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CITY OF OAKLAND
AGENDA REPORT

To: Office of the City Administrator
Attn: Dan Lindheim, City Administrator
From: Jeff Baker, Assistant to the City Administrator
Date: April 7, 2009

Re: **Measure Y Community Policing Evaluation Report, from the RAND Corporation, Entitled: "Community Policing and Crime, The Process and Impact of Problem-Solving in Oakland"**

SUMMARY

The attached report on Oakland's Community Policing was performed by the RAND Corporation and submitted to the City of Oakland in December, 2008. The delay in presenting the report to the Public Safety Committee was due to scheduling difficulties before the Measure Y Oversight Committee. Electronic and bound copies of the report were delivered to members of the City Council in February 2009 pursuant to City Council direction. The report was reviewed and approved by the Measure Y Oversight Committee at its February 23, 2009 meeting.

The report covers the period of January 2005 – April 2008. The evaluation findings conclude there is no statistical evidence that the Problem Solving Officer (PSO) program is associated with reductions in crime and violence. Since the timeframe of this report, OPD has made significant progress in hiring, assignment and deployment of problem-solving officers in each of the 57 community policing beats. The report provides an assessment of Measure Y funded community policing efforts when PSO levels fluctuated between 31 to 36 officers, it does not include recent augmented recruitment hires, nor an analysis of the impact of geographic deployment strategy.

FISCAL IMPACT

Acceptance of the report has no fiscal impact.

BACKGROUND

Passed by Oakland voters in 2004, Measure Y is a comprehensive effort to address the root causes of violence including poverty, unemployment, discrimination, substance abuse, educational failure, fragmented families and domestic violence. The initiative

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provides over \$20 million per year for increased fire safety, police services and violence prevention programs. The initiative mandates an independent evaluation of the overall Measure Y program including the number of people served and the rate of crime or violence reduction achieved.

KEY ISSUES AND IMPACTS

Measure Y funding currently supports 63 problem-solving officers; 57 of whom are assigned to problem-solving positions in community policing beats. During the period of this evaluation the number of problem-solving officers fluctuated between 25 and 50. RAND concludes the PSO program's lack of statistical impact on crime and violence may be caused by four possibilities: (1) the program is not effective; (2) there are positive outcomes that the evaluation does not capture; (3) the program is associated with an increased propensity to report crime, thus off-setting crime reduction; or (4) implementation challenges preclude the program's ability to be effective. Alternatively, it is possible that the work of a single PSO, while successful, is simply not sufficient to affect crime levels. This suggests a "dosage" problem and perhaps the need for more PSOs to realize a measurable reduction in crime. The more probable explanation is implementation challenges of the problem-solving officer program. Resolution of key implementation issues, e.g., (1) the amount of problem-solving coverage each beat receives, (2) the need for PSOs to "team up" on problem-solving in each others' beats, (3) the number of problems a given PSO addresses at any one time, (4) limited collaboration outside of OPD, and (5) the instability of PSO assignments may well result in a positive statistical impact on crime and violence reduction.

PROJECT DESCRIPTION

The Measure Y Initiative mandates an independent evaluation of all funded programs. Berkeley Policy Associates (BPA) and its subcontractor RAND were selected as the evaluator through a competitive bid process. The contract with BPA/RAND ended in December 2008. A combination of qualitative and quantitative research methods are used in the assessment. The qualitative methods include interviews with department managers, community members (selected Neighborhood Watch and Neighborhood Crime Prevention Council members), as well as City staff. The quantitative methods include analysis of a web-based PSO survey, an assessment of PSO deployment data, analysis of official crime statistics and semi-structured interviews and focus groups with Oakland Police Department staff.

SUSTAINABLE OPPORTUNITIES

Environmental: This project will have no impact on the environment.

Economic: The reduction of crime and violence may enhance the economic vitality of the City of Oakland.

Social Equity: The goal of reducing crime and violence will enhance the quality of life for Oakland residents.

DISABILITY AND SENIOR CITIZEN ACCESS

Approval of this report has no direct impact on disability and senior citizen access issues.

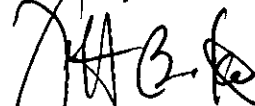
RECOMMENDATIONS(S) AND RATIONALE

Staff and the Measure Y Oversight Committee recommend acceptance of the Measure Y Community Policing Evaluation Report as submitted by independent evaluator, RAND Corporation. The evaluation has been completed in compliance with the mandate of the Measure Y Initiative.

ACTION REQUESTED OF THE CITY COUNCIL

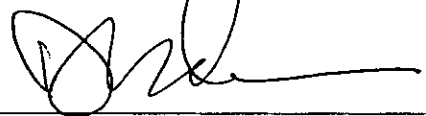
Staff and the Measure Y Oversight Committee request the Oakland City Council accept the Measure Y Community Policing Evaluation Report.

Respectfully submitted:



Jeff Baker, Assistant to the City
Administrator

**APPROVED AND FORWARDED TO
THE PUBLIC SAFETY COMMITTEE:**



Office of the City Administrator

Item _____
Public Safety Committee
April 7, 2009

TECHNICAL
REPORT

Community Policing
and Crime

The Process and Impact of
Problem-Solving in Oakland

Jeremy M. Wilson, Amy G. Cox

Sponsored by the City of Oakland



RAND

Safety and Justice

A RAND INFRASTRUCTURE, SAFETY, AND ENVIRONMENT PROGRAM

This research was conducted jointly within RAND's Center on Quality Policing (CQP), which was established in 2006 as a part of RAND's Safety and Justice Program within RAND's Infrastructure, Safety, and Environment (ISE) research division, and the Berkeley Policy Associates (BPA), for the City of Oakland.

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Preface

In response to rising crime and violence in the early 2000s, Oakland, California, voters passed the Violence Prevention and Public Safety Act of 2004, commonly referred to as Measure Y. Measure Y is a 10-year, nearly \$20 million annual investment aimed at reducing violence through community-policing, violence-prevention, and other programs. To assess progress toward the goals of Measure Y, the legislation also set aside funding for an independent evaluation of the programs it funds. Funded by the city of Oakland, the first-year evaluation was a joint effort by Berkeley Policy Associates (BPA) and the RAND Corporation. That report was largely an implementation assessment of both the community-policing and violence-prevention elements of Measure Y. This report presents the second-year evaluation; although the study was also conducted under the auspices of the RAND-BPA partnership, it focuses exclusively on Measure Y's community-policing component as operationalized through the problem-solving officer (PSO) program. (BPA is producing a separate report focused on Measure Y's violence-prevention programs.)

This report provides Oakland city officials and Oakland residents with information on the progress and impact of the Measure Y-funded PSOs through the second evaluation year, based on qualitative and quantitative analyses. It also provides these stakeholders with lessons on improving the delivery of community policing through the PSO program.

As such, it should also be of interest to other communities seeking a comprehensive approach to improving police-community partnerships and preventing violence; program administrators who manage programs similar to those funded by Measure Y; and researchers who study policing, violence prevention, and community capacity.

Those interested in this report may also find useful other recent RAND studies on violence prevention, community problem-solving, and police-community relations:

- *Community Policing and Violence Prevention in Oakland: Measure Y in Action*, by Jeremy M. Wilson, Amy G. Cox, Tommy L. Smith, Hans Bos, and Terry Fain, Santa Monica, Calif.: RAND Corporation, TR-546-BPA, 2007
- *Police-Community Relations in Cincinnati*, by K. Jack Riley, Susan Turner, John MacDonald, Greg Ridgeway, Terry Schell, Jeremy M. Wilson, Travis L. Dixon, Terry Fain, Dionne Barnes-Proby, and Brent D. Fulton, Santa Monica, Calif.: RAND Corporation, TR-333-CC, 2005 (see also the second and third years' evaluation reports: Ridgeway et al., 2006, and Schell et al., 2007)
- *Community Policing in America*, by Jeremy M. Wilson, New York: Routledge, 2006

- *Reducing Gun Violence: Results from an Intervention in East Los Angeles*, by George Tita, K. Jack Riley, Greg Ridgeway, Clifford A. Grammich, Allan Abrahamse, and Peter W. Greenwood, Santa Monica, Calif.: RAND Corporation, MR-1764-NIJ, 2003
- *Analysis of Racial Disparities in the New York Police Department's Stop, Question, and Frisk Practices*, by Greg Ridgeway, Santa Monica, Calif.: RAND Corporation, TR-534-NYCPF, 2007.

The RAND Center on Quality Policing

This research was conducted within RAND's Center on Quality Policing (CQP), which was established in 2006 as a part of RAND's Safety and Justice Program within RAND's Infrastructure, Safety, and Environment (ISE) research division. CQP's mission is to help guide the efforts of police agencies to improve the efficiency and effectiveness of their operations. In addition to focusing research and analysis on force planning (e.g., recruitment, retention, and training), performance measurement, cost-effective best practices, and use of technology, the CQP conducts outreach to the law enforcement and policymaking communities across the United States through dissemination of information and formal and informal activities.

Questions or comments about this report should be addressed to the project director, Jeremy Wilson (jwilson@msu.edu); questions or comments about the CQP or the Safety and Justice Program should be addressed to Greg Ridgeway (Greg_Ridgeway@rand.org), director of the CQP and acting director of the Safety and Justice Program. Information about the CQP is available online at <http://cqp.rand.org>. Information about the Safety and Justice Program can be found at www.rand.org/ise/safety.

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Summary

Introduction

Increases in violent crime in the early 2000s caused a great deal of concern among Oakland, California, residents and policymakers. In response, in November 2004, Oakland voters passed a ballot measure that created the Violence Prevention and Public Safety Act (also known as Measure Y), which provides \$19.9 million per year for violence-prevention programs, 63 new police officers focused on community and neighborhood policing services, and an independent evaluation of the measure.

This report summarizes RAND's assessment of Measure Y-funded community-policing efforts through September 2008, expanding on the first-year process—or implementation—analysis and examining the effectiveness of community policing as implemented through the problem-solving officer (PSO) program. To conduct the analysis, we relied on four sources of information: (1) a Web-based survey of PSOs; (2) an assessment of PSO deployment data used to summarize the deployment, stability, and coverage of the PSOs; (3) official crime statistics from January 1, 1998, through April 30, 2008, used to form two crime measures for each PSO beat—violent crime and property crime—which, in turn, were used as outcome variables in interrupted time series analyses; and (4) semistructured interviews and focus groups with Oakland Police Department (OPD) staff.

Key Findings

Much progress has been made in implementing the PSO program in the second evaluation year, but such progress has not been associated with a reduction in violent or property crime. Overall, there was no statistical evidence that the PSO program is associated with reductions in crime and violence.

There are four possible explanations: (1) the program is not effective; (2) there are positive outcomes that the evaluation does not capture; (3) the program is associated with an increased propensity to report crime, thus off-setting crime reductions; or (4) implementation challenges preclude the program's ability to be effective. It is plausible that the efforts of the PSOs do not directly translate into crime reductions. There could be many reasons for this. For instance, the program theory could be flawed such that the specific actions of the PSOs, even when successful, are unrelated to crime prevention. Alternatively, it is possible that the work of a single PSO, while successful, is simply not sufficient to affect crime levels. This suggests a "dosage" problem and perhaps the need for more PSOs to realize a measurable reduction in crime. While it is entirely possible that PSOs do not impact crime, we cannot make such a determination with

any degree of certainty, given current implementation challenges that undermine the ability of PSO deployment to affect property and violent crime rates, even if the problem-solving that is being conducted is successful. This will be more discernible in the future, assuming that the implementation of the PSO program improves.

The second possible explanation is that the evaluation did not capture the ultimate success of problem-solving efforts. Our analysis considered indexes of violent and property crime. It is possible that effects could be detected using other official statistics, such as individual crime or disorder measures, or even measures based on stakeholder perceptions, such as resident assessment of problem-solving efforts, fear of crime, or quality of life in the beat. Because Measure Y's overarching goal is to reduce crime and violence, the city's interest in assessing the impact of the PSOs on index crime, PSOs' ability to address problems theoretically and empirically related to crime, and the greater likelihood for index crime to be reported—broad measures used to assess PSOs' ultimate effectiveness in addressing these issues—figured heavily in our analysis. However, given the broad and diverse work of PSOs, the PSO program could be associated with positive outcomes pertaining to individual and intermediate outcomes that contribute to the ultimate reduction of violence but do not do so directly.

It is also possible that the outcome models estimated did not have enough statistical power to detect small or moderate effect sizes in the outcome variables. In beats where the PSO was deployed for a shorter period, the statistical power to detect a program effect is smaller because there are fewer postdeployment observations on which to estimate an effect. This potential problem can be addressed in future assessments by replicating these models after the PSOs have been working in their communities for longer periods, thereby creating a larger postdeployment sample.

The third explanation is that the success of PSOs resulted in an increased likelihood to report crime, thereby offsetting statistical reductions. Some support for this comes from the PSO survey results: Nearly half of the PSOs believed that community faith in the police and individual willingness to report crime have increased since their deployment. Unfortunately, it is impossible to determine with any degree of certainty the extent to which changes in crime reporting offset actual crime reductions achieved by the PSOs.

The final explanation—that implementation challenges may preclude the ability of the PSO program to demonstrate success (assuming that it is effective) at this point—seems the most probable. Despite much progress in the problem-solving unit during this evaluation year, key implementation issues remain that could jeopardize problem-solving effectiveness: (1) the amount of problem-solving coverage that each beat receives, (2) the need for PSOs to “team up” on problem-solving in each other's beats, (3) the number of problems a given PSO addresses at any one time (an average of 32), (4) limited collaboration outside OPD, and (5) the instability of PSO assignments.

A few management issues also surfaced that could hinder the implementation and ultimate effectiveness of the PSO program—issues that point to the incentives that PSOs perceive with regard to their positions. In particular, some PSOs do not feel that they are evaluated accurately, and some do not desire to remain in their current positions. The final management issue pertains to the fact that documentation of PSO efforts is not standard or consistent across geographic areas, which may impede the ability of PSO commanders to monitor PSO activities, thereby limiting their ability to oversee and facilitate their efforts while also raising questions about the ability of PSO commanders to evaluate PSOs consistently. It should also be noted that the effectiveness of individual PSOs will likely increase as they gain more PSO

experience, particularly if they remain assigned to a single beat where they can build strong community partnerships. Those responding to the survey had, on average, about eight years of experience as police officers and two years of experience as PSOs.

Policy Implications

These findings suggest the following policy recommendations: (1) assess the adequacy of staffing to determine the extent to which OPD needs additional staff or whether some other kind of reallocation of resources might improve problem-solving; (2) create a uniform problem-tracking system and monitor problem-solving efforts to promote problem management and evaluation; (3) actively consider ways to stabilize the PSO assignments and work with communities to soften transitions when they occur; (4) maximize stakeholder involvement and the use of existing resources, given that community participation in the problem-solving process continues to be less than ideal; (5) maximize incentives for PSOs with the goal of improving productivity and reducing attrition, thereby contributing to PSO stability, problem-solving effectiveness, and improved police-community relations; and (6) find ways to leverage Measure Y dollars to equip the officers with vehicles as quickly as possible.

Acknowledgments

Many people helped in developing this report. We wish to thank all those who participated in our assessment, particularly the staff of the Oakland Police Department. We owe special thanks to Deputy Chief David Kozicki, Officer Lindsay Lyons, Sergeant Carlos Gonzalez, Chuck Johnston, and Marie Mason for coordinating and attending to our various data and information requests. The overall quality of this report was enhanced by our peer reviewers, Robin Engel, Jessica Saunders, and Bing Han, who provided substantive comments on drafts, and by the editorial contributions of Paul Steinberg and Lauren Skrabala.

Abbreviations

ACF	autocorrelation function
ARIMA	autoregressive integrated moving average
BPA	Berkeley Policy Associates
CQP	RAND Center on Quality Policing
ISE	RAND Infrastructure, Safety, and Environment
Measure Y	Violence Prevention and Public Safety Act of 2004
NCPC	neighborhood crime prevention council
OPD	Oakland Police Department
PACF	partial autocorrelation function
PSO	problem-solving officer
SARA	scanning, analysis, response, and assessment

Introduction

Background

Increases in violent crime in the early 2000s caused a great deal of concern among Oakland, California, residents and policymakers. In response, Oakland voters passed a ballot measure in November 2004 that created the Violence Prevention and Public Safety Act (also known as Measure Y), which provides \$19.9 million per year for violence-prevention programs, 63 new police officers focused on community and neighborhood policing services, and an independent evaluation of the measure (Oakland City Council, 2004). Berkeley Policy Associates (BPA) and the RAND Corporation were selected as the evaluation team for the first-year assessment.

Published in December 2007, the first-year assessment report focused largely on the implementation issues and accomplishments corresponding to the initial start-up of the violence-prevention and community-policing programs (Wilson et al., 2007). The data examined covered the period from implementation through April 1, 2007. The analysis was conducted and the report organized to answer several key questions that were developed and officially adopted by the Violence Prevention and Public Safety Oversight Committee:¹

- Are the funded programs implemented as intended by Measure Y?
- Are Measure Y resources being spent to provide services to the target communities?
- What are the main achievements of programs funded through Measure Y?
- What implementation challenges do those programs face?
- How are these challenges being addressed?
- Do the individuals being served appreciate and benefit from the programs?

Based on a combination of qualitative and quantitative methods aimed at answering these questions, the report offered a series of lessons for improving the implementation and oversight of the various Measure Y-funded programs.

Upon completion of the first-year evaluation report, the BPA-RAND evaluation team was contracted to conduct the second-year evaluation.

¹ Measure Y authorized the formation of this citizen watchdog committee to monitor the implementation and operation of Measure Y-funded programs and activities.

Objective

This report summarizes RAND's assessment of Measure Y-funded community-policing efforts through September 2008, expanding on the first-year process—or implementation—analysis and examining the effectiveness of community policing as implemented through the problem-solving officer (PSO) program. (BPA is producing a separate report focusing on the implementation and impact of the Measure Y-funded violence-prevention programs.) In some ways, the second-year assessment has a narrower focus than the first-year report; in other ways, it has a broader focus. It is narrower in that it focuses exclusively on the community-policing aspects of Measure Y and that the implementation analysis centers on the activities of Oakland Police Department (OPD) PSOs based on information collected exclusively from OPD staff. The assessment is also broader in that we consider the effectiveness of PSOs' efforts much more formally. In short, the specific objective of this report is to provide the City of Oakland, its residents, and other interested parties with information on the progress and impact of the Measure Y-funded PSOs through the second evaluation year. In this way, the evaluation is summative. However, in a formative sense, we also use the analysis to provide these stakeholders with lessons on improving the delivery of community policing through the PSO program.

Approach

Building on our first-year analysis, we used a combination of quantitative and qualitative methods to examine the implementation of community policing through PSOs and to examine the resultant impact. Four sources of information served as the primary basis for this evaluation.² The first was a Web-based survey of PSOs (see Appendix A for the survey instrument), which we vetted through OPD and the city administrator's office to ensure that it captured all the essential information and was designed effectively and based on current implementation characteristics. The survey covered such topics as experience and training, job tasks, task prioritization, organizational support, contact with other Measure Y stakeholders, and program impact. OPD provided a list of all current PSOs (both those funded by Measure Y and those not funded by the measure), and we distributed the Web-based survey to each of them on August 13, 2008. To encourage responses, we ensured anonymity, Chief Wayne Tucker provided a letter of support to accompany the survey, district commanders briefed the PSOs on the importance of the evaluation, and we provided three reminders to PSOs who did not respond by the designated time to encourage their participation. Of the 50 PSOs, 26 responded by the final closing date of September 8, 2008, representing a 52-percent response rate.³ With 16 of the respondents being Measure Y PSOs and 10 being those supported by the general fund, the sample distribution represented both types of PSOs. In interpreting the results of the survey, it

² We also learned about contextual issues surrounding community policing through participation in the Oakland Neighborhood Summit held on May 31, 2008.

³ This response rate is fairly high among general surveys of police officers, but it is lower than we expected for a survey administered with support from OPD leaders. While many factors determine individual willingness and ability to complete such a survey, the overall response rate, given the distribution conditions, does call into question the extent to which the organization generally and the PSOs specifically are committed to the program and its improvement.

is important to note that those who chose not to participate or could not participate may have different experiences and perceptions from those who did.⁴

The second set of data that we collected for our assessment was PSO deployment data, which were also provided by OPD. These data illustrated when PSOs were deployed to their assigned beat and indicated such information as when a beat's PSO changed and how many beats a PSO was assigned. We used these data to summarize the deployment, stability, and coverage of the PSOs.

Our third source of data was official crime statistics from January 1, 1998, through April 30, 2008, which OPD provided. We converted these data into monthly counts of Uniform Crime Report index offenses to form two crime measures for each beat: violent crime and property crime. Violent crime includes murder, rape, robbery, and aggravated assault, and property crime includes burglary, larceny, motor vehicle theft, and arson. We considered these measures for several reasons. First, reducing them represents an ultimate objective of the PSOs and a primary goal of Measure Y. Second, the city expressed an explicit interest in assessing the impact of the PSOs on these measures. Third, research has theoretically and empirically linked neighborhood disorder problems to crime (Kelling and Wilson, 1982; Kelling and Coles, 1996; Skogan, 1990).⁵ Finally, these offenses are most likely to be reported to police.⁶

Using these two crime measures as outcome variables, we examined the impact of the Measure Y PSOs on crime in their assigned beats using interrupted time series analyses (Campbell and Stanley, 1963; Campbell, 1963; Cook and Campbell, 1979; Shadish, Cook, and Campbell, 2002), which is a well-established quasi-experimental method of assessing the effects of public safety interventions while accounting for the serial dependence among successive observations (e.g., general fluctuations of crime over time and by time seasons).⁷ The logic of the design is that the preintervention values serve as the control group while the postintervention values serve as the experimental group (McDowall, Loftin and Wiersema, 1996). In this instance, the date on which a Measure Y PSO was first deployed to a beat serves as the intervention point. The advantage of this method is that most threats to validity are either already controlled for by design or can be controlled by taking extra precautions. Cook and Campbell (1979) con-

⁴ Due to our commitment to preserve the anonymity of the PSOs and to encourage their participation, we collected minimal data on individual respondents. This precludes a comprehensive comparison of the characteristics of those who responded to the survey and those who did not. However, we do have information that allows us to compare crime in the beats with and without the corresponding PSOs represented in our survey. PSOs responding to our survey generally worked in beats with higher crime levels. The average monthly number of property crimes in the beats with PSOs responding to our survey was 35; this value was 31 in the beats without a responding PSO. Similarly, the average monthly number of violent crimes per beat was 17 in the beats represented by our survey and 12 in beats not represented.

⁵ A key argument connecting neighborhood disorder to crime is Kelling and Wilson's "broken windows theory." The basic premise behind this theory is that neglecting minor issues in a neighborhood, such as disorder and decay, can lead to more serious issues, such as crime. As such, by addressing minor problems in a neighborhood, crime can be prevented. Although this theory has enjoyed much popularity, it is not without its critics (see Taylor, 2001). Nonetheless, the National Research Council's Committee to Review Research on Police Policy and Practices (2004) concludes that "even critics of this approach recognize that disorder should be an important focus of community crime control" (p. 229).

⁶ For discussions about how crime is measured, why crimes go unreported, and problems measuring crime, see Mosher, Miethe, and Philips (2002); Duffee et al. (2000); and MacKenzie, Baunach, and Roberg (1990).

⁷ For examples of the use of this method to assess the impact of policies and programs focusing on violence interventions, see Kennedy et al. (2001); McGarrell, Chermak, Weiss, and Wilson (2001); McGarrell, Chermak, Wilson, and Corsaro (2006); McDowall, Loftin, and Wiersema (1996); Loftin, Heumann, and McDowall (1983); Pierce and Bowers (1981); and Hay and McCleary (1979).

tend that history—the likelihood that another occurrence can explain changes in the dependent variable—is the most significant threat to the internal validity of most single time series designs. However, this threat is limited to the number of events that simultaneously occur with the intervention. The fact that we have multiple “interventions” (i.e., deployments of PSOs) to assess and compare further reduces the likelihood that an event in a single beat influences the overall conclusion about whether the PSO program appears to influence crime rates. Appendix B provides technical detail about the time series analysis process.

Our final source of information came in the form of semistructured interviews and focus groups with OPD staff, all of whom were assured anonymity. We prepared a set of questions to guide our inquiry (see Appendix C), but we used an open-ended format to permit additional questions to be answered as they arose, allow respondents to elaborate and take the discussion in directions they felt were important, and encourage additional discussion. Our goal here was to complement the data we received from the other sources and further explore the issues depicted in the other analyses while also inquiring how, if at all, other factors of the larger organizational context shape or are influenced by OPD’s community-policing efforts. In all, we interviewed 12 sworn (ranking from sergeant to captain) officers and one civilian staff member. All but one respondent was interviewed through a focus group of two to five members. The individuals interviewed included PSO sergeants and lieutenants, area commanders, and staff charged with recruiting and allocating sworn officers. By the nature of their positions, we anticipated that these individuals would be the most informed about the issues we wished to discuss.

Organization of This Report

Chapter Two describes and analyzes the process, or implementation, of the community-policing component of Measure Y. It first summarizes the experience as assessed in this second-year report and then proceeds to illustrate progress since the first-year assessment. Chapter Three focuses on the effectiveness of community policing relative to the impact that PSOs appear to have on crime and violence in their beats. In an effort to highlight the linkages between implementation and impact, Chapter Four discusses the connections between characteristics and outcomes, the overall implementation and success of the PSO program, and lessons for Measure Y stakeholders in terms of potential next steps for improving community policing in Oakland.

Appendix A presents the survey instrument that we distributed to the PSOs. Appendix B offers technical detail about the process of conducting interrupted time series analyses. Appendix C lists the questions used to guide the semistructured interviews and focus groups.

The Implementation of Community Policing

Introduction

For community policing to have an effect, it must be determined that it has in fact been implemented. Laying the foundation for such an assessment, we described in our first-year evaluation Oakland's approach to community policing (largely operationalized through the PSO program) and the expectations of the PSOs as proscribed by the Measure Y legislation), how and how much community policing had occurred during the initial start-up of the PSO program, and the implementation challenges that existed. In this chapter, we summarize these issues through the second evaluation year. After considering the implementation of the PSO program as it currently stands, we assess progress that has been made in delivering this program since our first-year assessment.

Problem-Solving in Practice

Deployment and Coverage of PSOs

A central tenet of Measure Y is the funding of one PSO in each of the city's 57 beats.¹ In the first year, broad staffing problems at OPD prevented the department from being able to fulfill the mandate of one PSO per beat. In December 2006, only 44 percent of beats had their own PSO (Table 2.1). Over the next four months, however, this percentage rose to 75 percent, and it continued to rise until it reached 88 percent in July 2008. We learned from our interviews in September 2008 that the Measure Y mandate of one officer per beat had just been fulfilled that month.

The earlier staffing shortage also meant that, even if PSOs were responsible for only one beat, they were often unable to focus on problems in that beat because of other departmental needs (Wilson et al., 2007). Although some of this has been alleviated, Table 2.2 shows that the vast majority (88 percent) of PSOs reported that they had worked on assignments outside their beats this year. Our interviews with PSO commanders suggested that PSOs necessarily worked together on problems some of the time because of limited cars, limited staffing, and dangerous neighborhoods, but that such teaming was shared across beats. At the same time, the PSOs responding to the survey reported that only about half their time (58 percent) was

¹ According to Measure Y (Oakland City Council, 2004, p. 4),

[E]ach community policing beat shall have at least one neighborhood officer assigned solely to serve the residents of that beat to provide consistent contact and familiarity between residents and officers, continuity in problem solving and basic availability of police response in each neighborhood.

Table 2.1
PSO Deployment Over Time (%)

Beat PSO Staffing	December 2006	March 10, 2007	September 5, 2007	July 12, 2008
Beats with no PSO (N)	0.0 (0)	24.6 (14)	5.3 (3)	8.8 (5)
Beats with shared PSO (N)	56.1 (32)	0.0 (0)	10.5 (6)	3.5 (2)
Beats with own PSO (N)	43.9 (25)	75.4 (43)	84.2 (48)	87.7 (50)

SOURCE: OPD deployment data, 2006–2008.

Table 2.2
PSO Deployment and Coverage (%)

Question	Range	Mean
How many beats are you assigned to work as a PSO? (N = 26)		
One		88.5
Two		11.5
In the past year, have you had to perform any "off-beat" assignment (even temporarily) during your regular work hours that was unrelated to addressing a specific problem in your assigned beat? (N = 25)		88.0
In the past year, have you had to perform any on-beat assignment (even temporarily) during your regular work hours that was unrelated to addressing a specific problem in your assigned beat? (N = 24)		33.3
In general, what percent of your time do you spend performing duties directly related to problem-solving in your beat? (N = 25)	0–100	57.8

SOURCE: RAND PSO survey, 2008.

spent performing duties that were directly related to problem-solving in their beat. On a related note, 33 percent of the PSOs reported that some of the time in their own beat had to be spent on assignments that were unrelated to problem-solving. Taken together, these data suggest that, while implementation of the PSO program is well on its way, it was not yet fully complete in this second year because of departmental staffing issues, equipment issues, and the workload demand in some beats.

Not only the coverage but also the stability of PSO assignments is part of what can make PSOs most effective in their beats. Although stability has to be balanced with other needs (e.g., promotions, matching a PSO's skills with the needs of a particular beat), stability allows a PSO to learn a beat thoroughly and to build relationships with community members there. Table 2.3 shows that one-third of the beats had the same PSO between March and September 2007 and again between September 2007 and July 2008. This is an increase over the number that had the same PSO between December 2006 and March 10, 2007. From the survey data, we can measure stability another way, as the average length of time that a PSO is assigned to a particular beat. Table 2.4 shows that the PSOs reported serving an average of 1.4 years in their current beat.

Table 2.3
Percentage of Beats with the Same PSO

Date Range	% of Beats
December 2006–March 10, 2007	26.3 (N = 15)
March 10, 2007–September 5, 2007	33.3 (N = 19)
September 5, 2007–July 12, 2008	33.3 (N = 19)

SOURCE: OPD deployment data, 2006–2008.

Table 2.4
Stability of PSO Assignment

Question	Range	Mean
How long have you worked in your current beat assignment as a PSO? (N = 26)	0.0–5.0	1.4 years
How many other beats have you previously been assigned to work as a PSO? (N = 26)	0–8	1.9 beats

SOURCE: RAND PSO survey, 2008.

Experience and Training

Evidence from the survey, as well as from the interviews with the PSO command staff, indicates that PSOs are generally seasoned officers. Those who responded to the survey had an average of over eight years of police experience, with more than seven of those years at OPD (Table 2.5). Moreover, they had almost two years of PSO experience on average. In contrast to the findings in the first year of the program, all of the PSOs had completed PSO training.

We asked PSOs about the training that they received in 17 subject areas (Table 2.6). Among those who reported having received PSO training, most found the training to be at least adequate in most of the subjects. The subjects in which the most PSOs reported that the training was adequate or excellent (at least 90 percent) were PSO mission, goal, or purpose; PSO philosophy; problem-solving; ethics; and Measure Y and its violence-prevention

Table 2.5
Experience and Training of PSOs

Question	Range	Mean
How many years have you been a police officer? (N = 26)	2–21	8.3 years
How many years have you been an officer with OPD? (N = 26)	1–15	7.7 years
How long have you been a Problem Solving Officer (PSO)? (N = 26)	0.2–6.7	1.9 years
Did you volunteer to be a PSO or were you assigned? (N = 26)		92.0% volunteering
Have you completed any PSO training (e.g., an initial "PSO school," training during roll-call, etc.)? (N = 26)		100.0% yes
If yes, please specify the total number of hours. (N = 25)	30–100	50.2 hours

SOURCE: RAND PSO survey, 2008.

Table 2.6
Evaluation of PSO Training (%)

Question	No Training	Little Training	Adequate Training	Excellent Training
Please select the option that best characterizes the training you received in each of the following areas.				
PSO mission, goal, or purpose (N = 26)	0.0	3.8	76.9	19.2
PSO philosophy (N = 26)	0.0	7.7	73.1	19.2
Problem solving (e.g., SARA [scanning, analysis, response, and assessment] process) (N = 26)	0.0	7.7	69.2	23.1
Prioritizing problems (N = 26)	3.8	23.1	53.8	19.2
Time management (N = 26)	3.8	38.5	46.2	11.5
Cultural diversity (N = 26)	0.0	15.4	57.7	26.9
Using crime data (N = 26)	0.0	30.8	50.0	19.2
Giving crime data to citizens (N = 26)	7.7	23.1	53.8	15.4
Communication skills (N = 26)	0.0	23.1	57.7	19.2
Ethics (N = 26)	0.0	3.8	65.4	30.8
Measure Y and its violence prevention programs (N = 26)	0.0	3.8	76.9	19.2
Local non-city services (e.g., domestic violence shelters, alcohol treatment centers) (N = 26)	3.8	26.9	46.2	23.1
Other city services (N = 26)	3.8	11.5	61.5	23.1
Crime prevention (N = 26)	0.0	11.5	69.2	19.2
Organizing community groups (N = 25)	12.0	28.0	40.0	20.0
Interacting with neighborhood service coordinators (N = 26)	0.0	23.1	50.0	26.9
Interacting with neighborhood crime prevention councils/neighborhood watch groups (N = 26)	7.7	11.5	61.5	19.2

SOURCE: RAND PSO survey, 2008.

programs. At the other end of the spectrum, the subjects in which the most PSOs reported that there was no training or only a little training (more than one-fourth of the PSOs) were prioritizing problems, time management, using crime data, giving crime data to citizens, local non-city services, and organizing community groups.

Job Tasks

Problem-solving can involve a range of duties that vary not only from beat to beat but even from day to day. To get a sense of the kind of problem-solving on which PSOs focused the most, we asked them how often they perform each of a number of different tasks in an average month. Table 2.7 shows the results, which indicate that the most common tasks are talking with the neighborhood service coordinator, receiving citizen complaints, and making security checks. PSOs also reported that they frequently counsel citizens on crime prevention, talk with community leaders, call city agencies for services, and make door-to-door contacts with

Table 2.7
Job Tasks

Question	Range	Mean
Please indicate how many times you do each of the following tasks in an average month.		
Talk with the neighborhood service coordinator for your beat (N = 25)	0–100	18.3
Receive direct citizen complaints (N = 25)	0–40	15.0
Make security checks on homes/businesses (N = 25)	1–30	13.2
Talk with community leaders in your beat (N = 24)	1–50	10.1
Counsel citizens on crime prevention (N = 25)	0–40	10.0
Call city agencies to ask for services for your beat (N = 25)	0–30	8.7
Make door to door contacts with residents (N = 25)	0–30	7.8
Work with local businesses to safeguard premises (N = 25)	0–30	5.7
Solicit help from local businesses (N = 25)	0–30	4.4
Answer questions at neighborhood crime prevention council meetings (N = 25)	1–30	3.6
Report on a case or an issue at neighborhood crime prevention council meetings (N = 25)	0–30	2.9
Work with community on clean up/fix up projects (e.g., clean parks, new lighting, etc.) (N = 25)	0–30	2.6
Assist in community organizing (e.g., helping form community groups) (N = 25)	0–30	2.5
Attend meetings with other city/state workers (e.g., neighborhood service coordinators, city attorney, district attorney, sanitation workers) (N = 25)	0–10	2.3
Attend other community meetings (N = 25)	0–6	1.5
Attend NCP [neighborhood crime prevention council] meetings (N = 25)	1–4	1.3
Attend neighborhood watch meetings (N = 25)	0–2	0.8

SOURCE: RAND PSO survey, 2008.

residents. In contrast, PSOs reported that attending meetings was one of the tasks that they performed the least often.

We also asked PSOs about the time that they spend on various tasks, as shown in Table 2.8. PSOs reported spending the most time working on specific problems in their own beats, analyzing problems, working with other PSOs on problems in other beats, and investigating crimes. They spent the least amount of their time attending internal police meetings, responding to emergency calls, enforcing civil code violations, appearing in court, and working with parole, probation, or corrections officers. When asked if there were other tasks that took up significant amounts of time, 15 PSOs responded, with paperwork, email, and team assignments being the most common responses.

Finally, we asked about the time that PSOs spent and the ways in which they patrolled their beats (the bottom part of Table 2.8), whether by car, foot, bicycle, or motorcycle. Table 2.8 shows that PSOs reported being in a car as the most common mode of patrolling their beats by far, representing about half of their work week (20 hours). PSOs are required to patrol

Table 2.8
Time Spent on Job Tasks (hours)

Question	Range	Mean
Please indicate how many hours you spend doing each of the following tasks in an average week.		
Work on a specific problem in your assigned beat (N = 24)	2–30	12.1
Analyze problems (N = 24)	3–40	10.3
Work with other PSO officers on a problem in your beat (N = 24)	1–30	9.0
Investigate crime (N = 25)	0–20	8.6
Enforce traffic laws (N = 25)	1–40	8.1
Work with PSO officers on a problem in their beat (N = 24)	2–20	7.9
Document problems (N = 24)	2–40	7.5
Perform functions (problem-solving, patrol, other) outside of your beat (N = 24)	1–20	7.0
Write incident reports (N = 25)	1–20	5.3
Attend training (roll call or other) (N = 25)	1–40	4.8
Work with non-PSO officers on a problem in your beat (N = 24)	0–20	4.3
Attend internal police meetings (N = 25)	0–20	3.2
Respond to 911 or emergency calls (N = 25)	0–15	3.1
Enforce civil code violations (N = 25)	0–30	2.9
Appear in court (N = 25)	0–8	2.4
Work with parole, probation, or corrections officers (N = 25)	0–10	1.4
Patrolling your beat in a car (N = 23)	0–40	20.0
Patrolling your beat on foot (N = 22)	0–30	5.3
Patrolling your beat on bike (N = 23)	0–3	0.1
Patrolling your beat on motorcycle (N = 25)	0–25	1.5

SOURCE: RAND PSO survey, 2008.

their beats one day per week on foot, and they reported that they do spend an average of five hours per week walking their beats.

Problem-Solving

We also asked about the problems on which PSOs worked, and these results are shown in Table 2.9. PSOs reported a very wide range in the number of problems that they had worked on in their current position, from one to 200. This indicates that the PSOs are not all defining or selecting problems in the same way, despite the fact that the vast majority of them reported that training in problem-solving was adequate or excellent. On average, PSOs contended they were currently working on 32 problems each. This obviously is many more than the three

Table 2.9
Problem Resolution and Documentation

Question	Range	Mean
Approximately how many problems have you worked on since becoming a PSO? (N = 23)	1–200	46.7
Approximately what percent of these problems represent the following types?		
Problems you are currently addressing (N = 23)	2–75	31.5
Problems you solved by your direct efforts (N = 23)	5–60	25.3
Problems still exist(ed) but that you could not or did not address (N = 22)	0–50	13.1
Problems you ultimately referred to other sources for follow-up (N = 23)	0–40	11.9
Problems that went away on their own (N = 23)	0–30	7.2
What proportion (%) of the problems you have addressed did you formally document in written form? (N = 24)	7–100	68.4

SOURCE: RAND PSO survey, 2008.

problems, identified by their NCPC, on which they are expected to focus their efforts.² It is also substantially higher than the number of problems on which PSOs reported working in our first-year report (Wilson et al., 2007), which ranged from three to 15. About 37 percent of the problems that PSOs reported working on since becoming a PSO were either solved or referred to others. The PSOs reported that they had formally documented about two-thirds of their problems.

Table 2.10 shows the type of problems that PSOs reported working on. We asked about a range of common problems and found that drug-related problems, blighted property, building-code violations, and loitering were the most common. In contrast, fewer than half of the PSOs reported having dealt with motor vehicle theft, pet nuisances, park improvement, or wild animals. Six PSOs reported other problems, in response to an open-ended question. They reported 10 other problems in total, six of which had to do with traffic and parking issues (including abandoned vehicles). Two of the remaining four problems were other drug-related issues, and the final problems had to do with an annoying neighbor and illegal vending.

We then asked PSOs about the last three problems that they had addressed in their beat (Table 2.11). Twenty-three PSOs responded to these questions, describing a total of 67 problems. Of these 67 problems, roughly half had to do with drug offenses. In fact, drug-related issues were four times as common as the next most common problem. Blighted or vacant property problems (excluding those that also involved drug offenses) and traffic-related problems were the next most common problem that PSOs dealt with, followed by loitering and theft. We also asked the PSOs to rate their experiences with community members and city agencies as they tried to solve these problems. PSOs reported slightly more interagency collaboration than community involvement (3.5 versus 2.8 on a scale of 5).

² We cannot assess whether or to what extent the PSOs overestimated the number of problems they address at any one time. The average is obviously weighted toward a few respondents who claimed to be addressing an incredibly large number of problems, including one reporting 75. Nearly all PSOs reported currently working on 10 or more problems (and most of those reported far more), however.

Table 2.10
Types of Problems (%)

Question	% PSOs
Please indicate which of the following types of problems you have worked on.	
Blighted property (N = 26)	84.6
Drug sales (N = 26)	84.6
Building code violations (N = 26)	80.8
Drug possession (N = 26)	80.8
Loitering (N = 26)	80.8
Loud music (N = 26)	73.1
Robberies (N = 26)	73.1
Neighborhood fix-up/improvement (N = 26)	69.2
Prostitution (N = 26)	65.4
Drunkness (N = 26)	61.5
Burglaries (N = 26)	57.7
Gang activity (N = 26)	57.7
Vandalism (N = 26)	57.7
Motor vehicle theft (N = 26)	46.2
Barking dogs or other pet nuisances (N = 26)	42.3
Park improvement (N = 26)	34.6
Wild animals (N = 26)	7.7

SOURCE: RAND PSO survey, 2008.

Prioritizing Tasks

Having more problems to work on than there is time to work on them is a frequent challenge for PSOs. They can receive problems from many different sources, all of which might be presented as having a high priority. We asked the PSOs how they prioritize among these competing problems, as shown in Table 2.12. The PSOs reported that about half of the problems they worked on came from either their own observations (26.9 percent) or from an NCPC request (25.0 percent). PSOs viewed NCPC requests as high or moderate priorities, which is consistent with their training. Another one-fourth of PSO problems came from crime or call data or from a neighborhood service coordinator request. Requests from commanders accounted for only 12.8 percent of PSO problems, but they ranked high in priority. Finally, requests from members of the city council were relatively rare, which may represent a decrease since the first year, when several PSOs reported receiving such requests (Wilson et al., 2007).

Table 2.11
Specific Examples of Problems

Question	% of problems	
Please provide brief descriptions of each of the last three problems you worked on. (N = 67)		
Drug-related problems		47.8
Blighted or vacant property problems (unrelated to other problems)		11.9
Traffic related problems		11.9
Loitering (unrelated to other problems)		7.5
Robberies/theft		3.0
Other problems (community involvement, crime prevention, firearms, gang graffiti, homelessness, illegal vending, prostitution, public intoxication, threatening neighbor, unsanitary grocery parking lot, wandering dog)		17.9
Question	Range	Mean
Indicate the length of time needed to address (in weeks) (N = 67)	0.3–156	11.2
Rate extent of community involvement from 1–5 (1 = no involvement, 5 = significant involvement) (N = 67)	0–5	2.8
Rate extent of inter-agency collaboration from 1–5 (1 = no collaboration, 5 = significant collaboration) (N = 67)	0–5	3.5

SOURCE: RAND PSO survey, 2008.

Table 2.12
Sources of Problem Identification and Their Priority (%)

Source	Proportion of All Problems		Priority Given to Addressing Problems from Each Source		
	% of Problems		% of PSOs		
	Range	Mean	Low	Moderate	High
Your own observations (N = 24)	5–70	26.9	8.3	41.7	45.8
Neighborhood crime prevention council request (N = 24)	2–90	25.0	0.0	39.1	60.9
Crime, call, or other data (N = 23)	5–67	15.9	9.1	54.5	36.4
Neighborhood services coordinator request (N = 21)	1–30	11.2	4.3	56.5	39.1
Other resident request (N = 21)	0–20	7.2	13.6	59.1	22.7
Lieutenant or Captain request (N = 24)	1–30	6.8	0.0	4.3	95.7
Sergeant request (N = 24)	0–15	6.0	8.7	17.4	73.9
City Council member request (N = 21)	0–10	3.2	18.2	40.9	36.4

SOURCE: RAND PSO survey, 2008.

Organizational Support

Part of implementing an organization-wide program such as the Measure Y PSO program is determining how the new program fits into the existing organization. Our first-year assessment indicated a fair amount of confusion about the PSOs' roles and priority within OPD (Wilson et al., 2007). In the second year, a majority of PSOs reported that they received adequate to excellent support from all areas of OPD and the NCPCs (Table 2.13). At the same time, there were sizeable shares of PSOs who reported little to no support from crime-reduction teams, investigators, crime analysis, and most community groups (their NCPCs, neighborhood watches, residents, business owners, faith-based organizations, and social services providers). Some of the lack of support from OPD groups is undoubtedly because staffing levels were still low in many of these groups when the PSOs filled out the survey. For example, because of the need for veteran officers to serve as field training officers, OPD has temporarily disbanded the crime-reduction teams until patrols become fully staffed and new patrol officers are trained, which OPD anticipates to be the case by mid-2009. Some of this lack of support also suggests that implementation is well on its way but not yet fully complete in this second year of the program.

As the PSO program becomes fully implemented, the PSOs' roles become more clearly defined, and performance reviews should begin to reflect this. More than four out of five PSOs

Table 2.13
Organizational Support (%)

Question	No Support	Little Support	Adequate Support	Excellent Support
Please indicate the support you receive from each of the following sources regarding solving problems in your beat.				
Patrol officers (N = 24)	0.0	12.5	62.5	25.0
Crime reduction teams (N = 24)	12.5	29.2	29.2	29.2
Investigators (N = 23)	13.0	26.1	47.8	13.0
Crime analysis (N = 23)	4.3	21.7	47.8	26.1
Your sergeant (N = 23)	0.0	4.3	47.8	47.8
Your lieutenant (N = 23)	4.3	0.0	39.1	56.5
Your captain (N = 23)	4.3	0.0	39.1	56.5
Neighborhood service coordinators (N = 23)	0.0	4.3	47.8	47.8
Neighborhood crime prevention councils (N = 23)	0.0	21.7	47.8	30.4
Neighborhood watches (N = 23)	17.4	34.8	39.1	8.7
Residents (N = 23)	8.7	39.1	34.8	17.4
Business owners (N = 23)	17.4	21.7	52.2	8.7
Faith-based organizations (N = 22)	40.9	31.8	22.7	4.5
Social service providers (N = 23)	34.8	34.8	30.4	0.0
Other city services (N = 22)	9.1	9.1	63.6	18.2

SOURCE: RAND PSO survey, 2008.

reported that, in fact, their performance reviews did reflect their actual PSO duties. This is shown in Table 2.14. However, about 18 percent of the PSOs reported that their performance reviews reflected their PSO duties only somewhat or not at all. This may also suggest that the program is not yet fully implemented. Finally, we also asked how many of the PSOs were interested in transferring out of the PSO unit by next year, and, notably, one-third responded, “yes.” Of course, this question captures individual preferences in addition to organizational support and other issues. For some PSOs, the desire to leave the unit may be partly because problems in their beat are simply beyond the capabilities of a single PSO. When we asked PSOs about the main drawbacks of being a PSO, more than half of the 19 who responded described the difficulty of having more work to do in their beats than they could ever accomplish with the time and resources at hand. As one officer succinctly put it, “Too much crime, not enough officers to help.” Then again, 23 PSOs also identified several benefits of being a PSO, which might help explain why nearly 70 percent of the PSOs were not interested in transferring out of the unit. These benefits included working with and for the community, having the time to work on problems that require a longer effort, and being able to coordinate a multi-unit or multi-agency response.

Contact with Other Measure Y Stakeholders

One of the goals of Measure Y is to provide comprehensive, complementary, and integrative violence-reduction strategies. Because the PSOs are only one part of the Measure Y effort, we asked about their interactions with other Measure Y stakeholders, including the other funded programs and community stakeholders. As illustrated in Table 2.15, we found that, with few exceptions, the PSOs reported little contact with these other groups. Only one or two of the PSOs reported that they work regularly with any of the 29 programs funded by Measure Y, and they worked with only six of the programs: East Bay Asian Youth Center, Youth UpRising, Family Violence Law Center, Family Justice Center, Oakland Unified School District Violence Prevention Curriculum and Peer Conflict Mediation, and Oakland Community Response and Support Network.

Results were only slightly greater for programs that PSOs work with occasionally. At least one in four PSOs had not heard of 20 of the programs. Our interviews with the PSO

Table 2.14
Review and Sustainability of PSOs

Question	Mean % of PSOs
Please indicate the extent you believe your performance review appropriately reflects your duties as a PSO. (N = 22)	
Very well	36.5
Fairly well	45.5
Somewhat	13.6
Not at all	4.5
If given the opportunity, would you be interested in transferring out of the PSO unit within the next year? (N = 24)	33.3 yes

SOURCE: RAND PSO survey, 2008.

Table 2.15
Interactions with Other Measure Y Stakeholders (%)

Question	Never Heard of	Heard of but Do Not Work with	Rarely (1-2 times per year)	Occasionally (every couple of months)	Regularly (once a month or more)
Please indicate how often you interact with the following programs for your work as a PSO.					
Reentry and diversion services					
Allen Temple Housing and Economic Development Corp. (N = 21)	28.6	52.4	14.3	4.8	0.0
The Mentoring Center (N = 21)	33.3	52.4	14.3	0.0	0.0
Restorative Justice for Oakland Youth (N = 21)	42.9	33.3	23.8	0.0	0.0
Volunteers of America Bay Area (N = 21)	14.3	52.4	28.6	4.8	0.0
Youth outreach and services					
City-County Neighborhood Initiative (N = 22)	22.7	68.2	4.5	4.5	0.0
East Bay Agency for Children (N = 21)	38.1	57.1	4.8	0.0	0.0
East Bay Asian Youth Center (N = 22)	22.7	59.1	13.6	0.0	4.5
Leadership Excellence (N = 22)	31.8	59.1	9.1	0.0	0.0
Radical Roving Recreation (N = 22)	50.0	40.9	4.5	4.5	0.0
Safe House Challenge Grant (N = 21)	52.4	47.6	0.0	0.0	0.0
Sexually Exploited Minors (N = 22)	9.1	59.1	22.7	9.1	0.0
Sports4Kids (N = 22)	40.9	59.1	0.0	0.0	0.0
Teen Center Support (N = 22)	31.8	63.6	4.5	0.0	0.0
Youth ALIVE! (N = 22)	18.2	54.5	22.7	4.5	0.0
Youth UpRising (N = 22)	4.5	36.4	36.4	18.2	4.5
Employment and training programs					
Allen Temple, Dr. J. Alfred Smith Sr. Training Academy (N = 22)	27.3	54.5	18.2	0.0	0.0
America Works (N = 22)	40.9	59.1	0.0	0.0	0.0
Bay Area Video Coalition-Youth Sounds (N = 22)	59.1	40.9	0.0	0.0	0.0
Volunteers of America Bay Area (N = 21)	14.3	66.7	14.3	4.8	0.0
Youth Employment Partnership (N = 22)	40.9	45.5	9.1	4.5	0.0
Youth Radio (N = 22)	40.9	45.5	13.6	0.0	0.0
Family violence and mental health services programs					
Family Violence Law Center (N = 22)	4.5	40.9	27.3	18.2	9.1

Table 2.15—Continued

Question	Never Heard of	Heard of but Do Not Work with	Rarely (1–2 times per year)	Occasionally (every couple of months)	Regularly (once a month or more)
Please indicate how often you interact with the following programs for your work as a PSO.					
Family violence and mental health services programs—continued					
Family Justice Center (N = 22)	4.5	40.9	27.3	18.2	9.1
Gang intervention and prevention programs					
Oakland Unified School District, Office of Alternative Education (N = 22)	31.8	54.5	13.6	0.0	0.0
Project Re-Connect (N = 21)	28.6	47.6	14.3	9.5	0.0
School-based prevention programs					
OUR Kids Middle School Model (N = 22)	68.2	31.8	0.0	0.0	0.0
Oakland Unified School District Violence Prevention Curriculum and Peer Conflict Mediation (N = 21)	47.6	42.9	0.0	4.8	4.8
Violent incident response programs					
Oakland Community Response and Support Network (N = 23)	47.8	43.5	4.3	0.0	4.3
Caught in the Crossfire (N = 22)	68.2	31.8	0.0	0.0	0.0
Community stakeholders					
Oakland Fire Department (N = 22)	0.0	4.5	18.2	45.5	31.8
Oakland Police Review Board (N = 22)	0.0	63.6	31.8	4.5	0.0
City Council members (N = 22)	0.0	9.1	13.6	40.9	36.4
Community policing advisory board members (N = 22)	0.0	50.0	22.7	9.1	18.2
Neighborhood service coordinators (N = 22)	0.0	0.0	0.0	4.5	95.5
Neighborhood crime prevention councils (N = 22)	0.0	4.5	13.6	22.7	59.1
Neighborhood watches (N = 21)	0.0	19.0	23.8	28.6	28.6

SOURCE: RAND PSO survey, 2008.

command staff supported these results. Some reported that agencies do not always have room for the referrals that police officers make, while others reported that some agencies were not reliable. However, by far the most common response from the commanders was the same as that of the PSOs in the survey: They simply do not work with most of the groups. PSOs reported far more interaction with many of the other community stakeholders (i.e., not Measure Y-funded programs), especially the fire department, city council members, neighborhood service coordinators, NCPCs, and neighborhood watches.

Progress Over the Past Year

In the first year's evaluation, we presented a number of recommendations and lessons based on our analysis. In this section, we review the progress made toward those goals during the program's second year.

Deployment and Coverage of PSOs

As noted earlier, OPD encountered serious staffing shortages in the first year of the Measure Y-funded PSO program. The PSO program is hampered to the degree that OPD is understaffed, whether because there simply are not enough PSOs or because other units on which the program relies have too few officers. This issue resulted in two recommendations to address the limited deployment and coverage of PSOs: (1) actively manage the department's workforce levels, and (2) provide one PSO per beat. The evidence this year indicates strong improvement in both of these areas. At the same time, neither goal has been achieved completely.

According to OPD staff, recruiting efforts have been aggressive during 2008, with both the number and quality of incoming recruits markedly higher than in the past. The department completed four academies in 2008 (with three more anticipated by the end of the year), and academy attrition rates fell from 44 percent in the first academy to 27 percent in the latest academy completed. All this is geared toward developing a fully staffed police force of 803 officers by the end of the calendar year, which would be a net increase of 27 officers, based on the force strength of 776 officers as of August 31, 2008. This goal accounts for the monthly attrition rate of approximately five officers. For the PSOs who rely on other officers for support, this is excellent news; however, all the gains of the new hires will not be realized until sometime in 2009, when the newest officers have been fully trained.

Progress on providing one PSO per beat has likewise been strong. As of July 2008, all but seven of the 57 beats had their own PSO; this is twice as many beats as in December 2006. Moreover, when we spoke with command staff in September 2008, they reported that all beats had been assigned their own PSO as of that month.

Stability of PSO Assignment

Related to deployment and staffing levels is the stability of the PSO assignment. A common complaint of NCPC chairs in the first year was the frequency with which their assigned PSO changed. Some of this change was positive, as beats that had been sharing a PSO were assigned their own officer. Other times, it was because of staffing issues, such as promotions, transfers, and disability leave. During the second year of the program, there was an increase in the stability of the assignments: One-third of the beats kept their same PSO over a 10-month period, compared to one-fourth of the beats keeping the same PSO over a four-month period one year before. At the same time, two-thirds of the beats changed PSOs, which represents a challenge to implementing community policing and building police-community relations. There is reason to believe that stability will continue to increase as the program becomes fully implemented, but OPD will need to continue to track assignment stability and minimize changes when possible.

Preparation and Training

In the first year, PSOs reported a wide range of training, with many reporting little to no training at all. This year, we learned that all had received substantial training. Most officers reported at least 50 hours of training that they largely characterized as adequate or excellent. Continued development in this area can come from reviewing the curriculum and ensuring that it is closely aligned with the PSOs' duties.

Community Participation

According to the PSOs, there continues to be room to develop further community participation. PSOs characterized the training related to "organizing community groups" as some of the least adequate of any of the subject areas. In addition, PSOs rated the community's involvement in their problem-solving as only 2.8 on a 5-point scale. Finally, few of the PSOs reported any regular interaction with other Measure Y stakeholders, especially the other funded programs. Fostering more community participation is not completely the responsibility of OPD. The city, the residents, and the Measure Y programs need to be involved as well to make the effort truly collaborative and most effective.

Prioritizing Problems

PSOs in the first year reported difficulty prioritizing the myriad problems that they faced in their beats. Apparently, the department heard this frustration and provided clearer guidelines, as PSOs did report a range of priorities for problems from various sources. However, it appears that the PSOs not only continue to be working on a rather large number of problems, but the number of problems that they are addressing at any one time is expanding by large margins. This raises questions about whether they are addressing the "right" problems and whether they are devoting sufficient time to the problems deemed most important by their neighborhood constituents.

Equipment

Equipment continues to be in short supply for the department, according to the command staff. Most of the PSOs travel in pairs in their beats because there simply are not enough cars to go around. The radios on which the PSOs rely are also limited, in both range and reliability.

Internal Partnerships and Coordination

In the first year, PSOs reported an almost universal lack of collaboration with other OPD units. Part of this was a consequence of the staffing issue: People were simply too busy to help each other. Although that often continues to be the case, and PSO commanders noted the negative consequences of disbanding the crime-reduction teams, most of the PSOs in the second year reported adequate or excellent support from all the other OPD units. In the third year, there is room for continued growth in collaboration with the specialty units (e.g., crime-reduction teams, investigation, crime analysis).

OPD's reorganization into three geographic command areas provides the context in which to develop this coordination, and OPD staff expressed positive expectations about such internal collaboration. They viewed the reorganization as providing the needed impetus for all personnel to develop a greater sense of responsibility for the area in which they were assigned (because they would no longer be spread across the city) and to develop relationships with

other units working in the same area, including PSOs. Subsequent evaluations will want to explore whether the reorganization does have these effects.

Tracking Problem-Solving Activities

Although PSOs reported that they formally document the majority of the problems that they work on, there is no regularly used, departmentwide problem-solving database. The PSO commanders explained that the form of documentation varies by district. This means that not only is the annual evaluation of Measure Y limited but also that officers' and commanders' analyses of beats and regions are necessarily limited. Some of the command staff in particular raised this issue specifically. Given that problem-solving is the key task of the PSOs, this also raises questions about the ability of PSO commanders to consistently assess the performance of PSOs based on their activities.

Community Policing's Impact on Crime and Violence

Introduction

One of the most important questions about community policing is whether it is effective in addressing community crime and violence. Focusing mostly on implementation matters, given the recent deployment of PSOs, our first-year report highlighted evidence of success in this regard as provided by key stakeholders. Now that an additional year has passed, PSOs have been working in their beats for a longer period, and more PSOs have been deployed. Taking advantage of this experience, we examine in this chapter the effectiveness as perceived by PSOs and other OPD staff, but we start by first examining the issue empirically.

Empirical Evidence of Success

As described in Chapter One, we assessed the effectiveness of the PSOs in terms of their ability to reduce the two forms of index crime—violent (murder, rape, robbery, and aggravated assault) and property (burglary, larceny, motor vehicle theft, and arson)—using a quasi-experimental design known as an interrupted time series analysis. (See Appendix B for technical details regarding the analytical procedures.) As in any analysis of official crime, it is important to acknowledge that the available data on which we base our analysis do not fully represent all such offenses that occurred in each beat. First, the data include only those reported to OPD, and many crimes go unreported to the police. The extent of underreporting of crimes can vary substantially across offenses and time. Second, many offenses in the OPD data were not assigned a valid beat number. OPD staff explained that this generally occurs when an address does not properly geocode, either because the caller provided an incorrect address or the dispatcher did not hear it correctly. Obviously, when a beat designation was not available for an offense, it could not be incorporated into the beat-level totals. In all, we excluded from the outcome analysis 17,455, or 5 percent, of the 332,168 index offenses that we obtained because they did not contain a valid beat number. OPD staff advised us that, to their knowledge, there are no systematic patterns to the missing beat data.

Drawing from individual offenses that were reported to OPD in the January 1, 1998, to April 30, 2008, period, we aggregated the data into monthly frequencies, which allowed us to detect seasonal effects. This provided 124 monthly observations for each outcome measure per beat, which satisfies the general need for at least 50 observations to conduct a time series analysis (Box and Jenkins, 1976; McCain and McCleary, 1979; McCleary and Hay, 1980).

As of this writing, a PSO was assigned to each of Oakland's 57 community-policing beats. Some beats had a Measure Y-funded PSO assigned to them, while others had a PSO who was funded by the city's general fund. Given the city's interest in assessing Measure Y-funded community-policing activities, our analysis considered only beats where a Measure Y-funded PSO was deployed. This had the added methodological advantage that Measure Y PSOs are assigned to one beat each, compared to PSOs supported by the general fund who worked as many as six beats each (Wilson et al., 2007) and could be used with much more discretion by OPD. Thus, Measure Y PSOs' activities are more tractable and the problem-solving effort expended in a single beat likely greater.¹ Based on deployment data provided by OPD, as of August 14, 2008, 31 beats had a Measure Y-funded PSO. Moreover, given that the analysis required both pre- and postdeployment data to assess effectiveness, we further limited the beats examined to those that had a Measure Y PSO deployed for at least one year by April 2008.² This ensured that we would have enough postdeployment observations for analysis and that we would be able to capture potentially delayed effects. We would expect to see effects relatively soon, if not immediately, after PSO deployment. If for some reason effects occurred after the periods we examined, our analysis obviously would not identify them. This resulted in 20 beats suitable for analysis. Table 3.1 provides a frequency distribution illustrating the number of pre- and postdeployment months examined for the 20 beats.³ As shown in the table, we were able to assess at least 18 months of postdeployment data for 17 beats and at least 24 months of postdeployment data for 11 beats.

Table 3.1
Frequency Distribution of Observation Months

Predeployment Months	Postdeployment Months	Number of Beats
112	12	2
110	14	1
106	18	1
105	19	2
104	20	3
100	24	5
98	26	1
97	27	3
94	30	2

¹ The fundamental activities of Measure Y- and general fund-supported PSOs are virtually identical. The primary difference is simply that OPD has more discretion with PSOs supported by the general fund in terms of their deployment and, historically, has assigned them to multiple beats simultaneously.

² As explained in our first evaluation report (Wilson et al., 2007), PSOs were deployed based on a city-developed "stressor" index, an assessment of each beat based on 11 crime, economic, and education indicators. Beats with higher scores received PSOs before those with lower scores. Given that the beats we examined had Measure Y-funded PSOs who had been working for at least one year, they generally represent those with a greater amount of "stress."

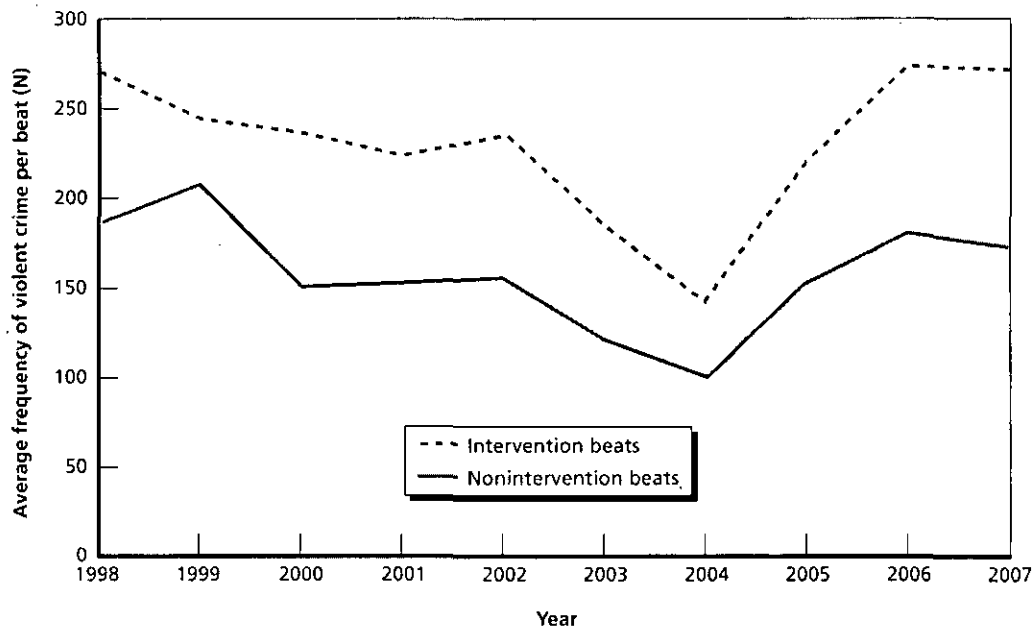
³ To protect the anonymity of the PSOs, we cannot provide the intervention dates for specific beats.

In all, given that we assessed effectiveness based on two outcome measures per beat—violent and property crime—we conducted 40 interrupted time series quasi-experiments. We gave each beat a unique identifier to protect the identities of PSOs involved.

Violent Crime

As we discussed in our first-year report, PSOs were deployed during an upswing in violence in Oakland. Figure 3.1 depicts the trends in the average frequency of violent crime per beat for the 20 intervention beats that we examined and for the remaining 37 nonintervention beats. The figure shows that the average amount of violence per beat in the intervention beats was much higher than in the other beats. This is as expected, given that Measure Y PSOs were deployed according to the stressor index. As for trends in the 20 intervention beats included in our analysis, the average frequency of violent crime generally fell from 1998 to 2004, at which time it began to rise.⁴ The first Measure Y-funded PSO deployed in these beats began work in November 2005. Violence then fell in those beats in 2007. Generally, these trends follow those for the nonintervention beats, as depicted in the figure. The main difference is that violence fell in the intervention beats from 1998 to 1999, whereas it increased in the other beats. There also was a small increase in violence in the non-Measure Y intervention beats from 2000 to 2001, but violence declined over this period in the intervention beats.

Figure 3.1
Average Frequency of Violent Crime in Intervention and Nonintervention Beats, by Year



RAND TR635-3.1

⁴ The reported violence in November and December 2003 is much lower than expected, which could be an instrumentation issue with these data. If so, the level of violence in 2003 may actually be higher than depicted in Figure 3.1, but this would not change the overall interpretation of the general trend.

The interrupted time series analyses disaggregate the data shown in Figure 3.1 to determine whether the deployment of Measure Y–funded PSOs affected violent crime in their individually assigned beats. It also models and controls for trends in crime and seasonality, as well as other forms of serial correlation that may be present in time series data and interfere with isolating intervention effects (i.e., it statistically controls for any time-based determinants so that changes in the level—or amount—of crime can be associated with the intervention as opposed to extraneous factors). When such influences are present, the examination of raw or unadjusted data can yield an inaccurate assessment of an intervention effect.⁵ While the modeling of crime in each beat is complex (see Appendix B for a summary of the analysis process), its presentation and interpretation are rather straightforward. Table 3.2 summarizes relevant descriptive statistics and offers conclusions about whether each PSO had a statistically significant impact on violence.

As shown in Table 3.2, all but one of the 20 beats analyzed saw an increase in the average monthly number of violent crimes after a PSO was deployed, relative to the predeployment period. The increases ranged from 2 percent to 61 percent. The one beat that experienced a decline in monthly violence (beat 9) saw the frequency fall by 4 percent. These are raw differences and do not account for any trends or seasonality in the data. The autoregressive integrated moving average (ARIMA) modeling process accounts for these influences to ensure that they do not bias the assessment of the intervention effect (see Appendix B).

The deployment estimate represents the effect of the Measure Y–funded PSO on monthly violent crime frequency in his or her beat, where positive values indicate an increase and negative values indicate a decrease in violence, controlling for trends, seasonality, and serial correlation in the data (see Appendix B). For these to be interpreted as effects, however, their corresponding p-values need to be 0.05 or less, indicating that the estimate is statistically significant. Thus, according to the results in Table 3.2, there were no statistically significant differences between the predeployment and postdeployment means of monthly violent crime frequencies for 18 beats. For the remaining two beats (beats 5 and 12), the deployment of a Measure Y–funded PSO was associated with a statistically significant increase in monthly violent crime. More specifically, for these beats, the estimates indicate that the deployment of the two PSOs is associated with increases of about seven and 10 violent crimes per month, respectively.

Property Crime

Like violent crime, the average amount of property crime in the 20 intervention beats analyzed was higher than in the remaining beats. In the intervention beats, the average frequency of property crime remained relatively stable from 1998 to 2002 (Figure 3.2). Yet, similar to violent crime, it fell from 2002 to 2004⁶ and then rose in 2005 when the Measure Y PSOs began to

⁵ For example, suppose that there is a general upward trend in violence in a beat over a given period of time. Further, suppose that a PSO is deployed midway through this period and that he or she is effective in reducing violence. A simple comparison of the mean levels of violence before and after the PSO's deployment might show no change in violence because the upward trend was offset by the reduction attributed to the PSO, thereby indicating no intervention effect. These sorts of time-based determinants must be controlled to accurately assess the effect of PSO deployments on crime.

⁶ Like the violent crime data, the number of reported property crimes for November and December 2003 is much lower than expected, so the level of violence in 2003 may actually be higher than Figure 3.2 suggests. Again, this would not change the overall interpretation of the general trend.

Table 3.2
Impact of Measure Y PSO Deployment on Monthly Violent Crimes, by Beat

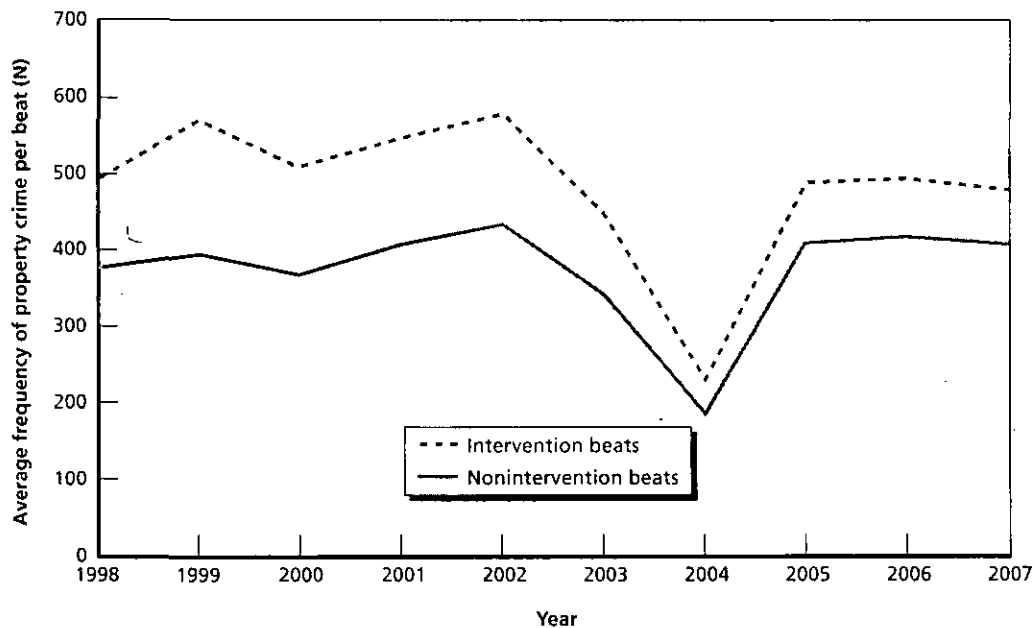
Beat	Predeployment Mean	Postdeployment Mean	Mean Difference (post-pre)	% Change	Deployment Estimate	p-value
1	20.48	26.83	6.35	0.31	0.24	0.45
2	8.94	9.45	0.51	0.06	0.24	0.17
3	27.40	28.67	1.27	0.05	0.98	0.80
4	18.34	21.81	3.47	0.19	2.77	0.32
5	14.53	21.90	7.37	0.51	7.46	0.00
6	32.79	36.70	3.91	0.12	0.40	0.47
7	27.26	28.07	0.81	0.03	-0.66	0.89
8	11.04	12.05	1.01	0.09	1.87	0.42
9	14.66	14.11	-0.55	-0.04	-0.51	0.84
10	15.19	16.41	1.22	0.08	1.10	0.55
11	26.52	33.65	7.13	0.27	4.25	0.44
12	20.28	30.33	10.05	0.50	8.76	0.02
13	23.79	27.59	3.80	0.16	4.11	0.21
14	12.95	17.83	4.88	0.38	0.11	0.67
15	9.51	10.39	0.88	0.09	0.12	0.81
16	7.29	7.42	0.12	0.02	0.35	0.86
17	19.56	31.54	11.98	0.61	-0.58	0.33
18	24.59	35.67	11.08	0.45	-0.07	0.91
19	9.09	9.71	0.62	0.07	0.65	0.73
20	22.38	27.83	5.45	0.24	-0.80	0.93

NOTE: Analysis is based on 124 months spanning January 1, 1998, through April 30, 2008. See Appendix B for a summary of the ARIMA components modeled for each series to account for trends, seasonality, and other serial correlation. The deployment estimate is the estimated effect of PSO deployment on monthly violent crime frequency.

be deployed. The average number of property crimes per beat reported in 2007 was close to that reported in 2006 in these beats. The general trends mirrored those of the nonintervention beats.

Table 3.3 provides useful information for assessing the impact of the Measure Y-funded PSOs on property crime in their assigned beats. The average number of monthly property crimes declined in seven beats and increased in 13 beats after their corresponding Measure Y-funded PSO was deployed. The decreases ranged from 2 percent to 13 percent, whereas the increases ranged from 1 percent to 29 percent.

Figure 3.2
Average Frequency of Property Crime in Intervention and Nonintervention Beats, by Year



RAND 77635-3.2

Upon accounting for any trends, seasonality, and other serial correlation in the data (see Appendix B), Table 3.3 illustrates that there were no statistically significant differences between the predeployment and postdeployment means of monthly property crime frequencies for any of the 20 beats. The trends in these beats tend to follow the trends for the city as a whole.

Perceived Evidence of Success

Distinct from examining the extent to which Measure Y₇-funded PSOs have statistically affected crime levels, we sought to gather information about the perceived effectiveness of PSOs working in their beats. To do so, we surveyed all PSOs (Measure Y- and general fund-supported) to gauge their perception of the impact they are having on conditions in their beats. It should be noted that, as perceptions, these observations are subjective and we can neither confirm nor deny their empirical validity based on the information available to us.

When PSOs reported on the survey that any change had occurred, they indicated that problem resolution, police-community relations, and quality of life had improved, while crime, fear of crime, and calls for service had increased. Table 3.4 summarizes the extent to which PSOs believed that various outcomes have changed in their beats since their deployment. Compared to those reporting an increase, a greater proportion of PSOs believed that their deployment was associated with reductions in both problems about which the community cares most (44 percent versus 26 percent) and community-police confrontations (25 percent versus 13 percent). More than half believed that there have been improvements in the community's faith in the police.

Table 3.3
Impact of Measure Y PSO Deployment on Monthly Property Crimes, by Beat

Beat	Predeployment Mean	Postdeployment Mean	Mean Difference (post-pre)	% Change	Deployment Estimate	p-value
1	56.74	50.00	-6.74	-0.12	-1.06	0.91
2	40.40	36.80	-3.60	-0.09	-2.98	0.70
3	76.32	71.67	-4.65	-0.06	-0.01	1.00
4	24.57	21.96	-2.61	-0.11	0.05	0.93
5	23.62	24.65	1.03	0.04	1.69	0.69
6	37.18	38.23	1.05	0.03	2.67	0.69
7	40.60	42.17	1.57	0.04	2.33	0.72
8	24.65	26.63	1.98	0.08	3.37	0.39
9	25.96	26.47	0.51	0.02	1.63	0.67
10	27.95	31.63	3.68	0.13	0.06	0.99
11	77.44	67.05	-10.39	-0.13	-0.42	0.90
12	40.12	39.50	-0.62	-0.02	1.08	0.87
13	40.16	46.19	6.02	0.15	3.22	0.58
14	31.73	32.25	0.52	0.02	0.29	0.67
15	44.37	42.61	-1.76	-0.04	-0.18	0.92
16	22.91	29.50	6.59	0.29	5.28	0.23
17	53.43	54.13	0.70	0.01	6.18	0.47
18	43.99	50.30	6.31	0.14	-1.02	0.90
19	32.49	37.14	4.65	0.14	3.83	0.50
20	36.31	42.83	6.52	0.18	9.23	0.19

NOTE: Analysis is based on 124 months spanning January 1, 1998, through April 30, 2008. See Appendix B for a summary of the ARIMA components modeled for each series to account for trends, seasonality, and other serial correlation. The deployment estimate is the estimated effect of PSO deployment on monthly property crime frequency.

Police-community interaction, communication, and cooperation are cornerstones of community policing. Three out of four PSOs reported a significant or slight increase in police-community interaction and communication, and 70 percent reported the same kinds of improvements in the police-community cooperation in problem-solving and crime prevention. Likewise, 48 percent believed that residents and businesses have increased their efforts to improve the community, compared to 4 percent who believed that this effort has decreased since their deployment.

Many officers also believed that the community has been more willing to share information with the police. Relative to those who felt that these forms of information-sharing have declined in frequency, more PSOs believed that individuals are more willing to report crime to the police (48 percent versus 17 percent) and over half (57 percent versus 17 percent) contended that individuals are more willing to provide information to the police that is helpful in

Table 3.4
Extent to Which PSOs Believed That Specific Issues Have Changed in Their Beat Since Their Deployment

Issue	Significantly Increased	Slightly Increased	No Change	Slightly Decreased	Significantly Decreased	Unsure
Problems the community cares most about (N = 24)	17.4	8.7	26.1	34.8	8.7	4.3
Confrontations between community and police (N = 23)	0.0	13.0	47.8	12.4	13.0	8.7
Community-police interaction/communication (N = 22)	27.3	50.0	18.2	0.0	4.5	0.0
Community faith in police (N = 23)	17.4	39.1	26.1	8.7	4.3	4.3
Community capacity to address issues on own (N = 23)	13.0	26.1	39.1	4.3	8.7	8.7
Community cooperation with police in problem-solving and/or crime prevention (N = 23)	21.7	47.8	21.7	0.0	8.7	0.0
Demeanor toward police (N = 23)	13.0	26.1	47.8	0.0	8.7	4.3
Individual willingness to report crime (N = 23)	8.7	39.1	30.4	13.0	4.3	4.3
Individual willingness to provide info helpful in solving crime (N = 23)	13.0	43.5	26.1	13.0	4.3	0.0
Resident/business efforts to improve community (N = 23)	13.0	34.8	47.8	4.3	0.0	0.0
Property crimes (N = 22)	18.2	4.5	59.1	13.6	0.0	4.5
Violent crimes (N = 23)	17.4	13.0	43.5	21.7	4.3	0.0
Fear of crime (N = 23)	17.4	13.0	52.2	13.0	0.0	4.3
Calls for service (N = 23)	13.0	17.4	43.5	13.0	0.0	13.0
Quality of life (N = 23)	8.7	34.8	26.1	21.7	8.7	0.0

NOTE: Cells represent the percentage of respondents reporting each option.

solving crimes. Calls for service are challenging to interpret because it is difficult to know, for example, whether an increase in such calls is the result of more problems or improved police-community relations, resulting in an increased willingness to call the police. These data are useful, however, in terms of assessing the workload of the police. Forty-four percent of PSOs did not believe that there had been any change in calls for service since their deployment, and another 13 percent were unsure. Of those who noted a change, more (30 percent) reported an increase than reported a decrease (13 percent). Generally, three times as many PSOs reported that the community's capacity to address issues on its own has increased rather than decreased (39 percent, compared to 13 percent).

Crime, fear of crime, and quality of life represent overall indicators of the success of problem-solving. Large proportions of PSOs believed that since their deployment there had been no change or they were unsure whether there had been a change with regard to prop-

erty crime (64 percent), violent crime (44 percent), and fear of crime (57 percent). About one in four felt this way about quality of life. Of those who perceived change, more thought that property crime (23 percent versus 14 percent), violent crime (30 percent versus 26 percent), and fear of crime (30 percent versus 13 percent) had increased as opposed to decreased. Conversely, of those reporting a change, a greater proportion believed that quality of life had improved (44 percent versus 30 percent).

PSOs also described examples of successful problem-solving activity. As noted previously, we asked PSOs about the last three problems that they addressed in their beat and to include information about the outcome of that work. Twenty-three PSOs described a total of 67 problems and rated their outcomes on a scale of 1 (not successful) to 5 (successful). On average, the PSOs rated the outcome of their problem-solving efforts as 4.0. They rated almost half (46.3 percent) of the efforts as completely successful. Successful problem-solving involved issues related to drug activity, vacant and blighted properties, traffic, robberies, loitering, unsanitary conditions, and combinations thereof. Although each problem is unique, the following are some typical examples of these problems and how the PSOs solved them, in their own words:

Blighted property that had been taken over by squatters. I contacted the owner and removed the squatters. The owner boarded up the building. The City cleaned up the exterior of the property. The property looks clean and there are no more transients.

Narcotics dealing problem on — Street. I brought multiple agencies in to deal with all blighted properties and cars and closed down the major stash house eliminating the “broken windows” theory. Then we went in with the community and showed them how to maintain it and report directly to the PSO.

Contacted crew that removed a tree that was hazardous to traffic. The community brought the issue to my attention at a community meeting. The tree has been removed and the neighbors are happy.

At least at the individual level, many PSOs have seen repeated success in solving neighborhood problems.

Discussion and Lessons

The previous two chapters analyzed the current state of community-policing implementation, illustrated progress made since the first-year assessment, and examined evidence about the program's effectiveness in reducing crime and violence. In this chapter, we integrate the implementation and outcome findings to discuss possible interpretations. This discussion forms the basis for developing lessons for improving the delivery and ultimate effectiveness of community policing, which we provide in the final section of this chapter.

Linking Implementation to Outcome

As highlighted in Chapter Two, much progress has been made in implementing the PSO program in the second evaluation year. However, as shown in Chapter Three, the program has not been associated with a reduction in violent or property crime. There are four possible explanations for this outcome: (1) the program is not effective; (2) there are positive outcomes that the evaluation does not capture; (3) the program is associated with an increased propensity to report crime, thereby off-setting crime reductions; or (4) implementation challenges preclude the ability of the program to be effective. In this section, we explore these various explanations using the findings from this study.

Overall, there was no statistical evidence that the PSO program is associated with reductions in aggregate levels of property and violent crime. In two beats, the deployment of a Measure Y-funded PSO was associated with a statistically significant increase in monthly violent crime. However, it is possible that this was a statistical artifact, given the large number of models examined (e.g., two of 40 models could have shown a statistical change by chance alone), that the PSO efforts in those particular beats resulted in a differential and increased likelihood to report violent crime, or that something else happened in those beats near the time of the PSO deployment that shifted crime. Therefore, the weight of the evidence indicates that the program has no effect on the outcome measures.

One possible explanation for the lack of effect is that the PSO program simply is not a productive way to reduce aggregate levels of property and violent crime. It is plausible that the efforts of the PSOs do not directly translate to crime reductions. There could be many reasons for this. For instance, the program theory could be flawed such that the specific actions of the PSOs, even when successful, are unrelated to crime prevention. Alternatively, it is possible that the work of a single PSO, even when successful, is simply not enough to affect crime. This suggests a "dosage" problem and perhaps the need for more PSOs to realize a measurable reduction in crime. While it is entirely possible that the PSOs do not affect crime levels, we

cannot make such a determination with any degree of certainty given the limitations identified in Chapter Two regarding the implementation of the PSO program. Numerous implementation challenges undermine the ability of PSO deployment to demonstrate an effect on property and violent crime, even if the problem-solving that is being conducted is successful. This will be more discernible in the future, assuming that the implementation of the PSO program improves.

The second possible explanation for the lack of problem-solving effectiveness is that the evaluation did not capture the ultimate success of problem-solving efforts. Our analysis considered indexes of violent and property crime. It is possible that effects could be detected using other official statistics, such as individual crime or disorder measures, or even measures based on stakeholder perceptions, such as resident assessment of problem-solving efforts, fear of crime, or quality of life in the beat. Because Measure Y's overarching goal is to reduce crime and violence, the city's interest in assessing the impact of the PSOs on index crime, PSOs' ability to address problems theoretically and empirically related to crime, and the greater likelihood for index crime to be reported—broad measures used to assess PSO's ultimate effectiveness in addressing these issues—figured heavily in our analysis. However, given the broad and diverse work performed by the PSOs, it is possible that the PSO program is associated with positive outcomes pertaining to individual and intermediate outcomes (e.g., those that contribute to the ultimate reduction of violence but do not do so directly; forms of disorder or quality of life).

Given the rigor of the interrupted time series quasi-experimental design, we employed it to analyze the total effects of PSOs' efforts over time in their assigned beats. It is possible that some of their problem-solving efforts are effective in reducing crime and violence, but that, taken as a whole, they do not influence the aggregate level of property and violent crime in their beats. Other designs, such as those that assess the effectiveness of individual problem-solving projects, may detect more idiosyncratic effects that the quasi-experiments employed here could not. Future assessments of OPD's problem-solving efforts could explore the use of different outcome measures and designs to determine whether they reveal other effects beyond those on aggregate crime levels.

It is also possible that the outcome models estimated did not have enough statistical power to detect small or moderate effect sizes in the outcome variables. In beats where the PSO was deployed for a shorter amount of time, the statistical power to detect a program effect is smaller because there are fewer postdeployment observations on which to estimate an effect. This potential problem can be addressed in future assessments by replicating these models after the PSOs have been working in their communities for longer periods, thereby creating a larger postdeployment sample.

A third explanation for the lack of an apparent program effect is that the PSOs are in fact enhancing community relations, and, from a crime measurement perspective, their success in reducing crime is offset by an increased propensity to report crime. As discussed earlier, many crimes go unreported. Greater faith and confidence in the police could have increased the likelihood that residents reported crime. Some of the findings support this. Nearly half of the PSOs responding to the survey believed that community faith in the police and individual willingness to report crime have increased since their deployment. Unfortunately, it is impossible to determine with any degree of certainty the extent to which changes in crime reporting offset actual crime reductions achieved by the PSOs (though it is likely that such an influence, if it existed, would be lower for the violent crimes, given their more serious nature

and greater likelihood of being reported). Moreover, there is not much known from the literature about the relationship between police style and crime reporting (Skogan, 2006).

Finally, and most probably, implementation challenges may preclude the ability of the problem-solving program to demonstrate success at this point, assuming that the program is effective. Despite much progress in the problem-solving unit during this evaluation year, Chapter Two highlights many issues that remain, any of which could jeopardize problem-solving effectiveness. As we found last year, a key implementation challenge has to do with the amount of problem-solving coverage that each beat receives. As noted earlier, during the past year, almost 90 percent of PSOs reported performing an off-beat assignment unrelated to problem-solving, and one-third claimed that they performed similar assignments on-beat during this same period. PSOs also reported, on average, that 42 percent of their time is not spent on duties directly related to problem-solving in their beat (and about 20 hours per week patrolling in their car) and that they spend eight hours per week assisting other PSOs on problems in their beats. (Yet it should also be noted that they also report working with other PSOs about nine hours per week on solving problems in their own beats.)

The need for PSOs to “team up” on problem-solving in each other’s beats stems from a number of issues. One is that many of the problems that PSOs address are so complex that they require additional assistance. Furthermore, some of the beats are simply not safe enough for commanders to send PSOs out by themselves. The need to draw on other PSOs for this support is exacerbated by the temporary disbanding of crime-reduction teams and limited investigative support, both apparently a consequence of the general staffing shortage. Even further, PSOs and their commanders questioned whether the PSOs specifically and OPD generally could be effective even if fully staffed. They argued that the realities of Oakland’s violence and policing needs cannot be addressed effectively without allocating additional officers beyond what is currently authorized for Oakland’s most problematic areas. As in our first-year report (Wilson et al., 2007), the lack of vehicles continues to require PSOs to travel together and conduct their work in pairs.

Coverage on a per-problem basis is also diminished by the number of problems a given PSO addresses at any one time. On average, they reported working on 32 problems at a time, and their most recent problems had each taken about 11 weeks to address. This limits the amount of attention they can give to any individual problem and raises the concern that they might not be addressing their beat’s most pressing problems.

Limited collaboration outside OPD also appears to limit the potential effectiveness of beat-level problem-solving. This is evident from the collaborations that PSOs report having with several types of stakeholders. PSOs claimed very little interaction with the Measure Y–funded violence-prevention programs. Between 4 and 9 percent of PSOs reported working regularly with only six programs out of a total of 29; no PSOs reported working regularly with the remaining programs. At least one out of four officers had never heard of 20 of the programs. This is surprising given that 96 percent of the PSOs rated the training they received on Measure Y and its violence prevention as adequate or excellent. Likewise, based on the most recent problems that PSOs reported working on, they rated the extent of community involvement as 2.8 on average and interagency collaboration as 3.5 on average (both on a 5-point scale, with 0 being none and 5 being significant). In all, these findings suggest that PSOs may not be drawing on existing resources at their disposal to the greatest extent possible, either because they do not make the contacts or because when they do, stakeholder response is weak.

As discussed in our first-year report, the instability of PSO assignments also impedes problem-solving, frustrates the community, and breaks down trust between residents and OPD, all of which make it more challenging to enhance police-community relations (Wilson et al., 2007). This year, two out of three beats saw their PSO removed during the six-month period ending in September 2007, and the same number experienced this same transition during the 10-month period ending in July 2008. Ranging from zero to five years, PSOs reported working in their current beat assignment an average of 1.4 years and had previously been assigned to as many as eight beats. (This latter group may include PSO generalists assigned to multiple beats, but the fact that the PSOs no longer work in those beats still demonstrates that those beats lost their PSO.) Based on these data, the instability of PSO assignments continues to impede problem-solving activities and community policing.

A few management issues also surfaced that could hinder the implementation and ultimate effectiveness of the PSO program. To some extent, these issues point to the incentives that PSOs perceive with regard to their positions. Although most PSOs reported that their performance review reflected their duties at least fairly well, almost one-fifth reported that it did so only somewhat or not at all. Similarly, one-third of the PSOs indicated that, for unknown reasons, they would be interested in transferring out of the PSO program if given the opportunity. Together, these findings suggest that the performance of many PSOs may be attenuated because they do not feel that they are evaluated accurately and because they do not desire to remain in their current positions. The final management issue pertains to documentation of problem-solving activities. The PSO commanders explained that the documentation of PSO efforts is not standard or consistent across geographic areas. This may impede the ability of PSO commanders to monitor PSO activities, thereby limiting their ability to oversee and facilitate their efforts while also raising questions about the ability of PSO commanders to evaluate PSOs consistently. This may, in part, explain why some PSOs believed that they were not evaluated based on their activities.

It should also be noted that the effectiveness of individual PSOs will likely increase as they gain more PSO experience, particularly if they remain assigned to a single beat where they can build strong community partnerships. On average, those responding to the survey reported having about eight years of experience as a police officer and two years of experience as a PSO. Nearly all PSOs reported having received training and that it was at least adequate if not excellent. However, given the myriad problems that PSOs address and the complexity of their work, PSOs appear to learn much of their job through experience. It is therefore expected that as PSOs continue to engage in problem-solving projects, interact with the community and other stakeholders, and receive ongoing training, their ability to address problems effectively and reduce crime and violence will increase.

Lessons and Policy Implications

The analysis presented in this second-year evaluation highlights considerable progress in the implementation of the PSO program, but this progress has not yet been shown to be statistically associated with reductions in violence and property crime. The evidence presented in this report suggests that implementation challenges make demonstrating this relationship difficult even if it exists. To help overcome these challenges, improve the delivery of community polic-

ing, and ultimately enhance the ability of the PSO program to demonstrate success, we offer the following lessons for the City of Oakland, OPD, and the Oakland community.

Assess the Adequacy of Staffing

OPD has made great strides in recruiting officers and getting the force up to its authorized strength of 803 officers. However, despite these efforts, OPD staff members almost universally agree that even with the full complement of authorized officers, OPD is understaffed based on its workload demand and the city's level of crime. Moreover, staff members contend that the deployment of one PSO per beat does not effectively account for the significant variation among beats in terms of workload demand. Assuming that each beat should continue to receive one PSO as per Measure Y (i.e., a reallocation of existing PSOs based on workload is not an option), the implication here is that maximizing effectiveness requires that additional PSOs and/or other resources and support systems be dispatched to the more stressed areas or that the current beat structure needs to be redrawn so the workloads of the PSOs are more equivalent.

An analysis of workload demand, both in terms of OPD generally and the PSO program specifically, could determine the extent to which OPD needs additional staff or whether some other kind of reallocation of resources might improve problem-solving. Appropriate PSO and support staff levels could maximize on-beat problem-solving time, efficiently incorporate other units in problem-solving, and increase the attention that can be given to address individual problems, thus enhancing the effectiveness of problem-solving and reducing crime and violence.

Create a Uniform Problem-Tracking System and Monitor Problem-Solving Efforts

Developing a uniform and systematic way to track problems would provide a number of benefits to OPD and the Oakland community. It would supply OPD with a means to catalog problems, document progress, and summarize outcomes. In so doing, OPD would be better positioned to evaluate PSOs and to assess and promote beat-level problem-solving. Such a tracking mechanism may help PSOs to focus on specific problem-solving efforts while also giving PSO commanders a way to monitor the activities of the PSOs so that they can advise PSOs on problem management (including limiting the number and types of problems that each PSO addresses). Also, as noted in our first-year report (Wilson et al., 2007), documenting all problems in a database may further ease transitions when new PSOs replace others who leave their positions; promote best practices, since all PSOs can learn from what others have tried and the effectiveness of those efforts; promote greater knowledge of beat-level issues and activities on the part of all OPD units; and demonstrate to stakeholders the extent to which problem-solving is conducted and is successful.

Stabilize PSO Assignments

The frequent transfer of PSOs out of their assigned beats strains police-community relations and makes it much more difficult for OPD to build community capacity and partnerships that can be beneficial to the problem-solving process. As recommended in the first-year report (Wilson et al., 2007), OPD needs to actively consider ways in which to stabilize the PSO assignments and work with communities to soften transitions when they occur. Obviously, many transfers are out of the hands of PSO commanders. Yet, given the numbers of beats that

see their PSO removed in a relatively short period, an examination of this issue to identify ways to limit it is warranted.

Maximize Stakeholder Involvement and Use of Existing Resources

As we documented in the first-year report (Wilson et al., 2007), community participation in the problem-solving process is less than ideal. This has been a challenge in other communities as well, such as in Chicago, where the city and the police responded by investing heavily in promoting the importance of attending beat meetings (Skogan, 2006). OPD and its city partners need to work collectively to foster community participation. In addition to direct encouragement to participate, the community may be more inclined to participate when other changes are made that improve the delivery of community policing, such as having a consistent PSO for a longer period.

Collaboration with Measure Y programs and other agencies could be enhanced as well. A sizeable proportion of the PSOs had not even heard of most of the Measure Y programs. The City of Oakland can play an integral part to fostering this communication. For example, it may consider additional activities aimed at raising the awareness of Measure Y programs and other existing resources among the PSOs and their commanders. OPD and the city may also wish to consider developing ways to enhance the PSOs' ability to draw on other city agencies for solving problems.

Maximize Incentives for PSOs

To improve the management and administration of the PSO program, OPD could consider ways to maximize PSO engagement in problem-solving activities and even encourage officers to become and remain involved in the PSO program. The analysis suggests that this could begin by ensuring that the performance review process adequately assesses PSOs based on consistent information about their problem-solving activities. Other formal and informal incentives, such as PSO recognition awards and events, could be considered as well. Learning more about why officers choose to become PSOs and why they seek to leave may offer insight into ways of creating an environment that attracts and retains the officers in the PSO program who are best equipped for community policing. Consequently, this may improve productivity and reduce attrition, thereby contributing to PSO stability, problem-solving effectiveness, and improved police-community relations.

Leverage Funding for Equipment

The lack of equipment, particularly vehicles, continues to plague the effectiveness of the PSOs. The need for PSOs to ride together because of a vehicle shortage diminishes the time they can spend engaged in problem-solving in their assigned beat. As we recommended in our prior report (Wilson et al., 2007), OPD and the city need to find ways to leverage the Measure Y dollars to equip the officers with vehicles as quickly as possible.

Concluding Remarks

Over the past year, much progress has been made in improving community policing through OPD's delivery of the problem-solving program. Yet, as discussed throughout this report, some key implementation challenges remain. Currently, it is not possible to determine with any

degree of certainty whether these challenges explain why we could not find evidence illustrating that PSO deployment reduced crime or whether the PSO program is simply not an effective means of addressing aggregate levels of crime. Only through addressing the implementation challenges will it be possible to assess the true impact of PSOs on crime in their beats.

Problem-Solving Officer Survey Instrument

This appendix presents the Web-based survey that was distributed to PSOs on August 13, 2008, with a closing date of September 8, 2008. The survey was vetted by OPD and the city administrator's office to ensure that it captured all the essential information and was designed effectively and based on current implementation characteristics.

1. RAND Problem Solving Officer (PSO) Survey

The RAND Corporation, a non-profit research institution in Santa Monica, California, is conducting a study to evaluate community policing in relation to the City of Oakland's Violence Prevention and Public Safety Act of 2004, or Measure Y. This builds upon RAND's first year assessment of community policing, which you can find at [RAND's Publication Web site](#). This research is sponsored by the City of Oakland. The Berkeley Policy Associates (BPA) is the prime contractor and RAND is a subcontractor. The goal of the study is to assess both the implementation and impact of community policing in Oakland.

One of the most critical aspects of community policing is problem-solving. We are requesting that you complete this survey because you are a problem-solving officer and learning your experiences and perspectives are necessary for us to gauge community policing implementation and success. We plan to ask you basic questions about your experience as a problem-solving officer. Your answers will be compiled with those of other problem-solving officers to formulate overall lessons about implementation progress and effectiveness. The survey should take about 45 minutes to complete.

We will use the information you give us for analysis purposes only. Responses will be aggregated to generate overall lessons. We will not associate your identity with any of your responses. We also will not provide identified responses to anyone outside of the project team, except as required by law. We will destroy all information that identifies you at the end of the study.

Responses to this survey are necessary to ensure we can effectively characterize problem-solving activities and the experiences of problem-solving officers. However, taking part in this survey is entirely voluntary, so if you refuse it will not affect you in any way. You are also free to skip any question that you prefer not to answer. If you choose to participate, we ask that you **please complete the survey no later than Wednesday, August 27, 2008** to ensure your responses can be represented in the analysis. We will provide you with a copy of our final report upon publication.

1. Do you agree to complete the survey?

- Yes
 No

Please click **Next** at the bottom of each page to advance through the survey. If you close your browser part way through the survey and come back to finish at a later time, your previous responses will not appear. However those responses will already have been recorded, so you can continue by answering the questions that you have not yet responded to.

If you have any questions or concerns about the study or about your participation in it, please contact the project director, Dr. Jeremy Wilson, or RAND's Human Subjects Protection Committee, at the information below:

Dr. Jeremy Wilson
Associate Director, Center on Quality Policing
Director, Police Recruitment and Retention Clearinghouse
RAND
1776 Main Street
P.O. Box 2138
Santa Monica, CA 90407
Telephone: 310.393.0411, ext. 4462
Email: jwilson@rand.org

Human Subjects Protection Committee
RAND
1776 Main Street
P.O. Box 2138
Santa Monica, CA 90407
Telephone: 310-393-0411, ext. 6369

2. Experience and Training

Please answer each of the following questions by providing or selecting the most appropriate response.

2. How many years have you been a police officer?

3. How many years have you been an officer with OPD?

4. How long have you been a Problem Solving Officer (PSO)?

Years:

Months:

5. How long have you worked in your current beat assignment as a PSO?

Years:

Months:

6. How many beats are you assigned to work as a PSO?

7. How many other beats have you previously been assigned to work as a PSO?

8. Did you volunteer to be a PSO or were you assigned?

Volunteered

Assigned

9. Have you completed any PSO training (e.g., an initial "PSO school", training during roll-call, etc.)?

Yes

No

If yes, please specify the total number of hours.

10. Please select the option that best characterizes the training you received in each of the following areas (please check one box per area).

	No Training	Little Training	Adequate Training	Excellent Training
PSO mission, goal, or purpose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PSO philosophy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem solving (e.g., SARA process)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritizing problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural diversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using crime data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Giving crime data to citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Measure Y and its violence prevention programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local non-city services (e.g., domestic violence shelters, alcohol treatment centers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other city services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crime prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizing community groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interacting with neighborhood service coordinators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interacting with neighborhood crime prevention councils/neighborhood watch groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specify Other

11. Now that you are working as a PSO, are there areas where more training would be helpful?

- Yes
 No

If yes, please specify.

3. Job Tasks

Patrol Type

12. Please indicate how many hours you spend doing each of the following tasks in an average week.

Patrolling your beat in a car

Patrolling your beat on foot

Patrolling your beat on bike

Patrolling your beat on motorcycle

Interaction with the Community

13. Please indicate how many times you do each of the following tasks in an average month.

a. Receive direct citizen complaints

b. Talk with community leaders in your beat

c. Attend NCPD meetings

d. Answer questions at neighborhood crime prevention council meetings

e. Report on a case or an issue at neighborhood crime prevention council meetings

f. Attend neighborhood watch meetings

g. Attend other community meetings

h. Talk with the neighborhood service coordinator for your beat

i. Call city agencies to ask for services for your beat

j. Attend meetings with other city/state workers (e.g., neighborhood service coordinators, city attorney, district attorney, sanitation workers)

k. Solicit help from local businesses

l. Work with local businesses to safeguard premises

m. Make door to door contacts with residents

n. Make security checks on homes/businesses

o. Counsel citizens on crime prevention

p. Assist in community organizing (e.g., helping form community groups)

r. Work with community on clean up/fix up projects (e.g., clean parks, new lighting, etc)

Traditional Police Duties

14. Please indicate how many hours you spend doing each of the following tasks in an average week.

- a. Investigate crime
- b. Write incident reports
- c. Appear in court
- d. Enforce traffic laws
- e. Enforce civil code violations
- f. Respond to 911 or emergency calls
- g. Work with parole, probation, or corrections officers
- h. Attend internal police meetings
- i. Attend training (roll call or other)

Problem-Solving Activities

15. Please indicate how many hours you spend doing each of the following tasks in an average week.

- a. Analyze problems
- b. Document problems
- c. Work on a specific problem in your assigned beat
- d. Work with non-PSO officers on a problem in your beat
- e. Work with other PSO officers on a problem in your beat
- f. Work with PSO officers on a problem in their beat
- g. Perform functions (problem-solving, patrol or other) outside of your beat

Other

16. Please specify other tasks that use a significant amount of your time.

17. In general, what percent of your time do you spend performing duties directly related to problem-solving in your beat?

18. In the past year, have you had to perform any off-beat assignment (even temporarily) during your regular work hours that was unrelated to addressing a specific problem in your assigned beat?

- Yes
- No

If yes, please specify assignments and amounts of time (e.g., work in the patrol unit responding to calls for service 4 hours per week for 2 weeks)

--

19. In the past year, have you had to perform any on-beat assignment (even temporarily) during your regular work hours that was unrelated to addressing a specific problem in your assigned beat?

- Yes
- No

If yes, please specify assignments and amounts of time (e.g., work in the patrol unit responding to calls for service 4 hours per week for 2 weeks)

--

4. Prioritizing Tasks

20. Please indicate the proportion of all problems brought to your attention that come from each of the following sources. For example, if your sergeant brings about 5% of your problems to you, then place a "5" in the row next to "Sergeant request." When you're done, the numbers you have written should total 100.

- a. Your own observations
- b. Crime, call, or other data
- c. Sergeant request
- d. Lieutenant or Captain request
- e. Neighborhood crime prevention council request
- f. Other resident request
- g. Neighborhood services coordinator request
- h. City Council member request
- i. Other

21. If other, please specify

22. Please rate the priority you give to addressing problems from the following sources

	Not a Priority	Low Priority	Moderate Priority	High Priority
a. Your own observations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Crime, call, or other data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sergeant request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Lieutenant or Captain request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Neighborhood crime prevention council request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Other resident request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Neighborhood services coordinator request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. City Council member request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Other ("other" source noted in previous question)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Approximately how many problems have you worked on since becoming a PSO?

**24. Approximately what percent of these problems represent the following types?
When you're done, the numbers you have written should total 100.**

- a. Problems you are currently addressing
- b. Problems you solved by your direct efforts
- c. Problems you ultimately referred to other sources for follow-up
- d. Problems that went away on their own
- e. Problems still exist(ed) but that you could not or did not address

25. What proportion (%) of the problems you have addressed did you formally document in written form?

26. Please list all of the ways in which you document your daily activities and problem-solving efforts.

**27. Please indicate which of the following types of problems you have worked on.
Check all that apply.**

- Barking dogs or other pet nuisances
- Blighted property
- Building code violations
- Burglaries
- Drug possession
- Drug sales
- Drunkenness
- Gang activity
- Loitering
- Loud music
- Motor vehicle theft
- Neighborhood fix-up/Improvement
- Park improvement
- Prostitution
- Robberies
- Vandalism
- Wild animals

Other (please specify)

--

5. Impact

28. Please indicate the extent to which you believe each of the following issues has increased or decreased since you started working as a PSO in your beat (please check one box per issue).

	Significantly Decreased	Slightly Decreased	No Change	Slightly Increased	Significantly Increased	Unsure
Problems that the community cares most about	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confrontations between the community and the police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community-police interaction/communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community faith in the police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community capacity to address issues on their own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community cooperation with police in problem-solving and/or crime prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demeanor toward the police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual willingness to report crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual willingness to provide information helpful in solving crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resident/business effort to improve the community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property crimes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Violent crimes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fear of crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calls for service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the next set of questions please describe the last three problems that you addressed in your beat.

29. Please provide a brief description of the first problem, how you addressed it, the role of the community and other agencies, and the ultimate outcome of your efforts.

30. For this first problem, please respond to each of the corresponding questions:

- Indicate the length of time to address (in weeks)
- Rate extent of community involvement from 1-5 (1=no involvement, 5=significant involvement)
- Rate extent of inter-agency collaboration from 1-5 (1=no collaboration, 5=significant collaboration)
- Rate outcome of your efforts from 1-5 (1=not successful, 5=completely successful)

31. Please provide a brief description of the second problem, how you addressed it, the role of the community and other agencies, and the ultimate outcome of your efforts.

32. For this second problem, please respond to each of the corresponding questions:

- Indicate the length of time to address (in weeks)
- Rate extent of community involvement from 1-5 (1=no involvement, 5=significant involvement)
- Rate extent of inter-agency collaboration from 1-5 (1=no collaboration, 5=significant collaboration)
- Rate outcome of your efforts from 1-5 (1=not successful, 5=completely successful)

33. Please provide a brief description of the third problem, how you addressed it, the role of the community and other agencies, and the ultimate outcome of your efforts.

34. For this third problem, please respond to each of the corresponding questions:

- Indicate the length of time to address (in weeks)
- Rate extent of community involvement from 1-5 (1=no involvement, 5=significant involvement)
- Rate extent of inter-agency collaboration from 1-5 (1=no collaboration, 5=significant collaboration)
- Rate outcome of your efforts from 1-5 (1=not successful, 5=completely successful)

6. Organizational Support

35. Please indicate the support you receive from each of the following sources regarding solving problems in your beat (please check one box per source).

	No Support	Little Support	Adequate Support	Excellent Support
a. Patrol officers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Crime reduction teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Investigators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Crime analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Your sergeant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Your lieutenant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Your captain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Neighborhood service coordinators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Neighborhood crime prevention councils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Neighborhood watches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Residents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Business owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Faith-based organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Social service providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Other city services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Other (specify below)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specify Other

36. What are the main benefits of being a PSO?

37. What are the main drawbacks to being a PSO?

38. If given the opportunity, would you be interested in transferring out of the PSO unit within the next year?

- Yes
- No

39. Please indicate the extent you believe your performance review appropriately reflects your duties as a PSO.

- Not at all
- Somewhat
- Fairly well
- Very well

7. Contact with Other Measure Y Stakeholders

40. Please indicate how often you interact with the following *reentry and diversion services programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Allen Temple Housing and Economic Development Corp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The Mentoring Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Restorative Justice for Oakland Youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Volunteers of America Bay Area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

41. Please indicate how often you interact with the following *youth outreach and services programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. City-County Neighborhood Initiative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. East Bay Agency for Children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. East Bay Asian Youth Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Leadership Excellence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Radical Roving Recreation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Safe House Challenge Grant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Sexually Exploited Minors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Sports4Kids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Teen Center Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Youth ALIVE!	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Youth UpRising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

42. Please indicate how often you interact with the following *employment and training programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Allen Temple, Dr. J. Alfred Smith Sr. Training Academy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. America Works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Bay Area Video Coalition-Youth Sounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Volunteers of America Bay Area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Youth Employment Partnership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Youth Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. Please indicate how often you interact with the following *family violence and mental health services programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Family Violence Law Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Family Justice Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

44. Please indicate how often you interact with the following *gang intervention and prevention programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Oakland Unified School District, Office of Alternative Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Project Re-Connect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. Please indicate how often you interact with the following *school based prevention programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. OUR Kids Middle School Model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Oakland Unified School District Violence Prevention and Curriculum and Peer Conflict Mediation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

46. Please indicate how often you interact with the following *violent incident response programs* for your work as a PSO (please check one box per program).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Oakland Community Response and Support Network	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Caught in the Crossfire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

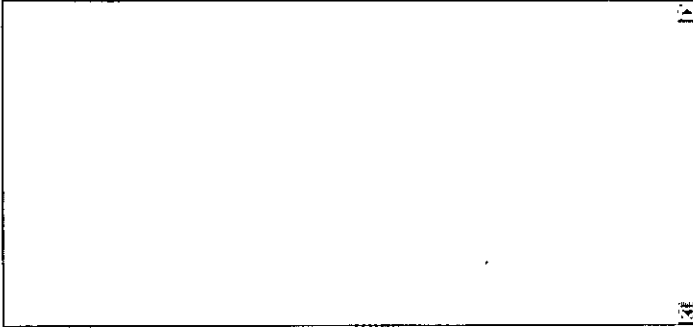
47. Please indicate how often you interact with the following *community stakeholders* for your work as a PSO (please check one box per stakeholder).

	I've never heard of them	I've heard of them but do not work with them	Rarely (1-2 times a year)	Occasionally (every couple months)	Regularly (once a month or more)
a. Oakland Fire Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Oakland Police Review Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. City council members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Community policing advisory board members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Neighborhood service coordinators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Neighborhood crime prevention councils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Neighborhood watches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Thank you

48. Thank you for completing our survey.

Please use the following space to provide any additional comments about community policing, your experience as a PSO or any other matter you feel is relevant to this assessment.

A large, empty rectangular box with a thin black border, intended for providing additional comments. It contains no text or markings.

The Time Series Analysis Process

In this appendix, we discuss in more detail the time series analysis process used to conduct the outcome, or impact, analysis. We conclude with the results of the modeling process.

Description of ARIMA Models

We conducted the outcome assessment using traditional simple interrupted time series quasi-experiments (Cook and Campbell, 1979; Shadish, Cook, and Campbell, 2002), with violent and property crime as the outcome measures. Consistent with the procedures originally developed by Box and Jenkins (1976), we iteratively executed an ARIMA modeling process for each of the two measures for each of the 20 intervention beats. The ARIMA model represents the stochastic (noise) process that is responsible for determining a series of observations—in this case, violent and property crime. Specific types of models are generally referred to as ARIMA(p,d,q) models. The value for p indicates the autoregressive order, or the number of previous observations that determine any given observation. One way to write a series with an autoregressive order of one, an ARIMA(1,0,0), is as follows:

$$Y_t = \phi_1 Y_{t-1} + a_t,$$

where Y_t is the current observation, ϕ_1 is a correlation coefficient to be estimated, Y_{t-1} is the value of the previous observation, and a_t is an error term. When there is a correlation between a given observation and a previous observation, the observations are serially dependent, or autocorrelated.

A series is stationary when it does not exhibit any systematic trend (i.e., the level does not increase or decrease, such as a general change in crime over time). If needed, differencing makes a series stationary. Simply subtracting the first observation from the second, the second from the third, and so on, differences the series. The d component of the ARIMA model represents the number of times a series must be differenced to achieve stationarity. A series that does not require differencing is stationary in the homogenous sense, while one that requires differencing is nonstationary in the homogeneous sense.

The q in the ARIMA(p,d,q) model represents the moving average order of the series. An ARIMA(p,d,q) model with a moving average component indicates a series that is dependent on the error of past observations. For example, an ARIMA(0,0,1) predicts the current observation of a series, Y_t , by the random shock of the previous observation, a_{t-1} . The ARIMA(0,0,1) model can be written as

$$Y_t = a_t - \theta_1 a_{t-1},$$

where θ_1 is a correlation coefficient to be estimated, and a_{t-1} is the value of the previous error term. Of course, a single model can have both autoregressive and moving average elements as well as be integrated, e.g., ARIMA(2,1,1).

Many time series exhibit systematic variations because of some pattern that repeats during the course of the observations. For example, each year, crime may rise in the summer months and fall in the winter months. This pattern, called seasonality, repeats every 12 months. Other forms of seasonality can occur, depending on the series. The ARIMA model accounts for seasonality. Like the standard series, seasonal variation can encompass autoregressive, integrated, and moving average components. When seasonality is present, then an ARIMA model is identified for the seasonal pattern and coupled multiplicatively with the ARIMA model identified for the series. The result is an $ARIMA(p, d, q)(P, D, Q)_s$ model, where p represents the autoregressive order of the series and P the autoregressive order of the seasonal variation; d the number of times the series must be differenced to achieve stationarity and D the number of times a series must be seasonally differenced to achieve seasonal stationarity; q the moving average order of the series and Q the moving average order of the seasonal variation; and s the order of the cycle. As an illustration, the current observation, Y_t , in an $ARIMA(1, 0, 0)(1, 0, 0)_{12}$ is correlated with both the value of the previous observation, Y_{t-1} , and the value of the 12th preceding observation, Y_{t-12} . This model can be written as

$$Y_t = \phi_1 Y_{t-1} + \phi_{12} Y_{t-12} - \phi_1 \phi_{12} Y_{t-13} + a_t.$$

The ARIMA Modeling Process

The iterative model-building process has three fundamental stages that a tentative model must undergo: identification, estimation, and diagnosis. Identification is the process by which a tentative model is chosen. We selected the initial model from a visual examination of the autocorrelation function (ACF) and partial autocorrelation function (PACF) of the series. (We also reviewed time-plots of the outcome measure frequencies.) The ACF is the correlation between the series and its lags, whereas the PACF is the correlation between the series and its lags, controlling for the correlation at intermediate lags. Plotting the ACF and PACF is useful in identifying a model for the series because each stochastic process has a unique ACF and PACF.

The purpose of the estimation stage is to estimate the noise parameters of the identified model. The model is appropriate when the estimated parameters fall within the bounds of stationarity and invertibility (i.e., have parameter estimates with an absolute value of less than 1) and are statistically significant. If the model did not meet either the stationarity-invertibility or parsimony conditions, we built a new model considering the information gained about the unsuccessful model and then reestimated it. A model that satisfied these conditions advanced to the diagnosis stage.

The objective of diagnosis is to test the model for statistical adequacy. The residuals of an adequate model should not be different from white noise, which we determined in two ways. First, we examined the ACF of the residuals of each model to confirm whether they were essentially zero for all lags. However, a few lags are expected to be statistically significant simply by

chance (McCleary and Hay, 1980; McDowall, McCleary, et al., 1980). Furthermore, to ensure that each model adequately fit the series, we checked the ACF to confirm that there were no spikes at key lags (e.g., lag one and two). Second, we calculated the Box-Ljung Q-statistic (Ljung and Box, 1978) to test whether the entire ACF was different from white noise. If the Q-statistic was statistically significant, we rejected the null hypothesis of the residual ACF being no different from white noise. If either of the required tests concluded that the residuals were different from white noise, we rejected the model and began the iterative process anew.

Assessing the impact of the intervention requires choosing an appropriate transfer function to couple with the ARIMA model. In general, as McDowall, McCleary, et al. (1980) explain, the impact assessment model can be thought of as

$$Y_t = \text{intervention} + \text{noise}.$$

Subtracting the noise component from the series, the result is the impact

$$\begin{aligned} y_t &= Y_t - \text{noise} \\ y_t &= \text{intervention}. \end{aligned}$$

Given that, once assigned, PSOs were expected to immediately begin solving problems in their assigned beats and to continue doing so, we modeled a transfer function to estimate an abrupt, permanent impact on the outcome measure. This can be written as

$$y_t = \omega I_t,$$

where ω is the magnitude of the abrupt change in level, a parameter to be estimated, and I_t is a step function such that I_t equals zero before the intervention and 1 at and after the intervention.

In all, we constructed and estimated 40 time series models—one violent and property crime model for each of 20 beats with a Measure Y PSO. We estimated all models using the Trends Module in SPSS 16.0.

Outcome of the ARIMA Modeling Process

The purpose of the ARIMA modeling process is to identify and control for various time-based determinants (e.g., trends, seasonality, and other serial correlation) of a series of data so that an intervention effect can be isolated and estimated. The series of violent and property crime we analyzed exhibited various forms of serial correlation. Tables B.1 and B.2 repeat Tables 3.1 and 3.2 in Chapter Three but include the ARIMA components that we modeled to account for the presence of serial correlation. Each of the 40 series exhibited some kind of serial dependence; thus, illustrating the simple examination of raw or unadjusted data without controlling for other time-based determinants would provide an inaccurate assessment of an intervention effect.

Table B.1
Impact of Measure Y PSO Deployment on Monthly Violent Crimes, by Beat

Beat	Predeployment Mean	Postdeployment Mean	Mean Difference (post-pre)	% Change	ARIMA Model						Deployment Estimate	p-Value
					<i>p</i>	<i>d</i>	<i>q</i>	<i>P</i>	<i>D</i>	<i>Q</i>		
1	20.48	26.83	6.35	0.31	0	1	1	0	0	0	0.24	0.45
2	8.94	9.45	0.51	0.06	0	1	1	0	0	0	0.24	0.17
3	27.40	28.67	1.27	0.05	1	0	0	0	0	0	0.98	0.80
4	18.34	21.81	3.47	0.19	1	0	0	0	0	0	2.77	0.32
5	14.53	21.90	7.37	0.51	1	0	0	0	0	0	7.46	0.00
6	32.79	36.70	3.91	0.12	0	1	1	0	0	0	0.40	0.47
7	27.26	28.07	0.81	0.03	2	0	0	0	0	0	-0.66	0.89
8	11.04	12.05	1.01	0.09	2	0	0	0	0	0	1.87	0.42
9	14.66	14.11	-0.55	-0.04	1	0	0	0	0	0	-0.51	0.84
10	15.19	16.41	1.22	0.08	1	0	0	0	0	0	1.10	0.55
11	26.52	33.65	7.13	0.27	2	0	0	0	0	0	4.25	0.44
12	20.28	30.33	10.05	0.50	2	0	0	0	0	0	8.76	0.02
13	23.79	27.59	3.80	0.16	1	0	0	0	0	0	4.11	0.21
14	12.95	17.83	4.88	0.38	0	1	1	0	0	0	0.11	0.67
15	9.51	10.39	0.88	0.09	0	1	1	0	0	0	0.12	0.81
16	7.29	7.42	0.12	0.02	1	0	0	0	0	0	0.35	0.86
17	19.56	31.54	11.98	0.61	0	1	1	0	0	0	-0.58	0.33
18	24.59	35.67	11.08	0.45	0	1	2	0	0	0	-0.07	0.91
19	9.09	9.71	0.62	0.07	0	0	1	0	0	0	0.65	0.73
20	22.38	27.83	5.45	0.24	0	1	1	0	0	0	-0.80	0.93

NOTE: Analysis is based on 124 months spanning January 1, 1998, through April 30, 2008. For the ARIMA model, the values depicted for *p*, *d*, and *q* represent the autoregressive, integrated, and moving average orders, respectively, modeled for each offense series. Similarly, the values depicted for *P*, *D*, and *Q* represent the same components modeled to account for seasonal effects in the offense series. The deployment estimate is the estimated effect of PSO deployment on monthly violent crime frequency.

Table B.2
Impact of Measure Y PSO Deployment on Monthly Property Crimes, by Beat

Beat	Predeployment Mean	Postdeployment Mean	Mean Difference (post-pre)	% Change	ARIMA Model						Deployment Estimate	p-Value
					<i>p</i>	<i>d</i>	<i>q</i>	<i>P</i>	<i>D</i>	<i>Q</i>		
1	56.74	50.00	-6.74	-0.12	2	0	0	1	0	0	-1.06	0.91
2	40.40	36.80	-3.60	-0.09	2	0	0	0	0	0	-2.98	0.70
3	76.32	71.67	-4.65	-0.06	1	1	0	1	0	0	-0.01	1.00
4	24.57	21.96	-2.61	-0.11	1	1	1	0	0	0	0.05	0.93
5	23.62	24.65	1.03	0.04	2	0	0	0	0	0	1.69	0.69
6	37.18	38.23	1.05	0.03	1	0	0	1	0	0	2.67	0.69
7	40.60	42.17	1.57	0.04	2	0	0	0	0	0	2.33	0.72
8	24.65	26.63	1.98	0.08	1	0	0	0	0	0	3.37	0.39
9	25.96	26.47	0.51	0.02	1	0	0	0	0	0	1.63	0.67
10	27.95	31.63	3.68	0.13	2	0	0	0	0	0	0.06	0.99
11	77.44	67.05	-10.39	-0.13	1	1	0	1	0	0	-0.42	0.90
12	40.12	39.50	-0.62	-0.02	2	0	0	1	0	0	1.08	0.87
13	40.16	46.19	6.02	0.15	1	0	0	0	0	0	3.22	0.58
14	31.73	32.25	0.52	0.02	0	1	1	0	0	0	0.29	0.67
15	44.37	42.61	-1.76	-0.04	2	1	0	0	0	0	-0.18	0.92
16	22.91	29.50	6.59	0.29	2	0	0	0	0	0	5.28	0.23
17	53.43	54.13	0.70	0.01	2	0	0	0	0	0	6.18	0.47
18	43.99	50.30	6.31	0.14	2	0	0	0	0	0	-1.02	0.90
19	32.49	37.14	4.65	0.14	1	0	0	1	0	0	3.83	0.50
20	36.31	42.83	6.52	0.18	2	0	0	0	0	0	9.23	0.19

NOTE: Analysis is based on 124 months spanning January 1, 1998, through April 30, 2008. For the ARIMA model, the values depicted for *p*, *d*, and *q* represent the autoregressive, integrated, and moving average orders, respectively, modeled for each offense series. Similarly, the values depicted for *P*, *D*, and *Q* represent the same components modeled to account for seasonal effects in the offense series. The deployment estimate is the estimated effect of PSO deployment on monthly property crime frequency.

Questions Guiding the Semistructured Interviews and Focus Groups

This appendix presents the interview questions that guided the semistructured interviews and focus groups.

- Can you describe the area command structure as it is currently?
- Can you tell me what impact this reorganization has had on the PSO unit?
- What is it like to manage the PSO unit?
 - What is challenging about coordinating and overseeing their work?
 - How do you know if problem-solving is working?
 - What support and training do you get to manage the PSOs?
- Have the PSOs converted to the changes in time scheduling?
- How has that affected their work in their neighborhoods?
 - How has that affected their ability to work with other units that use the new scheduling?
- Have there been other organizational changes in OPD that have affected the PSOs or the PSO unit?
- Where are staffing levels currently, both for OPD in general and for the PSO unit?
 - How many academies have been completed and how many graduates have come on board since 2007?
 - What is the total number of the force?
- Does each PSO have his or her own beat?
- How long do they stay in their assigned beats?
- How many PSOs are considered part-time PSOs, i.e., they work part time in another unit?
 - How many full-time PSOs hold positions and/or conduct duties related to another unit, e.g., training, crime-reduction teams?
- Do they work where they are assigned?
- Have they been pulled off of their beats to fill needs in other units, such as patrol?
 - Do they work across the beats in pairs or teams?
 - Is a PSO assignment considered a “plum job,” or do you have to work some to get people to fill the positions?
- What are the PSOs’ main purposes and duties?
- Are there other components to OPD’s community-policing efforts?
- Do PSOs coordinate efforts with other units regularly, or do they mainly work on their own?
- Do other units seek the help of PSOs?

- Do OPD leaders encourage coordination across units, or is it more at the discretion of the officers?
- Do new PSOs go through training? Can you describe it (the length, the topics)?
- Has it changed since 2007?
- Is there any other training that PSOs are given? How about the sergeants?
 - Is the funding for this training set aside in the budget, or do you have to find the funding from available resources? Where do you find the money for training?
- How about equipment for the PSOs? Is that funding set aside in the budget?
 - What equipment are you currently able to provide to each PSO?
 - Is there other equipment that they need? Do you still have a car shortage, for example?
 - Where do you find the money for equipment?
- What is the community's role in community policing?
- What is OPD doing to facilitate community participation?
- What do you see as the biggest accomplishments of the PSO unit so far? Name two or three.
- What are your three greatest challenges and needs in the near future? What do you see as most important to accomplish in this next year?

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