



2016 State of Video Evidence Management for Predictive Policing

Learn where the U.S. police market stands when it comes to turning video evidence and other data into actionable intelligence.



Predictive policing may seem like something out of a science fiction movie.

However, U.S. law enforcement agencies have used predictive policing strategies and technologies to stave off crime for several years.

Predictive Policing Methods

Predictive policing became a major issue for law enforcement when federal agencies pushed for research into how to build the best model for crime fighting.

In 2009, the National Institute of Justice issued a competitive solicitation seeking proposals from law enforcement agencies to plan predictive policing models in their jurisdictions.

RAND Corporation, a nonprofit institution that helps improve policy and decision making through research and analysis, won an award to provide the NIJ technical assistance to the agency in Phase 1 and to serve as an independent evaluator for Phase 2 of the project.

They stated their findings in an in-depth analytical report dubbed “[Predictive Policing Analytic and Evaluation Research Support](#).”

The report provided several key findings based on how LE is using predictive policing. First, predictive policing methods generally fall into four general categories:

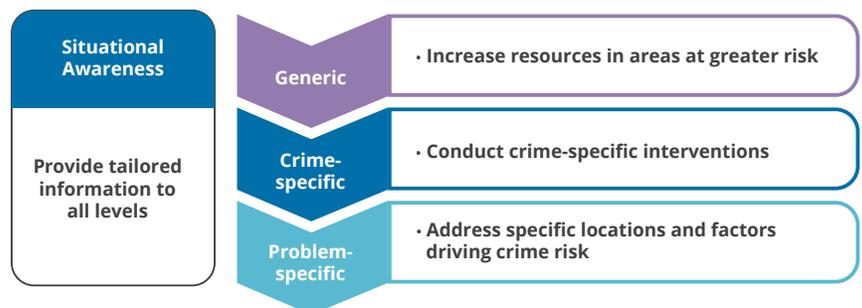
- methods for predicting crimes
- methods for predicting offenders
- methods for predicting perpetrators’ identities
- methods for predicting victims of crime

Available methods range from basic “heuristic techniques” to sophisticated “cutting-edge mathematical models” in predictive policing software suites.

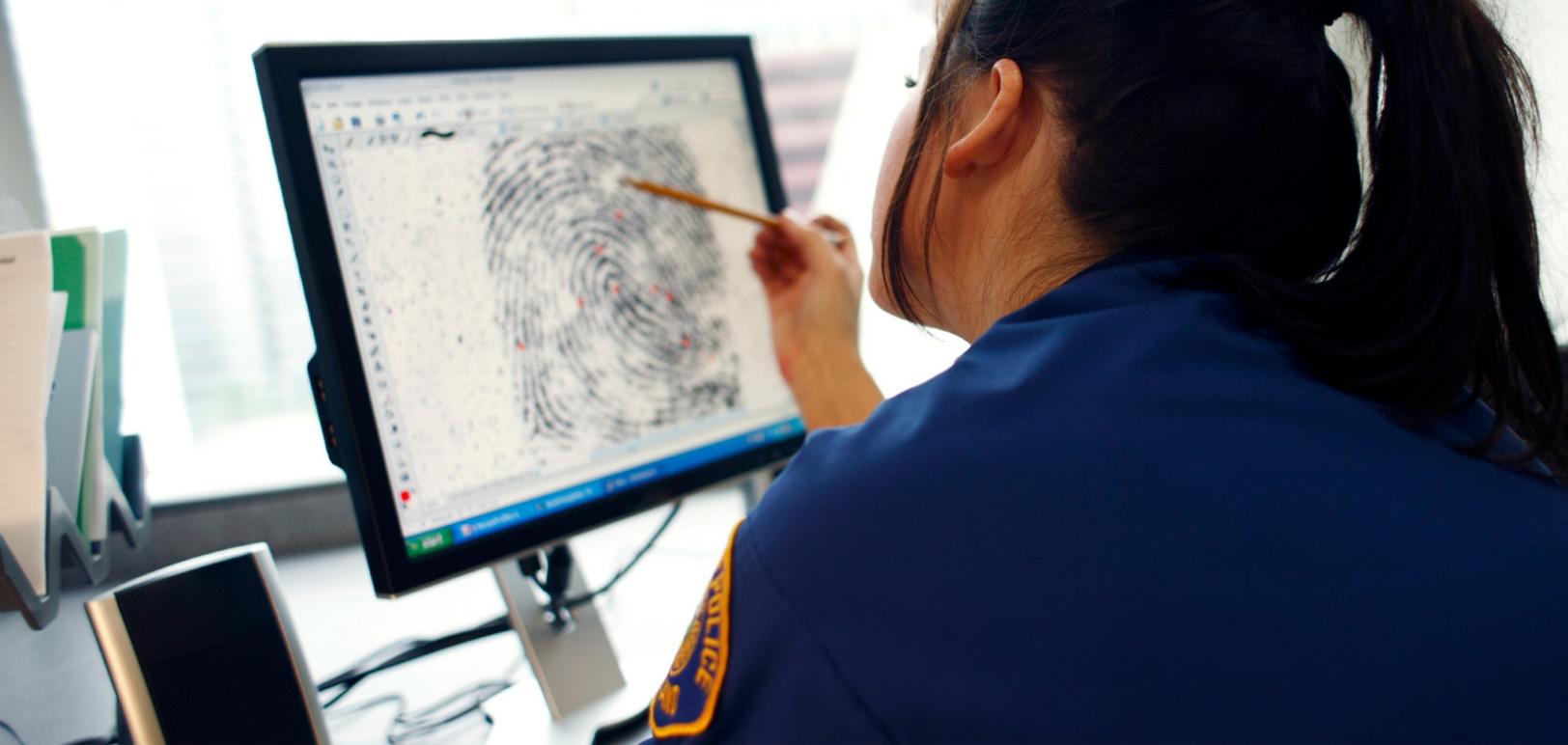
The sophistication of the software will determine outcomes, which usually leads to excellent results, according to the report.

But researchers did caution that predictive policing while highly effective is “not equivalent to a crystal ball,” but that these software tools “can enhance proactive policing and improve intervention strategies.”

The report found the main value of these methods was in their contribution to broader law enforcement strategies that use the software’s risk assessments, which helps them



Rand Corp.’s “Predictive Policing Analytic and Evaluation Research Support” report shows how predictive policing strategies connect data.



develop strategies in high-crime areas to be pro-active instead of re-active to crimes in a specific location.

In addition, the report found predictive policing strategies help decision makers better allocate resources and staff an area with a team of officers with a certain set of problem-solving skills, such as gang or drug enforcement teams.

Predictive Policing Recommendations

Based on the findings, the report offered several recommendations.

First, predictive policing tools should be developed to fit the unique needs of each LE agency as an individual entity, based on size and demographics.

This means a program and software suites should be built out based on whether the user is a small-, medium- or larger-sized agency, whether they are in a rural or urban area and more.

Agencies also may want to consider how well a predictive policing software system distributes and displays relevant information on recent crime and disorder, intelligence, and policing activity “in addition to the predictions themselves, to better support decision making at all levels,” the report found.

A final recommendation from the report is that predictive policing must include interventions based on analytical findings.

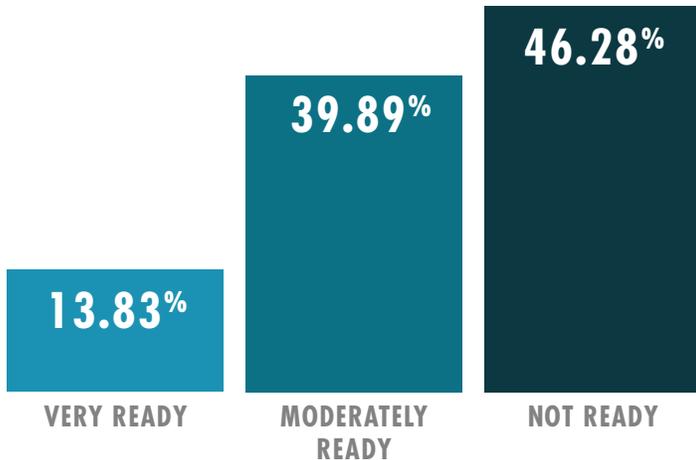
So, the report said policies need to be developed to guide officers and investigators about next steps and allocation of resources based on predictive policing results.

This could include pulling officers from one neighborhood to beef up a presence in an area where, based on predictive policing, more crime happens.

Where Are We Today?

PoliceOne [recently surveyed readers](#) about the challenges LE agencies face when it comes to turning video evidence into actionable intelligence, which is critical to predictive policing programs.

To what degree is your agency capable of taking video and creating actionable intelligence?



The survey found many key challenges facing law enforcement when it comes to managing video evidence.

The first issue is capturing video from disparate systems and then merging the data to create actionable intelligence.

This includes video from third parties, with nearly 50 percent of respondents noting that their video comes from businesses and other commercial entities and/or body cameras, followed closely by citywide video surveillance camera systems.

It was not surprising, then, to learn from survey respondents that many police agencies struggle to manage all the video intelligence gathered from these systems.

According to the survey, about 46 percent of respondents felt their departments were not ready to capture video intelligence, analyze it and then solve a crime.

In fact, only 40 percent noted that they felt their department was moderately ready, which means 86 percent of respondents and their LE agencies still need help sorting and storing video evidence.

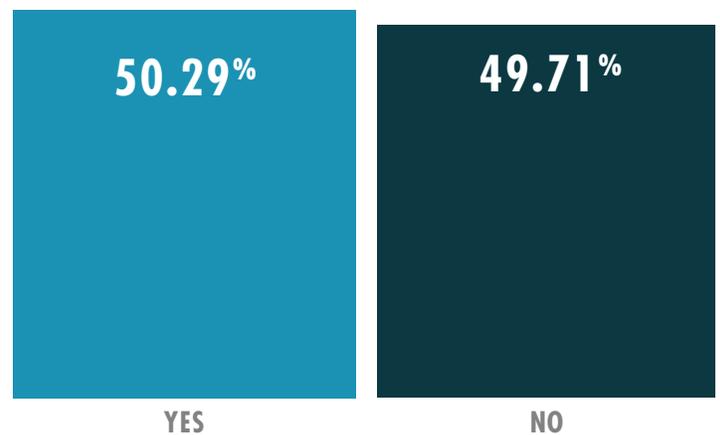
Agencies also are struggling with convincing LE decision makers to consider the cloud for storage, even though the cloud is a secure option when it is [CJIS-compliant](#).

In fact, respondents were split evenly on whether their LE agencies currently use the cloud to store video evidence securely: 50 percent currently use the cloud for storage and 50 percent do not.

The reasons respondents do not use the cloud vary, from lack of education to budgetary. One respondent noted that his department doesn't let him spend money over and above the cost of the hardware.

Another respondent noted that they were a small department and way behind technologically, while another commented that management is not technically proficient enough to understand the need or perceived security issues.

Does your agency currently use on-site storage and cloud or combination of both to house data?



Predictive Policing Solutions

Crime analytics software is needed to create actionable intelligence from the massive amount of data and video evidence LE agencies collect, whether that is from body-worn and in-car cameras or gunshot sensors.

The challenge LE agencies face is merging data from disparate or third-party systems in order to create actionable intelligence for predictive policing.

Fortunately, cutting-edge technologies are available to help police departments close this gap. Now, modern software suites enable decision makers to use analytics to crunch crime data to help tailor a department's approach to fighting crime.

Specifically, agencies are investing in predictive policing software suites that are able to connect data about times, locations and types of crimes in geographic locations to provide an insight to investigators.

The analytical techniques are used to identify potential crime, solve past crimes and identify potential offenders and victims.

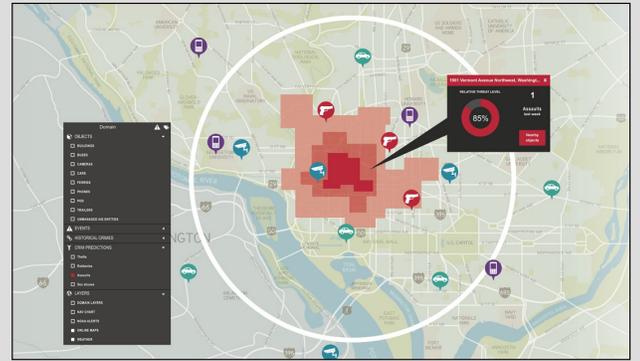
ViON offers one of the industry's most innovative and groundbreaking crime analytics software suites available, Hitachi Visualization. The integrated, end-to-end solution provides several features that can help officers and LE agencies review, analyze and store video and data to solve crimes.

Hitachi Visualization (HV) and Hitachi Visualization Platform (HVP)

The scalable platform consists of [Hitachi Visualization Platform](#) intelligent edge-capture devices and HV, an integrated cloud and mobile software platform.

The platform enables public safety organizations to correlate disparate data and video from any source and presents these systems in real time geospatially, said Trent Lowe, account manager of ViON public safety. (ViON is an HVS systems integrator.)

Predictive Policing Software Components



Hitachi Visualization Platform (HVP):

Intelligent video and data capture devices including cameras, LPRs, and sensors. Transmission systems such as 4G LTE, Wi-Fi and wired. Gateway for integration of disparate systems.

Hitachi Visualization Suite (HVS):

Map based user interface integrating video and sensor data running in the cloud. Includes analytics and workflow engine. Provides real time situational awareness.

Video Management Platform (VMP):

Video Management System (VMS) hardware platform for long term storage and scalability. Supports all major VMS's including Genetec, Milestone, Verint, and OnSSI. Initially supported on HCP servers and HUS controllers.

HVS integrates various kinds of public safety data. CAD/911 calls, records management systems, social media and gunshot detection as just a small example of its capabilities.

Lowe said this is very important to support predictive policing strategies a LE agency has in place.



“**HVS creates a single pane of glass combining all these data elements automatically in real time so public safety can have real time situational awareness.**”

Trent Lowe, VION public safety

“These are silos of data today,” he said. “HVS creates a single pane of glass GUI combining all these data elements automatically in real time so public safety can have real-time situational awareness.”

Investigations move to the next level using the Hitachi Predictive Crime Analytics module, which aids investigators with powerful algorithms that produce a threat level for a specific crime so the proper resources may be allocated.

HVS can ingest data into the Predictive Crime Analytic module to gather and even predict where and when crime may occur, Lowe said.

This data includes weather, time of day, historical crimes, social media and CAD/911 data that can be run through the algorithm to produce a percentage for the possibility of a robbery or homicide that may occur in a specific block radius.

“Having a system that ties together disparate systems lets officers connect the dots when it comes to crime in a way never seen before,” Lowe said.

For a real-world predictive policing example, consider a string of car break-ins occurring in a certain area. LE needs to investigate and possibly provide directed police presence in the area.

The department does not want to just send resources to drive around and hope they apprehend someone, Lowe said.

“The Predictive Crime Analytic module will automatically provide detailed data on the time of day, which days these crimes are most likely to occur, and tying in warrant/jail/parole data can even produce a subset of likely subjects that committed these types of crimes.”

The best part? All of the data can be shared, as HVS is a cloud-based solution using Microsoft Azure, which is CJIS-compliant secured for LE use.

Lowe said HVS cloud enables video sharing no matter where a person is located, as long as he or she has an internet connection and a web browser — and of course a user account and password. ■

Conclusion

Predictive policing is a strategy best aided by a crime analytics software that can collect data and provide an analysis of crime trends, past, present and future.

Departments continue to invest in cutting-edge software suites to help with this analysis, including the robust [Hitachi Visualization and Hitachi Visualization Platform](#).

For more information about predictive policing software call ViON 571-353-6000 or go to www.vion.com/hv

Related Resources

Webinar



[PoliceOne Webinar: How to pay for predictive crime analytics software with a SMART policing grant](#)

Learn how to win grant money for much-needed predictive crime analytics software.

Articles



[How to win a grant for crime analytics software](#)

Grant funding for new technology systems is competitive, but these tips will help make your submission stand out.



[8 features analytics software offers to solve crimes](#)

Learn how Hitachi's Visualization Platform helps agencies make sense of the myriad data and video collected by officers on the street and third-party camera systems.



[Are LE agencies ready to turn video evidence into actionable intelligence?](#)

PoliceOne recently asked readers if they were capable of turning video evidence into usable intelligence to solve crime. Here's what we learned.



[CTO on why your agency needs crime analytics software](#)

Learn about the future of crime analytics software from public safety technology expert Carl Fulp.



[3 things you need to know before choosing a predictive policing software solution](#)

Police agencies that want to increase their effectiveness while holding the budgetary line should consider acquiring a predictive policing software solution



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