shape and help our colleagues across the country know how to adapt it to their needs.

We have the best minds here to guide us, and we have the support of the Attorney General and the Administration. I look forward to the discussion, and I thank each of you in advance for your contributions.

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Predictive Policing Symposium: The Future of Prediction in Criminal Justice

Defining Terms and Introducing Issues

Theron Bowman, Ph.D., Chief of Police, Arlington, Texas

Dr. John Morgan opened the discussion by introducing a working definition: "Predictive policing refers to any policing strategy or tactic that develops and uses information and advanced analysis to inform forward-thinking crime prevention." This definition and the five elements of predictive policing that Morgan introduced appear in a Harvard Executive Session paper being drafted by Dr. Morgan, Chief Bill Bratton and Lieutenant Sean Malinowski.

[For more discussion on the definition and elements, visit the Technical Breakout Session.](#)

Ultimately, predictive policing is intended as a framework to advance strategies like community policing, problem-oriented policing, intelligence-led policing and hot spots policing.

Dr. Theron Bowman provided a working example of predictive policing from the Arlington (Texas) Police Department. Chief Bowman explained how his department uses data on residential burglaries to identify hot spots, and then compares these locations to places with code violations in the city. With analysis, the data serve to monitor the relationship between things like neighborhood physical deterioration and crime.

Given the social disorganization traditionally associated with a large amount of code violations, Arlington has developed a formula to help identify characteristics of a "fragile neighborhood." As a result, the police department and other city agencies now apply resources more efficiently to these fragile neighborhoods, ultimately preventing crime.

Jeremy Crump, director of strategy for the National Policing Improvement Agency (the British sister organization of NIJ), discussed police prediction in the United Kingdom. He said that although the term "predictive policing" has not yet been used in the U.K., the fundamentals are drivers of change. For example, the U.K. has been using a national database (Police National Computer) for 35 years.

Crump stressed the importance of adapting to changing conditions and focusing less on the hierarchy that exists within many agencies. For predictive policing to make a difference, departments need to be willing to explore that change.

[For more information, visit the National Policing Improvement Agency's Web site](#)

Dr. Craig Uchida discussed the role of research and theory in predictive policing. He emphasized the need for theories to drive the information being analyzed. Uchida stated that prevention theories are already available; this information must now be integrated with data that is also available. He discussed how situational crime prevention, social disorganization and collective efficacy theories may include predictive analytics, and suggested that they should be used in guiding policing strategies and tactics.

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