Document Title: Civilian Staff in Policing: An Assessment of the 2009 Byrne Civilian Hiring Program

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Document No.: 246952

Date Received: May 2014

Award Number: 2009-SC-B9-0001

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Hiring Program

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Submitted to the National Institute of Justice

December 31, 2013

Acknowledgements

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ABSTRACT

Civilians have come to play significant roles in law enforcement over the years. As the number of civilians in policing has increased, their roles have expanded as well. Originally occupying clerical positions, civilians now are often found in technical positions, research and planning positions, and administrative positions. In some departments, they even assist in non-hazardous patrol and investigation duties traditionally in the domain of uniformed officers.

During the recession of 2008, many law enforcement agencies were forced to lay off substantial numbers of employees as municipalities struggled to balance budgets with lower tax revenues. Although many law enforcement administrators appreciate the value that civilians bring to policing, they were often the first to be laid off or furloughed as budgets were tightened. The Bureau of Justice Assistance, through its Byrne grant program, provided competitive funds for agencies to retain civilians or hire new civilian staff.

This report presents the results of an NIJ-funded national examination of the Byrne civilian hiring program and the effects of the program on law enforcement agencies and crime rates. It also provides a picture of the state of civilianization in policing and issues associated with the hiring, retention, uses, and performance of civilians. The study combined a variety of research methods, including a national survey of the use of civilians in policing, interviews with agencies that hired or retained civilians through the Byrne program, an analysis of crime rates among Byrne grantees and matched control agencies, and case studies of innovative uses of Byrne funding.

The results underscored the range of positions that civilians now hold and the positive contributions they make to police agencies. Civilians are now not only in clerical and support roles, but also in key skilled positions in I.T., crime analysis, intelligence, human resources, and media relations. Resentment of civilians that has been observed in earlier reports was not a major issue among respondents in our study.

We found that Byrne grant recipients made good use of the positions made possible by the program, in many cases adding significant new analytic and intelligence capabilities to their departments. Byrne grant recipients believed that civilians hired through the program increased their agencies' effectiveness by freeing sworn staff for patrol and investigation duties, by enhancing crime analysis and intelligence capabilities, and by reducing costs. In most instances, the short-term grants led to permanent positions within the law enforcement agencies. During a period of recession and retrenchment, the Byrne civilian hiring program helped make it possible for some agencies not only to retain key civilian staff, but also to add civilian staff in a way that enhanced the capacity of their departments.

I. INTRODUCTION

As part of the American Recovery and Reinvestment Act of 2009, a law designed to help bring the United States out of the severe recession of 2008, the Bureau of Justice Assistance's Edward Byrne Memorial Competitive Grant Program (hereafter, the Byrne program) attempted to bolster state and local criminal justice agencies in ways that would reduce crime while supporting economic growth and the creation and retention of jobs. One way that the Byrne program promoted these goals was by funding law enforcement agencies to hire civilians for functions such as crime analysis, forensics work, planning and research, and communications. Civilianization has the potential to make agencies more effective by enabling them to put more officers on the street, by diversifying the agencies' workforce skills, and by increasing agencies' efficiency and cost-effectiveness. The Byrne program supported the continuing trend of civilianization in law enforcement agencies, by which civilians have grown from 7.5 percent of law enforcement personnel in the 1950s to about 30 percent today (Kostalec, 2006).

The balance between sworn officers and civilian police employees is a complex issue, especially during an economic downturn. On one hand, police agencies facing budgetary problems are inclined to cut civilian positions before sworn ones. A series of PERF surveys following the economic crisis of 2008 found extremely strong support among police executives for the view that sworn officer positions should be the last thing cut in the budget. On the other hand, police leaders caution against laying off civilians who do essential work, because the result will be that sworn officers will be taken off the streets and assigned the tasks previously done by civilians, usually at a higher cost. In terms of achieving an economic stimulus during a recession, hiring and training of civilians usually can occur more quickly and at lower cost than hiring sworn officers, thus producing more jobs and more rapid economic benefits.

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To date, there has been little assessment of how civilianization affects the effectiveness of police agencies. The outcomes of the Byrne civilian hiring program, while potentially promising, require study.

This report presents a national examination of the Byrne civilian hiring program and the impacts of those hires on law enforcement agencies and their communities. It also provides new data on issues associated with the hiring, retention, uses, and performance of civilians in policing. The study, funded by NIJ, encompasses several objectives. First, it attempts to provide a descriptive assessment of civilian hiring under the Byrne program. How many civilians were hired, and in what capacities? Did they fill in positions previously held by sworn staff, or were Byrne grant funds used to support entirely newly-created positions, such as crime analysis or intelligence gathering and dissemination? How much time was needed to hire civilians under the program, and how much training was required for the new hires?

Second, the study attempts to determine how these civilian hires fit into the law enforcement cultures. Were they accepted by sworn staff? Did they perform well in their positions? Were they satisfied in their positions, or was turnover a major issue?

Finally, the study attempts to assess the effects of the civilian hires on community outcomes, in particular crime rates. Is there evidence of reduced crime in places where agencies received Byrne civilian hiring grants relative to similar agencies that were not grant recipients?

The study used several quantitative and qualitative methods. We assembled a project advisory panel of practitioners and researchers, who provided guidance on the overall study design. With input from the panel, we designed and implemented a survey on civilian hiring that we administered to a nationally-representative sample of law enforcement agencies. Next, we conducted telephone interviews with law enforcement agencies receiving Byrne awards for

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civilians, in order to gather information on their experience with the civilians hired through the Byrne program. We then conducted an analysis of UCR crime rates in the communities receiving Byrne grants with crime rates in a matched comparison sample of similar agencies drawn from respondents to the national survey. Finally, we conducted site visits to four agencies that made extensive and successful use of civilians. The site visits included interviews of civilians hired through the Byrne program, their supervisors, and others in their chain of command, as well as analysis of agency records, to identify effects of the program.

Review of Relevant Literature

Civilian police employees are non-sworn personnel who do not take an oath and are not empowered to make arrests. Today, civilians perform a wide range of jobs previously done by law enforcement officers, typically as a way to reduce costs or improve services (Forst, 2000). Civilianization in U.S. law enforcement agencies has increased steadily since 1937, and more robustly in recent decades. From 1987 to 2003, civilian hires increased by 42 percent in municipal and county police departments and by 158 percent in sheriffs' offices (Hickman and Reaves, 2006a; 2006b); by 2003, local law enforcement agencies employed 285,035 full-time civilians (Hickman & Reaves, 2006a: 3; 2006b: 3). Civilians now account for nearly a third of full-time employees in police agencies, up from 7.5 percent in the 1950s (Kostalec, 2006). The rise of civilians in United States law enforcement agencies has gone through three distinct periods: 1840 to 1955, 1955 to 1995, and 1995 to 2008, each representing significant changes in American policing.

From 1840 to 1955

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Civilians in U.S. law enforcement can be traced to the first formal police agencies of the 1840s. Representing only a small fraction of the workforce, civilians performed relatively simple tasks, such as cleaning buildings, keeping records, and working as jail wardens (King, Wells, & Maguire, 2009). Between 1840 and 1955, the percentage of civilians in law enforcement agencies grew by a third, so that by 1955 full-time civilian positions comprised six percent of the work force in large law enforcement agencies (King and Maguire, 2000).

From 1955 to 1995

In a time of urban unrest, the 1967 President's Commission on Law Enforcement and the Administration of Justice concluded that civilianization was one method of creating greater community confidence in policing. Thanks in part to the Commission's strong support of civilianization in 1967, the employment of civilians in large law enforcement agencies from 1955 to 1995 increased by 259 percent (King, Wells, & Maguire, 2009). While civilianization was viewed as a trend that was most evident in large police departments, other analyses suggests that civilianization grew in smaller police departments as well. In Crank's (1989) study of small and medium law enforcement agencies in Illinois between 1973 and 1986, the number of civilians in smaller agencies increased by 86 percent, similar to findings from a study of large police departments that reported that the number of civilians increased by 95 percent between 1970 and 1980 (Heninger and Urbanek, 1983).

From 1995 to 2008

The trend toward civilianization continued, albeit at a slower pace, from 1995 through 2008. The number of civilians in all police agencies increased from 28 percent of total staff to 31 percent of total staff. Unlike earlier periods, the rate of growth in the number of civilian

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employees was nearly four times as high in rural and suburban law enforcement agencies as in urban agencies.

Why the Growth in Civilian Staff?

Why did civilianization increase in law enforcement agencies over the past 170 years? Some observers linked recent increases in civilian staff to the advent of community policing. Others suggest that fiscal constraints and increases in crime have contributed to the increase. Guyot (1979) described the growth in civilianization in terms of a failure by police agencies to adapt their existing sworn structure to meet changing demands:

> *The very decision to hire civilians demonstrates [that] the rank system lacked the flexibility to provide personnel with the desired skills at a reasonable salary cost. [Recently we have seen civilianization of] crossing guards and meter maids, raising the occupational standing of the police officer rank by bringing into the department employees who have less pay and status. A common step in the process of raising an occupation to professional standing is the shedding of routine tasks from the occupation and assigning them to paraprofessional occupations" (Guyot 1979, p.272).*

Civilianization in its early days was generally opposed by police unions (Mastrofski, 1990). "The unions, on their part, acted consistently with the traditional trade union principle of protecting their jurisdiction from encroachment and hence safeguarding existing bargaining unit work for incumbents" (Feuille & Juris, p. 103). Kostelac (2008) reported the concern that civilians would displace police officers and reduce their status. Critics argued that civilians would also be perceived as outside the bond of solidarity that exists among uniformed officers, who considered civilians outsiders within the organization. Consequently, as noted above, use of civilians was highly limited into the 1950s.

In 1967, civilianization received a boost from the President's Commission on Law Enforcement and Administration of Justice. The Commission recommended creation of the

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position of community service officer (CSO), to be filled by civilians who would assist sworn officers and handle many of the social aspects of police work (Morris and Hawkins, 1977). CSOs would wear uniforms, but would not be armed or possess the powers of arrest. The Commission in particular was hopeful that the CSO position would act as a sort of apprenticeship program, to attract disadvantaged urban youths to police work. As the community policing model took hold, the CSO concept grew in popularity by the 1970s and was implemented in many police departments throughout the United States.

Skolnick and Bayley (1986) saw civilianization as a way to bring the police closer to the community, enhance the idea of community policing, and reduce crime. Civilians are generally drawn from the community in which they are policed and thus possess specialized linguistic skills and cultural understanding. They typically reside in the community, while uniformed officers may not. If civilians are better able to relate effectively with the communities in which they live, then they should be more likely to be effective agents of crime prevention (Hennessy, 1976; Cordner, 1997).

The federal government helped to spur the growth of community policing through grant programs. The Violent Crime and Law Enforcement Act of 1994 provided communities with funds to hire additional staff, and required that civilians be included in staff hired with grant funds (Roth, et al., 2000). Between 1999 and 2000, the Office of Community Oriented Policing Services (COPS) awarded funds to police agencies for hiring over 6,500 civilians (Koper et al., 2002). Law enforcement agencies were awarded these grants in order to redeploy more sworn officers into the field and to create other time savings for officers. COPS-funded civilians assumed support tasks previously performed by officers (e.g., administrative and clerical functions), replaced sworn personnel in certain positions (e.g., dispatchers, property room

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managers, and evidence technicians), filled specialist roles to improve officer productivity (e.g., crime analysts and computer specialists), and staffed community policing positions (e.g., community coordinators, program evaluators, and crime prevention planners) (Roth et al., 2000).

Crank (1989) looked at how departmental characteristics affected employment of civilians. He found civilianization occurred at a more rapid pace in communities experiencing substantial budgetary growth, in communities experiencing increasing crime, in rural agencies, and in agencies experiencing a reduction in force size. However, Heininger and Burbank (1983) failed to find a link between the rate of growth of municipal expenditures and changes in the number of police civilian employees. The study also failed to confirm a correlation between changes in the number of index crimes and the number of civilians in departments. A more recent study by Brunet and West (2011) reported that civilianization increased with increasing municipal population and higher crime rates, but was not affected by the strength of police unions as had been speculated earlier (Forst, 2000).

Roles Filled by Civilians in Law Enforcement

As the previous sections have documented, the number of civilians in law enforcement has grown substantially. Civilians also have taken on increasingly important roles in policing. Since 1840, civilian jobs have changed from simple and typically unskilled to more complex and specialized. Maguire and King (2004) note that civilians have generally played two traditional roles. First, they have worked as administrative staff members, performing jobs in record-keeping, maintenance, call taking and dispatch, and clerical duties. More recently, civilians have taken supporting roles in operations like crime mapping and analysis and computer programing and maintenance (Maguire and King, 2004).

Guyot (1986) points to three types of civilian positions. The first is created by shedding routine tasks from those previously performed by police officers. These include assistants who type officers' preliminary reports and telephone operators who take reports from residents. Since police officers generally dislike this work, there has been little opposition to civilians taking on such tasks.

The second type of position taken by civilians, according to Guyot, consists of more skilled positions such as dispatchers, desk officers, and photo lab technicians. The police ranks in many departments have opposed civilians taking these jobs. These positions have been described as a form of health and old age insurance policy. As reported by the Citizens Budget Commission in New York (2002, p. 7), "Efforts at civilianization have often failed because police leaders want to keep a substantial number of assignments with limited risk available to officers as a type of reward or as a temporary assignment."

The third type recognized by Guyot consists of specialists, including computer experts, budget analysts, and lawyers. To set aside specialist positions in the police rank structure requires extensive planning and training, an expanded pay scale, inducements to have specialists join the rank structure, or special sworn positions created for which recruit training is not a prerequiste. Accordingly, civilianization is a much simpler and quicker method to move specialities into the workforce.

According to Forst (2000), new roles have began to emerge for civilians in law enforcement. Some law enforcement agencies employ civilians in high-level leadership roles from which they previously were excluded (Maguire and King, 2004). Other types of positions, such as the CSO positions referred to earlier may help to build linkages between the police agency and various groups of people in the community. The community members, such as

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immigrant groups, might otherwise be isolated from the police because of language or cultural barriers (Maguire and King, 2004). A number of law enforcement agencies employ civilians as public information officers (Surette, 2001).

Additional roles for civilians include responders to non-emergency calls for service, community service officers, grant writers, neighborhood police mini-station staff members, trainers or coordinators in training academies, traffic control or motor vehicle crash investigation specialists, and investigative aides (King, Wells and Maguire, 2009). Today, agencies employ civilians to process crime scenes, investigate cybercrimes, and analyze intelligence (Maguire and King, 2004).

The table below, drawn from the work of Kostelac (2008), shows the types of positions that civilians typically fill in police agencies throughout the United States.

TYPE	PLACEMENT	EXAMPLES
Administrative Support	Entry	Data entry clerk, administrative assistant, records specialist, equipment/quartermaster, evidence custodian, communication call taker and dispatcher
Operational	Entry	Traffic crash investigator, parking enforcement, support to crime victims, report writing, investigative aides, code enforcement, animal control, court security, crime prevention specialist, court liaison
Technical/Specialized	Any	Computer systems, forensics, crime scene investigator, crime analysis, planning and research, budgeting and fiscal management, public information officer, polygraph examiner, personnel analyst, training coordinators

Supervision/Management	Any	Directors, managers, and supervisors of administrative support, operational, or technical/specialist positions
Executive	Any	Public safety directors, assistant chiefs of police

Information used to construct this chart came from the literature review, law enforcement agencies, civil services positions in local government, police agency annual reports, independent budget officer testimony to local government, organizational assessments, audits, and recommendations by independent consulting firms.

Guyot (1979) notes that civilian positions typically are either at the bottom or near the top of the hierachy, making it impossible to construct a civilian career ladder in a police agency. On the other hand, Kostalac (2008) suggests that a civilian path for advancement could be established. Positions could be grouped into a para-civilian heirarchy running parallel to the core sworn structure. Two distinct groupings would be created: The first as a support function to command and supervisory level sworn staff and the other as a support component for sworn line staff .

The increasing use of civilians for functions like crime/intelligence analysis, forensics, information technology, dispatch, training, budgeting, media relations, human resources, and planning and research has especially promising potential for improving performance and cost-effectiveness. Enhancing law enforcement agencies' capacities for crime analysis and planning and research, for example, should facilitate the adoption of evidence-based and intelligence-led policing. Crime analysis has been a key factor in the development and spread of successful innovations like COMPSTAT, hot spots policing, and problem-oriented policing (Boba, 2008). Expanding the use of DNA and other forms of forensic evidence is also a high priority for agencies (Koper et al., 2009). This is consistent with other research by PERF, which has shown that agencies' most pressing operational needs include areas like crime analysis and information-led policing, information technology and database integration, managing calls for service /

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dispatch, and training (Koper et al., 2009). Organizations including the International Association of Law Enforcement Intelligence Analysts (IALEIA), the International Association of Crime Analysts (IACA), and the International Association of Law Enforcement Planners (IALEP) have developed standards and certifications that help to ensure the competence of civilians occupying highly skilled analytic positions.

The Value of Civilians in Law Enforcement

Civilians benefit agencies in a number of ways. Hiring civilians can enable agencies to deploy more of their officers into field assignments (Koper et al., 2002; Koper and Roth, 2000; Morris and Hawkins, 1977; Swartz et al, 1975). Civilians also bring a variety of needed and specialized skills to police agencies. Indeed, they can often serve in specialized roles more effectively than sworn personnel, who are hired to be generalists and are frequently rotated among assignments (Forst, 2000). Since civilians may bring more specialized skills to positions than sworn staff members, they tend to be more productive in those positions (Hennessy, 1976; Griffiths et al., 2006). Moreover, the organization does not need to invest in a lengthy academy training program for civilian hires (Guyot, 1979).

At the same time, civilians are less costly than uniformed staff (Berkshire Advisors, 2003). Relative to sworn personnel, civilians generally receive lower pay and benefits, have fewer training requirements, and have lower overhead costs (Schwartz et al., 1975). Data from California suggest that the cost of a patrol officer is nearly twice the cost of a CSO; the cost of professional staff in information systems and accounting/budget management, and of experienced civilian managers for the Communications Center, Crime Scene Unit, and Jail, appears to range from about 60 to 70 percent of the cost of each sworn staff position (City of Berkeley, California, 2002).

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Experts have noted that civilianization of support positions may be especially effective in maximizing the productivity of law enforcement agencies during a time of shrinking budgets (Crank, 1989; PERF, 2009). Civilianization may also be particularly helpful during periods when recruitment of sworn personnel is difficult (Koper, 2004; Koper et al., 2001; Taylor et al., 2005).

Some have argued that hiring civilians may help to promote better community relations. Especially if the civilians hired are from the local community, civilianization may help to lend the police greater legitimacy (Schwartz, et al. 1975). When they are drawn from the surrounding community, civilian employees can provide a valuable perspective on the sentiment of the community in contrast to uniformed officers who may be less likley to share social class and ethnic asttributes of neighborhood residents (Marx, 1974).

While there are numerous benefits to hiring civilians in law enforcement, observers have also pointed to some problems. Police officers generally stay longer with the police agency than civilians (Guyot, 1979; Wilson, 1975), so some of the savings in salaries may be offset by increased costs of frequently training new civilian staff members. Additionally, creating civilian positions may reduce promotional paths for uniformed staff (Wilson, 1975) and may take away jobs that an injured or sick officer could temporarily fill (Korczynski, 1978). Finally, some have argued that civilians do not fit comfortably within the culture of law enforcement agencies and do not share the bond that police officers share as a result of their training and "street" experience (Wilkerson, 1994; Shernock, 1988; Korczynski, 1978). One consequence of that is that police officers may resent being supervised by civilians (Wilson, 1975).

Effects of Hiring Civilians

Overall, there has been little research on civilianization and its effects on policing. A few studies suggest that the COPS civilian grant program, known as MORE (Making Officer Redeployment Effective), reduced crime, albeit modestly (Government Accountability Office, 2005; Lilley and Boba, 2008). However, a large majority of the funding and estimated time savings from MORE were linked to grants for technology rather than hiring of civilians.

As one expert has noted, "Much more research is needed on the costs of sworn officers, *civilians* [emphasis added], and private alternatives operating in basic roles to prevent and respond to crime" (Forst, 2000). Similarly, more information is needed about basic issues pertaining to recruiting, hiring, training, and retaining civilians in policing. The growing importance of civilians to policing agencies increases the need for practitioners and policymakers to understand these issues and their implications for the effectiveness of law enforcement agencies.

The deep recession of 2008 resulted in significant budget reductions for law enforcement agencies and forced them to consider major changes in operations. Changes in benefit packages and layoffs were common, and hit civilian staff especially hard. But the recession also resulted in agencies looking for ways to use civilians to free up the time of uniformed officers for the tasks that can only be performed by a sworn officer (IACP, 2011). For example, several police departments began using civilians to conduct investigations of property crimes and fraud allegations. Other agencies used civilian staff members to work special events or conduct other light duties previously performed by uniformed staff (COPS, 2011).

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The Byrne Civilian Hiring Program

The Byrne civilian hiring program provided a way for some law enforcement agencies to retain civilian staff members, or hire new civilians, to free uniformed officers to concentrate on preventing and investigating crimes. Furthermore, in some cases civilians were hired to create entirely new intelligence and analytic capabilities. The hiring of civilians through the Byrne program provides an opportunity to analyze the growth of civilian staff, how civilian employees are used, how they contribute to law enforcement agencies, and what kinds of challenges they present to their departments.

The following sections of this report present the findings from PERF's study. In Section II, we present results from a national survey of the experiences of law enforcement agencies with hiring civilian staff. Section III describes the findings from a phone survey conducted with Byrne grant recipients that examined how civilians hired through the program were used and what they contributed to their departments. It also presents the results of an analysis comparing crime rates in jurisdictions that received Byrne grants with similar jurisdictions that did not receive Byrne funding. Section IV presents an in-depth description of how civilians were used and metrics that define the value they added to their departments (where available) based on four case studies in Florida, California, Maryland, and Pennsylvania. Section V draws conclusions from our work.

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II.   National Survey of Law Enforcement Agencies

We conducted a national survey of law enforcement agencies to assess their experience with civilian hiring. The survey assessed how the 2008 recession affected budgets, layoffs of both sworn and civilian staff, and hiring during the period 2008-2012. The survey also asked about the civilian hiring process – how positions were advertised, whether recruitment was difficult, and whether departments had increased (or decreased) their qualification requirements for civilian hires. Other topics covered by the survey included the roles that civilians filled, the value that they provided to the organization, and how civilians fit into the law enforcement culture. The survey was developed in consultation with a technical advisory group that helped us to identify the important issues to include in the survey, commented on various drafts, and approved the final version.

Sampling

A nationally representative sample of police departments and sheriff's offices was drawn using the National Directory of Law Enforcement Agencies (NDLEA) in February 2012, which contained information on 15,693 law enforcement agencies from around the U.S. In addition to the name and address of the current chief executive, the information includes the population served by the agency, the type of agency, the number of officers in the agency, and the region of the country in which the agency is located. Agencies listed in the NDLEA that do not conduct policing duties (such as sheriffs' departments that only manage jails), were omitted.

The sample was drawn to be representative of the entire population of all law enforcement agencies across the nation. The random sample selected was stratified by region, type of agency, and size of agency based on the number of sworn officers, defined as follows:

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- Region

Agencies were defined as being in one of four geographic regions based on U.S. Census divisions. (See Appendix A for a table defining how states were categorized into regions.)

- Department Type

Agencies were grouped into the following categories:

a. *State Police:* comprised of 50 agencies listed as State Police and Highway Patrols in the NDLEA database;

b. *Police Departments:* 12,552 agencies comprised of 12,504 Municipal Police Departments and 48 available County Police Departments; and

c. *Sheriffs' Departments*: 3,083 agencies comprised of 31 Independent City Sheriff Departments and 3,052 County Sheriff Departments.

- Department Size

The departments were divided into six categories according to the number of officers:

a. Unknown (Missing);

b. 1 to 25 (Very Small);

c. 26 to 50 (Small);

d. 51 to 99 (Medium);

e. 100 to 499 (Large); and

f. 500 or more (Very Large)

Based on a power analysis, to obtain 95 percent confidence and 80 percent power to detect small to medium effect sizes for t-tests of differences between pairs of means, a completed sample of approximately 999 would be needed. Estimating a 70 percent completion rate, an initial sample of 1,427 was needed. Accounting for duplications, removal of agencies on our "Requested not to be surveyed" list, and additional out-of-scope agencies resulted in a final sample of 1,396 agencies. Appendix B displays the number of agencies selected from each of the strata defined by the three criteria of region, agency type, and agency size.

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Survey Procedures

Each agency in the sample received a letter from the National Institute of Justice, in addition to a letter from the Executive Director of PERF, requesting the agency's participation in the study.[1] Survey dissemination was conducted in three waves. The first wave of the survey was distributed at the beginning of June 2012, followed by the second wave at the end of June, and the third wave in mid-July. Three weeks after the third wave was mailed, non-responding agencies were sent a reminder letter requesting that they complete the survey. In total, there were five reminder letters sent between mid-August and mid-December 2012. The survey was closed on January 22, 2013. Respondents had the option of completing the survey online, faxing a copy to PERF, or mailing a hard copy of the survey. Midway through the survey process, the response rate was very poor – only one in four surveys had been returned. It was decided, in consultation with our technical advisory group and our NIJ grant monitor, to make the survey less burdensome on respondents. Ten non-critical questions (e.g., ethnicity and gender of civilian employees, UCR crime statistics) were eliminated, resulting in a more streamlined survey instrument. In all, 537 full surveys were received, with an additional 175 abbreviated surveys, resulting in a final response rate of 51 percent.

Survey Weighting

In order to provide nationally representative estimates, each agency respondent was assigned a weight. Population proportions were determined by using the 2012 NDLEA. Each agency in the directory was sorted into its particular stratum (based on agency type, region, and agency size). Population proportions were generated using the stratum cell size and dividing by the total. We conducted a similar exercise using the survey respondents (i.e. sorting into stratum

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[1] Prior to dissemination of the national survey, the instrument was piloted with six agencies. Representatives from the agencies completed the survey, providing comments on content and format. Their feedback was incorporated into the final instrument.

and computing the sample proportion within each stratum). The population proportion was divided by the sample proportion to generate the weight for observations within each stratum.

Results

<u>Budgets and Personnel Changes during a Recessionary Period</u>

The median budget of responding agencies declined 13 percent from 2008 to 2012, from $3,994,151 to $3,476,046. During the study period, some agencies struggled to retain both civilian and sworn staff. Eighteen percent of agencies laid off or furloughed civilian personnel between 2009 and 2012, and 22 percent thinned their ranks of civilian personnel through attrition (see Figure 2.1). Twenty-four percent reported delaying the hiring of civilian personnel. A similar number of agencies (21 percent) laid off sworn officers between 2009 and 2012, and 32 percent of agencies reduced sworn personnel through attrition. Nearly half of agencies reported delaying the hiring of sworn officers. The survey findings are consistent with UCR data for the same period that indicate a ten percent drop in the number of civilians employed in law enforcement following the 2008 recession.[2]

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[2] *Crime in the United States, 2008-2012.* "Full-time Law Enforcement Employees by population group." Retrieved from: http://www2.fbi.gov/ucr/cius2008/data/table_74.html

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Figure 2.1. Proportion of Agencies that Implemented Measures to Reduce Staff, 2009-2012.

In 2012, the smallest number of full-time civilians reported by survey respondents was one, while the largest was 14,713. Like full-time staff, the average number of part-time civilian personnel was also reduced during the study period. Yet, while some agencies were laying off civilians, others reported that they were hiring civilians, with about a quarter (27 percent) reporting that filling shortages in their ranks of sworn staff, or to redeploy their sworn officers, was an important reason for doing so. In other words, agencies reacted to tight budgets in different ways: Some (a majority) jettisoned civilian positions first, while others apparently believed that adding civilians could be a cost effective way to fill shortages in uniformed staff due to attrition.

These findings are not unexpected. A series of PERF surveys about the impact of the 2008 recession on law enforcement agencies found that most police executives strongly believe that if budget cuts are necessary, laying off sworn officers should be their last resort (*Violent Crime and the Economic Crisis*, May 2009). However, employee salaries and benefits account

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for the lion's share of police budgets (sometimes more than 90 percent), and the large majority of

police employees are sworn officers. Thus, even though many police chiefs tried to protect sworn

officers' jobs, many were forced to lay off officers, allow the number of officers to decline

through attrition, or delay the development of new classes of recruits – simply because there

were no other places in their budgets that could provide enough savings to meet budget targets,

even if non-sworn units or programs were eliminated entirely (*Violent Crime and the Economic*

Crisis, May 2009).

The Civilian Hiring Process

　　The most commonly used methods of recruiting civilian employees were placing

newspaper ads, posting vacancies on agency websites, and interagency recruitment (see Table

2.1). These were also seen as the most effective means of recruiting, in addition to placing ads

on job search websites. In contrast, agencies reported that the least effective civilian recruitment

methods were radio and television advertisements; social media postings; community, college

campus, or trade school job fairs; and university listservs. Not surprisingly, these were also the

least-used recruitment methods.

Table 2.1. Civilian Recruiting: Methods of Civilian Recruitment.

Method of Recruitment	Ineffective or Less than Somewhat Effective	Somewhat Effective	More than Somewhat Effective or Very Effective	Method Not Used
Interagency recruiting	12%	17%	29%	42%
Professional organizations	18%	16%	12%	54%
Newspaper advertisements	10%	23%	32%	35%
Radio advertisements	10%	3%	7%	80%
Television advertisements	10%	3%	6%	81%
Job search website advertisements	8%	14%	24%	54%
Agency/jurisdiction website advertisements	11%	22%	29%	38%
Social media site advertisements	6%	7%	10%	77%

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Community event job fairs	11%	15%	5%	69%
College campus job fairs	14%	13%	3%	70%
Trade school job fairs	12%	8%	1%	79%
Online university communications/listservs	13%	5%	2%	80%

Recruiting in the midst of the recession, only 8 percent of agencies stated that they had "much difficulty" attracting sufficiently qualified civilian applicants since January of 2009, and 51 percent of agencies had "no difficulty" whatsoever recruiting qualified applicants. When asked about any problems they encountered in hiring and retaining civilians, a majority of agencies indicated that they had not encountered difficulties (see Figure 2.2). When problems were encountered, the most common included low salaries (19 percent), lack of qualified applicants (17 percent), lack of promotional opportunities (15 percent), and applicants' failure to meet entry requirements (13 percent).

Figure 2.2. Proportion of Agencies Experiencing Problems Retaining/ Recruiting Civilians
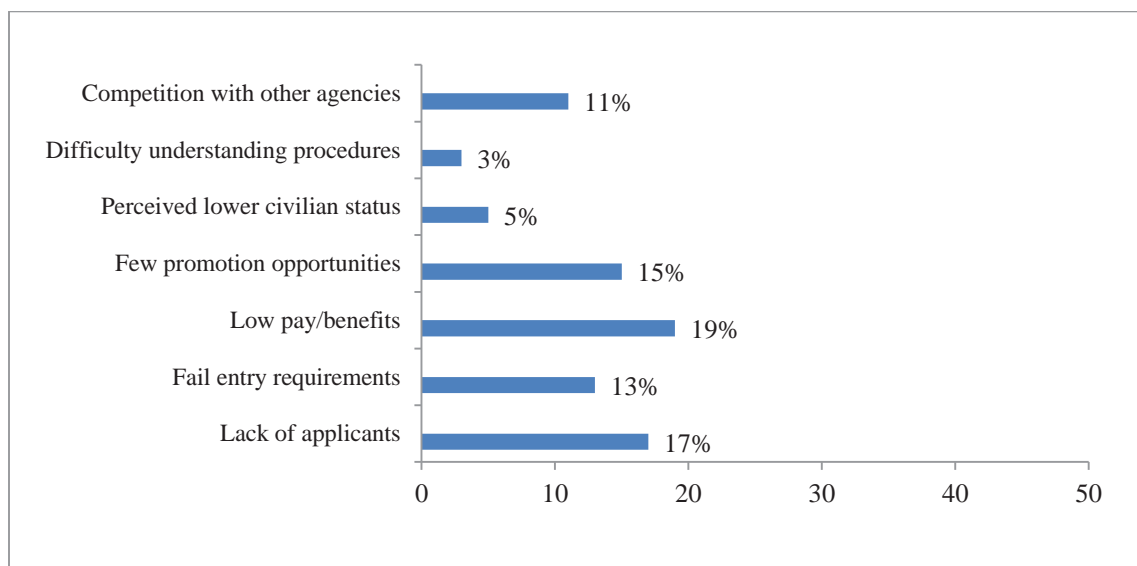
Perhaps because agencies did not report difficulties in recruiting civilian employees, respondents overwhelmingly reported no change in their educational requirements for hiring since 2009. Just seven percent of agencies reportedly increased their written requirements for hiring in operations-related jobs, or jobs with direct law enforcement-related responsibilities.

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Also, a majority of agencies (69 percent) did not report making efforts to hire retired or disabled sworn officers to work as civilians.

Civilian Demographics

Surveyed agencies were also asked to submit information about the gender and race or ethnicity of their civilian employees. Sixty-five percent of all part-time and full-time civilian employees were women, and in 12 percent of the agencies the entire civilian staff was female.

The racial makeup of civilians varied considerably among surveyed agencies. (See Figure 2.3). A plurality (46 percent) of hired civilians were white and a little less than a third of civilians were black (29 percent). Hispanics made up about 15 percent of the hired civilian population, followed by Asian-Americans (5 percent) and those of Hawaiian descent at 2 percent. Persons of Indian descent and multiracial individuals made up less than one percent of civilian staff.

Figure 2.3. Agency Demographics: Race/Ethnicity of Civilian Employees[3]

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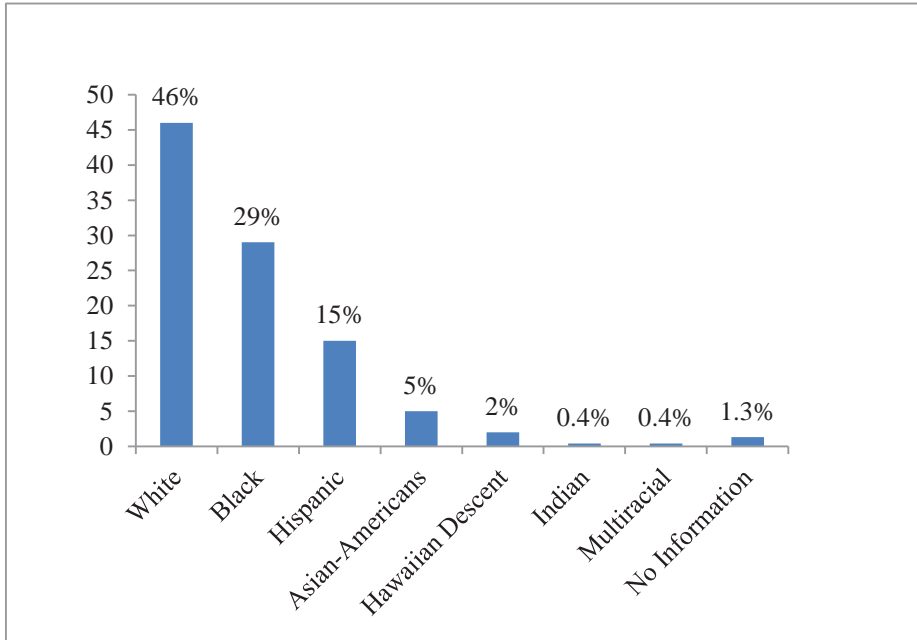
[3] Due to the abbreviated instrument, we have data on the race/ethnicity of their civilian staff for only 65% of survey respondents.

Civilian Duties and Contributions

Many civilian employees in the surveyed agencies were involved in administrative, clerical, and support tasks. Many surveyed agencies reported hiring only civilians for these types of positions. A majority of surveyed agencies (54 percent) reported that they rely mainly on civilian personnel for communications and dispatch support, as well as for records and data entry jobs. **Twelve percent of surveyed agencies reported that within some administrative, clerical, or support work units, civilian employees directly supervise sworn officers (see Table 2.2).**

However, civilians also played strong roles in other vital agency functions. Of the agencies surveyed, 54 percent reported that civilian employees were solely in charge of communications and dispatch responsibilities, which differs from dispatch support, largely an administrative or clerical branch of work. An additional 32 percent of agencies split these communication and dispatch responsibilities between sworn officers and civilian personnel.

Civilians were also hired in I.T. and computer programming positions. **Nearly half of surveyed agencies reported that sworn officers had no I.T. or computer programming responsibilities, leaving these tasks solely to civilians.**

Table 2.2. Civilian Contributions: Civilian Duties.

Function	Sworn Employees Only	Civilian Employees Only	Combination of Sworn and Civilian
Command Staff			
Chief, sheriff, commissioner, superintendent, other executive	96%	0.3%	4%
Operations			
Responding to non-emergency calls for service	83%	0.0%	17%
Security (courthouse, city hall, etc.)	81%	3%	16%
Detention/jail officers	70%	16%	14%
Taking reports (telephone and/or	64%	1%	35%

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walk-in)			
Booking/arrest-processing	77%	8%	15%
Professional/Technical			
Communications/dispatch	13%	54%	33%
IT/Computer programming	27%	45%	28%
Crime analysis/crime mapping/intelligence	69%	12%	19%
Research/planning/grants	54%	7%	39%
Victim advocate/assistance	56%	19%	25%
Community/media relations	71%	2%	27%
Administrative/Clerical/Support			
Communications/dispatch support staff	14%	54%	32%
Records/crime report entry	10%	53%	37%
Maintenance	18%	55%	27%

In other areas, civilian and sworn staff shared responsibility for crucial operations tasks.

Crime analysis/mapping/intelligence was one such area. Twelve percent of agencies reported an

increase in civilian participation in this area since January 2009, and 19 percent of surveyed

agencies used a combination of civilian and sworn staff for these jobs.

Similarly, victim advocacy and assistance were performed jointly by civilian and sworn

staff. In 25 percent of surveyed agencies, sworn and civilian staff shared responsibility for these

types of jobs and 19 percent of agencies hired only civilians for these types of positions. In

research, planning, and grants positions, 39 percent of agencies reported that civilians and sworn

personnel handled tasks jointly.

Since 2009, civilians have taken on additional roles for the agencies that employed them.

Eighteen percent of agencies reported that more civilians took positions in communications and

dispatch, an area in which 54 percent of agencies already entrusted only civilians to perform

these tasks. Ten percent of agencies noted an increase in civilian involvement in I.T. or computer

programming since 2009, and 13 percent of agencies increased their civilians' role in research,

planning, and grants departments. In addition, although community and media relations was a

function primarily entrusted to sworn officers, 15 percent of agencies reported an increase in civilian involvement since 2009.

Civilians' Most Valued Contributions

In the survey, agencies were asked to name the civilian functions that had been most important to the agency's performance. The top choices were dispatch and communications (38 percent), records, data entry, and taking reports (15 percent), fiscal and budgeting (10 percent), and IT (9 percent). Smaller numbers of agencies also praised civilian work in booking and arrests, jails and detention centers, criminal and investigative work, and victim services.

Many agencies demonstrated a willingness to give civilians in management positions decision-making power (see Figure 2.4 below). Civilians were most likely to be given decision-making authority in personnel issues (see Figure 2.4). But a majority of respondents also gave civilians decision-making authority in other areas ranging from communications to program development to budgeting.

Figure 2.4. Percentage of Agencies Reporting that Civilians Have Decision-Making Authority in Specified Areas "Often or Sometimes"

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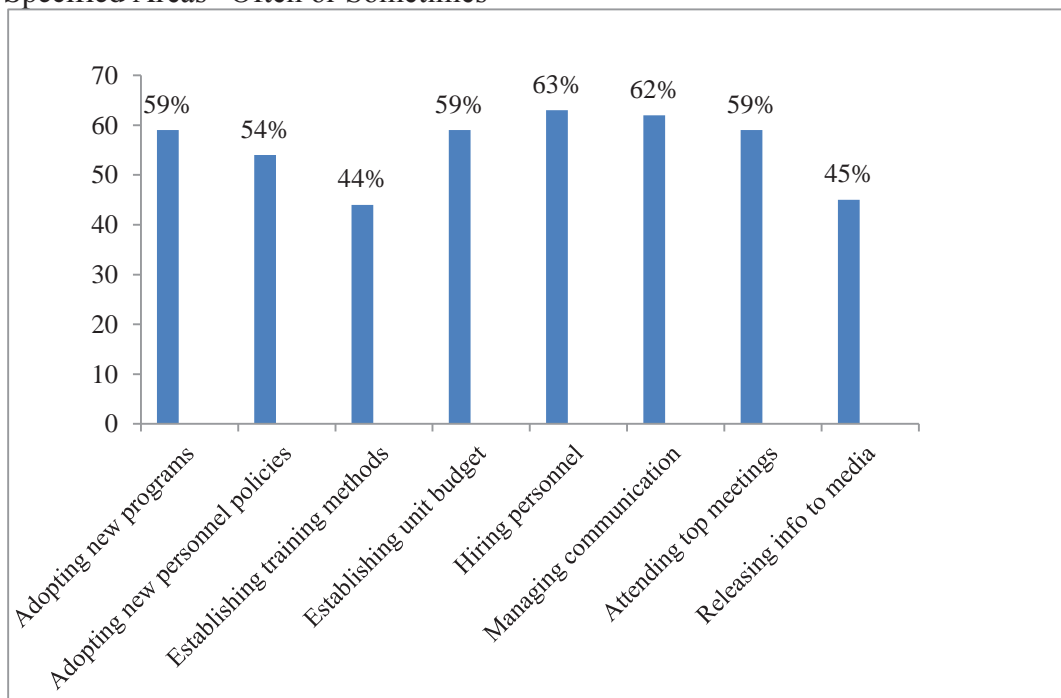
Adapting to Law Enforcement Culture: How Civilians Fit In

Surveyed agencies reported that they value the contributions civilians make on a daily basis. When asked if civilians increase their productivity or efficiency, the majority of agencies, 57 percent, said that civilian employees increased their agency's productivity or efficiency "to a great extent."

Few agencies experienced recurring problems utilizing and retaining their civilian employees. The most common problem reported was trying to keep civilians happy in their jobs, but even here, two in three agencies reported that lack of job satisfaction was rarely a problem (see Figure 2.5). Approximately three in four agencies reported rarely or never having other problems, such as resistance from sworn personnel, using civilians in supervisory positions, poor productivity, difficulty of civilian staff adapting to the organizational culture, or difficulty retaining civilians.

Figure 2.5. Proportion of Agencies Reporting Problems with Civilian Staff
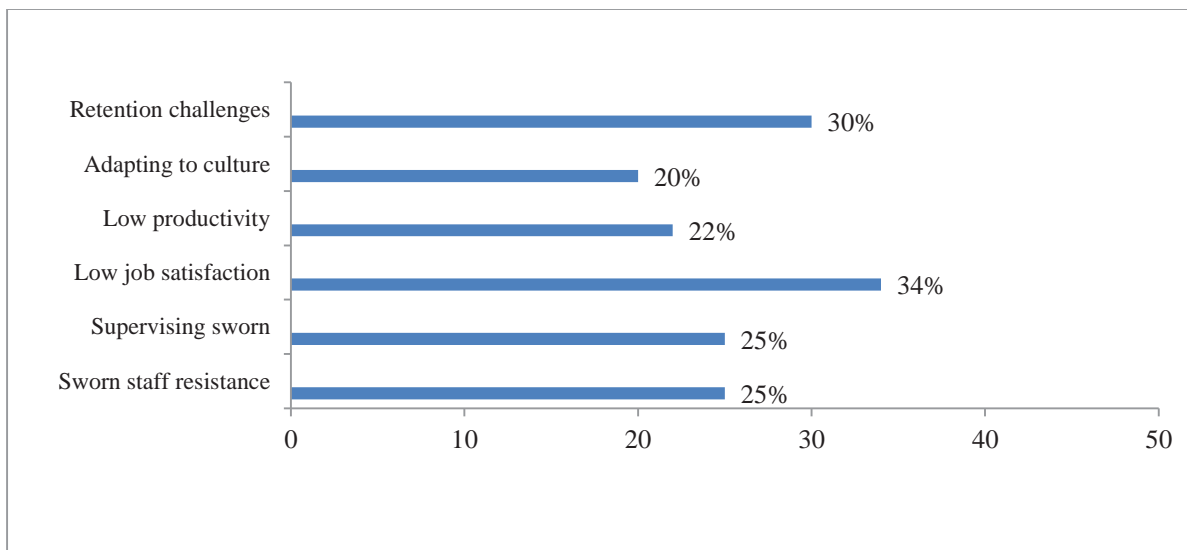
Future Hiring Plans

The survey indicated that in the coming years, agencies will struggle to increase the number of civilians they employ with current budget levels. Agencies reported overwhelmingly

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that they would not be able to hire additional civilians, but they will be able to retain existing civilian staff. Ninety-five percent of surveyed agencies planned to retain existing civilian personnel, but 92 percent reported they would not seek to hire additional civilian staff. Similarly, 95 percent of agencies reported they would be able to retain their current numbers of sworn staff, although agencies were more optimistic about the prospect of hiring sworn officers than they were about their ability to add civilian personnel. Nearly one-fifth of surveyed agencies reported that with their current budget, they would be able to hire additional sworn officers.

Of the agencies that will be seeking additional funding to hire civilians to save costs, reduce backlogs, or contribute specialized skills, two in three (67 percent) said they would pursue a local, state, or federal grant. Twenty-six percent of agencies reported that they would seek funds to hire civilians from local budgets, especially if the economy improved.

Promising Practices

The survey revealed that law enforcement agencies place great value on the contributions made by civilian employees, indicating that qualified civilians play vital, integral roles. When asked to comment on promising practices concerning civilians in law enforcement settings, agencies praised the work of their civilian staff and stressed the need for continued accessibility to grants and funding to continue hiring civilians.

One agency specified that "grant opportunities available to hire qualified civilians for specialized fields like crime analysis, crime unit, [and] computer technology" would be especially useful, given that civilians often come to law enforcement agencies from the private sector, bringing business, technical, or analytical skills. This respondent noted, "Civilian crime analysts have proven to have [a] stronger skill set from their specialized background and education than those observed from sworn staff occupying those same positions."

Several agencies attributed increases in efficiency to civilian staff and said that civilians "perform vital functions to the police department" or that civilians are a "vital asset." Another agency reported, "Our civilian employees are crucial to [the] operations of our civil division, records division, pistol permits, and administrative functions." Respondents indicated that valuing the contributions of all staff members equally contributes to a more positive working environment, and in some cases, civilians may remain with the agency for the length of their careers, just as many sworn officers have done. One agency noted, "The majority [of our civilians] have been with us [for] 10-15 years, with one being with us for over 30 years."

Summary

The findings of the "Civilian Hiring in Law Enforcement" survey indicate that the hiring of civilians to complement the work of sworn officers can make law enforcement agencies more effective by allowing them to reduce backlogs in certain tasks, redeploy officers to active duty or patrol, and take advantage of civilians' advanced technical skills, all while cutting costs. Civilians are equipped to contribute in a variety of ways, and law enforcement agencies are eager to hire them for many positions, including administrative and clerical work, dispatch and communications positions, records and data entry jobs, and I.T. and computer programming jobs. Civilians also contribute as victim advocates, investigators' aides and crime analysts, and community relations and media relations specialists, where agencies report an increase in civilian involvement in recent years. Surveyed agencies recognize the value of empowering their civilians in top management positions, in which civilians manage their units' budgets, hire personnel, attend management meetings, and are in charge of internal and external communications. A large majority report that agency productivity and efficiency have improved

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since hiring civilians, and comment that their agencies could not operate without civilian employees.

III. Telephone Interviews of FY 2009 Byrne Grantees

To obtain a more in-depth perspective on civilian hiring resulting from Byrne grants, we interviewed representatives from 32 law enforcement agencies that received the grants for the purpose of either hiring civilians or retaining civilians who already were employed by the departments. The official start date of the grant for most of these agencies was August 1, 2009, and agencies began spending their funds at various points throughout 2009 and 2010 depending on their needs and their ability to hire qualified civilian candidates for available positions.

Sample

Forty-four agencies received funding for civilian hiring from the Bureau of Justice Assistance (BJA) under the Edward Byrne Memorial Grant. This list of agencies was obtained from BJA, along with quarterly progress reports, originally submitted applications, and agency contact information. Of the 44 Byrne agencies, four were found to be outside the scope of this study; although they received funding to hire civilians, they did not meet the definition of "law enforcement agencies." Rather, these grantees were three regional forensic science centers and the office of one city chief medical examiner. A fifth agency was excluded from the sample because it had opted to use the funding to hire an information technology contractor rather than directly for hiring civilian employees. In the case of seven agencies, PERF was unable to arrange interviews with agency representatives despite multiple attempts.

This left 32 law enforcement agencies: 19 municipal police departments, five sheriffs' offices, three state police agencies, two departments of public safety (one state and one city), one university police department, one state bureau of investigation, and one state correctional

facility[4] (See Appendix B.) The seven agencies that were not included in the telephone interviews were three sheriffs' offices and four police departments.

Interview Procedures

In February and March of 2013, the telephone survey instrument was pilot-tested with four Byrne grant agencies. After interviews were conducted and feedback was obtained on the instrument, the survey was revised and abridged to more efficiently gather the needed information from the remaining Byrne grantees.

In June of 2013, a letter was sent from the National Institute of Justice (NIJ) through PERF to all the remaining Byrne grantees not included in the pilot-testing. As with the pilot testing phase, this letter informed grantees that as a condition of receiving 2009 Recovery Act funds through the Byrne Grant, their agency had agreed to participate in an evaluation of the Competitive Grant Program, which aimed to assess the utility of civilian hires. A copy of the survey was enclosed with the letter, and recipients were asked to contact PERF by email to provide the name and contact information of the appropriate department representative to take part in the telephone interview.

Within four weeks, interviews had been completed with 12 agencies and an additional five interviews had been scheduled. At this time, PERF researchers began follow-up calls to agencies that had not responded. Interviews and follow-up calls continued until the end of August, approximately 10 weeks after initial contact was made with the agencies. PERF held weekly progress meetings to determine which agencies still needed to be contacted and to re-focus efforts.

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[4] Even though the California Department of Corrections and Rehabilitation is a correctional agency, it was awarded Byrne funding and included in this study because it hired civilians whose jobs involved working with law enforcement agencies to identify threats posed by gang members and other inmates.

When contacting agencies, PERF did not use the direct contact information provided by BJA in Byrne Grant application paperwork. Much of this contact information was found to be out of date due to a high degree of turnover in agency grant writer positions. Rather, PERF contacted the agency through the chief, sheriff, or the head of the agency, and referenced the Byrne Grant number and the letter that had been sent by NIJ. In most cases, this was an effective reminder to the chief or his/her assistant of the reason for the phone call. For some agencies, a second copy of the survey instrument was sent by email to an agency representative before setting up an interview time. Data collection ended on August 31, 2013.

Agency Characteristics

Agencies varied considerably in size and type. The largest agency in the sample was the California Department of Corrections and Rehabilitation (CDCR) with headquarters in Sacramento. The CDCR employs 29,758 full-time sworn officers. The smallest agency interviewed, the Carbondale, PA Police Department, employs eight sworn officers. The largest full-time civilian staff of 22,000 employees was also found at CDCR; and the smallest full-time civilian staff of seven employees was found at the Stroud Area Regional Police Department in East Stroudsburg, PA. The median full-time civilian staff among Byrne grantee agencies totals 110. The Carbondale, PA Police Department employs no full-time civilian staff and only one part-time civilian staff member. Only 28 percent of the Byrne grantee agencies have full-time volunteers, and only 36 percent have part-time volunteers.

On average, the Byrne grant allowed agencies to hire or retain five civilian positions for the duration of the grant period (see Table 3.1). The largest number of positions funded through the grant was 24 (Kentucky State Police), while two agencies in the sample only obtained funds to hire or retain one civilian position (Minneapolis Police Department and Carbondale Police

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Department). Across all agencies in the sample, 73 percent of the "Byrne civilians" were new

hires, and the other 27 percent were existing civilian employees who were retained through the

use of federal funding. This indicates that while the majority of funds were used to assist

agencies in finding new employees, a portion of the grant funds also helped secure the

employment of existing civilians already working in law enforcement.

Table 3.1. Civilian Hiring: Positions Funded by Byrne Grant.

Agency	Number of Positions Funded by Grant
Carbondale Police Department (CA)	1
Minneapolis Police Department (MN)	1
Bakersfield Police Department (CA)	2
Baltimore City Police Department	2
Torrance Police Department (CA)	2
Watsonville Police Department (CA)	2
West Covina Police Department (CA)	2
Duluth Police Department (MN)	2
St. Louis County Police Department (MO)	2
Stroud Area Regional Police Department (PA)	2
Washington State Patrol	2
Ceres Department of Public Safety (CA)	3
Santa Clara County Sheriff's Office (CA)	3
Winnebago County Sheriff's Office (IL)	3
Louisiana State Police	3
Union County Sheriff's Office (OH)	3
Okanogan County Sheriff's Office (WA)	3
Georgia Bureau of Investigation	4
Lexington Division of Police (KY)	4
Charlotte-Mecklenburg Police Department (NC)	4
Winston-Salem Police Department (NC)	4
Arizona Department of Public Safety	5
Nampa Police Department (ID)	5
Toledo Police Department (OH)	6
California Department of Corrections and Rehabilitation	7
University of Southern Mississippi Police Department	7
North Charleston Police Department	8
Boston Police Department	9
Santa Rosa Police Department (CA)	9
Lowell Police Department (MA)	11

Polk County Sheriff's Office (FL)	23
Kentucky State Police	24

4 agencies OOS, 1 dropped, interviews not conducted with 7 Byrne agencies.

In some cases, agencies used the Byrne Grant, in conjunction with local or state funding and other grants and awards, to create entirely new units. The Baltimore City Police Department created a specialized Analytical Intelligence Section staffed by seven criminal analysts, who comb through federal, state, and local data sources to create violent crime analyses (VCAs) on suspects. VCAs are compilations of data such as prior known addresses, previous phone numbers, phone records, known associates, relatives, arrest records, and priors that assist detectives in beginning their investigations. In some cases VCAs have focused on persons likely to be targeted as victims of gang violence. This enables detectives to become more proactive in preventing crime and homicides. Byrne funding provided the means to hire two analysts and purchase hundreds of thousands of dollars in analytical and mapping software.

Similarly, the California Department of Corrections and Rehabilitation (CDCR) used Byrne funds to establish the Criminal Intelligence and Analysis Unit (CIAU). This unit is designed to help CDCR transition to an intelligence-led policing model that assesses, interprets, and disseminates criminal gang and terrorist-related information statewide. Byrne funds allowed the CDCR to hire seven analysts for the unit. CIAU has developed working partnerships with other California agencies, departments within the CDCR, as well as law enforcement agencies nationally and abroad, including the FBI, the Department of Defense, Immigration and Customs Enforcement, the National Gang Intelligence Center, the Federal Bureau of Prisons, the Department of Homeland Security, the California Department of Justice, and correctional and law enforcement agencies in states across the country. Evidence gathered by the CIAU has been used in FBI cases in California, Arizona, Texas, Nevada, Colorado, North Carolina, Virginia, and Pennsylvania. In the future, the CDCR will further expand the unit to allow for additional

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analyst training and outreach, to broaden its databases, and to begin forensic analysis of recovered cell phones and computers.

Results

The Civilian Hiring Process

The interviews of 32 agencies, like the national survey, found that agencies used a variety of recruitment methods in their search for qualified civilian employees. The most commonly used methods were county, city, state, and federal jobs websites; general job search websites; internal agency websites; and ads placed in local media outlets, such as newspapers. Among agencies that placed ads online with their affiliated city, county, or state website, 67 percent found the method to be "very successful," and another 20 percent classified the method as "somewhat successful." [5]

While fewer agencies used general job search websites, those who did had some success finding qualified candidates. Forty percent of agencies reported that the method was "very" successful.

Byrne grantees that relied on their own website to advertise available positions had less success. Half classified this method as "very unsuccessful." Agencies also utilized local media, especially newspapers, to advertise civilian positions, particularly in more rural areas where residents have inconsistent access to internet resources. Results were more varied with this recruitment method. Half of agencies that used the method reported it was "somewhat" successful, though one-third of agencies classified the method as either "very unsuccessful" or "somewhat" unsuccessful.

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[5] Data on this question was not collected when agencies used Byrne funding to retain civilian personnel rather than hire new civilian employees.

Using the methods outlined above, 42 percent of agencies reported that it was "easy" or "very easy" to find qualified civilians, but 29 percent of agencies said it was difficult to find qualified civilian candidates.[6] Among the agencies that cited difficulties, most had trouble due to applicants failing financial checks or criminal background checks. One agency said that because they advertised the job as a "temporary, grant-funded position," qualified applicants likely shied away.

In other cases, however, agencies reported that they had an abundance of well-qualified, well-trained candidates to choose from. This was especially true for technical civilian positions such as crime analysts or evidence technicians and custodians. Agency representatives explained that because some colleges and universities now offer specific coursework in these fields, many civilians are well-trained for these law enforcement positions.

Civilian Duties and Contributions

Most frequently, Byrne civilians were hired as crime analysts. A sub-award of the Byrne Grant program provided funds to agencies that intended to improve their forensic and crime investigation capabilities, which typically include crime analysis. Byrne grantees also displayed a strong need for civilians involved directly in police functions – investigative assistants, police technicians, corrections officers, security officers, and animal control officers. Civilians hired under Byrne funds have been working as policy, research, and program analysts; 911 and police dispatchers; records and data entry staff; administrative staff; media and public relations staff; community service officers; and computer or media forensic analysts.

Figure 3.1 displays a distribution of the types of positions of civilians hired or retained with Byrne funding from the sample of 32 agencies that took part in the telephone interviews. Of

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[6] Data on this question was not collected when agencies used Byrne funding to retain civilian personnel rather than hire new civilian employees.

the 166 civilians hired or retained by these agencies, the plurality (31 percent) were employed as crime analysts.

As noted, agencies used Byrne funds to hire a large number of police services civilians. The Polk County Sheriff's Office in Florida hired 23 "sheriff's services officers" who were trained to respond to non-emergency calls for service. This freed up patrol officers to answer higher-priority calls. Of the civilians represented in the sample, 30 percent were police services employees who performed these sorts of tasks. An additional 8 percent worked in community services jobs, and 7 percent were hired as 911 or police dispatchers.

There was also strong demand among agencies in the sample for non-crime analysts. Program and management analysts made up 4 percent of the total; computer forensic analysts 3 percent; and internal policy or research analysts comprised 4 percent. Evidence custodians or technicians were also in high demand. Slightly more than 4 percent of the 166 Byrne civilians hired or retained in the sample served as evidence technicians working in evidence and property rooms, handling and cataloguing evidence. A small percentage of Byrne agencies required assistance managing their RMS and data entry process with I.T. and network managers (about 3 percent) or through data entry and records civilians (2 percent). Some civilians also performed administrative duties as assistants, secretaries, or managers (about 1 percent), or had other titles, such as court liaison or reentry coordinator.

Figure 3.1. Civilian Duties/Contributions: Positions of Hired or Retained Byrne Civilians.

Pie Chart Legend:
- Crime Analysts [31%]
- Police Services [30%]
- Community Services [8%]
- 911 Dispatch [7%]
- Evidence [4%]
- Policy/Research Analysts [4%]
- Computer Forensic Analysts [3%]
- Program Analysts [3%]
- IT [2.4%]
- Records/Data Entry [2.4%]
- Media/Public Relations [1.2%]
- Administrative Staff [1.2%]
- Other [2%]
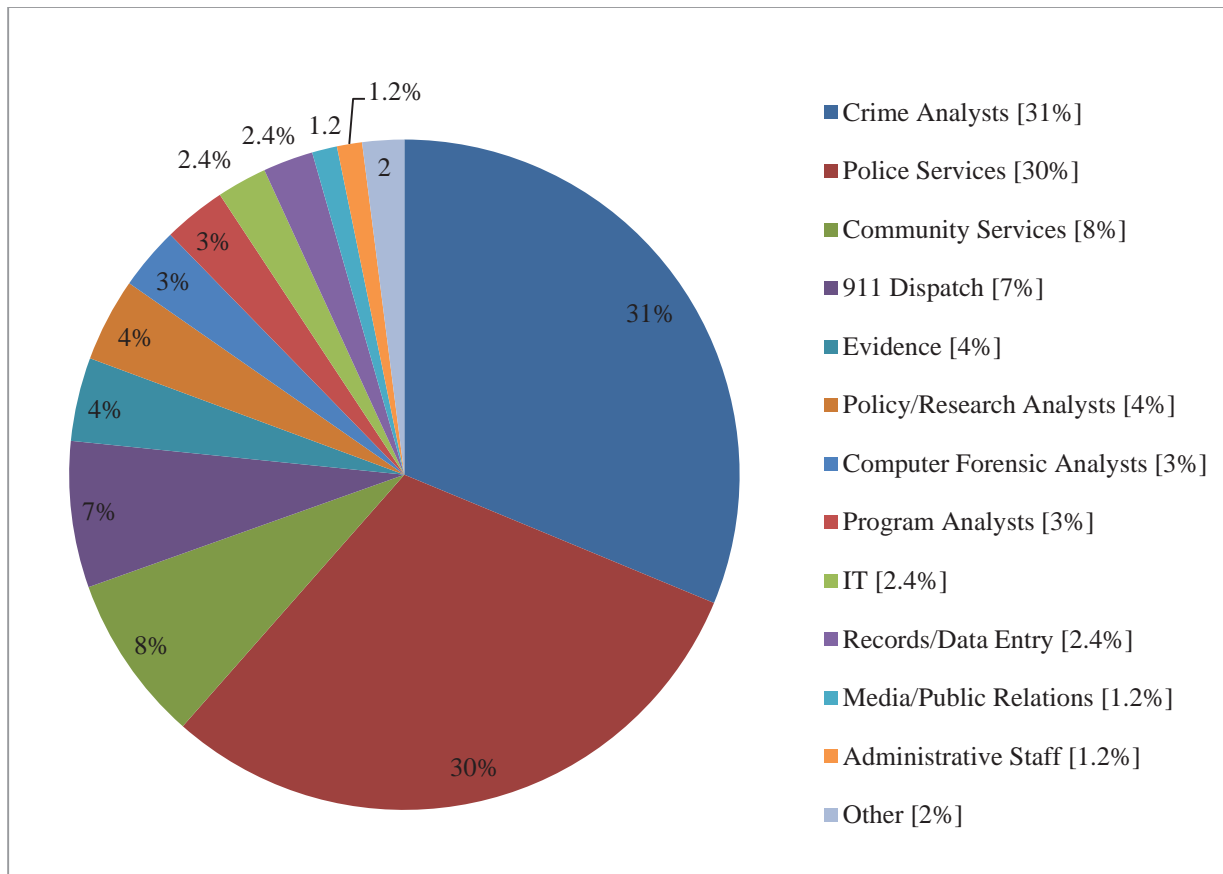
Agency Productivity

Among agencies that hired analysts or technicians, 63 percent reported that sworn officer hours were freed up for direct field operations as a result of civilians hired under the Byrne Grant. Fifty percent of these agencies reported that officers were able to return to other police functions. These functions varied according to individual agency needs, but included vital department functions. Several agencies used Byrne funds to hire evidence technicians or custodians to manage their evidence and property rooms. This freed detectives and crime scene investigators to return to full-time investigations duty. One agency that hired and trained police academy applicants to respond to non-emergency calls for service was able to free officers to respond more rapidly to emergency calls for service. In other cases, officers were not reassigned to different duties, but hiring civilians lessened the burden on officers and allowed them to use

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fewer overtime hours. The North Charleston Police Department hired police academy applicants as civilians to provide transport services for suspects from the police station to the jail. This freed up considerable officer time spent in transporting the suspects and completing paperwork.

Additionally, many Byrne grantees have seen positive changes in policing *outcomes* as a result of Byrne civilian hires. Forty-five percent of the agencies interviewed by PERF said they believe there has been an increase in case clearances due to the impact of Byrne hires, while 55 percent believe there has been an increase in department-wide availability of information on crime trends and criminal intelligence. Many agencies attributed the change in the availability of criminal intelligence information to the hiring of civilian crime analysts. Half of Byrne grantees reported that the addition of a Byrne civilian working specifically on forensic analysis processes had a positive impact on case closures.

Even agencies that did not hire crime analysts reported that the hiring of support staff, such as evidence technicians, helped existing analysts, detectives, and crime scene investigators to focus their attention on processing evidence and closing cases. More generally, agencies reported that "Byrne employees produced increased availability of patrol officers to prevent and solve crime." Among agencies that received grants specifically to enhance their forensic and crime scene investigation capabilities, 55 percent reported that their civilian employees had assisted in decreasing their evidence backlog.

Challenges Created by Using Civilians

Few Byrne grantees reported any serious problems using civilians in their agencies. When agency representatives were asked to discuss any problems they have encountered with civilians, most said that civilians did not present any unique difficulties. Civilians in general are productive and satisfied in their jobs, according to the officials interviewed by PERF. Only 6

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percent of agencies said that a lack of productivity was a problem among their civilian employees and only 6 percent said that civilians were dissatisfied with their jobs. Resistance to civilians from sworn employees is also not a widespread problem among Byrne grantees in the sample. Only 16% of agencies reported problems with sworn officers or unions opposing the civilianization of jobs, while 56% of agencies said this was not a problem (see Figure 3.2).

Figure 3.2. Problems Utilizing Civilians Reported by Byrne Grantees
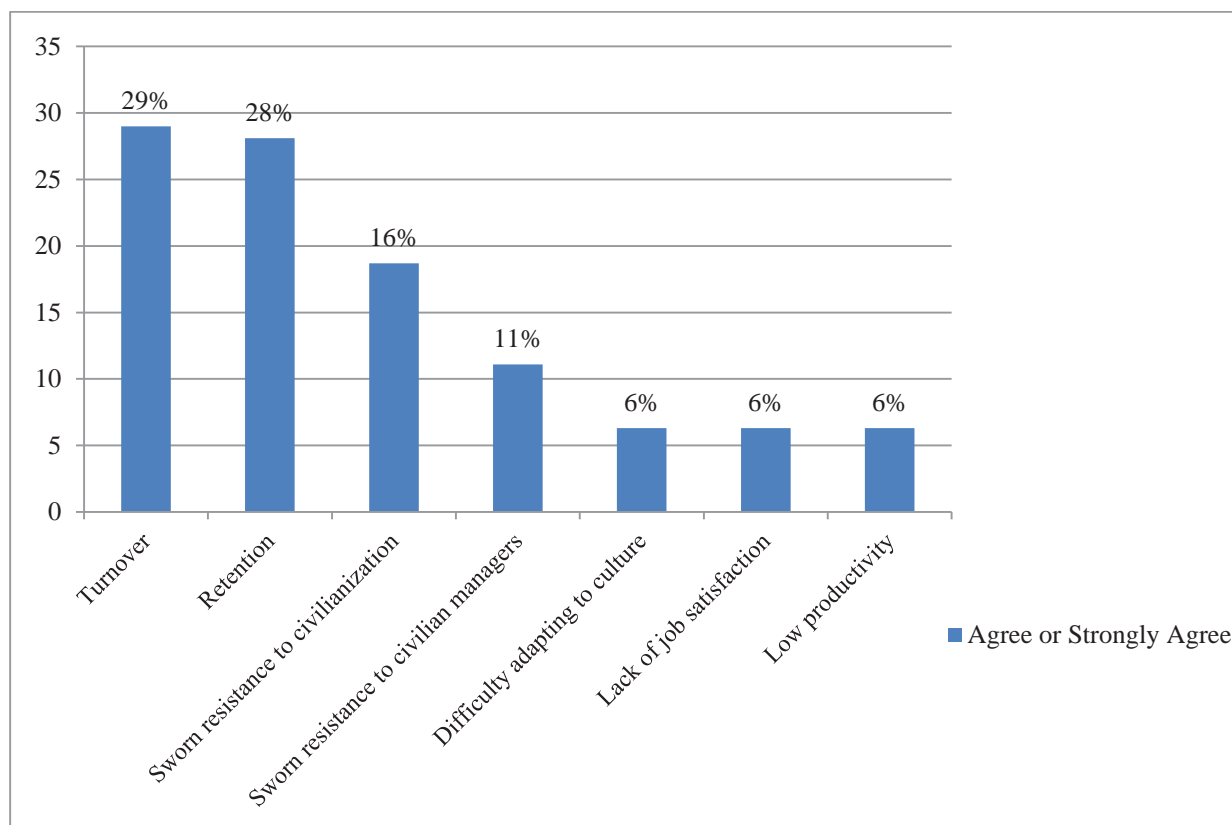
Retention and turnover were the biggest problems reported in hiring civilians, but these were reported by just over a quarter of respondents. Twenty-five percent of agencies agreed that retention was a problem with civilians in their agencies, with an additional 3 percent "strongly" agreeing that it was a problem. Twenty-six percent of sampled agencies agreed that turnover was a problem; again, 3 percent "strongly" agreed that this was a problem for them.

Information on turnover and retention was not collected from agencies that used Byrne funds to retain their civilian positions. Among the remaining grantees (25 of the 32 agencies in

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the sample), 40 percent had no turnover in their civilian positions. The remaining agencies had varying experiences with retention that differed depending on the number of positions, burnout, availability of other, higher-paying jobs in the private sector, and individual agency circumstances.

Not surprisingly, turnover was seen most frequently among agencies that hired greater numbers of civilians. Turnover in individual positions most often occurred due to civilians taking a different job within the agency, including some cases in which civilians trained to become sworn officers. Others advanced to new civilian positions (see Figure 3.3 below).

Figure 3.3. Problems Using Civilians: Reasons for Byrne Civilian Turnover.
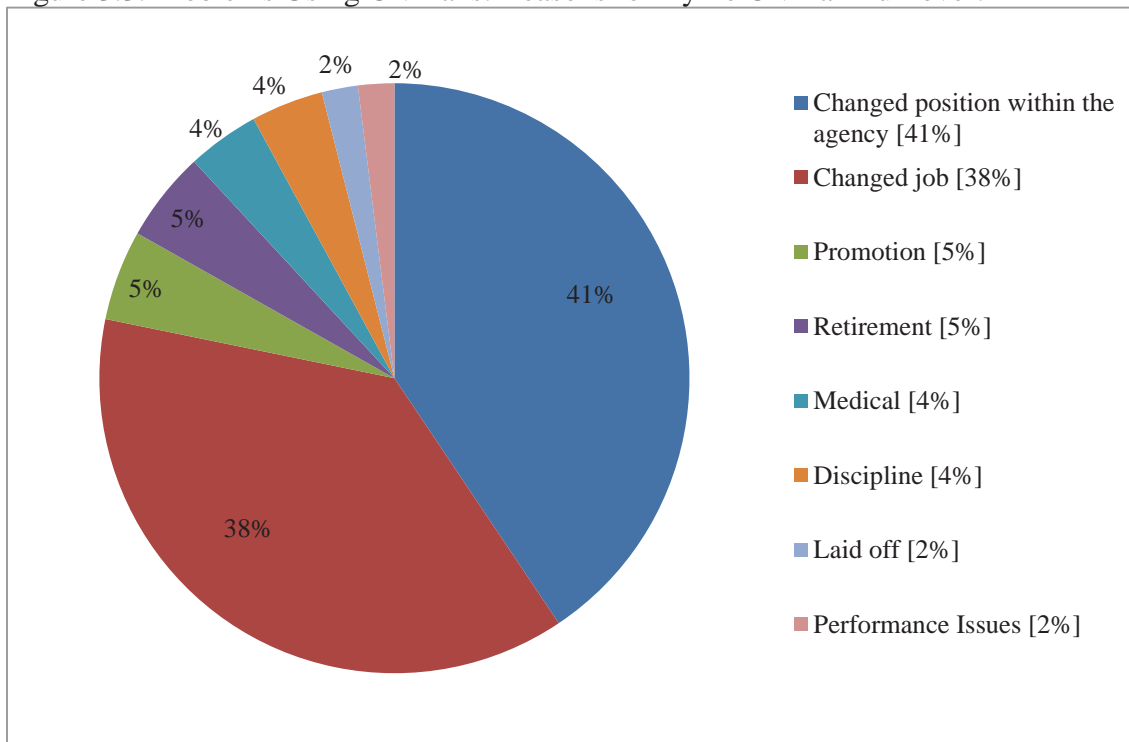
Best Practices

Sixty-five percent of sampled Byrne agencies agree that civilian employees have impacted their agencies in additional, non-quantifiable ways. They are "very energetic and innovative," and "always looking for ways to save money," interview subjects said. **Nearly half (48%) of Byrne civilians have advanced to new positions since their initial hire.**

An overwhelming majority, 81 percent, of Byrne recipients reported that they had not lost any of their Byrne positions since the start of the grant. Perhaps due to civilians' productivity and the value they brought to their organizations, many positions funded by Byrne grants were incorporated into agency budgets. Agencies that lost Byrne positions cited financial difficulties experienced by the city, state, or county. When asked about best practices for employing civilians, agencies noted that communication issues between civilians and sworn officers can sometimes be problematic. One agency suggested that it might be helpful to create a "mentoring program or support network" for civilians to assist them in transitioning to law enforcement culture in a positive way.

Byrne grantees praised the program for providing them with the means to hire qualified civilians. One agency that hired a network administrator and three information analysts explained that, "The awarding of this grant was extremely beneficial [to our agency]. We still have a need for civilian positions but cannot afford them. It is essential that DOJ continue to offer grants to hire civilians." An official of an agency that hired three crime analysts said the agency was "thrilled and proud to have been part of the program; it made a huge difference for us. It was one of the best things that has happened to the department." Another Byrne grantee reported that in their experience, "Civilians tend to have specialized education, experience, and skills that allow for better job mastery," perhaps because sworn officers are typically hired to be generalists and are frequently rotated among assignments (Forst, 2000). One agency hired two

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civilians to organize its evidence and property room, which had previously been non-compliant with state regulations, and reported that they "still experience the benefits from the [Byrne] program every day."

Analysis of Crime Rates

A major purpose of the Edward Byrne Memorial Justice Assistance Grant (JAG) issued through the 2009 Recovery Act was to allow states, tribes, and local governments to prevent and control crime. There are, of course, multiple factors that have been shown to affect the crime rate in a given city, state, or jurisdiction including unemployment and economic distress, high poverty rates, and changes to state statutes such as the legalization of marijuana (Cantor & Land, 1985; Phillips & Land, 2012; Hsieh & Pugh, 1993). However, the fact that Byrne grantees often used civilian hires to free up uniformed staff time or to enhance crime analysis capabilities makes it credible that the grants might play a role in reducing crime. To assess the effects of civilian hiring grants on crime rates, we compared crime trends among Byrne grantees and a sample of similar agencies that did not receive civilian hiring grants.

In order to identify a control sample of agencies similar to Byrne agencies, we used propensity score matching (PSM), where receiving Byrne funds was the outcome of a logistic regression procedure, which included region (Northeast, South, Midwest, and West), agency type (sheriff's office, state agency, and police department) and size (the number of sworn personnel). The result of this procedure was that each agency, both Byrne and non-Byrne, was given a probability of receiving Byrne funds (i.e., the propensity score) based on our model. We then utilized nearest-neighbor matching to match Byrne agencies with one non-Byrne agency with the closest propensity score. The agencies included in the analysis are listed in Appendix C.

We calculated crime rates for 2007 through 2012 using the FBI's summary Uniform Crime Reporting crime data and population figures. The comparison between Byrne and control (non-Byrne agencies) is presented in Figure 3.4 below. The trend lines represent the mean group crime rate by year, multiplied by 1,000.[7] The Byrne agencies have, on average, a crime rate that is 1.4 times as high as the control agencies. Given the care that was taken in selecting the control sites, we were initially surprised by this observation. However, the difference makes sense when it is realized that one of BJA's criteria in awarding grants is need – jurisdictions with greater crime problems are more likely to get Byrne grants.

Crime rates in both Byrne and control sites declined during the study period. The key comparison is the rate of decline in the two groups of agencies and that rate was nearly identical. However, as noted earlier, roughly half of officials at agencies that participated in the phone interviews and the case studies believed that there had been significant increases in criminal intelligence available for investigations work, and in crime analysis capabilities as a result of civilian hiring; and a similar proportion believed that civilians hired through the Byrne program had increased case clearance rates.

Overall violent and property crime rates are very broad indicators of performance. It is entirely possible, as the grantees reported, that civilians in analyst and other positions may have contributed to a reduction in specific crimes, may have increased the clearance rate for some crimes, or may have contributed to faster closing of some investigations. An evaluation of specific Byrne grant sites using targeted measures would be needed to provide a fair quantitative assessment of the effects of the grant program on police performance. In the sites included in the case studies, we tried to collect such targeted data. But, coming in after the fact, the data

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[7] Crime rates are often presented per 100,000 people. However, given the relatively smaller population size of some of the cities and counties in our sample, we have chosen to present crime rates per 1,000 people so as not to misrepresent these crime figures.

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collection systems that we would have needed to produce targeted performance indicators had

not been set up. This situation makes a strong case for beginning evaluation work *prior to* the

start of funded programs so that researchers are able to establish with grantees systems for

collecting appropriate evaluation data.

Figure 3.4. Crime Rate Analysis: Crime Rate Comparison
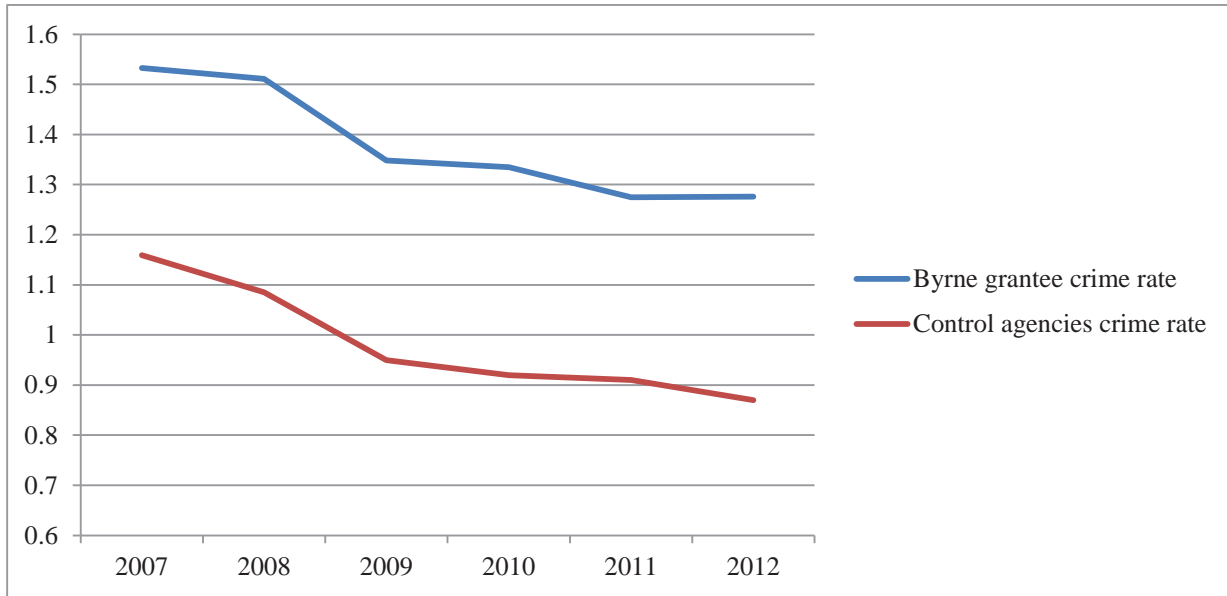
IV. Case Studies

To build on what was learned in the phone survey about the experience of law enforcement agencies, PERF conducted site visits to four Byrne grant sites. PERF chose the sites based on responses departments gave in the phone survey. These sites were not chosen because they were necessarily typical Byrne sites. Rather, they were chosen based on a number of criteria that included: Innovative uses of the grant funds, positive contributions the hired civilians made to the department's mission, and geographic diversity. Two of the agencies (Baltimore City Police Department and the California Department of Corrections and Rehabilitation) used Byrne funds to create new intelligence analysis units. One (Polk County Sheriff's Office) used funds to hire Sheriff Services Officers, who freed up the deputy time by responding to non-emergency calls. For the fourth case study, PERF chose a small department (Stroud Area Regional Police Department) which used grant funds to create two new positions – an evidence custodian who freed up detective time for investigations work, and a court liaison who represented the department in court cases, which spared arresting officers from having to come to court.

Case Study #1: Sheriff's Services Officer Program
Polk County, FL Sheriff's Office

The Polk County Sheriff's Office (PCSO) serves a population of 604,000 residents spread over 2,000 square miles. The Office has historically been a strong supporter of the use of civilian employees, with 734 civilians and 670 sworn staff members.

PCSO applied for Byrne funds to create a Sheriff Services Officer (SSO) program. As originally envisioned, the SSOs would provide a prompt response to non-emergency calls for service in situations where the risk to the responding officer was considered minimal. This

included minor automobile accidents without serious injury as well as criminal cases involving criminal mischief, theft, fraud, and commercial and residential burglaries – but only cases in which the perpetrators were thought to have already left the scene. The aim of the program was to save time for sworn deputies so they could focus on serious, violent incidents.

SSO Responsibilities

SSOs were assigned to PCSO districts and worked under the command of a sergeant from 11 a.m. to 8 p.m. or a similar shift, determined by peak call volumes and considerations of SSO safety (the PCSO did not want SSOs working during hours of darkness). When not on a call, SSOs patrolled in marked PCSO cars similar to those driven by PCSO deputies. They conducted directed patrols in high-crime areas at the direction of their sergeant, using intelligence reports prepared for the PCSO "Proactive Community Attack on Problems" (PROCAP) team – a team of uniformed officers that crosses district lines to attack crime in hot spots. In performing directed patrols, SSOs provided a visible deterrent to criminals and reassurance to law-abiding citizens. During the patrols, SSOs frequently engaged citizens in conversation about local criminal issues and passed information along to detectives.

According to PCSO progress reports, each SSO responded to 50 calls for service per month, about half of which resulted in completing a crime or accident report. In criminal cases, the SSOs took crime reports, canvassed the neighborhood for witnesses, dusted the crime scene for prints, and collected video from any nearby CCTV cameras. They then turned over their reports and evidence to PCSO detectives for follow-up. Spending an average of an hour on each call for service, SSOs not only saved a trip for uniformed officers, but for crime scene technicians as well.

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SSOs were frequently called on to handle reports of identity theft, such as when a false tax return is filed with another person's identifying information (e.g., SSN or DOB) in order to obtain a tax refund. In these cases, SSOs took the initial reports from complainants and passed them to detectives for follow-up investigation.

The SSOs were also responsible for responding to minor vehicle crashes. They collected drivers' licenses, insurance information, made determinations of fault, and completed accident reports. If the SSOs discovered that vehicle occupants were injured, deputies were called to the scene. For major crashes, SSOs assisted uniformed staff by performing traffic control duties. SSOs came to be used for a wide variety of other tasks as well. They coordinated citizen crime prevention programs and special events; delivered evidence to the courthouse in criminal cases; conducted after-hours property checks for businesses; and checked on homes where owners were away. They also responded to reports of abandoned vehicles and stranded motorists, were called upon to handle civil issues such as landlord-tenant disputes and car repossessions, and picked up surveillance videos of crime and drug hot spots. At crime scenes, they were trained to take "elimination" prints from family members in burglary cases to save time processing fingerprints lifted from the scene.

SSO Selection Process

The program began with the hiring of 23 SSOs assigned to the PCSO's five patrol districts. Qualifications for the position were not stringent. These qualifications included high school graduation; passing polygraph, drug, and psychological exams; absence of a criminal record; and acceptable driving and credit histories. Still, the positions proved difficult to fill, and PCSO utilized newspaper want-ads, staff referrals, and job fairs to identify candidates. SSOs signed a two-year contract, the original period of the Byrne grant. They were paid a starting

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salary of $26,000, considerably less than the $38,000 starting salary for uniformed PCSO staff members.

SSO Training

SSOs underwent an initial three-month training program using trainers from the local police academy at Polk State College. The training consisted of most of the academy training for deputies, with certain omissions: they were not trained in K-9 handling and did not receive a weapons certification. Training included 80 hours of crash investigation, crisis intervention, CPR certification, instruction on criminal and civil law, use of computers, customer service, writing accident and crime reports, self-defense tactics, workplace harassment, handling hazardous materials, and dealing with individuals in a state of excited delirium.

Cost Savings

PCSO was asked to provide data on any cost savings associated with the SSO positions. Based on the average calls for service each month, PCSO estimates that 23 SSOs would have freed up 1,150 hours per month for deputies to respond to high priority calls for service and to conduct proactive patrols. Cost savings realized by crimes prevented are not specifically quantifiable; however, the use of SSOs, as opposed to deputies, for these calls for service resulted in a cost savings of $6,900 per month in hourly wages alone. With higher pay and increased cost of benefits, adding 23 patrol deputy positions would have cost PCSO $1.4 million per year – nearly half a million more per year than hiring SSOs.

We reasoned that having the SSOs available to respond to minor incidents would free up time of patrol officers, reducing their response time to more serious incidents. The work of SSOs might also be expected to free up detective time, enabling them to solve more Part I crimes. Unfortunately, we were unable to obtain definitive data to test these hypotheses since

the PCSO installed new CAD and RMS systems three years ago – about the same time that the SSO positions were created.

The only measure that we were able to obtain was total call activity, depicted in Figure 4.1 below. It shows a steady increase over the period during which SSOs were active, suggesting that the SSOs may have helped PCSO keep up with a call volume that would otherwise have posed serious challenges to the department.

Figure 4.1. Polk County Sheriff: Call Volume, 2006-2012
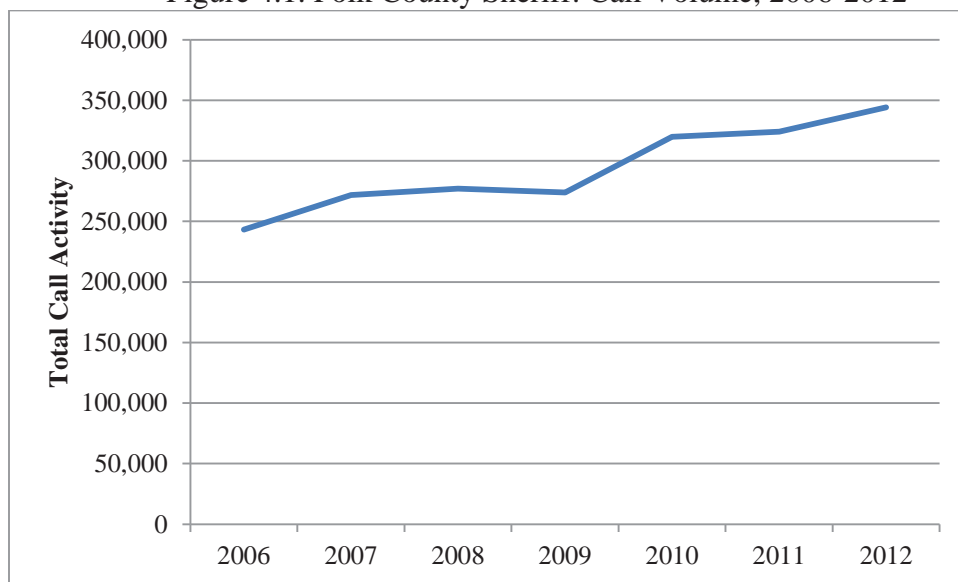
Future of SSO Program

As the program progressed, a number of SSOs left their positions, knowing that their employment would terminate after two years. Several were hired for animal control, as police cadets, and other civilian positions within PCSO. Some applied, and were hired, for uniformed officer positions at PCSO and other nearby law enforcement agencies. PCSO administrators made a decision not to fill SSO vacancies for the remainder of the two-year term, opting instead to extend the Byrne grant and use accruals to fund remaining SSO positions through the end of September 2013.

Of the original 23 SSOs, five were still working in the department at the time of the phone interview. The department has highly valued the SSOs' work. According to PCSO managers, uniformed staff accepted the SSOs and worked well with them. The managers we interviewed expressed regret that the program was ending for lack of local funds to continue it. When asked why the department did not trade some uniform positions for a greater number of SSO positions (three SSOs could be hired for the cost of approximately two uniformed officers), a PCSO manager responded that the department had already traded as many uniformed staff as was prudent for civilian positions. A solid core of deputies was needed to maintain jail security and respond to any emergency situations that would require a large number of armed officers.

Without funds to continue the paid SSO positions, PCSO has begun a volunteer SSO program. The first 20 volunteer SSOs were sworn in last spring. The volunteer SSOs receive 80 hours of classroom training and 80 hours of field training for duties similar to those of the paid SSOs. The first class of volunteers encompasses both currently employed and retired citizens including engineers, a school administrator, a psychologist, and a college professor.

Case Study #2: Criminal Intelligence and Analysis Unit
California Department of Corrections and Rehabilitation

The California Department of Corrections and Rehabilitation (CDCR) is the largest state agency in California with approximately 66,000 employees.[8] CDCR oversees one of the largest prison populations in the U.S., and has more than 36,000 custody staff members. CDCR encompasses 33 adult institutions, 46 conservation fire camps, nine community correctional facilities, five juvenile justice facilities, and five contracted out-of-state facilities in three states.

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[8] CDCR Strategic Plan (2010 – 2015) http://www.cdcr.ca.gov/About_CDCR/docs/Strategic_Plan_2010-2015.pdf

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There are approximately 168,000 adult inmates and 1,400 juvenile offenders within the system, and statewide there are 190 parole units supervising nearly 118,000 parolees.

The Criminal Intelligence and Analysis Unit (CIAU) was implemented in order for the CDCR to transition to a more intelligence-led policing model, with the goal of using information to assess, interpret and disseminate criminal gang and terrorist-related information statewide; provide information to assess statewide criminal activity, enhancing the safety of correctional personnel; and provide information to field agents and investigators with broad investigations related to organized criminal activity. In 2010, the CDCR began working with the FBI, establishing the "California Gang Intelligence Initiative" (CGII). This initiative was intended to "foster efficient and cohesive teams comprised of CDCR and FBI personnel capable of addressing criminal activity within the community while also deterring continued criminal activity by subjects incarcerated in CDCR facilities" (CDCR communication). In order to facilitate these activities, the CIAU was established by hiring seven civilian analysts in August of 2010.

The analysts needed only a high school-level education, but were required to have at least three years of analytical experience in management, budgeting, personnel, planning, program evaluation, or policy analysis. Once the analysts were hired, they were engaged in a three-week CDCR analyst academy to polish the skills needed for the crime analysis job. Training topics included: maintaining criminal intelligence files; the study of prison gangs; cell phone extraction; code-breaker training; and the psychology of investigative interviewing. After completing these classes, the analysts also received a three-day analytical training course in email tracing, financial investigation, money laundering, analytic best practices, and courtroom presentations, along with analysts from several other Western states.

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Prior to the creation of the CIAU, most gang investigations were handled at the local level, and results often were not shared with other institutions unless there was an obvious link between them. At the time, the CDCR maintained separate databases that could be data-mined, such as visitor logs, inmate telephone logs, inmate trust accounts, movements, and incident reports. The formation of the CIAU allowed the CDCR to centralize and manage the state's criminal information. This has allowed the CIAU to conduct network analysis to examine patterns of criminal activity and communication networks between inmates and those on the outside.

The CIAU performs a number of functions. First, the CIAU collaborates with other CDCR institutions to share information. The CIAU mines law enforcement databases, police reports, and other CDCR data to identify individuals in a criminal conspiracy, and to determine the relationships among them. CIAU establishes criminal profiles, including prior offending and co-offenders, to establish connections between individuals and criminal organizations. CIAU evaluates phone calls and inmate visits, as well as social media sites in order to determine the size, scope, and locations of criminal groups and members. Analysts are also able to study suspect assets to determine the flow to and from targeted groups, and to provide support for tactical (emergency) and strategic (long-term) operations. A key purpose of the unit is increasing officer safety by threat assessment. Inmate correspondence often provides information helpful to CIAU analysts. In reviewing 4,000 pages of correspondence, one analyst alone has been able to identify 300 code words, 70 code names, and 10 money drops in six states. Typically, CIAU analysts divide responsibilities into gang-specific activities, and each analyst is responsible for one of the largest gangs. In 2012, the CIAU received nearly 1,400 requests for

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information from nearly 240 agencies. As of August 2013, CIAU had received over 2,600 requests for information from over 300 agencies.

Second, CIAU analysts increase the ability to prosecute criminals by developing tables, maps, charts, and other infographics for use in investigations, ultimately leading to prosecutions. Third, they support the agency by assisting in allocating resources, developing budgets and resource requests, and assisting with investigative briefings. Fourth, they proactively inform law enforcement officers of crime trends and develop threat, vulnerability, and risk assessments.

In addition to analytic work, the CIAU has developed training modules on intelligence and analytic methods. The CIAU has fostered relationships with numerous law enforcement agencies within California and across the U.S. The CDCR has embarked on an agreement with the UK Home Office to share information. The Home Office has recognized that the CDCR is in a unique position to train its personnel in gang-related investigations and in turn can provide training to the CIAU on counterterrorism.

Since its inception, the CIAU has been involved in numerous federal and state operations, including:

- Operation Thunder Strike – provided background research on 248 targets in a California "off site" correctional facility in Oklahoma.
- Vagos Search Warrant –assisted two California police departments with the cataloging of property obtained during the execution of a search warrant of the Vagos (an outlaw motorcycle gang).
- Institutional Contraband Cases – assisted an Institutional Gang Investigator with assessing whether contraband cases in multiple institutions were connected as part of a statewide conspiracy.
- CDCR Hunger Strikes – monitored the coordination of information on social media sites, provided real-time intelligence, and performed background checks on

persons of interest suspected to be involved in an institutional hunger strike, resulting in the revision of the CDCR gang management policy.

- Oklahoma Riot – assisted with background intelligence on individuals involved in a riot stemming from disputes between black and Hispanic inmates in 2011.

The CIAU has been involved in many more multi-jurisdictional cases in which it has either provided background or real-time intelligence to state and federal authorities.

The demonstrated successes of the CIAU have resulted in the incorporation of the seven analyst positions into the CDCR budget. Since their hiring, the CIAU has become an efficient, cohesive unit that can speak globally for the CDCR and efficiently distribute intelligence and information throughout California's law enforcement system. CIAU has developed working partnerships with other California agencies, departments within the CDCR, as well as law enforcement agencies nationally and abroad, including the FBI, the Department of Defense, Immigration and Customs Enforcement, the National Gang Intelligence Center, the Federal Bureau of Prisons, the Department of Homeland Security, the California Department of Justice, and correctional and law enforcement agencies in states across the country. Evidence gathered by the CIAU has been used in FBI cases in California, Arizona, Texas, Nevada, Colorado, North Carolina, Virginia, and Pennsylvania. The CIAU also produced tattoo handbooks (2010 and 2012) and situational reports and bulletins issued through the National Gang Intelligence Center. In future, the unit hopes to expand to allow for additional analyst training and outreach to broaden its databases and begin analyzing media forensics from recovered cell phones and computers.

Case Study #3: Analytical Intelligence Section
Baltimore City Police Department

The Baltimore City Police Department (BPD) used its Byrne Grant, in conjunction with other state and federal funds, to create a specialized Analytical Intelligence Section (originally

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named the Tactical Analysis Unit). The unit is staffed by seven criminal analysts who assess more than 100 federal, state, and local data sources (e.g., liquor licenses, licenses to carry firearms, emails, etc.) to create violent crime analyses (VCAs) on suspects. VCAs contain information about prior known addresses, previous phone numbers, phone records, known associates, relatives, arrest records, and prior offenses that assist detectives as they launch investigations. Analysts automatically generate VCAs for anyone arrested for a handgun violation and any victim of handgun violence. These VCAs provide a snapshot of victims or suspects (for example, persons the subjects are known to associate with or their gang affiliations or memberships) and support detectives and investigators in their investigative process. In addition, the VCAs have been used to compile analyses of persons likely to be targeted in gang violence, enabling the BPD to become more proactive in preventing crime and homicides.

Currently, one analyst develops crime data for each district in the city, developing a close working relationship with district commanders. They are aided in these efforts by powerful analytic software: i2 iBase and Analyst's Notebook. Software used in BPD's Analytical Intelligence Section was also purchased through the Byrne Grant. In future, BPD hopes to expand the number of analysts working in the unit to 12.

Unit History/Function

Prior to receiving funding through the Byrne Grant in 2009, the unit was staffed by three officers, whose work was overseen by a sergeant. In the summer of 2009, BPD changed the scope and direction of the unit's work by expanding its capabilities. Seven civilian analysts were hired for the unit, which was renamed the Analytical Intelligence Section, and they were supervised by an executive director and a director. IBM iBase software was purchased to link different BPD databases together, which aids analysts in attempting to make connections

between cases and pieces of information. Additionally, the software connects otherwise incompatible databases and platforms so that searches are seamless. The purchase of this software has been the "key to the success of the unit," a BPD official told PERF. The software allows the analysts, investigators, and district commanders to engage in predictive policing, and to make intelligence-based assessments regarding the likelihood of gang-related violence.

In addition to producing VCAs, the unit maps crimes within each police district, producing density analyses upon which to base manpower allocation. Analysts also map the locations of recidivists or other prime suspects for investigation of current crimes.

The Analytical Intelligence Section operates independently of CompStat, though the two work together frequently. Analysts share data with the FBI and HIDTA. They work within a watch center or intelligence hub in a centralized command center. Analysts, with the director and executive director, also work closely with district commanders to confirm that their investigative and analytical needs are being met.

Experience and Training

Analysts are required to have four-year college degrees or equivalent. Most analysts who have worked in the unit have had master's degrees. Much of the training for the new analysts is performed with coworkers on the job or through free online classes (to assist in learning the software.)

Turnover

There has been turnover among analysts hired, primarily to and from other criminal analyst positions at the U.S. Marshals Service, the fusion center, or other local police departments. Some analysts have received their training in Baltimore and moved on to other positions. One analyst was promoted to deputy head of the unit.

Before and After Byrne Funding

Analysts have taken over much of the investigative legwork previously performed by detectives, which has freed up investigators' time and allowed them to take on heavier caseloads. VCAs give detectives a strong starting point for their investigations, and since 2007, detectives have doubled their caseloads. The figure below depicts the average number of ongoing cases for a detective at BPD between 2007, two years before the unit was created, through 2012, three years after the unit was expanded.

Figure 4.2. BPD: Average Caseload per Detective, 2007-2012
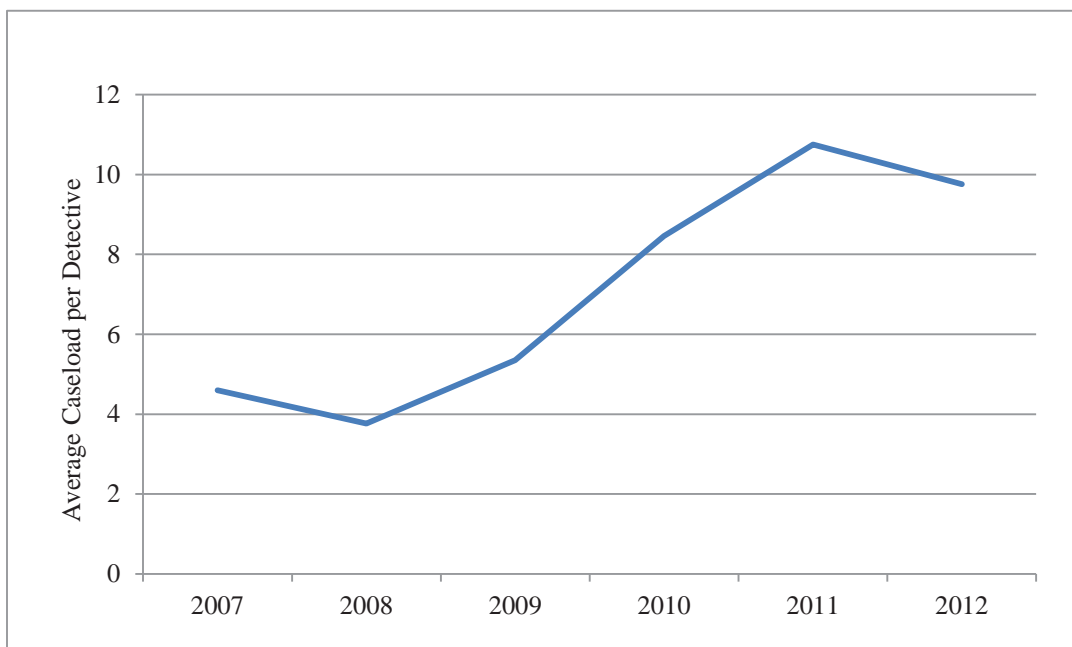
Not only are investigators taking on a greater number of cases, but they are better prepared to do so because of the work of the civilian analysts. Since the expansion of the unit in 2009, a greater number of VCA reports are being generated by each analyst. Before software was purchased, analysts only prepared reports for major incidents. The software is powerful enough that VCAs can now be prepared for many different types of incidents when needed.

Analysts can also respond to requests on demand from district commanders for a range of statistics: year to year changes, crime bulletins, recidivist lists and history, burglary pattern

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analysis, spatial and mapping analysis, "social network" analysis (primarily related to gang activity), and deployment projections.

The City of Baltimore experienced an 8-year decrease in Part 1 UCR crime between 2004 and 2011. In 2011, the annual homicide total dipped below 200 for the first time since 1977. Although there is no way to conclusively prove it, these promising numbers and trends are attributed by the department in part to the technological advancement of the Analytical Intelligence Section.

All seven analyst positions have been maintained with general funds since the Byrne Grant ended in July 2012. BPD hopes to add two more analysts to the unit through a current SMART policing grant application.

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Case Study #4: Court Liaison and Evidence Custodian
Stroud Area Regional Police Department, PA

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The Stroud Area Regional Police Department (SARPD) was formed in 2000 through the merging of three police departments. Located approximately 100 miles north of Philadelphia, the department's area of coverage includes the Township of Stroud, the Borough of Stroudsburg, and the Borough of East Stroudsburg. SARPD, an agency of 54 sworn officers, used its Edward Byrne Memorial Competitive Grant to create two civilian positions, Court Liaison and Evidence Custodian.

Court Liaison

Background

In 2009, SARPD recognized the need for a court liaison to improve the efficiency of interactions between the Police Department and the District Attorney's office. A collective bargaining agreement with SARPD officers states that officers are automatically paid three hours of overtime for a court appearance at 1.5 times the officer's regular hourly pay. SARPD leaders

hoped that the court liaison could cut agency costs by identifying which cases required that an officer be present to testify, thereby reducing the need for officers to attend all court hearings. Simultaneously, SARPD leaders hoped that a court liaison could improve organization and effectiveness in their communications with the D.A.'s office. Byrne funds were secured in 2009 and a court liaison was hired in January 2010.

Duties

The court liaison works closely with the D.A.'s office on every case and appears in court on behalf of the arresting officer for the majority of hearings that will not go to trial. There are between 45 and 60 such hearings per week. By reducing officer appearances in court, the liaison has decreased overtime costs and increased officer efficiency. Officers spend less time in the courtroom waiting for cases to be heard, and more time on duty, and overtime is reduced. The court liaison has also improved the efficiency of information-sharing with defense attorneys and the D.A.'s office. Attorneys no longer spend time attempting to contact officers who may not be on duty during regular office hours, or, alternatively, are busy on active patrol. Prosecutors can contact officers through the court liaison if necessary, or speak directly to him, since he is familiar with the details of ongoing cases.

The court liaison's official duties are classified into nine categories: court preparation; collection of hearing notices and subpoenas; collection of Common Pleas subpoenas; distribution of department paperwork; daily court appearances; tracking of court dispositions; officer notification emails; record-keeping and disposal of case files; and preparation of monthly and annual reports.

1. *Court preparation*: Obtaining original officer case files, criminal background files, driving records, etc. before appearing in court on behalf of an officer.

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2. *Collection of hearing notices and subpoenas*: Upon receiving notice of a case, the court liaison is authorized to determine whether he can represent an officer or if the officer needs to appear in court. All hearing notices are tracked with a shared Microsoft Outlook calendar, which is a new organizational system for SARPD initiated by the court liaison.

3. *Collection of Common Pleas subpoenas*: distribution of subpoenas for trial at the Common Pleas level (the court liaison typically does not appear on behalf of officers for hearings at this level); documentation and notification to the officer occurs through the Outlook calendar so the officer has advance warning about court appearances.

4. *Distribution of department paperwork*: Distribution of departmental mail to the District Court offices (citations, criminal complaints, etc.), the county courthouse, the D.A.'s office, or the sheriff's office (because notifications and mailings go through a single person, it is less likely SARPD officers will miss important paperwork).

5. *Daily court appearances:* Appearing in district court on behalf of officers for preliminary hearings in criminal cases or summary cases (traffic and non-traffic citations) when a plea agreement or arrangement can be made without requiring the arresting officer's presence. The court liaison also provides discovery to the D.A.'s office as mandated.

6. *Tracking of court dispositions:* Tracking cases appeared for and calculating an estimate of how much overtime is saved daily – a daily docket sheet (DDS) – and monthly in a month-end report (MER). The DDS and MER are used in the year-end report (YER) submitted to the lieutenant at the end of each calendar year.

7. *Officer notification emails:* Keeping officers notified of cases that are being handled by the court liaison. Officers are notified 3 to 4 days in advance in case they have any feedback or additional information that might be helpful to the case.

8. *Record-keeping and disposal of case files:* After the conclusion of a case, the court liaison returns case files to the officer or to the front office archives to be re-filed. If necessary, the file can be shredded and properly disposed of.

9. *Preparation of monthly and annual reports:* YERs are completed with the following items – narrative section, year-end spreadsheet, case dispositions breakdown sheet, monthly tally of times appeared in court, district court criminal cases (total number of criminal cases filed at each of the district courts), court overtime comparison (comparing total court overtime paid out to officers against monthly savings through the court liaison), and all monthly reports.

Experience and Training

The court liaison was required to have a high school education, at least three years of clerical or record-keeping experience, and knowledge of criminal and court procedures relating to the presentation of cases in the District Court and the Court of Common Pleas, or an equivalent combination of skills, and abilities.

Training for the position occurred on the job. The current court liaison has prior experience working in the Pennsylvania District Attorney's office and has preexisting relationships and contacts within the D.A.'s office, which assists him in serving as the primary point of contact between the D.A. and A.D.A.s and the SARPD. Very little formal training was necessary for the current court liaison.

Turnover

Since the creation of the position in January of 2010, three different people have held the position. The first was a laid off former officer who held the position for a year and nine months before a lieutenant position opened up within the department. The second person to hold the

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position was also a laid off former officer who was recalled to duty as a patrolman after holding the position for 22 months. The third court liaison, a former agent in the Pennsylvania attorney general's office, has held the position since July of 2013.

Cost Savings

Within the first year, the court liaison helped SARPD cut costs. From January to December 2010, the court liaison attended 816 court hearings. The three municipalities participating in the court liaison program saved nearly $61,000 in reduced officer overtime hours due to a decreased number of officers attending court hearings. In addition, 570 regular man-hours were saved. Rather than spending hours in the courtroom, officers spent more time on duty.

In 2011, the court liaison appeared at 1,144 hearings, 629 of which were conducted in lieu of officer overtime hours – the equivalent of 1,887 overtime hours, or $83,285 in wages. The potential total of paid court overtime was reduced by 37 percent. More than 200 of these hearings were held while the arresting officer was on duty. The court liaison's presence allowed more officers to remain on active patrol.

In 2012, the court liaison represented officers at 1,106 hearings, 546 of which were scheduled in lieu of overtime hours, saving SARPD approximately $72,000. Two hundred hearings were held while the arresting officer was on active patrol. From 2010 to 2012, more than $200,000 was saved in overtime pay to officers. Additionally, as early as 2009, SARPD administrators noticed that officers who were preparing for retirement had been appearing at as many hearings as possible in order to increase their annual salary in the final years before their retirement. The overtime pay given to these officers would have significantly increased their annual pension total, because officers retire with pension to be paid out at their highest salary.

Thus, the court liaison officer is reducing SARPD costs for many years to come through savings in pension payouts.

Figure 4.3. SARPD: Savings in Overtime Wages, 2010-2012.
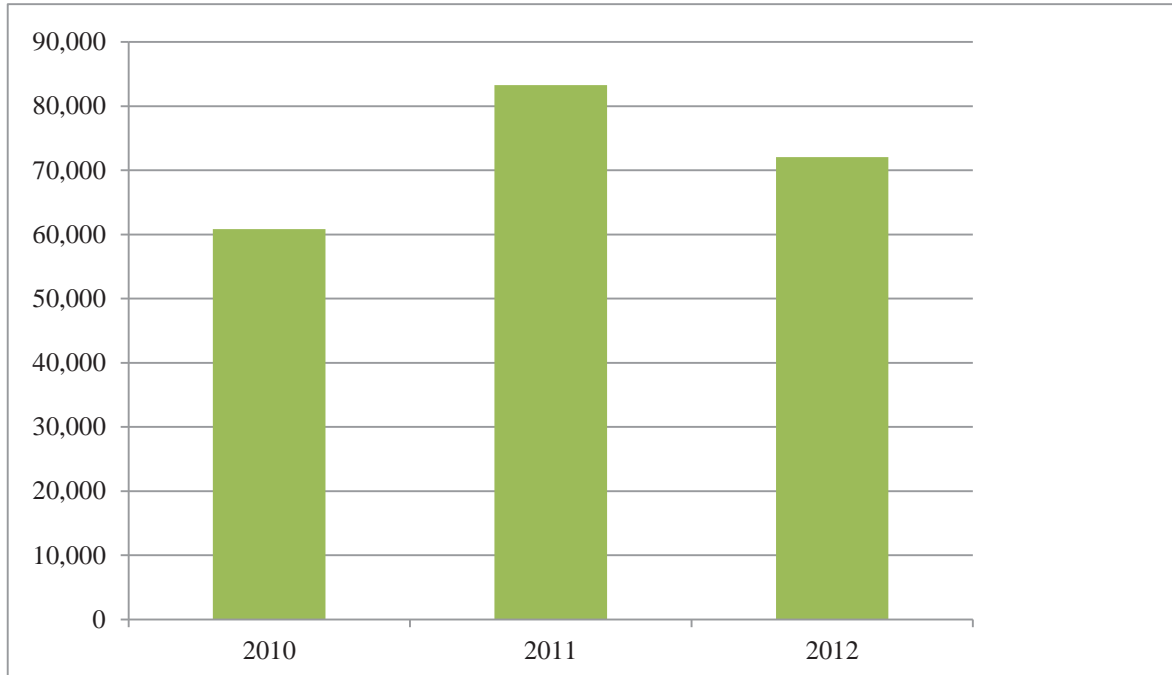
Multiple benefits to the department have been recognized by administrators, officers, the D.A.'s office, and defense attorneys. The court liaison has also helped resolve paperwork issues, communication difficulties, and problems coordinating with officers and victims due to the size of the patrol division and changing shift times. The system works without delays because a single contact person has replaced the need for district attorneys or defense attorneys to contact multiple officers on one day to appear in court for cases, especially for straightforward hearings that involve waivers for admittance to diversion programs.

Evidence Custodian

Background

When Stroudsburg, East Stroudsburg, and Stroud Township Police formed the Stroud Area Regional Police Department in 2000, three evidence and property rooms also merged with

very little organization and without an inventory of the contents. The property room was managed on a part-time basis by two detectives who oversaw the intake, processing, security accountability, and disposition of evidence. When one detective resigned from the department, a single detective was left in charge of the property room, still on a part-time basis. This detective was eventually assigned to the property room full-time when he reported that a backlog of evidence was occurring, coupled with delays in auditing and purging of unnecessary items. However, much of the evidence that had been brought to the property room due to the merging of the police departments had still not been properly categorized and identified. In 2009, new Pennsylvania state laws were passed that extend the statutes of limitation for sexual assault crimes, homicides, and burglaries, possibly expanding the amount of evidence in the SARPD property room, making it imperative that the agency have an organized, accessible evidence collection. A Byrne grant was secured during the summer of 2009, and a civilian evidence custodian was hired in January of 2010.

Duties

The evidence custodian replaced the detective who had previously been assigned to the property room. He returned to full-time duty as a detective. The evidence custodian's main duty is the handling of all intake of evidence to ensure that incoming property is packaged in according with agency guidelines to prevent contamination, loss, and theft. The SARPD property room currently houses upwards of 10,000 pieces of evidence and property. Annually, more than 1,000 new pieces of property are entered into the evidence room for evidentiary and non-evidentiary purposes. In 2009, an electronic barcode system was implemented so that all pieces of evidence can be easily tracked and located once they are processed and entered into a computer database.

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The evidence custodian's official duties include the following: transportation of evidence to and from the state crime lab; tracking evidence within the electronic barcode system; tracking dispositions and releases of property and evidence; and preparation for court appearances.

1. *Transportation of evidence:* Ensure evidence is safely transported to and from the state police crime lab in Wyoming, PA; coordinate with crime lab personnel on the preparation of evidence for examination and testing.

2. *Tracking evidence within the electronic barcode system:* Maintain and update all documentation and tracking information; enter all necessary data into the property unit tracking system at time of intake.

3. *Tracking dispositions and releases of property/evidence:* Ensure that all releases/dispositions are legal and accurately documented; communicate with U.S. Secret Service for the release of counterfeit bills into their custody; notification and release of all personal (non-evidentiary) property; follow up with officers on any found property.

4. *Preparation for court appearances:* Provide chain of custody testimony relating to evidence; arrange and document interim releases and returns of evidence for court.

In addition to his official duties, the evidence custodian has worked to find a niche within the agency. He is well-known within the community, and he has used his skills to the department's advantage by increasing the department's website and social media presence online on Facebook. The agency now uses its Facebook page to interact more frequently with the community, as well as for fundraising efforts. One of the agency's close neighbors is East Stroudsburg University, located less than a mile from department. The Facebook page, run by

the evidence custodian and a supervising lieutenant, has been one effective way for the agency to improve its accessibility to students, who are often wary of officers' presence near campus.

The evidence custodian has also used his stature in the community to become a fundraiser for the agency's annual golf tournament. The department has doubled the amount raised during the event due to his efforts.

Experience and Training

The evidence custodian came to the job with 20 years of retail experience in inventory organization and management. He had had no formal training in the handling of evidence and property prior to his hiring.

In 2010, he attended two training courses. The first was a certification course in property and evidence sponsored by the International Association for Property and Evidence. The second course covered property and evidence laws regarding property room management and was sponsored by the Pennsylvania State Police. The evidence custodian has also had on-the-job training. He accompanies officers to major crime scenes and assists with the collection and handling of evidence.

SARPD will be sending the evidence custodian to Harrisburg, PA for a crime scene photography and investigation course through the Pennsylvania State Police, taught by the Bureau of Forensic Services, for additional formalized training in evidence collection.

Cost Savings

Prior to the hiring of the civilian evidence custodian, the SARPD property room was run by two part-time detectives, and then by one full-time detective who has returned to active duty. Replacing these detectives with a civilian has allowed for significant cost savings. For 2010 and 2011, SARPD was able to free up an investigator position, an equivalent of roughly $65,000 per

year for the duration of the Byrne grant. As the evidence custodian has been incorporated into the general budget, the cost savings has equaled about $25,000 annually, as compared to the cost of hiring a detective to oversee the evidence room.

<u>Retention</u>

Both positions have been incorporated as civilian lines in the Stroud Police Department budget, and there has been no turnover in the evidence custodian position since its creation.

Summary

The sites chosen for visits were selected based on responses gathered during telephone interviews. We sought to include geographically diverse grantees that used their funding in innovative ways that allowed civilians to make positive, lasting contributions to their agencies.

In all four agencies that were chosen for site visits, the hired civilians have increased agency productivity. In the CDCR, the newly created CIAU is able to work in partnership with other CDCR institutions, increasing efficiency and investigative capabilities. This enhances their ability to prosecute criminals by keeping California law enforcement officers informed of crime patterns and trends. Similarly, the Analytical Intelligence Section created by the Baltimore City Police Department has created new partnerships between investigators and analysts. Because of the investigative work taken on by analysts and the improved investigative support available to detectives, they have been able to take on twice as many cases per year since the creation of the Analytical Intelligence Section.

Especially in small departments, civilians were of great assistance in affecting efficiency and productivity. At SARPD, the court liaison appears in court on behalf of officers, reducing overtime costs and increasing officer efficiency. Information sharing between the department, defense attorneys, and the D.A.'s office has also become more efficient. SARPD also hired an

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evidence custodian to organize the evidence and property room, and to track evidence within the newly-implemented electronic barcode system. The creation of this position allowed a detective to return to full-time duty, increasing efficiency. Both positions have cut costs for the agency.

The civilians hired by the Polk County Sheriff's Office were trained as Sheriff's Services Officers (SSOs), performing many of the same duties that newly graduated patrol officers could perform, but at a lower cost. They responded to non-emergency calls for service, freeing up patrol officers to answer emergency calls. The hiring and training of the SSOs occurred during a time of increased call volume at the PCSO; the 23 hired SSOs assisted in allowing PCSO to keep up with the increased volume of calls.

While other Byrne grantees put their funding to use in different ways, they did so with similar goals in mind: reducing officer overtime costs, increasing agency efficiency and productivity, and boosting intra-agency information sharing. Hiring civilians can help agencies achieve these aims.

V.   Conclusions

The multiple methods used in the study yielded a comprehensive picture of civilianization at a critical time immediately following a steep recession. It documented the state of civilianization and how agencies used Byrne grant funds to leverage hiring and retention of civilians, often in innovative ways that added significant value to departments.

The national survey found that four in ten agencies responding to the survey reported layoffs or thinning of civilian ranks through attrition, consistent with UCR data that indicates a 10 percent reduction in the numbers of civilians employed by law enforcement agencies during the same five year period between 2008 and 2012.

The national survey results indicate that it was not difficult to find qualified civilians to fill vacancies during the recession and subsequent slow economy. Fewer than one in ten respondents reported having difficulty filling civilian positions. Newspaper ads, posting positions on the agency website, and inter-agency recruitment were the most common modes of locating qualified candidates. Not surprisingly, the most commonly used recruitment methods were perceived as more effective than the less frequently-used methods of radio and TV advertisements, social media, or job fairs.

The survey also found that civilians were most often used in administrative and support positions such as dispatch, communications, data entry, and other clerical work. But civilians also played a major role in technical areas: **Use of civilians in I.T. and computer programming was common, and civilian use increased during the study period in crime analysis, mapping, and intelligence; in planning and research, and in community and media relations. Civilian crime analysts were said to have strong skill sets due to their specialized background and education. In a majority of agencies, civilians had decision-**

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making authority in budgeting, new program development, hiring of staff, and managing agency communications.

Filling positions with civilians was typically a positive experience for responding agencies. Six in ten felt that civilian staff increased productivity and efficiency "to a great extent." Some agencies mentioned that problems sometimes accompanied the hiring of civilians, most commonly low job satisfaction and retention challenges. But even these issues were reported by just one in three agencies. Significantly, in both the national survey and the interviews with Byrne grantees, just one respondent in four said that civilians met with resistance from sworn staff or that sworn staff objected to being supervised by civilians.

The phone interviews with Byrne grant recipients also indicated that civilians hired as a result of the federal program provided significant value to their agencies. One in four recipients used grant funds to retain civilian positions, while three in four used the funds to hire employees for new positions. The most common method of job advertisement, and the most successful, was use of government job websites. Four in ten Byrne grant recipients had few difficulties finding civilian staff members. Only about three in ten reported difficulties filling positions; about the same as the number indicated among the national survey respondents.

Civilians hired through the Byrne program did not, for the most part, perform clerical or administrative tasks, as was generally found in the national survey. **Rather, the most common roles of new hires were crime analysts and police service officers handling investigations and other work typically performed by uniformed staff. Six in ten grant recipients said that the civilian positions had freed up time of uniformed officers to engage in more time on the street, and grantees were equally as convinced that the civilians hired had increased case clearance rates or increased information on crime trends and criminal intelligence.**

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These findings were echoed by the case studies: In all four agencies examined, civilians hired under the Byrne program increased agency productivity through creating new partnerships between analysts and investigators and/or freeing up time of uniformed staff to spend more time in investigations or patrol functions. In one case, a civilian position led to a substantial reduction in police overtime costs as well as freeing more officers for duty on the streets.

Phone interview respondents reported few problems stemming from hiring of civilians with Byrne funds. Fewer than one in five reported problems with resistance from sworn staff, lack of productivity, low job satisfaction, or difficulty adapting to the law enforcement culture. Somewhat higher proportions (three in ten) reported problems with retention and turnover of civilian staff. This is a higher number than reflected in the national survey, and may result from the fact that Byrne grant recipients hired groups of civilians at the same time. **Many of the civilians who left grant-funded positions went on to other positions in their agency or were hired by another law enforcement agency, so the investment made in their training was not lost.**

Significantly, the phone interviews disclosed that 81 percent of the grant-funded positions had been maintained by the agencies after the grant period had expired – in many cases, more than a year ago. Thus, the federal investment in most cases led to permanent enhancements to the grant recipients. This was evidenced in the case studies as well. In Polk County, where the sheriff could not find funding to retain the 23 civilian positions, he recognized the value added to the department and created a program to train volunteers to perform functions similar to those performed by the Byrne civilians.

In order to assess the effects of civilian hires on policing outcomes, we compared the crime rates of Byrne grantees to non-Byrne grantees. Although many factors can affect crime

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rates, one of the main purposes of the Byrne Grant was to allow states, tribes, and local governments to prevent and control crime. Although crime declined for both Byrne and non-Byrne agencies, the analysis did not reveal any greater decline in sites receiving Byrne civilian hiring grants. However, our research did produce anecdotal evidence about ways in which the Byrne grants improved police operations in ways that may have contributed to crime reductions. More than half of the agencies that participated in the phone interviews or the case studies believed that civilian hiring was responsible for significant increases in criminal intelligence available for investigations work and in crime analysis capabilities. A similar number reported decreases in evidence backlogs as a result of civilian hires. Just under half of the Byrne grantees reported increases in case clearance rates.

The four case studies were consistent with the findings from the phone interviews. The positions added with grant funds either added new capabilities to agencies (the intelligence analysis units created in Baltimore and California) or freed up significant time for uniformed officers (East Stroudsburg, PA and Polk County, FL). The work performed by the civilians was highly valued by their agencies and, even in Polk County where the sheriff's office was unable to retain the grant-funded positions, volunteers were being found to fill the roles vacated by Byrne-hired staff.

Overall, the study found that civilians are playing an increasingly important role in police operations. While some agencies reduced civilian staff during the recession, others hired civilians to supplement thinned ranks of uniformed staff and to enhance departmental effectiveness through crime analysis. The tasks of civilian employees have been extended beyond clerical roles to technical positions and even to some tasks previously in the domain of

uniformed patrol staff. Civilians now in many agencies are in top management positions in personnel, budgeting, and communications.

We found little evidence of resentment of civilians by uniformed officers. The resistance of sworn staff observed in earlier times seems to have largely evaporated as uniformed officers become accustomed to having civilians in the work place. Indeed, with the increasing reliance on technology, crime analysis, and development of intelligence tools, highly trained civilians have de facto become a necessity in modern law enforcement agencies.

Our evaluation of the Byrne civilian hiring program found that grant recipients made good use of the positions made possible by the program. In many cases, grantees added significant new analytic and intelligence capabilities to their departments with Byrne funds. Interviews with grant recipients and law enforcement administrators on site visits strongly indicated that respondents perceived that their agencies benefitted from the civilians hired with grant funds: They believed that the civilians freed up the time of uniformed staff to spend more time on investigations and patrol; that the activities of the civilians helped to solve and prevent crimes; and that the work of civilians resulted in significant cost savings to their departments.

In most instances, the hires made possible by Byrne grants led to permanent employment of the civilians hired and retention of the positions created with grant funds. When turnover did occur, the civilians often went into other positions in the department or similar positions in neighboring law enforcement agencies. During a period of recession and retrenchment followed by sluggish economic growth, the Byrne civilian hiring program helped make it possible for some agencies not only to retain key civilian staff, but also to add civilian staff in a way that enhanced the capacity of their departments.

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Appendix A: States by Census Region

Region 1 – Northeast	Region 2 – Midwest	Region 3 – South	Region 4 – West
Connecticut	Iowa	Alabama	Alaska
Massachusetts	Illinois	Arkansas	Arizona
Maine	Indiana	Delaware	California
New Hampshire	Kansas	Florida	Colorado
New Jersey	Michigan	Georgia	Hawaii
New York	Minnesota	Kentucky	Idaho
Pennsylvania	Missouri	Louisiana	Montana
Rhode Island	North Dakota	Maryland	New Mexico
Vermont	Nebraska	Mississippi	Nevada
	Ohio	North Carolina	Oregon
	South Dakota	Oklahoma	Utah
	Wisconsin	South Carolina	Washington
		Tennessee	Wyoming
		Texas	
		Virginia	
		West Virginia	
		Washington, DC	

Appendix B: NDLEA Population Strata: UCR Region, Department Type, and Department

Size with Selected Sample Count and Byrne Fund Recipient Count.

UCR Region	Department Type	Department Size	Population Count	Sample Count	Byrne Fund Recipient Count
Northeast	Police Department	Missing	102	33	
		1 to 25	1936	36	1
		26 to 50	416	34	1
		51 to 99	182	33	1
		100 to 499	128	33	1
		500 or more	13	12	1
	Sheriff's Department	Missing	5	5	
		1 to 25	88	33	
		26 to 50	38	33	
		51 to 99	31	31	
		100 to 499	41	33	
		500 or more	8	8	
	State Police	100 to 499	4	4	
		500 or more	6	6	
Midwest	Police Department	Missing	309	34	
		1 to 25	3291	36	
		26 to 50	457	34	1

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UCR Region	Department Type	Department Size	Population Count	Sample Count	Byrne Fund Recipient Count
		51 to 99	201	34	
		100 to 499	100	33	2
		500 or more	16	13	3
	Sheriff's Department	Missing	5	5	
		1 to 25	753	34	1
		26 to 50	138	33	
		51 to 99	84	33	2
		100 to 499	68	33	1
		500 or more	6	6	
	State Police	100 to 499	5	5	
		500 or more	7	7	
South	Police Department	Missing	303	34	
		1 to 25	2893	36	
		26 to 50	428	34	
		51 to 99	232	34	
		100 to 499	194	33	1
		500 or more	50	33	5
	Sheriff's Department	Missing	1	1	
		1 to 25	793	34	

UCR Region	Department Type	Department Size	Population Count	Sample Count	Byrne Fund Recipient Count
		26 to 50	242	34	
		51 to 99	148	33	
		100 to 499	194	33	
		500 or more	28	27	1

Appendix C: Propensity Score Matching

Agencies listed beside one another were matched based on their propensity score. Where propensity scores were not identical, the score is listed separately in the table in parentheses.

Byrne Agencies	Propensity Score	Control Agencies
Liberty Village Police Department (NY)	0.01104	Hill County Sheriff's Office (TX) (0.01048)
Union County Sheriff's Office (OH)	0.02098	Geauga County Sheriff's Office (OH)
Polk County Sheriff's Office (FL)	0.02800	Orange County Sheriff's Office (FL)
Josephine County Sheriff's Office (OR)	0.05021	Coos County Sheriff's Office (OR)
Carbondale Police Department (PA)	0.05994	Ferndale Borough Police Department (PA)
Watsonville Police Department (CA)	0.06063	Davis Police Department (CA)
Winnebago County Sheriff's Office (WI)	0.06488	Kenosha County Sheriff's Department (WI)
Okanogan County Sheriff's Office (WA)	0.06612	El Paso Police Department (0.06640)
Austin Police Department	0.06640	Fort Worth Police Department
Apache Junction Police Department (AZ)	0.06688	Sierra Vista Police Department (AZ)
Ceres Public Safety Department (CA)	0.07974	Los Alamitos Police (CA)
Stroud Area Regional Police Department (PA)	0.07983	Benicia Police Department (CA)
Santa Clara County Sheriff's Office (CA)	0.10102	San Bernardino County Sheriff's Office (CA)
Baltimore City Police Department	0.11796	Montgomery County Department of Police (MD)
North Charleston Police Department	0.15583	Columbia Police Department (SC)
Bakersfield Police Department (CA)	0.16002	Ventura Police Department (CA)
Santa Rosa Police Department (CA)	0.16002	El Cajon Police Department (CA)
Torrance Police Department (CA)	0.16002	Vallejo Police Department (CA)
West Covina Police Department (CA)	0.16002	Sunnyvale Department of Public Safety (CA)
Toledo Police Department (OH)	0.16185	Cincinnati Police Department
Lowell Police Department (MA)	0.18001	Barnstable Police Department (MA)
Charlotte-Mecklenburg Police Department (NC)	0.18405	City of Durham Police Department
Winston-Salem Police Department (NC)	0.18405	Raleigh Police Department
Nampa Police Department (ID)	0.20300	Boise Police Department
Boston Police Department	0.22756	Phoenix Police Department (0.22109)
Lexington-Fayette Urban County Government	0.36847	Louisville Metro Police Department (KY)