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TECHNICAL REPORT

Keeping Law Enforcement Connected

Information Technology Needs from State and Local Agencies

John Gordon IV, Brett Andrew Wallace,
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Sponsored by the National Institute of Justice



Center on Quality Policing

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Summary

The National Institute of Justice (NIJ) strives to assist criminal justice practitioners on behalf of the Department of Justice (DoJ) through the scientific research, development, and evaluation of technologies and methods. Given that there are nearly 18,000 state and local law enforcement agencies in the United States, this is a challenge of great complexity, breadth, and depth. Thus, it is crucial to be aware of agencies' technology needs, as well as how they might learn about promising technologies and applications.

This technical report collects a sampling of voices reflective of the law enforcement field on questions related to information and analytic technology needs. It is intended to provide an initial step toward answering questions such as:

- What are the most common and pressing information and analysis technology needs of those serving in the field?
- How can NIJ and its National Law Enforcement and Corrections Technology Center (NLECTC) system best offer assistance?
- How do practitioners currently learn about technology?
- How can NIJ and NLECTC best leverage these modes?
- How successful is NLECTC in interfacing with law enforcement practitioners?

It is important to note that the technology needs expressed by the interviewees draw no distinction between existing systems that they are aware of but cannot afford and new technologies that are not yet developed. Rather, the needs expressed should provide NIJ, other federal providers, and the larger private and academic technology development communities with important insights as to how law enforcement agencies prioritize technology-related issues.

RAND staff conducted more than two dozen group and individual interviews with law enforcement practitioners at the state and local level about their information and analysis technology needs. A concerted effort was made to interview a roughly representative sample of state and local law enforcement organizations in terms of size and geographic location. For example, we talked with a number of very small law enforcement organizations (with as few as four sworn officers), as well as the largest police department in the country—the New York City Police Department. A number of midsized agencies (with a few hundred officers) were also included.

The results of our interviews contained a great deal of commonality regardless of department location or size. We grouped departments by size to illuminate the prevalence of different technology-related issues among small and large departments. Those with more than 100 sworn officers were considered large departments; those with 100 or fewer were considered

Table S.1
Primary Interview Results

Theme	Percentage of Large Departments that Identified Theme	Percentage of Small Departments that Identified Theme	Percentage of All Departments that Identified Theme
DESIRE for improved knowledge management (record management systems [RMS], data exchange)	77	31	54
DESIRE for improved communication infrastructure	62	46	54
DESIRE for cameras/surveillance equipment	54	31	42
DESIRE for low lifecycle cost	69	85	77
INTEROPERABILITY needs to be improved, and the federal government should play a leading role in doing so	69	39	54
PROFESSIONAL associations and conferences are primary sources of technology information	77	77	77
LITTLE or no knowledge of NLECTC	46	77	62

NOTE: Large departments have more than 100 sworn officers; small departments have 100 or fewer.

small. This created an even split of our sample: 13 large departments and 13 small departments. Table S.1 summarizes the themes most commonly heard from participants.

In the area of technology needs, the most prevalent concern expressed by those in the field was for improved knowledge management systems. This desire involved not only the ability to store information in their RMS, but also the ability to disseminate information to those in the department when and where they need it. The second most common desire was for assistance with basic communications infrastructure. Smaller and more rural departments tended to have very limited funds and were therefore incapable of acquiring basic communications equipment, such as radios (whether handheld or vehicle-mounted) and dispatch equipment to the extent needed. Larger departments with more sworn officers had issues due to the proportionally larger budget required to maintain a larger inventory of communication equipment. The third most common desire was for assistance with camera and surveillance systems. Many departments were unable to afford items such as digital in-car cameras or lapel cameras in needed quantities, or they desired a greater number of surveillance cameras in urban areas. Those who did have sufficient surveillance equipment desired greater capabilities, such as increased digital storage or the ability to easily review video via rewinding and fast-forwarding.

Blanketing the technology needs were the issues of interoperability and of cost, specifically in terms of the entire system lifecycle. Small departments often have budgets so limited as to sharply restrict the acquisition of even relatively basic equipment such as simple radios, and 85 percent of departments with 100 or fewer sworn officers identified this issue. Large departments are not spared, as outfitting a much larger number of sworn officers with new equipment carries a proportional increase in cost. Lastly, the multitude of vendors competing to sell their equipment to practitioners often adopt different, and occasionally proprietary, data standards. This becomes a large issue when information must be shared across departments and especially across state

boundaries. Those we interviewed consistently expressed a desire for the federal government to push data standards that would alleviate this problem.

The input we received from practitioners illuminated several courses of action that we recommend to address the common concerns laid out by criminal justice practitioners, and to increase the interaction those same practitioners have with NIJ via NLECTC. We recommend that NIJ-funded research include a focus on improving the capability of knowledge management systems, with special attention paid to lifecycle cost. We also recommend a forward-looking study investigating the feasibility and practicality of the federal government leading the development of selected standards for law enforcement records management and information technologies, in conjunction with practitioner and developer communities. This study should build on the significant government-led work on improving information sharing to date, as well as related work by practitioner and vendor associations. In addition, we recommend a focused effort to increase interoperability of RMS data as well as communication systems. To directly address departments' needs to reduce procurement cost, we recommend creation of a repository for federally funded criminal justice software, training, and source code, providing a centralized database for practitioners.

These priorities apply not just to NIJ, but to federal, academic, and industry providers of information and analytic technologies for law enforcement, as well. There needs to be research and development (R&D) not just on technologies, but on the acquisition business that make the full lifecycle costs (direct and indirect) affordable to departments. Further, there needs to be R&D on both the technological and supporting business models to improve the interoperability of the new systems, building on the significant federal and industry work in this area to date.

Lastly, we note that NLECTC is largely unknown among those it is designed to serve. Law enforcement practitioners, who need the technology that NIJ attempts to assist them with, showed little familiarity with NLECTC or other NIJ-led efforts to provide outreach to the field. A clear insight from the interviews was that law enforcement practitioners make extensive use of professional associations (e.g., Police Chiefs and Sheriffs Associations) to obtain information on new technologies and for information sharing. Indeed, this reliance on the law enforcement associations for information was such a strong, common insight that its importance is hard to overstate. We recommend that NIJ—as well as other federal agencies and academic and commercial developers—leverage these associations, such as the International Association of Chiefs of Police (IACP), the National Sheriffs' Association (NSA), and the Police Executive Research Forum (PERF) as additional channels to disseminate information and raise awareness of NLECTC and other NIJ technology support efforts.