Smart Policing Final Report – City of Lowell, MA Police Department

Executive Summary. The City of Lowell, Massachusetts has struggled in recent years with gun, gang activity and drug crime. In 2010, when the City first applied for SPI funding, crime had increased 15 percent. Analyzing crime data at the time, the Lowell Police Department (LPD) found that this increase was driven by a 12% increase in car thefts, a 14% increase in burglaries, a 21% increase in larcenies and an 8% rise in both aggravated assaults and robberies. In addition to the increase in crime, the City had been greatly impacted by the nationwide fiscal crisis of 2008. The unemployment rate at the time of the application was 9.6% and there were over 800 foreclosures in the City in a two year time period. There were also nearly 800 vacant/abandoned homes in the city.

In an effort to obtain a clear understanding of the complex crime issues the City was facing, the LPD worked to identify some clear causes of the various spikes in crime. The department found that the majority of crimes were committed by individuals with a drug addiction. In fact, an analysis of 323 individuals arrested for a drug offense in 2009 were either arrested or suspected in over 200 additional crimes.

Upon receiving funding in October 2010, the LPD utilized the grant to employ several strategies. Place-based strategies were employed by each Sector. The most common place-based strategies used in the SPI hot spots included efforts to reduce prostitution, the implementation of community/street corner meetings, increased visibility of foot/bike patrol, increased/targeted traffic enforcement, drug enforcements and directed patrols.[1] Additionally, Sector Captains met with the Crime Analysis and Intelligence Unit (CAIU) to obtain and understand data and the Unit provided data to direct hot spot activity. In addition to place-based strategies, the LPD also employed offender-based strategies, which were focused on chronic offenders who were also drug dependent. The LPD's Criminal Investigation Bureau (CIB) worked with key LPD personnel on the development of a comprehensive offender-based strategy. Detectives engaged in regular communication with offenders, including face-to-face visits at home, work and in the community. Detectives gathered intelligence from family, friends and neighbors of identified offenders, specifically around any issues with addiction. They provided offenders with referral cards as needed to Lowell House, Inc., the local substance abuse treatment provider. Detectives also met with Lowell House, Inc. to obtain a better understanding of the services the agency provided and to ensure that they were referring individuals appropriately.

Through a detailed evaluation, our research partners from Suffolk and Brandeis Universities found that reductions in property crimes were achieved in almost all of the SPI hot spots. Theft from a motor vehicle and "all other larceny" seem to drive most of the property crimes in the SPI hot spots. The offender-based strategies were also evaluated. The researchers found that the initial 38 offenders targeted in 2012, 61% recidivated, with most new crimes involving some type of property crime. Detectives continued to increase drug enforcement and robbery investigations and follow-up in each of the 3 sectors since January 2012. Researchers noted that

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[1] Bond, B.J. & Hajjar, L.M. (2013). *Measuring congruence between property crime problems and response strategies: Enhancing the problem-solving process.* Police Quarterly, 16(3), 323-338

there continued to be minimal increases in soft crime arrests (e.g. harassment, loitering, pan handling, etc.) and referrals to substance abuse treatment in all sectors throughout the SPI.[2]

The SPI has had a significant impact on the LPD. Although crime was not impacted in a way that the department had hoped, several positive organizational changes occurred as a result of the SPI. The SPI has changed the way patrol officers and supervisors approach property crime and crime committed by drug-dependent individuals. Patrol is more engaged with the CAIU and officers are working to attend to indicators of crime and disorder quickly so that they do not materialize into large-scale crime problems that require a greater amount of resources. Using data to identify and understand the dynamics of chronic crime locations seems to have been institutionalized. The SPI has also engaged Sector Captains in more strategic thinking and direct their attention to what issues of concern were on the horizon. This would support a more proactive patrol force. The SPI led to the LPD modifying the Compstat process so that it became a forum for strategic problem solving relative to decision-making and resource allocation. It also increased communication across all aspects of the LPD, especially with the CAIU. This occurred by having Sector Captains work more closely with CAIU, and then communication with patrol through various means – especially the internal intranet called DHQ.

Through the SPI, the researchers have identified several recommendations that would assist the LPD to continue improving their SPI strategies in the future. The LPD is working to incorporate their suggestions. The department will continue to identify hot spots and the individuals who are persistently committing crimes in the hot spot areas. However, the researchers noted that the hot spots identified in 2009-2010 were the exact same hot spots used for the 2005 hot spot study by Braga and Bond (2008), clearly highlighting the need for a more strategic, comprehensive problem-solving process that could impact these long-standing chronic hot spots. The LPD has taken this recommendation under advisement and will be working to create new and innovative problem-solving strategies in the future. The researchers have also recommended that the LPD focus more on the involvement of frontline supervisors and patrol officers. The LPD is currently utilizing SPI II funding to target front line officers on evidence-based policing strategies and is working to institutionalize these strategies into everyday departmental operations.

The most innovative aspect of the department's SPI has been the offender-based strategy. Prior to this initiative, the department had never utilized resources to target specific offenders. Much groundwork has been established on this strategy, however, the department needs to continue efforts to build upon and strengthen this strategy. As our researcher has recommended, the department must determine the specific goals of a targeted offender law enforcement strategy. We need to identify clear, actionable and measurable goals in order to understand if our strategy was effective.

The SPI has had a significant impact on the LPD. Communication between CAIU and officers has increased. The department experimented with several placed-based and offender-based policing strategies. Additionally, the department was able to add more features to the LPD's internal website, DHQ and was also able to significantly increase use of this resource through the

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[2] *Ibid.*

SPI. While overall crime rates were not substantially impacted, the SPI led to several positive organizational changes.

Targeted Problem. Similar to many urban cities across the country, the Lowell, Massachusetts Police Department (LPD) has long struggled to combat a wide range of serious crime, such as gun, gang activity and drug crime. At the time when the Smart Policing Initiative grant application was written, the City had recently experienced a 15% spike in crime.[3] The increase was primarily fueled by a 12% increase in car thefts, a 14% increase in burglaries, a 21% increase in larcenies and an 8% rise in both aggravated assaults and robberies. Compounding the increase in crime, in 2008, Lowell had been greatly affected by the nationwide fiscal crisis. The unemployment rate stood at 9.6% and there were 886 foreclosures in the city between 2007-2009, a 524% increase from the previous two years. Furthermore, there were 792 vacant/abandoned homes in the city, making many areas susceptible to crime and disorder.

The recession also significantly impeded the LPD's ability to proactively prevent crime. From 2008-2009, the LPD lost 10% of its sworn force through attrition. Other law enforcement agencies were also impacted by the recession. In fact, the Probation Department, in which the LPD had collaborated extensively in the past to conduct home visits of ex-offenders was also hampered by fiscal constraints that prevented them from partnering with the LPD on several innovative initiatives. Faced with limited resources and a decline in partnerships, the LPD sought to gain a better understanding of the crime issues facing the City.

A preliminary review of the crime data at the time of the application indicated that the drug market had driven a large amount of crime in the City. According to the 2009 New England High Intensity Drug Trafficking Analysis (NE HIDTA), "most robberies, thefts, shootings, murders…have a drug nexus."[4] An analysis of the 323 individuals arrested for a drug offense in 2009 illustrates that they were arrested or suspected in over 200 additional crimes.[5] While this was a significant number, the LPD felt that this drug data did not accurately depict the severity of the program as it was based only on arrests and not reported crime. Many chronic offenders in Lowell are involved in drugs and commit crimes, including burglaries and car breaks, which enable them to sell the stolen items to support their drug habit. Three neighborhoods, the Acre, Lower Highlands and Centralville accounted for 58% of all drug arrests; these areas were also the most problematic for criminal activity as they recorded the highest number of gang and firearm incidents, burglaries, robberies, car breaks, and vandalism and shoplifting incidents.

Upon receiving funding in October 2010, the LPD sought to utilize the SARA (Scanning, Analysis, Response and Assessment) and to partner with Dr. Brenda Bond of Suffolk University to develop the Lowell Smart Policing Initiative (SPI) and tailor it specifically to hot spots struggling with drugs and drug-related crimes. Initially, the LPD had decided to focus on three evidence-based policing strategies: implement problem-oriented policing strategies, crackdowns of known drug locations and enacting civil remedies. However, once the initiative was

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[3] This data refers to a crime increase that occurred from 2007 to 2008.
[4] NE HIDTA's Drug Threat Analysis 2009 can be found at http://www.hsdl.org/?view&doc=110973&coll=public.
[5] These incidents primarily included burglaries, robberies and larcenies. Please note that this number does not include domestic incidents.

implemented and the Steering Committee convened, the strategies that the LPD focused on included place-based (incorporating problem-oriented policing strategies and civil remedies) and offender-based strategies. In an effort to implement civil remedy strategies, the LPD also deployed the Neighborhood Impact Team (NIT) on a routine basis in hot spot areas. The NIT consists of representations from the LPD, Lowell Fire Department, Lowell Health Department, Neighborhood Inspectional Services and the Graffiti Removal Team. These individuals would conduct walkthroughs of problematic locations and address code violations at properties in a particular area. These code violations were given to residents and City departments would follow-up to ensure they were addressed.

Community Outreach and Collaboration. Several key partners and stakeholders were involved in SPI both internally and externally. On a biweekly basis, the Deputy Superintendent of Police facilitated SPI meetings, which included the Lt. in-charge of the Criminal Investigation Bureau (CIB), the three Captains in-charge of the Sectors, a representative of the Crime Analysis and Intelligence Unit (CAIU), Research Partners and the Research and Development Unit (R&D). In addition to the staff that attended biweekly meetings, CIB detectives were very involved in the implementation of the program, as they were cornerstone of the offender-based strategies. Members of the patrol force, who worked to implement evidence-based problem-oriented policing strategies, were also key stakeholders in the SPI project. While this project had mainly an internal focus, the LPD did work with Neighborhood Association Group leaders and group members to educate them on the project. Additionally, the LPD worked closely with Lowell House, Inc., the leading substance abuse provider in the community. As the LPD's main focus of this project was to address violent and property crime committed by individuals with a drug addiction, the department sought to bring Lowell House, Inc. on board to assist these individuals. The department created referral cards and patrol officers and detectives provided all the offenders they worked with that had a substance abuse issue with a specific referral card. This referral card alerted Lowell House, Inc. that the individual had been referred by the LPD. Many families of ex-offenders played a critical role in this initiative. These individuals had been impacted for several years by their loved ones substance abuse issues and criminal activity. The LPD worked closely with these families and encouraged them to promote the services Lowell House, Inc. was offering.

The LPD worked closely with many City agencies through the NIT. The NIT has been in operation for several years; however, funding is needed to ensure this tactic is deployed consistently. This grant allowed the LPD to convene these agencies on a regular basis to address some of the most problematic areas/homes in the hot spot areas. The Lowell Fire and Health Departments, Inspectional Services and the Graffiti Removal Team were all regularly part of the NIT deployments.

Strategies Employed. The LPD employed several strategies throughout the SPI. These strategies can be identified by two main strategy types: place-based and offender-based. Place-based strategies were employed by each Sector. The Research Team created a survey instrument to capture place-based strategies and Sector Captains completed bi-weekly surveys designed specifically for the Lowell SPI to systematically capture strategies and tactics being employed in

each hot spot area. Table 1 below summarizes the most common strategies used in the SPI hot spots.

Table 1: Top Hot Spot Policing Strategies by Sector[6]

Place-based strategy	Percentage (%) of survey responses by sector		
	North (N=25)	East (N=9)	West (N=18)
Efforts to reduce prostitution	32	67	89
Community/Street Corner Meetings	44	56	50
Increased visibility of foot/bike patrol	68	8	50
Increased/targeted traffic enforcement	84	67	50
Drug enforcements	88	89	78
Directed patrols (DPs)	100	100	100
Provided DPs with data to direct hot spot activity	92	78	100
Met with CAIU to obtain and understand data	64	89	89

The second type of strategies employed were offender-based strategies. These strategies focused on chronic offenders who were also drug dependent. The hypothesis was that offenders with a drug dependency were responsible for a number of property crimes, in an attempt to "feed their habit." In fact, an analysis of drug overdoses in the City of Lowell between 2005-2008 illustrated that individuals who had a heroin charge on their Board of Probation (BOP) were nearly 4 times more likely than those without heroin charges to be charged with a property crime. Those with other drug charges on their record (Class B, C, D and E) were 20% more likely to have a property charge on their record that those who did not. Additionally, results showed that individuals with a drug crime charge were expected to have a higher rate of property crimes on their probation record.

Based on this analysis and other research that links drug use to criminal activity, the LPD's CIB worked with key LPD personnel on the development of a comprehensive offender-based strategy as a major component of the SPI. In January 2012, CIB detectives identified 38 top property crime offenders in Lowell, according to specific criteria. Critical to the offender strategy has been collaboration among LPD personnel in generating a "top offender" list that has allowed detectives to focus efforts on a select group of property and drug crime offenders in order to decrease crime in the City. An initial analysis of offender profiles was completed in June 2012.

A number of strategies were employed to target top property crime offenders. Detectives engaged in regular communication with offenders, including face-to-face visits at home, work and in the community. Detectives gathered intelligence from family, friends and neighbors of identified offenders, specifically around any issues with addiction. They also provided offenders with treatment referral cards as needed to Lowell House, Inc. Detectives and treatment providers communicated regularly about identified offenders and to problem-solve as needed. Offender

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[6] Bond, B.J. & Hajjar, L.M. (2013). *Measuring congruence between property crime problems and response strategies: Enhancing the problem-solving process.* Police Quarterly, 16(3), 323-338

profiles were compiled into the LPD DHQ Intranet site under a separate "Smart Policing" tab in an effort to increase awareness and to engage patrol officers in this strategy. Detectives and Captains participated in regular meetings with several other departments in the city including: Probation, Sheriff's Office, District Attorney's Office and Family Services Unit, in an effort to discuss offender strategies and problem-solve around specific cases.

While the place-based strategies implemented were commonly known in the law enforcement arena and within the LPD, the LPD believes that the offender-based strategy to be one of the most innovative components of the department's SPI. Prior to the SPI, Lowell had never employed strategies specific to offenders in the past. These offenders were all identified as drug dependent. The strategies employed by the detectives were designed to assist the offender to get treatment for their problem, cooperate and communicate with family members and stop committing crimes to feed their addiction. While these individuals were well known to the detectives assigned to them, the LPD took the strategy one step further and attempted to increase awareness with the entire patrol force by creating a DHQ tab specifically for offenders identified through the SPI. The LPD reviewed all their BOPs, tallied the number of drug, violent and property offenses and displayed this information, as well as other pertinent information in the DHQ tab for all sworn staff to review. Officers and detectives could also document updated information to offender profiles to keep the entire department informed and up-to-date on the developments of a specific individual.

Data and Intelligence. The LPD has long recognized the importance of using data to drive deployment and strategy development and the SPI illustrated why the CAIU is so critically important to the everyday functions of the department. Throughout this project, the CAIU collated and disseminated data to the Captains regarding the hot spots. In fact, Table 2 below illustrates how frequently officers either obtained data from CAIU or met with them to obtain and understand data.

Place-based strategy	Percentage (%) of survey responses by sector		
	North (N=25)	East (N=9)	West (N=18)
Provided DPs with data to direct hot spot activity	92	78	100
Met with CAIU to obtain and understand data	64	89	89

Table 2: Place-based Strategies & Use of CAIU

In addition to working directly with and disseminating information to officers in each of the three sectors, CAIU also spent a significant amount of time uploading information to DHQ on the hot spots and targeted offenders. This information served to increase officer awareness on the hot spots and offenders. The SPI also improved relationships between CAIU and officers. This initiative allowed officers to understand the data that CAIU is able to provide and communication between this Unit and front line officers has greatly improved. Officers are more willing to discuss issues with them, request data and troubleshoot crime problems.

As a result of the SPI, the LPD has greatly increased the use of DHQ, the department's internal website, within the patrol force. CAIU, as well as other LPD members routinely post information on this website and since the implementation of SPI, more officers report using DHQ on a routine basis. While SPI funds allowed the department to create a specific SPI tab, which provided information on the targeted offenders and hot spots, DHQ has a wide range of other uses. The LPD credits the SPI tab with attracting more officers to use the site.

During the implementation of the SPI, the LPD also began an implementing a project which outfits officers with iPads.® Detectives involved in the SPI have benefitted immensely from this project. In fact, prior to being given iPads®, the CIB detectives had access to just one MDT while in the field. Now, all CIB detectives have iPads® and are able to access the department's internal website, DHQ, while in the field, which is where all pertinent forms are located, including: the Miranda rights and reporting form, photo ID show up checklist and the blood/saliva consent form. Additionally, they can quickly and easily access Miranda rights in both English and Spanish and they can take statements in the field. They can also show photo arrays to victims outside of the LPD. Detectives have estimated that the iPads® and PolicePad® application saves an hour per shift, as they no longer have to waste time travelling back to the station and completing necessary paperwork. Supervisors are also able to approve reports on their iPads®, which significantly decreases the delay in the report process. Detectives also have access to their iPads® while off-duty and many continue to communicate with colleagues about important investigations during off hours. Furthermore, detectives have been able to access DHQ and the Smart Policing tabs which out in the field. The LPD has also worked to distribute iPads® to patrol officers, which has also increased their accessibility to DHQ, as well as the information provided by CAIU.

Analysis and Evaluation. The Lowell SPI Research Team consisted of Brenda J. Bond, PhD and Lauren M. Hajjar, MS, MPA, MA. The Research Team was brought into the SPI at the initial proposal development phase, facilitating a smooth transition once award funds were granted. Our researchers served as research partners and advisors in the implementation and evaluation of SPI. This was motivated partly because of Dr. Bond's longstanding relationship with the LPD, and her specific involvement in the hot spot study spearheaded by Dr. Anthony Braga in 2005. The Research Team used a multi-method approach to evaluating the Lowell SPI, with process and outcome evaluation objectives serving as a common theme. Details on place and offender-based methods are below:

Place Based Methodology – Researchers used a quasi-experimental design to examine, analyze and compare Lowell's specified property crimes and response strategies. In this process, researchers reflected on the

DATA SOURCES USED TO DOCUMENT AND MEASURE OFFENDER-FOCUSED STRATEGIES
1) 8 offender-strategy surveys completed by CIB
2) 4 Interviews with LPD CIB detectives
3) 1 semi-structured meeting with LPD CIB detectives
4) BOP database of 54 top offenders
5) 52 top offender case file surveys completed by assigned detectives
6) Notes from SPI 1 Steering Committee Meetings

property crime outcomes achieved in each hot spot[7]. To understand the association between Lowell's crime problems and their selected strategies, the team applied the "the congruence model of organizational behavior" to measure alignment between the components (Tushman & Nadler, 1997; Tushman & O'Reilly, 2002) of the problem-solving process utilized in Lowell's SPI.[8] Problem-solving has been characterized as an iterative process that guides police through a course of understanding, action and reflection to attain desired outcomes. It is the interdependence between the problem solving process components that is suggested to influence outcomes (Goldstein, 1979; Eck & Spellman, 1987; Tushman & Nadler, 1997). In this study, researchers sought to answer three research questions: 1) What strategies have been implemented to address property crime under the SPI? 2) What outcomes have resulted from SPI implementation? 3) Is there congruence between SPI problems, inputs and strategies?

Data Collection: The LPD's CAIU extracted property crime[9] incident data from 2009 through 2010 to serve as the basis for measuring SPI outcomes. Hot spot locations were identified and discussed at the first SPI Steering Committee meeting[10]. Using CAIU data and officer feedback, three Sector Captains responsible selected four hot spots each to focus their SPI efforts (N=12). To achieve a matched-pair design, the CAIU identified like hot spots and assigned them as comparison spots[11]. Quantitative and qualitative data were collected to document the problem-solving process. We collected qualitative data through participant-observation and through interviews of LPD staff. Being an active participant allowed us to see and learn about the LPD SPI process as it was happening (Lofland & Lofland, 1984).

Sector captains completed bi-weekly surveys (N=50)[12] designed specifically for the Lowell SPI to systematically capture strategies and tactics being employed in each hot spot area. Captains generated response plans which were discussed and monitored at newly created SPI steering committee meetings (N= 25). Bi-weekly meetings provided an opportunity to review and reflect upon problem-solving strategies implemented by captains. This reflective process mirrored the

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[7] Lowell's SPI remains ongoing so data are used to compare changes in property crime outcomes before SPI and 15 months into implementation.

[8] Bond, B.J. & Hajjar, L.M. (2013). *Measuring congruence between property crime problems and response strategies: Enhancing the problem-solving process.* Police Quarterly, 16(3), 323-338

[9] Specific property crimes measured were All other Larceny, Burglary, Breaking and Entering, Robbery, Shoplifting, Stolen Property, Theft from a building, Theft from a Motor Vehicle, Theft of a motor vehicle/parts, Prostitution, Drug/Narcotic Violations

[10] The SPI Steering Committee 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 Research Partners

[11] The Lowell SPI used a matched-pair design to monitor crime changes in SPI hot spots as compared to non-SPI hot spots. Comparison spots were selected because of similarities in crime and characteristics. LPD officials were interested in whether SPI would positively affect crime in the "treatment" hot spot areas. Thus, data collection focused heavily on SPI problem-solving strategies. We did not monitor policing strategies implemented in the comparison areas, as it was expected that Sector captains would address these areas in any way that they saw fit. We comment in the results section on observed differences

[12] The number of surveys completed by each Sector Captain varied. Captains were asked to complete bi-weekly surveys during the 15 month period. In some weeks, Captains were unable to complete the survey. In particular, the person who served as the Captain in charge of the East Sector changed three times over the 15 months, due to an injury, reassignment and training.

iterative process of problem solving, a practice depicted in other problem-solving studies (Bond & Braga[13]; Braga & Bond, 2008; Braga & Weisburd, 2010). Analysts presented outcome data to monitor changes in hot spot crimes. Captains and steering committee participants discussed successes and challenges of implementing strategies.

Process data were systematically collected at steering committee meetings. Meeting and interview data from Captains, the Deputy Superintendent of Operations, and the Director of Research and Development (N=14) were also included in the process evaluation. Outside of the CAIU analysts, the Director of Research and Development, and SPI 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.

Offender-based methodology:

Data Sources: Several data sources were used to document and evaluate the offender-focused strategies implemented by the LPD between January 2012 and June 2013. Research partners from Suffolk and Brandeis Universities facilitated qualitative interviews and meetings with key personnel in addition to generating surveys and databases to quantitatively evaluate implementation efforts and crime outcomes data. The Lieutenant responsible for all CIB operations completed strategy-specific surveys throughout the implementation period (N=8) that have been used to capture overall offender-focused strategies implemented in each of the 3 Sectors of the City. A series of interviews was conducted with this Lieutenant to document how the top-offender list was developed and maintained as well as other case management strategies (N=4). A semi-structured meeting (N=1) was held with CIB detectives in May 2013 to capture their perspectives on how the strategies were implemented including what is believed to be working or not.

Two quantitative databases were developed and maintained in coordination with the LPD's R&D Unit during the implementation period: 1) a top offender database containing criminal record/BOP data and demographic information (N=54); and 2) an offender case files database containing strategy specific details (N=52) for each offender on the list. Finally, qualitative notes from ongoing SPI I Steering Committee Meetings were used to document the offender-focused strategy.

Place-based Efforts: The LPD selected 12 property crime hot spot locations that would serve as the focus of their SPI efforts. In short, informed by property crime incident data, Sector Captains each selected four hot spots within their sectors to be the focus of SPI. These locations were:

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[13] Bond, B.J. & Braga, A.A. (2013). *Rethinking the Compstat process to enhance problem solving responses: Insights from a randomized field experiment*. Police Practice and Research, published online August 2013

Hot Spot Label	Streets Included
East 1	Merrimack St to Moody St, Austin St down to 401 Merrimack St
E2	Merrimack St to Market St, Shattuck St to Prescott St.
E3	Jackson St to Appleton St, Marston St to Central St, including Elliott
E4	Salem St to Merrimack St, Pawtucket Street to Cabot
North 1	Jewett St to Bridge St, Lakeview Ave to W. Sixth S
N2	Bridge St to Read St, First St Blvd to Sixth St
N3	W. Sixth St to Hamel Pl, Exeter Street to Ennel Street
N4	High St to Willow St, Chestnut St to Andover St
West 1	School St to Suffolk St, Butterfield St to Rock St
W2	Fletcher St to Lewis Street, Hancock Ave to Suffolk St
W3	Queen St to Grand St, Branch St to Westford St
W4	Middlesex St (1815-1990)

The researcher's evaluation revealed a number of important outcomes as a result of Lowell's SPI. Most notably:

- Reductions in property crime have been achieved in almost all of the SPI hot spots. Similar effects were observed in the comparison areas. *Table 1* below summarizes the changes in SPI hot spots as well as comparison locations
- Theft from a motor vehicle and "all other larceny" seem to be driving most of the property crime in the SPI hot spots
- Sector Captains employed a number of evidence-based practices in dealing with property crime. The most prevalent included drug enforcement efforts, collection and dissemination of data to patrol for the deployment purposes, directed patrols, and increasing traffic enforcement efforts

In Table 3 below, pre- and post-intervention outcome data for the SPI hot spots is presented, comparing these hot spots to other like-locations in the City of Lowell, followed by details on the strategies utilized to tackle drug-related property crime in each of the identified hot spots. The data for this section were provided to us by the LPD's CAIU (Meghan Ferreira and Robin Smith), and Sector Captains Kennedy, Richardson, Sullivan and Taylor, and Lieutenant Buckley, who reported to us bi-weekly.

Table 3: Changes in Property Crime Outcomes by Sector: SPI versus comparison hot spots

Property Crimes	Hot Spots			Comparison Spots		
	Pre-Intervention Period*	Intervention Period**	% Change	Pre-Intervention Period	Intervention Period	% Change
East Sector						
All Other Larceny	165	170	3	113	93	-18
Theft from a MV	100	62	-38	85	51	-40
All Property Crimes East Sector	408	392	-4	281	270	-4
North Sector						
All Other Larceny	111	113	2	71	83	17
Burglary	70	58	-17	53	47	-11
Shoplifting	73	43	-41	1	0	-100
All Property Crimes North Sector	391	320	-18	186	195	5
West Sector						
All Other Larceny	198	176	-11	62	57	-8
Burglary	102	89	-13	38	34	-11
Drug/Narcotic Violations	62	57	-8	5	7	40
Shoplifting	80	94	18	2	2	0
Theft from a MV	85	64	-25	26	9	-65
All Property Crimes West Sector	611	682	12	150	142	-5

*Pre-intervention period from September 1, 2009-June 30, 2011
**Intervention period from September 1, 2011-June 30, 2013

Outcome data by sector and hot spot

East Sector - Hot Spot Outcome Data by Sector and Hot Spot -

Hot Spots: Detail		Hot Spot Intervention Locations		Comparison Locations	
		Baseline Data*	Post-Intervention Total**	Baseline Data	Post-Intervention Total
All Other Larceny	E1	19	26	50	46
	E2	92	101	17	15
	E3	24	20	26	22
	E4	30	23	20	10
	Total	165	170	113	93
Theft MV	E1	5	11	46	25
	E2	56	27	8	3
	E3	29	13	12	17
	E4	10	11	19	6
	Total	100	62	85	51
All Prop Crimes	E1	54	68	135	128
	E2	213	189	38	38
	E3	67	57	53	72
	E4	74	78	55	32
	Total	408	392	281	270

North Sector - Hot Spot Outcome Data by Sector and Hot Spot -

Hot Spots: Detail		Hot Spot Intervention Locations		Comparison Locations	
		Baseline Data*	Post-Intervention Total**	Baseline Data	Post-Intervention Total
All Other Larceny	N1	53	51	15	22
	N2	25	28	20	14
	N3	26	31	15	10
	N4	7	3	21	37
	Total	111	113	71	83
Burglary	N1	35	25	6	10
	N2	13	16	12	10
	N3	17	16	10	6
	N4	5	1	25	21
	Total	70	58	53	47
Shoplifting	N1	72	43	0	0
	N2	1	0	0	0
	N3	0	0	0	0
	N4	0	0	1	0
	Total	73	43	1	0
All Prop Crimes	N1	239	175	38	54
	N2	74	67	50	40
	N3	57	68	41	25
	N4	21	10	57	76
	Total	391	320	186	195

West Sector - Hot Spot Outcome Data by Sector and Hot Spot

Hot Spots: Detail		Hot Spot Intervention Locations		Comparison Locations	
		Baseline Data	Post-Intervention Total	Baseline Data	Post-Intervention Total
All Other Larceny	W1	43	58	21	18
	W2	79	65	14	10
	W3	35	33	7	4
	W4	41	20	20	25
	Total	198	176	62	57
Burglary	W1	28	39	14	13
	W2	29	20	11	10
	W3	21	20	4	2
	W4	24	10	9	9
	Total	102	89	38	34
Drugs/Narcotics	W1	22	25	0	5
	W2	17	17	1	1
	W3	20	10	2	0
	W4	3	5	2	1
	Total	62	57	5	7
Shoplifting	W1	1	1	2	1
	W2	49	74	0	0
	W3	0	0	0	1
	W4	30	19	0	0

	Total	80	94	2	2
Theft MV	W1	26	26	14	3
	W2	30	27	8	6
	W3	8	3	2	0
	W4	21	8	2	0
	Total	85	64	26	9
All Prop Crimes	W1	139	175	62	47
	W2	226	225	35	35
	W3	118	114	15	8
	W4	128	168	38	52
	Total	611	682	150	142

*Baseline period = September 1, 2009-June 30, 2011
**Post-Intervention period from September 1, 2011-June 30, 2013

Offender-Based Outcomes

- Of the initial 38 offenders targeted in 2012 for the SPI intervention, 61% recidivated, with most new crimes involving some type of property crime
- Detectives have continued to increase drug enforcement and robbery investigations and follow-up in each of the 3 sectors since January 2012
- There continues to be minimal increases in soft crime arrests (e.g. harassment, loitering, pan handling, etc.) and referrals to substance abuse treatment in all sectors
- Detectives are collecting a good amount of data and are interested in improving their efforts
- Efforts to utilize Safety First as a mechanism for inter-agency strategies were less than successful, due to partner staffing changes, sporadic attendance, and lack of clear structure and purpose

Integration and Sustainability. Throughout the course of the SPI, the LPD has introduced a number of policy and practice changes. The SPI has changed the way patrol officers and supervisors approach property crime and crime committed by drug-dependent individuals. There was a desire to have patrol more engaged with the CAIU and to attend to indicators of crime and disorder quickly so that they do not materialize into large-scale crime problems that require a greater amount of resources. SPI has further reinforced the place-based strategy to crime control. Using data to identify and understand the dynamics of chronic crime locations seems to have been institutionalized. The SPI has also engaged Sector Captains in more strategic thinking and direct their attention to what issues of concern where on the horizon. This would support a more proactive patrol force. The SPI led to the LPD modifying the Compstat process so that it became a forum for strategic problem solving relative to decision-making and resource allocation. It also increased communication across all aspects of the LPD, especially with the CAIU. This occurred by having Sector Captains work more closely with CAIU, and then communication with patrol through various means – especially the internal intranet called DHQ.

The LPD has taken a leap with applying a case management model to the offender-based strategy. The department established an offender-based strategy whereas patrol and detectives identify and focus on those individuals within the community who are responsible for a large proportion of crime. The SPI changed the work of investigators to be more proactive in their work. The department also integrated the place-based, offender-based and organizational strategies into existing structures – Compstat, Safety First.

Researcher Recommendations for Place-Based Strategy: Based upon their evaluation efforts over the past two years, the researchers have offered the LPD a number of recommendations to sustain and strengthen the current SPI efforts:
- Continue the approach of identifying chronic hot spots, and individuals who are persistently committing crimes in those hot spot areas.
- Consider a more strategic review and response to the crime hot spots identified for SPI. It so happens that baseline data analysis for SPI revealed that the SPI hot spots in 2009-2010 were exactly the same hot spots as those used for the 2005 hot spot study by Braga & Bond

(2008). It seems that a more strategic, comprehensive problem solving process would possibly effect these long-standing chronic hot spots.

- SPI did not support the creation or adoption of any new or innovative problem solving strategies. The researchers recommend the LPD try experimenting with new strategies, particularly in these long-standing hot spot locations.
- Continue efforts to collect, analyze and disseminate data to Sector Captains and to Sergeants and officers in patrol
- Focus more on the involvement of frontline supervisors (i.e. Sergeants) and patrol officers. While SPI was well executed, one area for improvement would be to actively engage frontline supervisors in the design, implementation and evaluation of efforts. This would facilitate a sense of ownership for the problems, solutions and successes in these areas
- Create the mechanisms to ensure that all supervisors of patrol, and the officers that work with them, are adequately implementing a problem-solving process. Research suggests that problem-solving can be shallow, where officers and commanders are quick to jump to the response phase (and tend to employ traditional law enforcement tactics), without giving adequate attention to the analysis phase. Similarly, the assessment phase often gets shortchanged. The researchers not only recommend special attention to all phases, but we support a more enhanced problem-solving strategy. They observed some of this at play as Lowell was implementing their SPI efforts. The LPD is fortunate enough to have had a long history of problem solving. But, researchers explained that the lessons of SPI and problem solving experience must be broadened beyond commanding officers, and the LPD could more systematically promote and utilize an enhanced problem-solving process, beyond the SPI.

Through the SPI, the LPD honed our ability to identify hot spot locations; however, the LPD does recognize that the same hot spots continue to be problematic. The department will be conducting another thorough analysis of these hot spot locations to determine if long-standing hot spots can be affected by additional problem-oriented policing strategies. The department also recognizes the importance of involving Sergeants and front line patrol officers. The LPD is planning to address this and increase the training available on evidence-based strategies and problem oriented policing strategies for Sergeants and patrol officers in the future with our SPI II funds.

Recommendations for Offender-Based Strategy:
- Continue efforts to build and strengthen the offender-based strategy. Much groundwork has been established but there is a need to closely monitor and continue to improve this SPI strategy
- Identify specific goals of a targeted offender law enforcement strategy. For example, a significant number of offenders in the SPI program recidivated. Was this a goal – to catch offenders in subsequent criminal behaviors? Or, is the goal to reduce offending? Without clear, actionable and measurable goals, this outcome will remain obscure
- Consider investing in additional data analysis of investigator data. There is an abundance of data available that could inform how the LPD interacts with offenders, but there is currently little capacity to use existing data to its full potential

- Reconsider the use of Safety First as a way to expand the targeted offender strategy and build external resources and support (even beyond criminal justice) for offender crime reduction
- Given the positive direction these efforts are taking, a natural next step is to deliberately bring together patrol with investigators to identify opportunities for communication and coordination of efforts.

Prior to the SPI, the LPD had never engaged in specific offender-based strategies. The LPD is working to institutionalize these strategies within the department. The department will work on developing goals for each targeted offender, as the researchers suggest. Through SPI, the department has recognized the need to revamp Safety First. This project allowed the LPD to reinvigorate the Safety First group to serve as more formal communication, collaboration and problem-solving forum. Safety First is an interagency working group, which has been in place over ten years, but had recently lost focus. The lessons and results of the SPI work has been motivational in terms of reinvigorating the group to be more effective in discussing crime prevention and reduction efforts.

Recommendations for Organizational Change:
- Improve the technical challenges associated with DHQ so that those working in the field can easily input and access data for decision-making. For example, while many note the value of having offender profiles front-and-center on DHQ, they also report compatibility issues between posting photos, and downloading information. The existence of the photos is causing too much delay in accessing other information
- Integrate SPI concept training into formal organizational policies and practices (e.g. in-service), whenever possible. The researchers suggest additional investment in promoting evidence-based practice as a key take-away from the SPI
- Researchers recommend the LPD systematize the SARA process and introduce formal project management behaviors within this framework. For example, clear articulation and documentation of the activities, timelines, goals, expectations and measures for each problem and each phases of the SARA process would go a long way in changing the culture of the LPD to a better developed problem-solving organization. Research suggests that SARA is a challenge to implement because not enough attention is focused on each step. Researchers think Lowell is well positioned to tackle this challenge and create an institutionalized problem-solving culture.

The LPD is currently working to address the technical challenges associated with DHQ and will continue to do so with SPI II funds. The department is working to institutionalize evidence-based policing practices at in-services training.

Summary and Conclusions. The Research Team used a multi-method approach to evaluating the Lowell SPI, with process and outcome evaluation objectives serving as a common theme. A quasi experimental design was utilized to examine, analyze and compare Lowell's specific property crimes and response strategies. For the place-based strategies, the CAIU identified like hot spots and assigned them as comparison spots to achieve a matched-pair design. In an effort to conduct an evaluation of the offender-based strategies, qualitative interviews and meetings with

key personnel in addition to generating surveys and databases to quantitatively evaluate implementation efforts and crime outcomes data.

The evaluation found that reductions in property crime were achieved in almost all of the SPI hot spots, however, similar effects were observed in the comparison areas. Theft from a motor vehicle and all other larceny seems to drive most of the property crime in the SPI hot spots. Sector Captains employed a number of evidence-based practices in dealing with property crime. The most prevalent included drug enforcement efforts, collection and dissemination of data to patrol for the deployment purposes, directed patrols and increasing traffic enforcement efforts.

Of the initial 38 offenders targeted in 2012 for the SPI intervention, 61% recidivated, with most new crimes involving some type of property crime. Detectives have continued to increase drug enforcement and robbery investigations and follow-up in each of the 3 sectors since January 2012. There continues to be minimal increases in soft crime arrests (e.g. harassment, loitering, pan handling, etc.) and referrals to substance abuse treatment in all sectors. Detectives are collecting a good amount of data and are interested in improving their efforts. Efforts to utilize Safety First as a mechanism for inter-agency strategies were less than successful, due to partner staffing changes, sporadic attendance, and lack of clear structure and purpose.

The LPD's most innovative aspect of the SPI was the offender-based strategy. This is one aspect of the project that the department hopes to provide recommendations for other departments addressing similar issues. The department established an offender-based strategy whereas patrol and detectives identify and focus on those individuals within the community who are responsible for a large proportion of crime. The SPI changed the work of investigators to be more proactive in their work. The department will continue to improve the internal communication system known as DHQ. While this is a potentially powerful tool for sharing information and coordinating efforts, users have noted there are additional improvements needed (e.g. photos are making the system too slow). The SPI has allowed the LPD to build this system, and utilization is becoming the norm at the LPD.

One of the biggest takeaways from the SPI project is that the department needs to review the areas that are chronic hot spots over the past several years and figure out exactly what is driving the crime in these areas and what types of long-term solutions can be implemented successfully in these areas. The department had some success with problem-oriented policing strategies in these locations, but more must be done. Additionally, the department needs to identify new ways to institutionalize evidence-based policing practices into everyday patrol functions. The department is focusing our SPI II efforts on training and increasing the capacity of front line officers to routinely implement these practices.

The LPD maintained a close relationship with CNA throughout the project. Even when travel opportunities were limited, CNA worked to ensure that communication between the SPI site and their agency was consistent and fluid. Additionally, there were several opportunities to learn from other SPI sites. The LPD felt that CNA and BJA provided several forums for the LPD to also explain our strategies, troubleshoot challenges and highlight our successes.