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Reducing Property Crime in Targeted Hot Spots

March 2014

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Smart Policing Initiative
Spotlight Report

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This project was supported by Grant No. 2009-DG-BX-K021 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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Published March 2014

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Smart Policing: Research Snapshot

From 2007 through 2008, the city of Lowell, Massachusetts, experienced a 15 percent increase in property crime, driven by surges in car theft (12 percent), burglary (14 percent), and larceny (21 percent). Much of the increase was tied to drug offenders who committed crimes to support their addictions. The Lowell Smart Policing Initiative (SPI), funded by the Bureau of Justice Assistance (BJA), sought to address drug-related property crime through problem-oriented policing and the SARA model: Scanning, Analysis, Response, and Assessment. A Steering Committee composed of department staff and researchers who were well versed in advanced problem solving led the Lowell SPI. In order to avoid some of the traditional problems with SARA implementation, the Lowell SPI team employed a more sophisticated problem-solving process that assessed the congruence or “fit” among the targeted crime problems and the different elements of the SPI strategy.

As part of the analysis phase, the Lowell SPI team collaborated with the city Health Department to examine the background and history of all individuals who died as a result of a drug overdose in Lowell from 2005 through 2008. Results confirmed the strong link between drug use and property crime. The SPI team then identified 12 property crime hot spots across three sectors, most of which were near known drug markets. Lowell crime analysts identified comparison hot spots that were matched to targeted hot spots using a matched-pair design. Captains in each of the three sectors generated response plans which were discussed, modified, and monitored at the bi-weekly SPI Steering Committee meetings. Sector Captains also completed bi-weekly surveys which systematically captured the strategies and tactics that were employed in the targeted hot spots. The survey results documented a high degree of congruence between the targeted crime problems and the selected crime reduction strategies.

Results from the assessment phase indicate that each sector experienced significant declines in property crime from the pre-intervention period (9/2009–10/2010) to the intervention period (9/2011–12/2012). These crime declines ranged from 16 to 19 percent, though specific hot spots experienced much larger drops in certain crime types (e.g., from 40-50 percent in some hot spots). In the East and West Sectors, the crime declines were notably different from crime patterns in the matched comparison hot spots. In the North Sector, crime declined significantly in both the targeted hot spots and the comparison hot spots. Taken together, these findings provide compelling evidence that the Lowell SPI led to substantial reductions in drug-related property crime.

The Lowell SPI highlights the importance of accessing non-traditional data to extend the problem analysis process. The Lowell experience also demonstrates the importance of near-real time monitoring of the problem-solving model, with a focus on achieving alignment or fit between identified crime problems and response strategies. The emphasis on congruence between problems and responses can allow law enforcement agencies to avoid “shallow” problem solving, which has often emerged in problem-oriented policing projects and can limit the potential for successful crime reduction.

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LOWELL, MASSACHUSETTS, SMART POLICING INITIATIVE: REDUCING PROPERTY CRIME IN TARGETED HOT SPOTS

BRENDA J. BOND, LAUREN HAJJAR, ARTHUR RYAN, AND MICHAEL D. WHITE

INTRODUCTION

The Lowell, Massachusetts, Police Department (LPD) and its research partners at Suffolk (Dr. Brenda Bond) and Brandeis (Lauren Hajjar) Universities sought to address property crime in targeted hot spots in the city, with funding from the Bureau of Justice Assistance's Smart Policing Initiative (SPI). The Lowell SPI selected this crime problem because the city of Lowell experienced a 15-percent increase in property crimes from 2007 through 2008, driven in large part by spikes in car theft (12 percent), burglary (14 percent), and larceny (21 percent). Though property crimes are typically not viewed with the same level of concern as person crimes, research indicates that property crimes are often tied to drug offenses as well as other types of more serious criminal activity (e.g., research shows that drug users are much more likely to be involved in crime than non-drug users).¹ Moreover, victims of such crimes can experience long-term psychological consequences as a

result of their victimization.² Last, given the sheer volume of property crimes (and their typically low clearance rates), the prevalence of burglary, larceny, vehicle theft, and related crimes can significantly influence citizens' fear of crime and their attitudes regarding quality of life and the effectiveness of the police.

The Lowell SPI team (composed of representatives from the Lowell Police Department and the research partners) sought to address property crime through a problem-oriented policing (POP) framework centered on the SARA model: Scanning, Analysis, Response and Assessment. Though POP has been identified as an effective crime-reduction strategy across a range of crime and disorder problems³, a number of studies have identified shortcomings in its implementation.⁴ As a result, the Lowell

¹ T Bennett, K Holloway, & D Farrington. "The statistical association between drug misuse and crime: A meta-analysis." *Aggression and Violent Behavior*, 13, 2008: 107-118.

² F.H. Norris & K. Kaniasty. "Psychological distress following criminal victimization in the general population: Cross-sectional, longitudinal, and prospective analyses." *Journal of Consulting and Clinical Psychology*, 62, 1994:111-123.

³ D. Weisburd, C. Telep, J.C. Hinkle, & J.E. Eck. "Is problem-oriented policing effective in reducing crime and disorder? Findings from a Campbell systematic review." *Criminology and Public Policy*, 9, 2010: 139-172.

⁴ G. Cordner & E.P. Biebel. "Problem-oriented policing in practice." *Criminology & Public Policy*, 4, 2005: 155-180. M.S. Scott & R.V. Clarke. "A review of submissions for the Herman Goldstein Excellence in Problem-Oriented Policing." In, C. S. Brito and E. Gratto (eds.), *Problem*

SPI team employed a more sophisticated problem-solving process that assessed the “congruence” or degree of alignment between the targeted crime problems and the response strategies that were employed. As part of that process, the Lowell SPI team identified property crime hot spots, explored connections between known drug offenders and property crimes in those hot spots, and developed comprehensive responses to address the problems. By exploring the “fit” between problems and responses, the Lowell SPI offers a model for an enhanced problem-solving process that overcomes traditional limitations of POP and optimizes the likelihood for successful crime reduction.

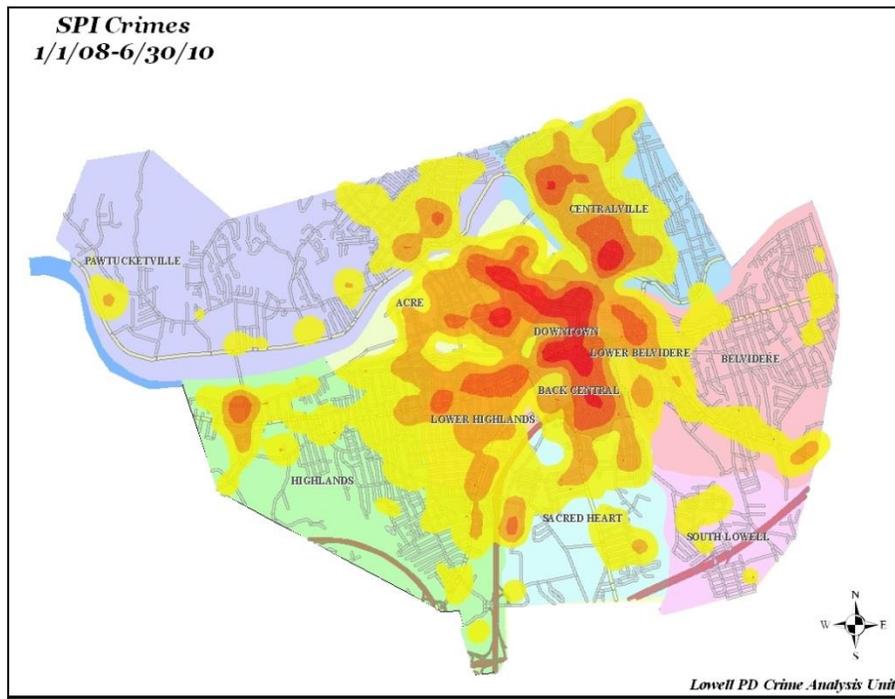
I. THE PROBLEM

Lowell is a mid-sized, densely populated city near Boston. As the fourth largest city in Massachusetts, the population includes approximately 105,000 residents, and the LPD employs about 230 sworn officers. From 2007 through 2008, Lowell experienced an increase in property crime that many believed was rooted in the city’s drug problem. Figure 1 highlights the concentration of property and drug crime in Lowell in the years leading up to the department’s involvement in SPI (2008-2010). In biweekly Compstat meetings, Commanders from across the city discussed the crime trends and, based

on available data and experience, surmised that increases in house break-ins, theft from vehicles, robberies, and larcenies were tied to drug-using individuals supporting their addictions through commission of these property crimes. Interestingly, police data indicated that arrests for drug possession were infrequent in Lowell, suggesting drug offenders faced little threat of police intervention. Additional discussion determined that the department’s narcotics investigators were focusing on higher-level dealers who were selling and supplying the narcotics and that the patrol officers in their conspicuously identifiable uniforms and vehicles were ill-equipped to effectively target street-level users. As a result, the department produced few street-level narcotics arrests and, perhaps not coincidentally, property crimes continued to surge in areas near known street-level drug markets. In 2010, LPD sought funding from the Bureau of Justice Assistance for an SPI aimed at employing an evidence-based approach to the drug-related property crime problem. The Lowell SPI team applied the principles of POP and the SARA model to their crime problem. The process began with advanced scanning and problem analysis, which led to specifically tailored police interventions. The final phase of the SARA model, assessment, focused on measuring the impact of the SPI responses on the crime problem.

Oriented Policing: Crime-Specific problems, Critical Issues, and Making POP Work, vol.3. Washington, D.C.: Police Executive Research Forum, 2000.

Figure 1. Drug and Property Crime Hot Spots in Lowell, 2008-2010



II. SCANNING AND ANALYSIS

The Lowell SPI was led by a Steering Committee composed of key members of the police department and the research partners. The SPI Steering Committee, which held bi-weekly meetings throughout the project period, was facilitated by the Deputy Superintendent of Operations and included Sector Captains, the LPD Director of Research and Development, Crime Analysts, the Lieutenant in Charge of Investigations, and the research partners. The SPI Steering Committee directed the scanning and problem analysis process. The first part of this process involved an examination of the drug user-property crime link. Interestingly, the SPI team struggled to obtain statistics related to

drug users in traditional police data because the department was not routinely arresting persons for drug possession. The drug user-property crime connection was largely based on the observations and experiences of officers, but the SPI team had no readily available data to explore that connection.

As a result, the SPI team collaborated with the City Health Department to investigate all drug overdose deaths in the city from 2005 through 2008. The drug overdose population gave the SPI team a known group of drug users and allowed them to combine public health data with police data to investigate the link between drug addiction and property crime. The SPI team obtained death certificates from drug overdoses and conducted criminal background checks on

those confirmed drug users. The research partners employed advanced multivariate regression analysis to measure the drug use-property crime relationship. The research partners hypothesized that the presence of drug crime charges would predict the occurrence of property crime charges. Indeed, the results indicated that, among the drug overdose population, individuals who had been convicted of a drug crime were significantly more likely to have also been convicted of a property crime (compared to those who had no drug conviction). This analysis validated the less scientific observations of seasoned police officers and provided a starting point for developing targeted interventions.

The second part of the problem analysis process involved the identification of property crime hot spots (many of which were adjacent to known drug markets). The LPD's Crime Analysis and Intelligence Unit (CAIU) extracted property crime⁵ incident data from 2009 through 2010 to analyze the geographic concentration of such crimes in the city. At the initial SPI meeting, the team discussed hot spot locations. Using the CAIU data and dialogue among team members, three Sector Captains (East, North, and West) selected four hot spots each to focus their SPI efforts (N=12). For comparative purposes, CAIU identified

⁵ Specific property crimes measured were: All other larceny, burglary, breaking and entering, shoplifting, stolen property, theft from a building, theft from a motor vehicle, and theft of a motor vehicle/parts. The SPI team also examined robbery, prostitution, and drug/narcotic violations, given their association with property crime.

additional, similar hot spots and assigned them as comparison areas using a matched-pair design (e.g., based on similarities in crime and social characteristics).⁶ Table 1 shows crime data in the 12 target hot spots in the year before the SPI was implemented

III. REPOSES

Prior research has identified a number of strategies that are effective in addressing property crime, including in-depth analysis of crime characteristics, increased attention to prolific offenders, robust communication between patrol and detectives, target hardening and dissemination of crime prevention tips, working with repeat victims, focusing on stolen property outlets (e.g., pawn shops), and situational strategies.⁷ With this knowledge as a backdrop, the Lowell SPI team sought to develop multi-faceted strategies that were tailored to the drug-related crime problems occurring in each specific hot spot (e.g., specific focus on

⁶ The Lowell SPI team identified hot spot treatment and comparison areas from a pool of crime-prone locations used in a previous hot spots study. For more detail see: A.A. Braga & B.J. Bond. "Policing crime and disorder hot spots: A randomized controlled trial." *Criminology*, 46(3), 2008: 577-607.

⁷ R.V. Clarke. "Situational crime prevention: Its theoretical basis and practical scope." In M. Tonry and N. Morris (Eds.), *Crime and Justice: An Annual Review of Research*, vol. 4, Chicago, IL: University of Chicago Press, 1983. D. Lamm Weisel. *Burglary in single-family homes*. Problem-Oriented Policing Guides for Police, #18. Washington D.C.:U.S. Department of Justice, 2004. M.S. Scott. *Burglary of single-family houses in Savannah, Georgia*. Office of Community Oriented Policing Services on the Field Applications of the Problem-Oriented Guides for Police Project. Washington, D.C.:U.S. Department of Justice, 2004.

Table 1. Property Crimes in the Lowell SPI Hot Spots, September 2009-December 2010

Offense Type	E 1	E 2	E 3	E 4	N1	N 2	N3	N4	W 1	W 2	W3	W4	Grand Total
All Other Larceny	90	123	36	50	46	35	30	23	71	68	47	29	648
Burglary/Breaking & Entering	12	19	13	34	49	22	36	20	64	34	45	16	364
Robbery	13	16	7	5	23	12	1	1	12	22	12	2	126
Shoplifting	0	94	0	0	79	1	0	0	3	71	1	32	281
Stolen Property Offenses	0	0	3	3	5	1	0	0	9	9	11	1	42
Theft From Building	6	6	5	2	3	1	2	1	6	4	4	2	42
Theft from a Coin Operated Machine or Device	0	0	0	1	0	0	0	0	0	0	0	0	1
Theft From Motor Vehicle	17	79	58	14	16	16	6	4	32	41	11	17	311
Theft of Motor Vehicle Parts/Accessories	9	7	5	5	4	7	1	1	2	7	14	8	70
Grand Total	147	344	127	114	225	95	76	50	199	256	145	107	1885

drug market activity and drug offenders). Captains in each of the three sectors generated response plans, which were discussed, modified, and monitored at the SPI Steering Committee meetings. The bi-weekly meetings provided a critically important opportunity to not only review problem-solving strategies that had been devised and implemented by the Captains, but also to critically assess those strategies in near-real time. This review process reflected the spirit of Goldstein’s (1979) original vision of POP and avoided the tendency seen in other POP projects to resort to “shallow problem-solving.”⁸ Moreover, analysts from CAIU presented outcome data to monitor changes in

targeted hot spot and comparison locations. The SPI team engaged in an ongoing dialogue over the perceived impact of strategies, discussed implementation challenges, and modified their approaches as needed.⁹

In all sectors, Captains engaged sergeants and patrol officers in SPI strategies. Sergeants supervised and documented activities of their patrol officers, including field interviews, arrests, reports, and citations. Sergeants and patrol officers were instructed to increase their visibility in the community and to focus on the connection between property crime and drug users in their respective sectors (e.g., drug offenders as a starting point for

⁸ A.A. Braga & D. Weisburd. “Problem-oriented policing: The disconnect between principles and practice.” In *Police innovation: Contrasting perspectives*. D. Weisburd & A.A. Braga (Eds). pp.133-152. New York:Cambridge University Press, 2006.

⁹ Outside of the CAIU analysts, the Director of Research and Development, and the research partners, SPI Steering Committee members did not know the location of comparison hot spots. These locations were not discussed, nor were these locations the focus of SPI efforts.

targeting interventions). Sector Captains completed bi-weekly surveys (N=50) designed specifically for the Lowell SPI to systematically capture strategies and tactics being employed in each hot spot area. Table 2 shows the range of strategies employed in the targeted hot spots by sector, and the variation in tactics across sectors highlights the effort to align responses with specific crime problems. In the North Sector, the top crime problems were shoplifting, larceny, and burglary. The most common strategies utilized in the North Sector included directed patrols (car and foot, 100 percent); providing data to patrol officers engaged in directed patrol (90 percent); drug enforcement activities (91 percent); increased/targeted traffic enforcement (87 percent); increased visibility (foot/bike patrol, 74 percent); and holding community/street corner meetings to discuss crime problems (72 percent). Note that the percentage indicates how often the strategy was employed in each bi-weekly period.

In the East Sector, the top crime problems were larceny and theft from a motor vehicle, which accounted for 69 percent of all East Sector property crimes (in targeted hot spots). The East Sector Captain reported use of directed patrols (100 percent) as the most frequently used strategy. Other top strategies included drug enforcement activities (89 percent); meeting with CAIU to obtain and better understand data (89 percent); providing data to officers assigned to directed patrols (78 percent); traffic enforcement (67 percent); and efforts to reduce prostitution (67 percent). The East Sector Captain rarely used foot or bike patrol (8 percent). The top crime problems in the West Sector were larceny, burglary, drug/narcotic violations, shoplifting, and theft from a motor vehicle. The West Sector Captain reported using strategies common to the other sectors, but he also placed a much greater emphasis on efforts to reduce prostitution.

Table 2. Top Hot Spot Policing Strategies by Sector

Place-based Strategy	Percentage (%) of survey responses by sector		
	North (N=23)	East (N=9)	West (N=18)
Efforts to reduce prostitution	35	67	89
Community/Street Corner Meetings	72	56	50
Increased visibility of foot/bike patrol	74	8	50
Increased/targeted traffic enforcement	87	67	50
Drug enforcement	91	89	78
Directed patrols (DPs)	100	100	100
Provided DPs with data to direct hot spot activity	90	78	100
Met with CAIU to obtain and understand data	57	89	89

Two examples of the specific strategies employed by the Lowell SPI team help to illustrate the fluid, problem-solving nature of their SPI intervention. First, one very successful strategy employed in the West Sector was the use of corner or sidewalk meetings. The West Sector has several active community groups that meet on a monthly basis to discuss a variety of neighborhood issues, including police and crime matters. Though the meetings were beneficial, there was often little involvement by the police with the exception of the sector Captain. When the sector leadership changed, the Deputy Superintendent of Operations arranged a meeting with one of the local neighborhood leaders to introduce the newly assigned Sector Captain. During this “meet and greet,” the attendees discussed the possibility of altering the monthly meeting format to an outdoor sidewalk approach that would likely draw the attention of a greater number of residents and would also pull in patrol officers from the neighborhood. This meeting format had been used successfully in the past in the wake of major incidents, particularly a recent homicide. During the post-homicide sidewalk meeting, the sector leadership noted that the discussion quickly moved on from the homicide to general neighborhood issues, and that attendance and participation continued to grow as the meeting went along. Based on this experience, the police leadership in the West Sector began holding monthly sidewalk meetings with residents

(without a major incident as a catalyst). The neighborhood leader chooses street corners in different areas for each meeting, and the police leadership as well as the patrol officers and first-line supervisors in the sector attended the meetings. The new meeting format increased connectivity between the residents and the officers, opened important lines of communication that allowed citizens to convey their concerns, and gave police actionable intelligence on local crime problems (and people). The success experienced in the West Sector has led to expansion of this citizen meeting format citywide.

The second example of Lowell strategies involves the internal communication among officers and Sector Captains. The Sector Captains originally conducted a majority of the problem analysis and response development at the bi-weekly Steering Committee meetings. Though patrol officers would sometimes attend these meetings, their other obligations often made attendance difficult. As a result, there was sometimes a communication disconnect between the officers on the street and the SPI leaders. The Sector Captains recognized this problem early-on and enlisted the aid of the Management Information Unit to develop a means to allow timely information to travel between the leadership and the line level without filtering or delay. The Management Information Unit had recently worked with a product called DHQ, which is a dashboard that provides one portal to

Table 3. Changes in Property Crime Outcomes by Sector: SPI and Comparison Hot Spots

Property Crimes	Hot Spots			Comparison Spots		
	Pre-Intervention Period*	Intervention Period**	% Change	Pre-Intervention Period	Intervention Period	% Change
East Sector: All Property Crimes	318	266	-16	210	195	-7
North Sector: All Property Crimes	288	233	-19	119	102	-14
West Sector: All Property Crimes	468	394	-16	147	154	+5

*Pre-intervention period from September 2009 through December 2010
 **Intervention period from September 2011 through December 2012

relay information via desktops, police cruisers, and mobile devices. The department also replaced the old loose-leafed three-hole binders with DHQ on a large screen in the “Guard Room” where roll call was conducted. This allowed for all officers to have the same information readily available to them 24/7 and in all locations. To facilitate the problem-solving effort, the product was upgraded to allow a pull down tab for each of the three sectors. These tabs function similarly to a blog in which the Sector Captains can post updates specific to their sectors. This information is now instantly available department-wide. Information such as suspected offenders and locations for extra directed patrols no longer needed to be vetted by several levels of supervisors. The portal also eliminated the delay of information that occurred when email was used for this purpose. Moreover, officers returning from days off could quickly catch up on recent activity and current priorities in their sector.

IV. ASSESSMENT

The SPI team, led by the research partners, examined crime trends in targeted hot spots and paired comparison areas during the pre-intervention period (September 2009–December 2010) and the intervention period (September 2011–December 2012). Table 3 shows a comparison of crime trends in targeted hot spots and comparison locations by sector, during each 15-month observation period.¹⁰ Each sector experienced significant declines in property crime in the targeted hot spots, from pre-intervention to the intervention period. In two sectors, these crime declines were notably different from the crime patterns in the comparison hot spots. For example, in the East Sector, property crimes dropped by 16 percent overall. This decline was more

¹⁰ The SPI team also examined crime trends by property crime type and by specific hot spot. For more details see: Appendix A at the end of this report; and B. Bond & L. Hajjar. “Measuring congruence between property crime problems and response strategies: Enhancing the problem-solving process.” *Police Quarterly*, 16 (3), 323-338.

than twice the crime decrease observed in the comparison hot spots (7 percent). The overall East Sector decline was driven by some large decreases in specific SPI hot spots: two hot spots experienced a 60 percent drop in motor vehicle theft, and decreases of 43 percent and 50 percent in larceny. An additional East Sector hot spot witnessed a 35-percent decline in burglary.

The difference in crime patterns among SPI-targeted hot spots and comparison areas was even more significant in the West Sector. Overall, SPI hot spots witnessed a 16-percent decline in property crimes. One SPI hot spot in the West Sector, which includes a large, troublesome apartment complex, experienced decreases of 47 percent in larceny, 42 percent in shoplifting, and 59 percent in theft from a motor vehicle during the intervention period. Alternatively, property crimes in the West Sector comparison hot spots actually increased by 5 percent. In the North Sector, notable crime declines occurred in both the SPI and comparison hot spots. SPI-targeted hot spots in the North Sector observed a 19-percent decline in property crimes overall, which included declines of 38 percent in burglaries and 41 percent in shoplifting in one hot spot. However, comparison hot spots in the North Sector also experienced notable declines in property crime (14 percent). Taken together, these findings provide compelling evidence that the Lowell SPI led to significant crime reductions in property offense hot spots.

V. LESSONS LEARNED

For the Police Manager

Engage in timely and collaborative review of POP strategies: Problem-solving through the SARA model has become a mainstay for many police agencies, as SARA has given police a practical tool for realizing Goldstein’s problem-focused ideals.¹¹ Beyond the ease of interpreting the model, the SARA problem-solving approach has been effective in reducing crime.¹² Nevertheless, implementation of SARA remains a challenge.¹³ For instance, problem identification may be too narrow or too broad. Analysis may be weak, with officers relying on experience rather than systematically analyzed data. Additionally, the police tend to use traditional police tactics, neglect to consult research or engage community partners, and generally conduct “shallow problem-solving.” Lastly, assessment often is inadequate.

The LPD has long recognized the value of problem-solving. As a result, the Lowell

¹¹ H. Goldstein. “Improving policing: A problem-oriented approach.” *Crime & Delinquency* 25, 1979: 236-258.

¹² D. Weisburd, C.W. Telep, J.C. Hinkle, & J.E. Eck. “Is problem-oriented policing effective in reducing crime and disorder? Findings from a Campbell systematic review.” *Criminology and Public Policy* 9, 2010: 139-172.

¹³ G. Cordner & E.P. Biebel. “Problem-oriented policing in practice.” *Criminology & Public Policy*, 4, 2005: 155-180. J. Eck, & W. Spelman. *Problem solving: Problem-oriented policing in Newport News*. Washington, D.C.: Police Executive Research Forum, 1987. T Read & N. Tilley. *Not Rocket Science? Problem-Solving and Crime Reduction*. (Crime Reduction Series Paper 6). London, UK: Policing and Crime Reduction Unit, Home Office, 2000.

SPI team was well aware of the tendency to “cut corners” with some of the stages of the SARA model. In order to insure the integrity of all phases of the SARA model, the Lowell SPI team created the Steering Committee, staffed it with personnel who were well-versed in advanced problem-solving, and convened bi-weekly meetings. For example, all three SPI Sector Captains had prior experience testing crime and disorder policing strategies,¹⁴ which gave them valuable insight regarding what works (and what doesn’t) in problem-solving. Moreover, the bi-weekly Steering Committee meetings allowed the team to “problem-solve” the problem-solving process. For example, personnel resources were a constant theme in these discussions, and the bi-weekly meetings allowed for a candid dialogue that optimized the use of available department capital—human or otherwise. One captain stated that “SPI brings a level of focus to crime control that is required in an economically challenging time.”

Moreover, the experienced Sector Captains were given the freedom to develop response plans and were able to vet those plans with other experts during the Steering Committee meetings. Sergeants and patrol officers were also actively involved in this process, and as a result, there was buy-in throughout the organization. One Sector Captain noted,

“SPI has seriously improved communication with officers on the street. It still needs work, but we’ve seen significant improvement in how they view and understand hot spots.” Another Captain noted that, “Officers are now using data and crime analysts to conduct predictive analysis. They worked with CAIU on a housebreak [burglary] problem in Centralville, and it worked—and officers loved it!” These comments highlight how support for the problem-solving process permeated all levels of the department. The ability to garner bottom-to-top support for the problem-solving process is crucial for program success.

Congruence or “fit” between the targeted problems and POP responses matters: To better understand the problem-solving process, the Lowell SPI team applied a model of organizational behavior to measure congruence between the problem-solving elements in Lowell’s SPI (i.e., specifically, the target problem and the tailored responses). This model suggests that “the components of any organization exist together in various states of balance and consistency”—what they called “fit.” The higher the degree of fit or “congruence” among the various components, the more effective the organization.¹⁵ The model

¹⁴ A.A. Braga & B.J. Bond. “Policing crime and disorder hot spots: A randomized controlled trial.” *Criminology*, 46, 2008: 577-607.

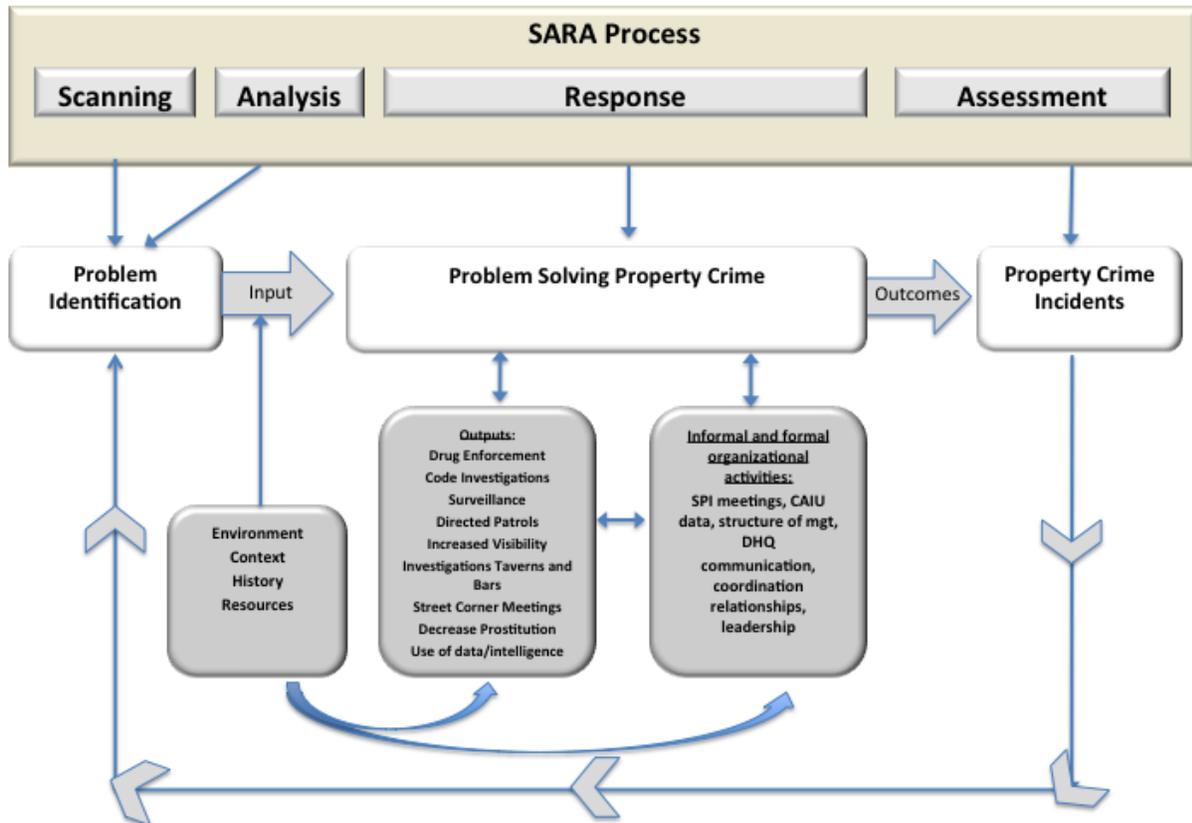
¹⁵ M.L. Tushman & D.A. Nadler. “A congruence model for organizational problem solving.” In M.L. Tushman & P. Anderson (eds.), *Managing strategic innovation and change: A collection of readings*, (pp. 159-171). New York: Oxford University Press, 1997.

suggests interdependence amongst various inputs and outputs that affect problem-solving goal attainment. Inputs are resources, environmental influences, and history of organizational practices that affect the organization and strategies. This includes an understanding of problems and their underlying conditions. Outputs are activities to alleviate the problem. Outcomes are goals, the effective utilization of resources, and the ability to adapt based on inputs. Measuring congruence identifies inconsistencies among the components that can lead to reduced efficiency and effectiveness. This process led the Lowell SPI team to

articulate an enhanced model of problem-solving, shown in Figure 2.

The Lowell SPI team observed a high degree of congruence between the targeted property crime problems and problem-solving strategies. Property crime hot spots were identified and profiles of those hot spots were created. This scanning and analysis was enhanced by a focus on inputs such as the contextual factors (drug offender connection), resources, and organizational history and practice, all of which had the potential to influence problem-solving. There was also strong alignment between the property crime problems identified in

Figure 2. Enhanced Problem-Solving Process



each hot spot and the crime reduction strategies selected to address those specific problems. For example, in-depth analysis of crime in several of the West Sector hot spots identified prostitution as a core problem. As a result, strategies to address prostitution were central to the West Sector response plan. Moreover, in the North Sector, the Captain identified shoplifting as particularly troubling. The North Sector Captain responded with increased visibility through foot/bike patrol in commercial areas (a strategy that was much less common in the East and West Sectors as a result of their specific crime problems). In sum, this enhanced problem-solving framework allowed the Lowell SPI team to assess consistency between various components of the problem-solving process, to better align strategies to specific crime problems, and, more generally, to overcome many of the deficiencies of the traditional SARA problem-solving process. This framework led to a more refined crime reduction strategy that produced measurable declines in property crime in targeted hot spots.

For the Line Officer

Strategies should account for the nexus between drug crimes and property offending: Rising concern about crime has increased attention to the relationship between drug use and involvement in the criminal justice system, as research consistently demonstrates that drug users have

greater involvement in crime than non-users.¹⁶ A preliminary analysis conducted by the CAIU showed that the drug market precipitated a substantial amount of property crime in the city. To understand more about the relationship between drug use and property crime in Lowell, the SPI team examined public health and criminal history data for all individuals who died of a drug overdose between 2005 and 2008. The research partners used advanced statistical analysis to assess the relationship between property crimes and drug use (e.g., drug convictions, type of drug used, violent crime convictions, race, gender, and age). The research partners hypothesized that the presence of drug crime charges would predict the occurrence of property crime charges. Indeed, the results confirmed this hypothesis. As a result, strategies that targeted property crime offending in Lowell were informed by intelligence from line officers regarding active drug users in the SPI hot spots.¹⁷

¹⁶ J.M. Chaiken & M.R. Chaiken. 1990. "Drugs and predatory crime." In *Drugs and crime*, M. Tonry & J.Q. Wilson (Eds.). pp. 203-209. Oxford: Oxford University Press.

¹⁷ The success of the Lowell SPI has led to the LPD receiving an additional SPI grant focused on institutionalizing evidence-based practices in the department.

ABOUT THE AUTHORS

Brenda J. Bond, PhD is Associate Professor of Public Service in the Sawyer Business School at Suffolk University. Brenda's area of expertise is management and performance of police organizations. Brenda's current research agenda includes an emphasis on administrative systems tools such as Compstat, Crime Analysis, and Police Research and Development practices; strategic and operational elements of hot spot policing; and the use of inter-organizational strategies in achieving public safety outcomes. She works closely with police leaders across the nation on a variety of program and policy initiatives. Brenda received her Ph.D. from the Heller School for Social Policy and Management at Brandeis University.

Lauren M. Hajjar, MS, MPA is currently a PhD Candidate and NIAAA Research Fellow at the Heller School for Social Policy and Management at Brandeis University. In addition to over 6 years of experience in nonprofit human services management, Ms. Hajjar's research background has focused on addressing organizational issues within police departments primarily through process and outcomes evaluations. She has also worked on various research projects funded by NIDA, DOJ, DHHS, EOPSS, BPHC, and DPH, conducting both qualitative and quantitative analyses. She has served as a peer reviewer for the Department of Justice and Bureau of Justice Assistance.

Currently, Ms. Hajjar's research is focused on the adoption of evidence-based practices within law enforcement agencies. Ms. Hajjar also holds an MS in Clinical Research from MGH Institute of Health Professions, an MPA from Suffolk University, and MA in Social Policy from Brandeis University.

Arthur Ryan is Deputy Superintendent of the Lowell (MA) Police Department. In this assignment he oversees the Operations Bureau and commands the uniformed officers that provide police services to the neighborhoods, the Traffic Section, Community Response Unit, and others. Deputy Superintendent Ryan has been serving the citizens of Lowell since 1984. Through his career, Deputy Ryan has served in nearly every function of the Lowell Police Department and utilizes this experience as a member of the Management Team. As a graduate of the FBI's National Academy, the Senior Management Institute for Police (SMIP), and the Harvard Kennedy School of Government's Senior Executives in State and Local Government program, he remains committed to police innovation and best practices and considers himself a "lifelong learner." Deputy Ryan has attained a Masters Degree in Criminal Justice and is an adjunct professor at the University of Massachusetts at Lowell instructing in Criminal Justice Management and other related topics.

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