Fight Crime and Increase Public Safety

Today, law enforcement faces greater challenges than ever before. In addition to promoting public safety and combating crime and gang violence, your agency has the added burden of helping to guard against terrorism.

To meet these challenges, agencies are trying a variety of approaches. Innovative information technologies are playing a key role in improving law enforcement's ability to anticipate events and respond appropriately. Predictive analytics is one of those technologies.

Predictive analytics enables your agency to uncover patterns in massive amounts of data. Not only in huge tables of crime statistics but also in the vast amounts of textual data—including e-mail and chat room interactions—that your agency must evaluate. By using predictive analytics, you can anticipate what types of intervention will be needed, and where. Plan, rather than react. And make the best use of your resources.

With predictive analytics, you can base daily operational decisions on data-driven models that precisely describe current and developing conditions. This enables you to:

- Improve your crime-fighting ability and control costs by deploying personnel where they're needed most
- Predict which types of events are most likely to escalate into serious or violent crimes and guard against this escalation
- Conduct new criminal investigations more efficiently
- Discover patterns in unsolved crimes that suggest areas for further investigation
- Explore security threats and study the people and organizations involved
- Deliver information to the field, where and when it's needed

SPSS predictive analytic tools are cost-effective, offering rapid payback for your investment. With predictive analytics, you can move from counting crime after it has occurred to preventing crime before it happens.

"Street smarts" get backup

No matter how experienced your officers are, combating crime, gangs, and terrorism requires more than instinct. It requires the kind of insight that comes from rigorously analyzing masses of information in order to get a clear picture of conditions in time to take action.

That's where predictive analytics comes in. For decades, leading business and scientific research organizations have used predictive analytic technologies from SPSS to analyze massive data sets for purposes as diverse as financial risk analysis, fraud detection, and DNA microarray analysis.

In law enforcement, trends in suspicious or criminal behavior can be identified using a variety of information, including aggregated or incident-level data. For example, a crime analyst might use predictive analytics to:

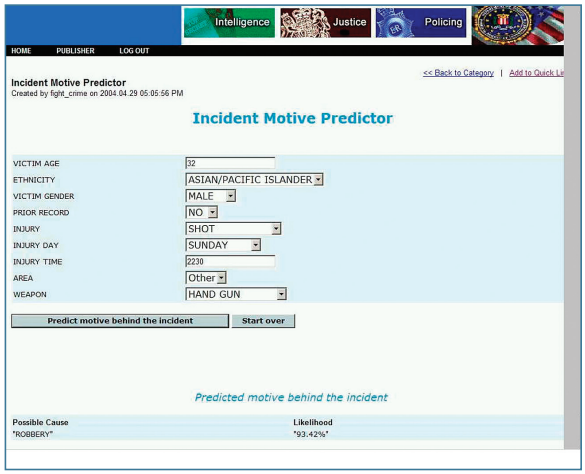
- Identify areas typically frequented by violent criminals
- Match trends in regional or national gang activity with local incidents
- Link information about terror suspects from national and international sources with local complaint and arrest records

Law enforcement agencies often rely on data from diverse sources and applications. For this reason, predictive analytic solutions with an open architecture are particularly valuable: They produce results quickly from existing data. And the true benefit of predictive analytics is realized when predictive models and analyses are delivered to front-line users—officers on patrol, detectives on a case, and their commanders.

SPSS offers sophisticated tools to support the work of your crime analysts and technology to efficiently communicate information to those in the field. Here are two examples of how predictive analytic solutions from SPSS have supported law enforcement efforts:

The **Richmond, Virginia, Police Department** uses predictive analytics to facilitate the deployment of officers to locations where they are most needed, identify minor crimes that are likely to escalate into violent ones, and accelerate the criminal investigation process. For example, in 2003 the department identified potential New Year's Eve "hot spots"—locations where holiday gunfire had previously been reported. By deploying patrol officers to these locations, the department experienced a 47 percent reduction in citizen complaints about random gunfire and a 246 percent increase in weapons recovered. These results were obtained using 50 fewer officers than originally planned for the shift, saving the department nearly $15,000 in salary costs in a single night.

A **major U.S. metropolitan area** identified the 500 most violent offenders within its jurisdiction. This was accomplished by analyzing millions of records contained in a state database of individuals arrested over a 10-year period, using a number of specific criteria. After the list was developed, parole and police officers were able to coordinate their interactions with these offenders with the goal of deterring them from committing additional crimes. The police department also deployed more officers to areas frequented by the most dangerous criminals. In the year after instituting the program, the city experienced a 40 percent decrease in firearms-related homicides and a similar decrease in the number of firearms-related emergency calls, without adding staff or jeopardizing the safety of its officers.



Front-line personnel don't need to understand the technology to benefit from the results of predictive analytics. From a browser, they can access predictive information in a form that's easy to understand and use.

SPSS has hundreds of customers worldwide among local, regional, and national law enforcement agencies, court systems, correctional institutions, and parole boards. They use SPSS software for a range of purposes, including:

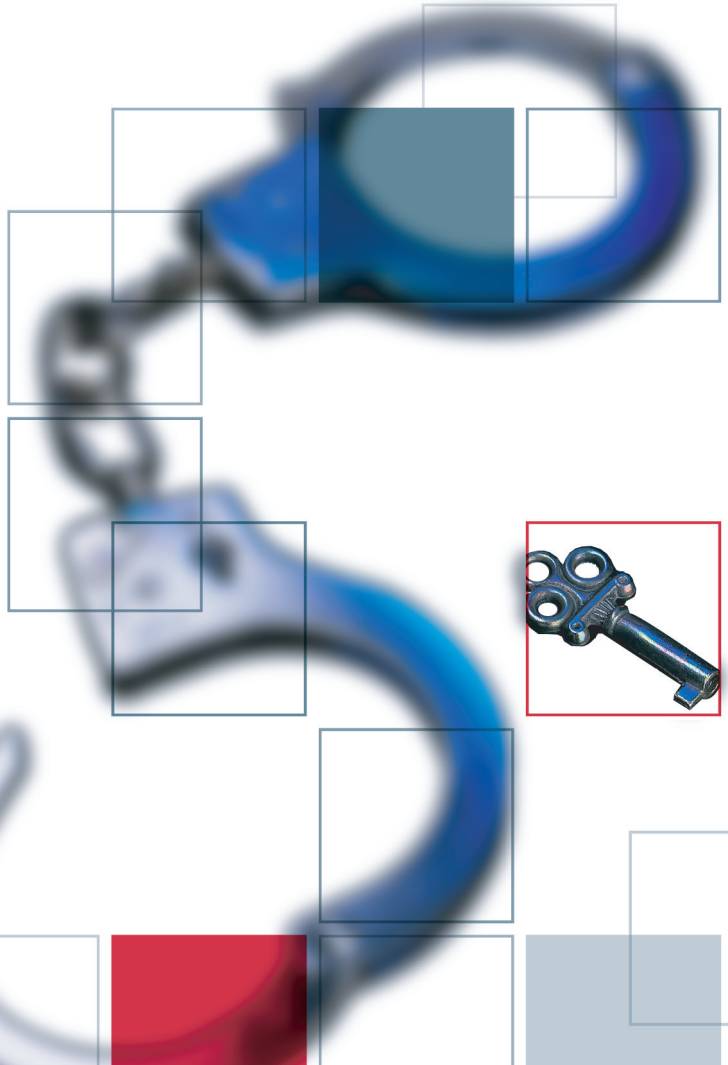
- Forecasting correctional facility needs based on trends in crime rates
- Evaluating the success of rehabilitative programs
- Choosing emergency command center sites based on the frequency and location of crimes, fires, and accidents

Helping you protect the public

Today, sharing information across agency lines is a high priority. That's because programs that facilitate the sharing of information improve participating agencies' resource allocation and increase their productivity and effectiveness.

This makes it even more important for agencies to employ predictive solutions that can access and analyze data from a wide variety of sources and software applications. SPSS predictive analytic solutions enable your agency to do this. With SPSS solutions, you can improve the effectiveness of your predictive models by including information contained in textual data. This includes text contained in incident reports, witness statements, suspect interviews, tip information, calls for service, and other telephone calls—even e-mail and chat room activity.

With predictive analytics, your department or agency gains efficient access to relevant information quickly, saving hours, even days, of time in making decisions. You can use less costly staff resources to address routine or recurring issues, reserving highly trained staff for more strategic situations. And you can use the right amount of force in the situations that require it.



When law enforcement officers have timely, relevant information, they're more effective. And safer. When information is not merely descriptive but predictive, it results in scenarios like these:

- A precinct captain or other commander sees that a pattern of shootings suggests increased gang violence in a particular area, and deploys enough patrol staff to combat it
- Crime analysts or detectives identify behavioral characteristics common to several apparently unrelated cases, and develop more effective action plans to uncover leads to solve them
- An officer, knowing that a certain type of armed robbery in a certain area is likely to escalate into an assault, gives that situation greater priority and uses extra caution in dealing with it
- Your agency's internal affairs staff identifies at-risk behavior among employees and offers appropriate early intervention

"Law enforcement and public safety are 24/7 endeavors, and crime frequently occurs when analytical units are not on duty. Web-based analytics enable law enforcement organizations to fully exploit their analytical capacity when and where it is needed, while keeping operational personnel on the streets and fighting crime."

– Colonel André Parker
Chief of Police
Richmond, Virginia

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For SPSS office locations and telephone numbers, go to www.spss.com/worldwide.