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Oakland Mayor Schaaf and Police Seek Unproven 'Predictive Policing' Software

PredPol claims its software can map where future crimes are likely to occur and reduce crime by double digits. But critics, including some law enforcement officials, say there's no evidence that it works.

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Oakland Mayor Libby Schaaf is proposing to spend \$158,400 over the next two years to equip the Oakland Police Department with so-called "predictive policing" software made by a company that claims it can map

locations at which future crimes are likely to occur. Schaaf has included the purchase of the software — produced by the Santa Cruz-based company PredPol, Inc. — in her proposed 2015-17, two-year budget.

"OPD has been in contact with PredPol over the past several months to further research predictive policing software and to obtain a cost estimate for budget purposes," said Oakland Police Officer Frank Bonifacio about the proposal. Bonifacio said, however, that OPD will probably ask the city council for approval before making the purchase, and that no final decision has been made. The council's public safety committee has yet to review the proposal, according to council records.

Mayor Schaaf's office did not respond to an information request about the predictive policing software, but during a mayoral debate in April 2014, Schaaf expressed support for using predictive analytics to improve OPD's patrol tactics. And in her August 7, 2013 newsletter, Schaaf, then the councilmember representing District 4, wrote that Oakland needs to "expand [its] use of data for predictive policing, as well as address all factors that contribute to crime hot spots." And email records obtained by the *Express* show that Donnie Fowler, a PredPol lobbyist, contacted Schaaf in August 2013 and June 2014, thanking her for supportive public comments, and seeking in-person meetings. In a sales pitch, Fowler wrote, "our track record and sound science give us the confidence to guarantee a refund if Oakland's crime does not drop an additional 5% within a year."

It's not clear, however, whether PredPol's product actually works. There have been no independent analyses of PredPol's software. The peer-reviewed research on the specific statistical methods the company uses to predict crime were conducted by Jeffery Brantingham and George Mohler, both of whom have financial stakes in PredPol.

A RAND study from last year that analyzed a similar effort to predict locations where property crimes were more likely to occur in Shreveport, Louisiana concluded that the program, "did not generate a statistically significant reduction in property crime."

PredPol claims on its website that its software is "scientifically proven." The company points to dramatic crime reductions in the cities where its software has been used by the police as proof. But when the *Express* asked PredPol for citations of independent studies supporting its claims, it provided none.

The Richmond Police Department signed a three-year contract with Predpol in May 2013, and worked with the company to incorporate its crime predictions into RPD's patrol tactics. PredPol took credit for subsequent crime reductions in Richmond, stating on its website that "as of March 1, 2014, the Richmond, CA Police Department saw a 21% drop in violent crime, a 28% decrease in property crime, a 50% drop in residential burglaries and a 34% decrease in vehicle theft as compared to the same period last year." When asked about the source of these statistics, Ben Hoehn, a marketing manager for PredPol, wrote in an email to me that they were from the Richmond Police Department's online newsletter authored by Police Chief Chris Magnus.

"In Richmond crime went down, yes, but now it's going back up," Magnus said in an interview. "We're seeing double digit increases."

Magnus said PredPol's team worked hard with the city, but that he isn't convinced the software helped reduce crime. "We're not going to continue it," said Magnus, about the city's contract with PredPol, which runs through May of next year. "Our plan going forward is to rely less on predictive policing and more on what we learn through our crime

analysis process and through the beat officers' familiarity with the areas they're assigned."

PredPol was founded by mathematicians who, while conducting research for the US military, took statistical models used to predict earthquakes and turned them into algorithms designed to track enemy combatants and civilian casualties in Iraq and Afghanistan, according to US Army Research Office records. About five years ago, the same researchers, including UCLA professor Jeffery Brantingham and Santa Clara University professor George Mohler, began modifying their statistical models in an attempt to map and predict crime in Los Angeles for LAPD. After the partnership with LAPD ended, Brantingham and Mohler teamed up with a group of Silicon Valley investors and lobbyists to found PredPol. Since then, PredPol has garnered several million of dollars in investment funds, and sold subscriptions to its cloud-based software to cities including Richmond, Seattle, and Atlanta.

The software maps out 500-by-500-square-foot boxes, identifying them as locations where robberies, auto thefts, and other crimes are supposedly more likely to happen. The predictions are based on historic crime statistics that are run through a secret, proprietary algorithm. Using these maps, police step up their patrols in specific locations to catch, and ultimately prevent crimes, according to PredPol.

"We are intentionally not in the business of predicting who is most likely to commit crimes," Hoehn told the *Express* in an email. "Our methodology uses only three pieces of data for predictions: the type of crime, the place of crime, and the time crime occurred — generally public information and certainly not personally identifying or private information."

PredPol's website also claims credit for crime reductions in other cities. The Alhambra, California police "reported a 32% drop in burglaries and

a 20% drop in vehicle theft since deploying [PredPol's software] in January 2013," and that "[t]he city reported its lowest month of crime in history in May 2014." However, the blurb does not explain over what time period burglaries and vehicle thefts dropped by those amounts. Similarly, PredPol claims that the city of Santa Cruz "saw assaults drop by 9%, burglaries decrease by 11%, and robberies down 27% in its first year using the software (2011-2012)."

But a closer look at crime statistics in both cities reveals no significant reductions in violent crime and property crime since PredPol's software was put into use by police. In fact, in Alhambra, total crime has increased slightly since 2013 when the police began using PredPol's crime prediction maps, according to data posted online by the city.

The total number of crimes logged by the Santa Cruz police in 2011, when the police began using PredPol, was significantly above the city's ten-year average. Last year, after three years of using PredPol to predict crime, the city's total number of reported crimes remained significantly above the ten-year average. The total number assaults dropped by about 9 percent between 2011 and 2012, as PredPol claims, and they declined again the next year by about 9 percent, but in 2014 assaults shot upward by 24 percent, well above the average number over the ten previous years. Furthermore, in prior years, there were much more significant declines in assaults and other crimes, despite the fact that this was before the Santa Cruz police were using PredPol. The drops in specific types of crime in both cities appear to be just random fluctuations.

"PredPol is a plug-and-play solution for agencies looking for an easy fix," said a lieutenant at a mid-sized police agency who spoke on the condition of anonymity because the officer was not authorized to make public statements. The lieutenant, who heads a crime analysis team, said PredPol has cherry-picked statistics to make its product look effective.

"Until I see evidence to the contrary, I believe a crime analyst can do at least a good a job as PredPol in mapping where crimes are likely to occur," said the lieutenant. "And an analyst has a lot more value to add because they help you understand what's happening in terms of crime, the circumstances in which it happens, how crimes are related, and how to solve them or prevent them."

Brian Hofer, a civil liberties advocate working with the City of Oakland to craft policies regarding the acquisition and use of surveillance tools, said there are other reasons to be concerned about predictive policing technologies. "I would treat this just like any other piece of surveillance equipment," said Hofer, who noted that besides the fact that the purchase of PredPols' software is in Schaaf's budget, there has not yet been a public discussion about it. Representatives of Schaaf's office did not respond to requests for comment.

Hofer said the city should evaluate whether it will actually help OPD prevent crime. "We definitely suffer from a shiny gadget syndrome," said Hofer. "There's lots of lobbying pressure by companies that make these hi-tech surveillance products, and we're right up the road from Silicon Valley. It's the age of Big Data. People mistakenly think we'll find some silver bullet to Oakland's problems."

Hofer said he doubts PredPol would help OPD solve and prevent crime. "The biggest issue is the community will not talk to the police, but instead of addressing that they want to spend more money on gadgets," said Hofer. "You don't add more surveillance equipment like this to monitor people that distrust you and expect to get a different result."

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