



A Search Engine and a Crime Miracle in Oakland

Oakland's law enforcement community describes how Forensic Logic's search and analysis technology has helped slash violent crime rates and police use of force in one of America's most historically dangerous cities.

Oakland, California, may seem an unlikely setting for one of the greatest law enforcement successes of the twenty-first century.

From its roots as the birthplace of the Black Panther movement in the 1960's, Oakland has had a difficult legacy of resistance to policing. That legacy has contributed to a city that has consistently balked at putting more cops on the street, meaning Oakland PD is one of the most understaffed police agencies in America; its ratio of police officers per capita is less than half the number of cities such as Detroit, Baltimore, and New York. As a result, by the early 2000's Oakland had become one of the most dangerous cities in the country, with homicide rates double those of New York and San Francisco.

In 2012, facing severe resource constraints, soaring crime rates, and strained community relationships, Oakland PD partnered with Forensic Logic to adopt a new approach to how their officers did their jobs. The agency made the decision to let data drive every aspect of its approach to violent crime reduction, from precisely targeting its worst offenders to enabling the most junior officers to access data to make investigative inroads at crime scenes.

The results have been remarkable. In the subsequent five year period, shootings in Oakland have dropped a stunning 50 percent. In this one-time murder capital of California, homicides have declined by 42 percent, with robberies dropping by 38 percent. For those who might think that such a decline in violent crime would be attended by more aggressive policing, perhaps the most remarkable statistic is a 74 percent reduction in police use of force in the same time period.

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"Forensic Logic is the most powerful technology for reducing violent crime in America today," says Eric Breshears, former Deputy Chief of Field Operations at Oakland PD, who oversaw the system's deployment at the agency. "Every law enforcement success in Oakland was the result of an initiative, and every initiative has been rooted in Forensic Logic. The city would be a very different place today without it."

The Power Behind a Simple Search

At its core, the Forensic Logic system is a search engine that has been built and optimized for law enforcement. While search engines are ubiquitous in modern life for their ability to quickly present meaningful information from a universe of data, traditional search technologies perform poorly in the law enforcement industry since agency data is spread among so many different systems and document types, all with different formats and levels of data structuring.

Forensic Logic developed a process to normalize the disparate universe of law enforcement data types from incident reports to dispatch calls and countless others, and then train and perfect its ranking algorithms through years of historical user activity. From millions of annual searches, the platform “learns” to better understand what a user is looking for, and the result is a system that allows police to glean insights on criminal activity with the same ease as a Google search.

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“The problem with most law enforcement databases is you can only look for something you already know exists in structured data, and it’s usually pretty clunky,” Breshears explains. “With Forensic Logic, you’re finding connections you didn’t know existed, and it’s incredibly easy. You put in a few details of a vehicle or someone’s appearance, and quickly you’re getting actionable information. Put in a vague description of a crime, and you’re quickly finding an organized crime ring from similar activities

from all the other agencies in the system. Enter a name from Oakland, and you’re seeing that person’s accomplices and affiliations returned immediately from Fresno and Stockton. Many systems can give you graphs and heat maps; Forensic Logic gives you names, addresses, vehicles. It completely transformed the speed and accuracy with which we were able to identify those who were committing the vast majority of crimes and arrest our worst offenders.”

A New Technology, a New Kind of Policing

With increased adoption throughout the agency, Forensic Logic’s platform would transform how Oakland’s police force performed its work. “With any agency, the really good cops will use anything they can to do their jobs better,” Breshears explains. “And that’s how we started with Forensic Logic—a few of our best started making cases more quickly than they ever had before with this amazing new capability.” In time, Forensic Logic would evolve from use among a few individuals to official practice throughout the agency.

“We realized that if we were going to move the needle on violent crime with our resource constraints, we couldn’t afford to *not* use this tool. That’s when we started requiring its use in everything we did. When patrol officers responded to a crime, they no longer just took notes and filed a report. They were expected to start running searches on Forensic Logic immediately on scene, to quickly use whatever pieces of information they could gather to identify suspects and addresses so we could make arrests in that golden hour after a serious crime was committed. The results were amazing; our patrol officers weren’t just *responding and reporting*, they were actually *solving*, and the

arrests of those violent offenders began really putting a huge dent in our violent crime rates. Forensic Logic allowed us to deploy a whole new kind of policing: faster, more agile, more effective, and far more data-driven."

The Ceasefire Initiative

"Lots of people talk about intelligence-led policing, but Forensic Logic is what actually makes that possible," says Captain Ersie Joyner. Joyner leads OPD's highly successful Ceasefire initiative which has been praised by community leaders, law enforcement, and the media for its success in reducing violent crime and recidivism by focusing its efforts on the city's most violent offenders.

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"Back five or ten years ago, we had officers doing very *good* work. But with violent crime rates as high as they were, it begged the question of whether we were doing the *right* work." What followed was an exhaustive analysis of 18 months of crime records which allowed OPD to develop Ceasefire's framework for a data-driven model to identify serial violent offenders. "We had a plan for how we were going to reduce violent crime, but it was Forensic Logic that allowed us to execute on that plan, to put our people in a position to succeed. It gave us the data, the ability to start getting some tremendous wins because we were able to quickly identify the shooters. With Ceasefire's success and the reductions in crime, we knew we were doing the right work. Without a doubt,

none of this would have happened without Forensic Logic."

Reducing Crime, Reducing Footprint

Cutting crime rates is only half the story. Allowing Oakland PD to do so while reducing overall police footprint in the community that has earned the heaviest praise from Forensic Logic's users. "The failure of so many analytical or predictive technologies out there is that they all tell you to do the same thing: send more cops into high crime neighborhoods," says Captain Chris Bolton, who as Commander of OPD's Office of the Inspector General helped craft policies and procedures to minimize negative impact upon the community. "The problem is that with more officers looking for violations, you have a lot of arrests for the kinds of low-level crimes that aren't really affecting those neighborhoods. It's not a recipe for a good relationship with the community."

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Bolton continues, "Forensic Logic allowed us to do what we didn't think would be possible, reducing crime while also reducing our policing footprint. It all comes back to the system's ability to help us quickly identify the very small percentage of criminals doing the most harm in a community." Like Breshears and Joyner, Bolton points to the technology's facilitation of new methods of policing. "We used to do lots of well-intentioned traffic stops in the hopes we'd find a firearm, but the yield

rates were terrible. With Forensic Logic, we created a new approach: using information and investigative leads at every level of the organization to know what car we wanted to stop before we stopped them. We started recovering more firearms and lowering crime rates by stopping fewer people, which all helps our standing in the community. It's the embodiment of responsible, intelligence-led policing, and Forensic Logic made it possible."

From Arrests to Prosecutions

As some investigators retired from Oakland PD and joined the Alameda County District Attorney's Office to help build cases for trial, they brought Forensic Logic with them. Given the need for prosecutors to identify other victims and witnesses associated with a crime or an arrestee, it is little surprise that the highest per-capita use of the Forensic Logic platform is at district attorneys' offices where the system is deployed at the local level.

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-District Attorney Nancy O'Malley

"Forensic Logic is absolutely instrumental in nearly every case we prosecute," says Alameda County District Attorney Nancy O'Malley, a longtime champion of the platform. "What they have built, the power of their technology, it makes your head spin. We've made sure every investigator in the office has access, and many have repeatedly said it's the most valuable tool they have to build cases."

O'Malley is quick to credit not only what Forensic Logic has built, but how they have built it. "They really are a different kind of company. To them, their work is a moral cause. I think that is what has let them build such an incredible technology—they're relentless when it comes to figuring out how to solve the big, difficult problems in criminal justice, how to use information to protect victims and help police. They throw themselves at problems, particularly when it comes to human trafficking and child sex abuse. At one point, we were using the system so much and getting such wins, I finally told them they needed to raise their prices. I can safely say I've never had to ask that of any other vendor in over thirty years in this office."

A Breakthrough at the FBI

Local police departments are not the only ones crediting Forensic Logic with transformations in their operations. Doug Hunt served as the FBI's Supervisory Special Agent for the Violent Crimes Against Children unit, leading the agency's efforts to combat the trafficking of minors in Oakland and beyond. "I'm a lawyer so I don't say this lightly, but I think it's negligent for any law enforcement agency not to be using Forensic Logic," says Hunt.

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They key to the system's value, Hunt explains, is its ability to quickly make linkages between victims and their traffickers that were otherwise difficult or impossible to achieve. "Human

trafficking is a difficult crime to prosecute because victims are rarely cooperative in the same way victims of other violent crimes can be. Pimps have a tremendously strong psychological grip on their victims, who are often very reluctant to identify their abuser. We'd do countless interviews and field operations to try to get victims to identify their traffickers, and our rate of getting complete and accurate statements from victims was often very low."

Forensic Logic, Hunt says, provided a breakthrough. "A few of my agents and analysts started using this new information system called Forensic Logic that we knew was hugely popular over at Oakland PD. One of my agents approached me and said, 'this is the most powerful tool we've ever seen, by far.' It could draw connections between pimps and victims, obtaining results like nothing we'd ever seen, and it was just so simple to use. The system changed everything not just for investigations, but for field operations. It added a critical level of situational awareness for agents operating in the field like no other system I've ever seen."

The Path Ahead

"We started out with this simple idea, that giving law enforcement better access to information would lead to better decisions and better outcomes," said Brad Davis, CEO of Forensic Logic. "We never could have imagined how far the Oakland law enforcement community would advance that idea, and the successes they would achieve for police and for their neighborhoods."

Forensic Logic's platform has been expanding well beyond its Oakland roots, developing into a nationwide search engine and information network for law enforcement. After organic

growth in the western United States, in late 2017 the company acquired the law enforcement information giant COPLINK from IBM and simultaneously partnered with the global information firm Thomson Reuters. The purpose of both transactions, says Davis, is to expand its customer base, data footprint, and product offerings. "Our mission is to help deliver the same outcomes we've seen in Oakland to as many communities as we possibly can."

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"I would bet every chip I had that Forensic Logic is the future of policing, particularly with what they are doing to combat firearm crime," Captain Joyner says. "We used to joke that it was the best kept secret in law enforcement. It helped Oakland PD quietly transform our department and our city, and now it's ready to help transform the rest of the country. It's just too good to be kept a secret any longer."



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