

FEATURE

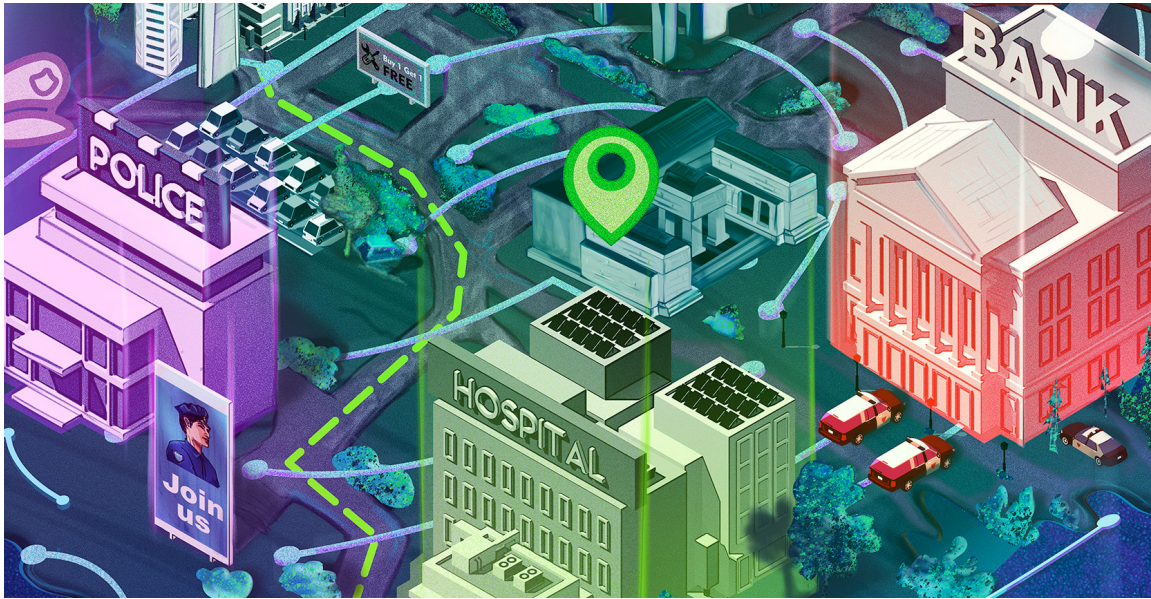
# The future of law enforcement

Policing strategies to meet the challenges of evolving technology and a changing world

Michael Gelles, Alex Mirkow, and Joe Mariani



Law enforcement is changing rapidly. New forms of crime, advanced technologies, and evolving relationships with the communities are shifting the very foundations of police work. New tools and a new police strategy—one that goes beyond solely enforcement or community engagement—are needed. But success at these changes will require a shift to the culture of many departments.



IN 1968, PHILLIP K. Dick wrote a novel about a law enforcement agent in the distant future of 2019. The gritty cityscape featured such futuristic elements as artificial intelligence, video calls, voice-activated personal assistants, and flying cars.<sup>1</sup> It seems unlikely that even the great science fiction author could have predicted that nearly all of those technologies would be part of our daily lives in the real 2019. Today's law enforcement officers have to navigate in real-life difficulties that literally could only be imagined 51 years ago.

Law enforcement today faces a rapidly shifting landscape, with challenges on every front. The pace of change is increasing. Incidents go from local to national in seconds. And the ramifications can be lasting. New forms of crime, new technologies, and tense relationships with the communities are shifting the very nature of police work. Officers are

increasingly being asked to do tasks beyond core law enforcement, such as dealing with the mentally ill or being the front line in combating overdose deaths. Technology and demographic shifts are changing the who, what, where, and how of law enforcement work.

To meet these new challenges law enforcement should consider not only new tools but also new policing strategies. New tools need to be able to pair the empathy of human judgment with the data-processing ability of machines. New policing strategies need to go beyond enforcement or community engagement to do both. Naturally, these can be significant changes for most police departments. The potential result is that success in meeting the challenges of the future rests on adapting the culture of those departments. To help provide a path for that change, this article

combines recent research with the perspective of some of the top law enforcement professionals in the United States.

## The challenges of a changing world

The future of law enforcement begins well outside the world of crime and justice. Broader demographic and technological trends are shaping the world in which police operate. Law enforcement operates within an ecosystem that includes police departments, communities, technology providers, and many others. Police work within departments, which recruit from the available—typically local—labor pool. Officers use a set of tools provided for them by departments to fight crime. And police carry out this work within a community—their goal is the safety, security, and well-being of constituents. Dramatic and rapid change is touching every aspect of policing in every area of its ecosystem. Everything from what police do to where they do it, to who is performing those actions to the technologies and methods used by criminals who the police are trying to apprehend, all are shifting as new technologies emerge and citizen expectations shift (figure 1).

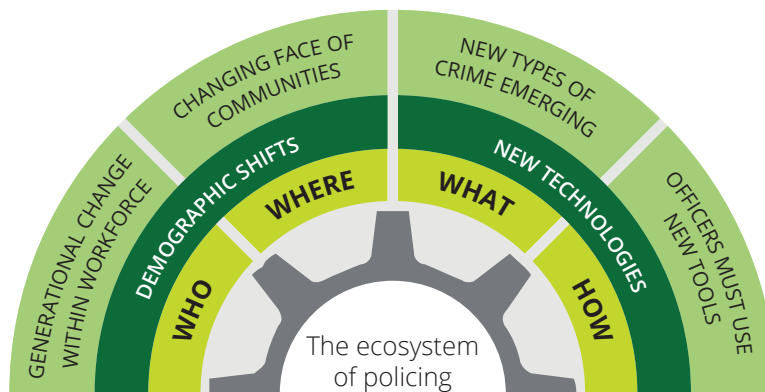
**The how of policing: New tools.** Technology is perhaps the most visible sign of change. Nearly every person carries around with them a device that can log and transmit amounts of data that would have been unthinkable a little over a decade ago. This one fact alone has significantly changed how police officers do their jobs. Simply looking through the call history of a phone at a crime scene can be [a huge source of data that can break open even large investigations](#).

Police are actually fairly good with technology. Noted criminologist Professor David Wiesburd observes that “police are generally open to tech. Body cameras were introduced only a few years ago, yet today nearly 60 percent of police have adopted them. I did a study comparing the diffusion of COMSTAT to the diffusion curves of commercial products and, compared to other industries, police adopt innovations fairly quickly.”<sup>2</sup> Many of the technologies in use today by law enforcement evolved from business or commercial tools. The challenge for law enforcement is to adapt these technologies into investigation and enforcement without discarding other proven “gum shoe” techniques or losing confidence in investigative results that are so crucial to presenting findings in a court of law.

FIGURE 1

### How macro demographic and technological trends are changing law enforcement

■ Drivers ■ Changes



Source: Deloitte analysis.

**The what of policing: New forms of crime.**

At the same time that police are working to absorb new technology, criminals are constantly piloting, iterating, and expanding their methods. In fact, criminals are often among the earliest adopters of new technology. For example, when the Bonnot Gang robbed a bank outside of Paris in 1912 and made their escape in an automobile, they were pursued by two police officers, one on horseback and the other frantically pedaling a bicycle.<sup>3</sup> Today, you can see the same trends in cybercrime, the use of encrypted messaging apps, and dark web marketplaces selling everything from drugs to people.

Criminals are also taking advantage of the emergence of digital currencies to pay for illicit products and services, launching a new era of cyber money laundering and forcing investigators to redefine how they track nefarious financial activity.

Law enforcement is locked in a technological arms race with criminals, a race that demands not just new technology but also the skills and know-how to use it. With the speed of technology—the average life span of a digital app is less than three years—police cannot afford to be reactive.<sup>4</sup>

Criminals will have already moved on to the next technological opportunity. Reactive is too late; it is game over.

**The who of policing: A changing workforce.**

The issue is not technology alone, but rather the

impact technology has along with other larger changes. Take the intersection of technology and social change and consider what that may mean for the expectations of a younger generation coming into the profession.

Recruiting the next generation of law enforcement officers is already a challenge. Demographic and technological shifts have changed what younger officers expect from the profession. Professor Weisburd sees exactly that in his research:

“Younger officers having a different culture. One study in Minnesota found that younger officers are more likely to think about policing as a job versus profession—do it for a few years and then move on to something else versus having 20 years and retiring. They do not necessarily see themselves as being in the police force forever.”<sup>5</sup> The movement of more members of a younger generation more comfortable with technology through police forces can help the effective adoption of those technologies. The future of police work hinges on how technology and human judgment can be brought together and applied to foundational law enforcement tasks.

**The where of policing: Changing communities.**

It would be challenging enough if demographic trends and new technology were only reshaping police forces, but these trends are changing the society that law enforcement must police as well.

**GLOBAL CHANGES, LOCAL IMPACTS**

While many of the examples for these shifts in policing come from North America, similar changes are underway across the globe. While specific circumstances vary locally, the same macros trends are touching departments everywhere. A recent study by our colleagues in the United Kingdom finds that, much as in North America, policing in the United Kingdom is changing. Rapid developments in technology, spending reductions, and profound shifts in society and patterns of crime have contributed to changes in police structures, recruitment approaches, ways of engaging the public, investigative methods, approaches to preventing crime, supporting victims, and protecting the vulnerable. Read more about how United Kingdom police are adapting to those changes in the full report [Policing 4.0](#).

Technology and demographic shifts are changing where we live, who we live next to, and how we interact with those around us, all challenging the ability of police to form meaningful relationships with the communities they protect. The instant availability of information on social media, for example, is reshaping the nature of some social ties. After all, going by numbers of social media connections, we may have never had more friends, and yet many have never felt more isolated. It is also changing the way communities communicate with each other, with the police, and about the police. For police, this can mean that it is difficult to form relationships with the communities they are assigned to protect, and the speed of sharing means that any incident—good or bad—can quickly reach an audience well beyond one community. Just this one technology has had significant impact on how police work with communities. So, to make communities active partners in security, crime fighting, and well-being may require new strategies.

## New policing strategies

How can law enforcement understand this new environment and respond to it proactively, to shape it in a positive direction? What is a realistic next step in the future of policing? With all but the fundamentals of law enforcement shifting, it seems that new policing strategies may be needed.

Discussions about policing strategy today often seem to come down to a debate about “enforcement” versus “community policing.” While there are nuance and emotion to both sides, it turns out these strategies may not be such opposite poles as they seem.

For example, research seems to indicate that enforcement-based strategies such as “proactive policing” do have a measurable effect on crime reduction.<sup>6</sup> However, they also have little or no effect—either positive or negative on the community.<sup>7</sup> On the other hand, reports such as the

*President’s report on 21st century policing* indicate the community policing strategies do not seem to have much impact on crime.<sup>8</sup> However, they do have significant positive impacts on communities.

Therefore, since policing is all about making a community safer, what is required is neither solely enforcement nor solely community engagement. Rather, to meet the challenges of a changing world, the new policing strategy must involve both. As Professor Weisburd sums it up, “In my mind, the future of police is *both* crime control and positive impact on community.”<sup>9</sup>

One example of such a new strategy are gun buy-back programs. Many communities have had programs around buy-backs of weapons, offering small cash rewards for turning in firearms. On one hand, such programs function as an enforcement mechanism; they are a means of taking illegal weapons off the street. But on the other hand, they are also a way of engaging the community in active partnership to make the community safer.

## Mobilizing the tools of the future of work

Even the best strategy remains just a good idea unless workers have the tools to make it a reality, and the skills and motivation to use them for police, which means having both the people and the technology needed to get the job done.

### NEW TECH TOOLS

Digital evidence is an increasingly potent—and fraught—tool of investigations. There is simply so much data available that it can overwhelm even the most well-equipped and well-resourced departments. While some technologies such as body cameras and license-plate reading add new data to the huge volumes that must be analyzed, other technologies can help law enforcement organizations get a handle on all the data and put it to good use. Digital evidence processing tools such as



geospatial analysis, video analytics, data analytics, and digital forensics can enable police to more quickly find relevant information in data and counter criminals' rapid use of new technology.

Technology can also help large departments deal with the massive call volume that they experience. Voice recognition, natural language processing, and other tools can help triage the millions of calls that a department may receive, helping police to better understand which ones need immediate response, which ones can wait, and which ones need a live officer on scene.<sup>10</sup> That can help put human officers where they are needed most to have the greatest impact with their human-to-human interactions.

But there are limitations to these tools. They are not capable of magic, and putting full trust in new technological tools without the training and organization to support it will often backfire. Professor Weisburd describes both the power and the limitations of technology when he describes how analytics "can identify the places where crime is more likely allowing police to apply presence in one form or another. But any department that uses that 'machine' without using their operational knowledge is nuts in my opinion. No one is going to solve all your problems with an algorithm."<sup>11</sup>

The heart of new investigative analytics and similar tools is human-machine teaming. The idea is not to have digital technology replace human police, but rather to have it augment humans, allowing each to work to their strengths. Digital technology can crunch massive volumes of data to pull out clues a human could never find, while the human can adapt it for context, understand circumstances, and interact with other humans.<sup>12</sup>

The New York Police Department's (NYPD's) use of text analytics is a good example. By running those tools on crime reports, officers are able to find similar patterns of words that human investigators may have missed because they spanned precinct

boundaries, for example. The goal is not to have an algorithm spit out exactly when and where a crime is likely to occur, as in the movie *Minority Report*. Rather, in the words of Alex Chohlas-Wood, a researcher and deputy director of the Computational Policy Lab at Stanford University, "The goal here is to alleviate all that kind of busy-work you might have to do to find hits on a pattern."<sup>13</sup> Already, algorithms have helped solve cases as unusual as a series of thefts from gym locker rooms across the city.<sup>14</sup>

## ALL ABOUT PEOPLE

That is a great example of how technology can help at the enforcement side of the new policing strategy. But it also highlights the limitations of the same technology. No algorithm is perfect; any algorithm can be trained on biased input data and therefore reach biased conclusions. And while an algorithm can make people safer, it cannot make them *feel* safer. To do that requires human interaction.

But you just have to think of the image of a typical subway train with people avoiding eye contact, their faces buried in smart phones, to see how difficult it can be for technology to build human interactions. Dave Brant, the former executive director of the National Law Enforcement Museum, put it this way: "You just don't have as much face-to-face person-to-person time today. So the challenge going forward is to merge technology with the human element."<sup>15</sup> With research showing that empathy can be important to officers getting desired outcomes, police need to work hard to keep interpersonal connections alive even while taking advantage of the newest technologies.<sup>16</sup>

The key to having humans and machines work together in law enforcement is not just having machines spit out the right answer, but having humans and machines work together, both playing to their individual strengths. Machines can process significant volumes of data with more precision than any human, while humans can respond better

to variability and context than any machine. The winning approach is to use machines to fill in reports and do other tedious, time-consuming tasks that computers are good at, and drive human officers to do what humans are good at—interacting with other humans.<sup>17</sup> In turn, that frees up human officers to interact more with the community and make human judgments, which in turn increases the accuracy of the machines: a virtuous circle of collaboration. Take criminal investigations as an example. Data analysis tools do not solve the crime but rather sift through volumes of disparate data pulling out potentially significant connections to help the human investigator develop leads and validate theories faster and with greater accuracy than before.

## Bringing it all together

The key themes of the future of law enforcement may be “enforcement *and* community engagement” and “human-machine teaming,” but those remain

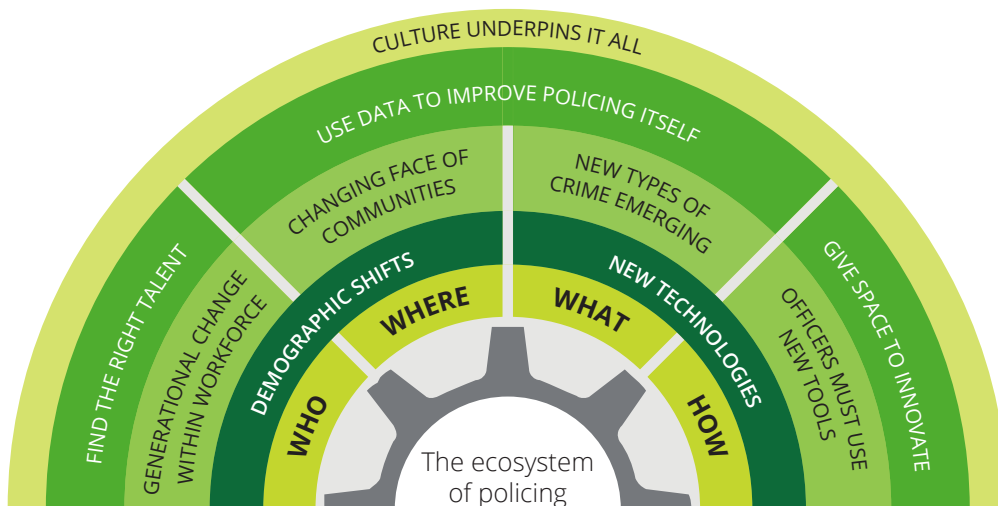
high-level strategies. Success or failure will likely rest on how those themes are implemented. The future of policing will be determined by how departments take action in four areas: using data to improve policing itself; finding the right talent; giving them the space to innovate; and understanding how organizational culture aids all of the above (figure 2).

**Using data to improve policing itself.** Many law enforcement agencies are becoming increasingly comfortable with using digital data to pursue investigations or deploy officers to trouble spots. However, relatively few agencies are applying that data back to themselves in order to examine the efficacy of those actions, called “evidence-based policing.” The volumes of digital data collected by law enforcement can be an invaluable tool in determining if interventions are truly having the desired effect or not. Armed with that knowledge, police can continue those that are having desired effects, and end those that are ineffective or having undesirable side effects.

FIGURE 2

### How law enforcement can adapt to the changes shaping the future

■ Drivers ■ Changes ■ How to adapt



Source: Deloitte analysis.

But to reach that goal requires organizational and culture change. Ed Davis, former police commissioner of the City of Boston, sums up the challenge this way: “How do you reward an officer that has strong community ties and doesn’t make an arrest all year? Right now, those ties are not captured in metrics, but they can still be effective at preventing crime.”<sup>18</sup> The shift to evidence-based policing is about more than just slogans and more than just data; it is about shifting how departments operate. Police will need new performance-evaluation metrics, new incentive structures, and new training regimens.

Technology may be able to help here as well. Often, organizations are locked into valuing only what they can measure—one executive at a telecommunications company tells a story of valuing the number of calls answered in a call center until the company realized that its top performer was simply answering the phone and telling customers to call back. Obviously not what they intended!<sup>19</sup>

In the same way, police may overvalue arrests because it is currently easier to count arrest paperwork than measure intangibles such as community ties or skills with high-tech investigative tools. But as technologies such as smartphones, body cameras, and other devices proliferate among officers, departments may have a greater ability to measure previously hidden attributes of police work. For example, Army cybersecurity teams recently used badges that sense proximity and tone of voice to evaluate the most effective teams. What they found was that teams that interacted less with leadership were actually more effective—potentially the opposite of what may have been known before when leaders could only go on who they talked to.<sup>20</sup>

**Find the right talent.** The technological and social shifts currently facing police will likely require new skills from officers. To find those skills, departments may need to look to new sources of talent and create new systems for managing it. As the workforce continues to include more and more

digital natives who have grown up with technology and the expectation of having technology to work, there will be a natural cultural evolution and new skill sets that are necessary to evolve policing in the future.

First, the proliferation of new technologies in policing will lead to the need for new skills within the workforce. Already many departments are beginning to see this as new occupations such as data scientists become an integral part of the workforce. Peter Sloly, former deputy chief of the Toronto Police Service, argues, “The range of police officers hired needs to be expanded to include candidates with all the latest tech skills, from augmented reality to exoskeletons to drone self-deploying devices. But police also need to hire chemical engineers, data scientists, human-centered designers, and more. We can’t have 80–90 percent of the workforce being beat cops.”

Second, as these new occupations have different career development trajectories than traditional officers, there will need to be different tracks, career paths, and performance metrics across departments. Some officers may need more interpersonal skills as they work on the street, while others may need more technical skills to make the best use of new investigative tools. One-size-fits-all human capital policies will not fit the diverse, varied workforce needed for the future. Some departments are beginning to make changes in how they hire the workforce of the future. Departments in Baltimore and Washington DC are beginning to test candidates for emotional intelligence and decision-making early on in the hiring process.<sup>21</sup> Their hope is that by proactively seeking those skills, they can improve performance and cut down on bad behavior among officers.

But not every skill needs to be brought into the law enforcement workforce. Some skills can be accessed on an as-needed basis to increase the capability of police without having to take on the challenge of managing career fields outside of



traditional law enforcement expertise. Public-private partnerships can be a powerful tool in such cases, allowing police to create formal connections to those occupations so that they can access needed skills when required.

**Give them space to innovate:** There is no single solution to the challenges facing the work of law enforcement, meaning that departments cannot find ready-made solutions to every issue “off the shelf.” Rather, every department must tailor their approach to their unique, local circumstances. Uncovering those local solutions means providing officers the tools, incentives, and freedom needed to find new solutions which can lead to entirely new ways of fighting crime. Hackathons, red teaming, digital partnerships, and data analysis have all turned up novel ways to get the job done better, faster, and more efficiently.

Giving workers freedom to experiment can be scary, especially in the high-stakes world of law enforcement where missteps can easily end up in the news. How can leaders balance the need for performance with the freedom to innovate? The simple answer is constant repetition of organizational values and culture. When officers internalize the goals of a program, they can be trusted to take action independently to achieve those goals without overstepping the bounds. Former police commissioner Ed Davis describes how this worked for one innovative program in Boston:

“When we started a social media program aimed at breaking the victim-perpetrator cycle of violence, we first looked at it as a public messaging system, but quickly found that it had to be a dialogue. The people managing the program had to be engaged, had to be participating in that dialogue. It wasn’t a case of my telling them what to post every day, but having them involved and bought into our philosophy.”

## Culture underpins it all

From the example of the Boston social media program above, the underlying influence of organizational culture is plain to see. Culture is the factor that allows for innovation, and culture change is needed to adapt to many new technological and social trends shaping law enforcement.

The culture of law enforcement starts with its mission. Law enforcement is fundamentally about keeping people safe. Today, officers are faced with shifting circumstances in just about every aspect of the job except in that core mission of providing safety. Change is difficult in any industry and even more so in law enforcement where complex organizations must interact with complex societies often in unclear circumstances. Therefore, the future of law enforcement work does not lie with any particular tool or new technology, but rather with adapting the culture of both police and society to the new world.

Culture change can be an arduous and slow process, but the first steps are surprisingly simple:

- **Meet officers where they are.** Law enforcement is a tough job in tough circumstances. Leaders have to acknowledge that fact before moving forward. Any attempt at organizational change that doesn’t acknowledge the danger, sacrifice, and hard work of officers is doomed to lose their support and fail. Former Boston chief Ed Davis says that in culture change.

“Striking a balance is what is necessary. If you only focus on officer safety, they will see everyone as a threat. If you ignore it, they will think of community policing as soft and just a public relations stunt. But if you balance it, you can speak to their concern about their own safety, but also instill in them the fact that not everyone in the community is an enemy. Then real change is possible.”

But meeting officers where they are does not mean that hard change is needed.

- **Experiment with new models.** New challenges demand new approaches to policing. If law enforcement is to meet the challenges of the future, more than just new tools and a social media presence is required. Difficult organizational change is needed to make the best use of new tools and the skills of each officer. But the inertia of any organization resists real change, making new labels on old structures very attractive. For example, one reason why CompStat approaches were so popular was that they reinforced the traditional, top-down management structure of policing. Professor Weisburd laments this fact by quoting an Italian novelist, “Changing everything so everything can remain the same.” If law enforcement is to make progress toward the future of work, leaders must embrace real, hard change in policing models.

Finally, police are not the only ones whose culture must change. Communities also need to adapt to a changing world and adjust their expectations of police:

- **Communicate to and with community.** In an era of same-day delivery of internet purchases and on-demand video, community expectations of police can be significant. Often, these expectations may actually work against what communities ultimately want in the end, that is, safety and security. Professor Weisburd describes one example where “a technician doing a quick DNA swap of a burglary scene achieved a 30 percent clearance rate compared to 15 percent for a traditional detective coming out and interviewing the victim and witnesses. This was a new method, more effective and cheaper by the way. But there was a very real question of how citizens would feel if we didn’t send someone to a crime scene?” Ultimately, effective communication and strong

relationships can help police show the community the real value that new strategies or tools will bring.

Culture change is necessary to create the innovative, adaptive police departments of the future. It is hard work, but if tackled head on, police can achieve real, measurable success. And that success does not necessarily take decades either. For example, in the wake of high-profile friction between officers and the community, the NYPD undertook a significant shift to a new “build the block” culture. In five years, under two different commissioners, they changed performance management, training, marketing, and other structures to make the neighborhood officer the face of the department. Although a significant undertaking, it has resulted in improved community relations all the while achieving significant reductions in crime, including the lowest homicide rate in 70 years.<sup>22</sup>

## Getting started on the future, today

Policing has been evolving for centuries and will continue to do so for centuries to come. However, the world of policing, much like the world of business, has shifted to a world that mixes bricks and mortar with bits and bytes. Cameras and phones capture volumes of data, communities communicate their expectations over social media, and criminals are exploiting new technologies every day. These shifts in technology and community expectations are driving law enforcement to adopt new policing strategies that break old trade-offs between enforcement and community engagement, to do both. At the same time, departments need to provide officers with new tools that make use of human-machine teaming to achieve advances in the use of data analytics, artificial intelligence, and machine learning to manage large quantities of data, triage incoming emergency calls, and even determine where and when to deploy officers.

But more than any one technology, law enforcement needs the right people working in the right organizational structures. Looking to new sources of talent and cultivating public-private partnerships are just some of the ways that police can find the right mix of the diverse skills the future demands. At the same time, leaders must ensure that organizational culture is shifting in positive ways to give officers space to try new things while still adhering to the mission and values of the department.

But no matter the challenges that the future will bring, law enforcement will undoubtedly meet them with the same professionalism and hard work that has characterized the profession for centuries. Former deputy chief of Toronto, Peter Sloly, sees a bright future for law enforcement. Examples such as the culture change of the NYPD discussed above and other **“examples across North America show that with ‘big-L’ leadership and key investments, you can change the culture of one of the biggest police organizations in the world on a dime to meet new challenges.”**

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