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New Haven, Connecticut Smart Policing Initiative

Employing Evidence-Based Policing Strategies to Engage the Community and Reduce Crime

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Spotlight Report

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Smart Policing: Research Snapshot

The New Haven, Connecticut, Department of Police Service (NHPD) received a Smart Policing Initiative (SPI) grant at a time when local violent crime levels were higher than they had been since the mid-1990s and NHPD was operating at reduced force as a result of budget cuts and retirements.

Partnering with a researcher at the University of New Haven, the New Haven SPI team sought to address rising violent crime rates and the number of local shooting incidents by increasing the use of data-driven decision making in daily police operations. The SPI project would employ supplementary foot patrols in the most violent neighborhood in the city, an area called "Newhallville." The intervention would address violence and gun discharges, while also enhancing community engagement in Newhallville. NHPD specifically focused on:

- Outreach and community engagement, especially with block groups;
- Data-driven, enhanced foot patrols; and
- A modified problem-oriented policing (POP) technique.

In July 2013, NHPD began the 13-week intervention of supplementary foot patrols in Newhallville. The department's Crime Analysis Unit (CAU) prepared daily "flash sheets" for officers and residents who requested them. These flash sheets were bulletins containing maps, crime data, and other information provided by the CAU and other sources. The SPI officers were strongly encouraged to make informal contact with community members as frequently as possible.

Through observation and interaction with Newhallville residents, the officers identified insufficient street lighting and neglected properties as two persistent neighborhood problems. And working in supervisory roles, the district manager and sergeant leveraged relationships with community groups and other city agencies to address these problems.

Crime trends in Newhallville were compared to those in four comparison neighborhoods chosen for their similar histories of violent crime. Comparisons occurred at the neighborhood level and in high-risk areas (as defined through Risk Terrain Modeling). Over the 13-week intervention period, Newhallville experienced a 19-percent reduction in violent crime neighborhood-wide and a 36-percent reduction in violent crime within the high-risk areas. In the 13 weeks following the intervention, there was a further 41-percent violent crime drop at the neighborhood level and a 56-percent drop in the high-risk areas. Newhallville was the only neighborhood in the study to see period-over-period reductions in violent crime at both levels. While significant differences in violent crime were found between Newhallville and some of the comparison neighborhoods, caution should be exercised in interpreting the data.

The New Haven SPI experience presents several lessons learned for both police managers and line-level officers. For managers, the POP model is adaptable, and departments can modify it to fit challenges or situations that are unique to the local community, as New Haven did. Additionally, projects like SPI need champions, because personnel changes can challenge project continuity and support. For line-level officers, the New Haven SPI revealed that officer input and activity in intervention implementation along with accurate data collection and feedback loops are vital. Finally, and because lasting change takes time, managers should ensure that line-level officers have access to data, as well as to open communication channels, for an active feedback loop.

The New Haven, Connecticut, Smart Policing Initiative: Employing Evidence-Based Policing Strategies to Engage the Community and Reduce Crime

Christopher M. Sedelmaier and Natalie Kroovand Hipple

Introduction[1]

In fall 2011, the Bureau of Justice Assistance awarded a Smart Policing Initiative (SPI) grant to the New Haven, Connecticut, Department of Police Service (NHPD) and Dr. Christopher M. Sedelmaier, its research partner at the University of New Haven. The New Haven SPI team sought to address rising violent crime rates in New Haven by increasing the use of data-driven decision making in daily police operations.

At the time that NHPD received the award, violent crime in the city had reached record levels. In 2010, New Haven recorded 133 shootings, and in 2011, the city experienced 34 homicides—the most in New Haven since 1994. At the same time, NHPD was operating at reduced force stemming from budget cuts and retirements. The department had to find ways to better leverage the resources available to it in order to address the violence. NHPD members viewed making more and better use of crime analysis products in the field as an important part of the solution.

To that end, NHPD launched an initiative to address the violence and restore community-oriented policing practices in the department. The SPI project would focus on, as data indicated, the most violent neighborhood in the city, an area called "Newhallville." The strategies employed would focus on addressing violence and gun discharges, while also enhancing community engagement in Newhallville. NHPD specifically focused on:

- Outreach and community engagement, especially with block groups;
- Data-driven, enhanced foot patrols; and
- A modified problem-oriented policing (POP) technique.

In February 2013, NHPD promoted 19 officers to the rank of sergeant, all of who received training in the basic premises of the problem-oriented policing (POP) philosophy and the Scanning, Analysis, Response, and Assessment (SARA) model for problem identification and resolution.

[1] Sedelmaier, C. M. "New Haven, Connecticut Smart Policing Initiative Report." University of New Haven, 2014.

I. The Problem

With a population of roughly 130,000 permanent residents, New Haven is Connecticut's second largest city. Home to several universities and hospitals, and sitting at the junction of I-95 and I-91, the city serves as a major activity hub for south-central Connecticut. In the years leading up to the SPI grant award, violent crime had been on the rise in New Haven. New Haven was typical of other urban communities across the country, as it experienced an upsurge in youth violence, with an emerging "gang culture" identified by law enforcement and school officials. A relatively high number of reported violent crimes had persisted over the five years leading to the grant period, including 2011, which witnessed the highest number of murders since the early 1990s. In addition, New Haven's murder rate in 2011 was the highest in the state at 26.2 individuals per 100,000.

Equally troubling was the number of unlawful discharges of firearms within city limits (Table 1). In 2011, New Haven experienced 433 firearm discharge incidents, including 148 shootings (34 percent). The numbers were especially concerning in District 7, which contains the Newhallville neighborhood. District 7 led the city in firearm discharge incidents in every year since 2007. Clearly, any attempt to decrease the violence in New Haven needed to include Newhallville as a priority area.

Table 1. Firearm discharges citywide, broken out by district

Shots Fired (NHPD Crime Analysis Unit)	2006	2007	2008	2009	2010	2011	2012	District Totals
District 1	12	11	16	13	7	12	7	78
District 2	39	31	38	37	33	17	22	217
District 3	44	53	53	50	60	40	21	321
District 4	58	81	70	76	87	102	35	509
District 5	47	30	32	22	24	13	17	185
District 6	52	57	46	56	34	15	7	267
District 7	**74**	**111**	**163**	**198**	**127**	**108**	**81**	**862**
District 8	95	90	134	67	50	50	29	515
District 9	35	44	36	32	31	23	29	230
District 10	46	67	70	71	96	53	32	435
Yearly Totals	**502**	**575**	**658**	**622**	**549**	**433**	**280**	**3619**

The NHPD Crime Analysis Unit (CAU) used data to determine that Newhallville should be the focus area for the SPI project. The neighborhood's share of violent crimes in New Haven increased from 8.5 percent during 2002–2006 to 9.7 percent during 2007–2011. Newhallville's share of firearms-related crimes (i.e., shootings, robberies with firearms, and unlawful firearm discharges) increased from 10.9 percent during 2002–2006 to 18.2 percent during 2007–2011. In the five years before the project's inception, about 25 percent of all non-fatal shootings in the city of New Haven took place in Newhallville. Similarly, about 27 percent of all unlawful firearm discharges and 4 of the 17 murders (24 percent) that occurred in New Haven in 2012 took place in this neighborhood. Public calls for police service also increased, from 6.9 percent to 7.4 percent between 2010 and 2012.

The neighborhood is home to three major gangs, and recidivism among ex-offenders living in Newhallville is a major contributor to local crime problems.

The CAU generated violent crime location quotients (LQCs) for each neighborhood in the city, based upon violent crime figures from 2002 to 2012. LQCs are ratios that allow the crime distribution in a smaller geographic area, such as a neighborhood or smaller unit of the city, to be compared to a reference or base area's distribution—in this case, the entire city of New Haven. An area with an LQC of 1.0 would have a ratio of violent crime versus total crime in the same proportion as the city as a whole; scores above 1.0 would indicate that the area's share of violent crime is disproportionately high relative to the rest of the city, while scores below 1.0 would indicate that the area's share of violent crime is disproportionately low relative to the rest of the city.

Newhallville was chosen as the implementation area because it had a violent crime LQC of 1.72, the highest of any neighborhood in the city. In other words, Newhallville had 72 percent more violent crime relative to the rest of New Haven, despite the fact that the neighborhood is only 3.3 percent of the city's total geographic area.

LQC scores were also useful in choosing appropriate comparison areas for assessment—each chosen neighborhood scored higher than 1.0. The four neighborhoods selected as the comparison sites—Fair Haven, Hill, West River, and Edgewood—share some similarities with Newhallville. Summarized in Table 2, the neighborhoods are mostly similar in terms of population density, percentage of residents living below the poverty line, and median income. However, the most striking similarity between the five neighborhoods is the large percentage of minority residents.

Table 2. Newhallville and comparison neighborhoods (italicized) at a glance*

	Newhallville	*Fair Haven*	*West River*	*Edgewood*	*Hill*
Area (square miles)	0.852	1.269	0.746	0.396	1.573
Population	9,489	15,613	3,964	4,476	16,016
Density (per square mile)	11,137	12,303	5,314	11,303	10,182
Violent Crime LQC (2002–2012)	1.72	1.24	1.30	1.19	1.26
Median Income	$39,048	$37,968	$35,286	$40,073	$32,136
Percent living below poverty line	25%	32%	23%	19%	41%
Percent Black	85%	21%	63%	55%	37%
Percent Hispanic	9%	63%	22%	16%	51%
Percent Asian	>1%	>1%	1%	2%	1%
Percent White	2%	10%	11%	16%	10%
Percent Other	4%	2%	3%	4%	2%

* All figures are from the 2010 Census unless noted otherwise

II. The Response

Early in his tenure, New Haven Police Chief Esserman affirmed his support for community policing, declaring that officers would return to walking beats and would increase the frequency and quality of non-enforcement contacts with community members. Furthermore, the chief was a proponent of the CompStat model and data-driven decision making, and he sought to better incorporate the department's crime analysis capabilities into its day-to-day patrol functions. In support of these goals, the SPI team was directed to reduce violent crime and gun offenses in Newhallville by using **a combination of directed foot patrol, POP, and community outreach and engagement**. NHPD's SPI approach was built upon the following four pillars:

1. Employing POP techniques to engage and involve community members in identifying and solving neighborhood problems;
2. Implementing the use of the SARA model among officers and using crime analysis products (e.g., daily flash sheets) to assist them in making data-informed decisions in the field;
3. Using Risk Terrain Modeling (RTM) to identify high-risk areas and direct officer deployment and activities during foot patrol; and
4. Providing stable, consistent leadership through a dedicated district manager (sergeant) and support team to direct problem-solving measures and bring resources to bear upon problems identified by the patrol officers.

Community Outreach and Collaboration

One of NHPD 's major initiatives involved an effort to re-engage the community in addressing neighborhood problems. The city has a strong network of block watches, civic groups, and community management teams, but NHPD's communication with those groups had waned over time. NHPD sought to rejuvenate connection with this network of community groups by hosting an open meeting at its headquarters for all community representatives to discuss any issues and requests that they may have. The ultimate goals of this inaugural meeting, held in June 2013, were to strengthen existing relationships between NHPD and neighborhood groups, and to forge new ones throughout the community. The department extended invitations to 93 known active block watch and community management groups.

Following the initial meeting, NHPD hosted bi-monthly gatherings at its headquarters to maintain contact with these community groups. As of January 2014, NHPD had been in contact with 133 block watch and community management team groups citywide—a 43-percent increase over the initial number from seven months earlier. Included among those groups were 11 block watch groups in Newhallville.

After re-establishing contact with the community groups, NHPD sought to bolster the groups' capabilities by making more resources available for their use. The department distributed block watch guides to all active block watch groups, as well as to individuals wishing to start new groups. These guides contained information covering the basics of starting and effectively administering a block watch group, including, but not limited to, sample agendas and home security tips. NHPD encouraged communication among neighborhood groups by creating a directory of block watch captains.

Finally, the department began distributing a daily flash sheet to the community groups and any other interested parties. As of May 2016, the distribution list includes over 200 individuals, up from the 133 in January 2014. The flash sheet contains maps and information tailored to the recipient's neighborhood. In cases where the groups have provided information regarding events in their neighborhood to NHPD, this information is also incorporated into the flash sheet.

In Newhallville specifically, the SPI officers were encouraged to make informal contact with community members as frequently as possible, and it was important for the SPI officers to be visible and accessible to Newhallville residents. SPI officers were required to report the number of informal contacts with the community on their shift activity logs (Table 3). On average, officers reported making 18 contacts per four-hour shift. Anecdotally, the officers frequently noted in their logs that residents and business

owners were happy to see a police presence in the neighborhood, and they hoped that the visible presence of NHPD officers would continue. The district manager reported that it appeared the officers were gaining trust through their campaign of friendly, informal interaction. Moreover, the district manager noted that during the SPI project, citizens increasingly provided informal tips about criminal activity to the officers walking in the neighborhood.

Table 3. Officers' community contacts and activity counts per shift, with per-shift means*

Type of Contact	Min	Max	Sum	Mean	Standard Deviation
Citizen Contacts	0	85	3269	17.86	13.906
Faith-Based Organization Contacts	0	3	62	0.34	0.691
Local Business Contacts	0	28	621	3.39	3.003
Neighborhood Organization/Block Watch Contacts	0	4	32	0.17	0.516
Youth Club/Organization Contacts	0	12	37	0.20	0.959
Field Interviews Conducted	0	25	242	1.32	3.193
Call Responses	0	3	73	0.40	0.654
Arrests Made	0	1	6	0.03	0.179
Tickets Issued	0	2	7	0.04	0.243
Violent Crime Incident Responses	0	1	8	0.04	0.205
Property Crime Incident Responses	0	1	4	0.02	0.147
Other Crime Incident Responses	0	3	34	0.19	0.479

* Total shifts = 183

Risk Terrain Modeling

The CAU used RTM to determine the areas within the target and control neighborhoods that showed the highest risk for violent crime. The CAU and the research partner agreed that this method would be preferable to NHPD's standing practice of using the more traditional method of defining high-risk areas through pin mapping alone. Pin maps rely solely upon the location of past offenses to predict future incidents. While this gives officers a good starting point, it presents the events without any situational context. By contrast, RTM creates an aggregated risk surface (or layer) based on the presence and intensity of factors that criminological theory and practical policing experience suggest may make an area more at risk of experiencing the offenses of interest. That is, RTM looks at crime attractors and the "influence" a physical place or the environmental

characteristics of a place has on crime relative to the local context. As such, the officers are doing more than just "chasing the dots around the map"; the risk layers direct officer activity into areas characterized by the confluence of several risk factors such as convenience stores, gas stations, ATM machines, and gang territories. Incidents may move from week to week, but the risk layer is relatively stable, focusing police activity in areas where current criminological research suggests that it may have the most impact.

The CAU created risk layers for Newhallville and the comparison areas using the following variables:

- 4.5 years' worth of NHPD incident data, including both violent and property offenses;
- Quality-of-life calls for service (e.g., gunshots, noise, drug complaints, and vandalism) over the same time period;
- The location of infrastructural services that research associates with an increased risk of offending (e.g., convenience stores, restaurants and cafes, package and liquor stores, bars, banks, gas stations);
- The location of bus stops;
- The location of schools; and
- The known residential addresses of ex-offenders (parolees, probationers, and other former prisoners).

These risk areas accounted for roughly 21 percent of the total land area in Newhallville (86 of 405 total acres).

The CAU then paired the identified primary high-risk areas in Newhallville into two beats. Officers would either walk a beat comprising the Dixwell Avenue corridor (Areas 1 and 4 in Figure 1) or a beat comprising the Read Street/Huntington Street and Newhall Street/Lilac Street neighborhoods (Areas 2 and 3 in Figure 1). All but Area 4 included active gang territories; in the case of Area 3, nearly every included street segment was an identified gang territory.

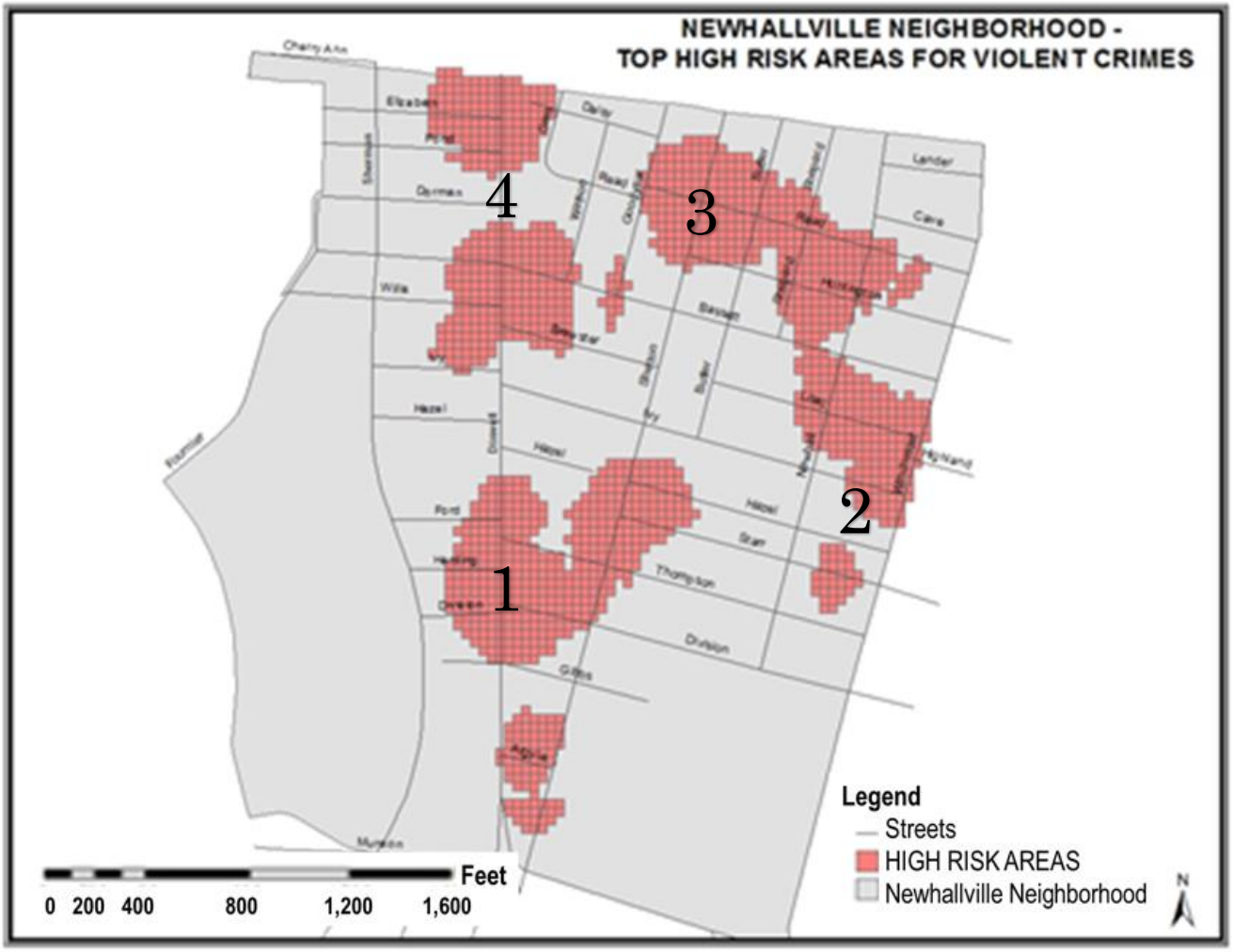
Focused Foot Patrol

In recent years, foot patrol has re-emerged as an evidence-based crime-reduction tactic (for example, the Philadelphia Police Foot Patrol[2]). As part of the effort to promote community policing in New Haven, NHPD already implemented foot patrols citywide before the start of the SPI intervention. After pinpointing the intervention targets through RTM, NHPD assigned supplementary foot patrols, working overtime, to four Newhallville areas identified as being at "high risk" for future violent crime incidents by the CAU (Figure 1). These patrols were given two tasks: engage the community and scan for problems tied to the violent crime in the area. The overtime shift timing was

[2] https://www.crimesolutions.gov/ProgramDetails.aspx?ID=234

guided by the judgment of the district manager and informed by CAU data. Shifts were four hours in duration and were distributed roughly equally throughout the days of Tuesday through Saturday, over a 13-week study period that began in July 2013. There were no Sunday overtime shifts and only six Monday overtime shifts.

Figure 1. Newhallville neighborhood – top high-risk areas for violent crimes



Most activity was concentrated in the afternoon to evening hours, with patrols assigned most often during the 1500–1900 hour (3:00–7:00 p.m.) and the 1600–2000 hour (4:00–8:00 p.m.) time blocks.

Additionally, officers working foot patrol overtime in the target areas received flash sheets, the daily bulletins that incorporated information provided by the

department's CAU and other sources.[3] For the SPI project, and with input from the newly promoted sergeants, the street-level flash sheets included information about reported offenses, open warrants, and neighborhood events occurring within the target areas and the neighborhoods in general. The flash sheets also included directory information on command-level staff and key contacts from outside agencies (e.g., referral agencies). NHPD also distributed the flash sheets' tailored maps and information to community groups and any individual who requested to be added to the distribution list.

Modified Problem-Oriented Policing

Countless police departments have used the SARA model as an effective method[4] for achieving problem-solving goals.[5] The officers working the focused foot patrols became the remote scanners for the New Haven SPI project.

These supplementary patrols were funded through overtime, which introduced a new wrinkle into the project. Police officer union rules maintain that all overtime assignments must be offered to the department at large, with first choice of assignment given to the individual at the top of the seniority list. The inability to assign a dedicated team of officers to the supplementary shifts presented considerable challenges, both as a practical matter in implementing POP practices and in terms of controlling for treatment integrity of the foot patrols. Given the constant rotation of officers through the supplementary beats (i.e., officers assigned from the overtime list), it seemed as if employing the traditional POP model would be incredibly difficult at best—how could over 100 officers, most of whom would walk three or fewer four-hour shifts over the course of the project, possibly engage in ongoing problem-solving efforts? Without a stable assignment to the Newhallville project, individual officers would have little ability to engage in problem solving, as consistency and long-term commitment are essential to such activities. Operational realities in New Haven required adopting a modified approach to POP.

Rather than placing the responsibility of the entire problem-solving effort on the individual officer, the SPI project instead placed the bulk of this responsibility onto the district manager and sergeant in charge. While individual officers rotated in and out of the target areas, the district manager and sergeant were a constant presence. Officers walking the Newhallville beats were tasked with problem identification. Some issues could be addressed immediately by the officers in the field. But when officers identified issues that could not be directly and immediately addressed, they reported

[3] Historically, the CAU created flash sheets only for use by command staff at CompStat meetings.

[4] 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.

[5] H. Goldstein. "Improving policing: A problem-oriented approach." *Crime & Delinquency* 25, 1979: 236-258.

back to either the sergeant or to the district manager, who were better positioned to engage in longer-term problem-solving efforts. At the conclusion of each shift, officers completed an activity log detailing their community outreach and problem-solving activities. This allowed the district manager, sergeant, CAU, and research partner to identify problems that NHPD could begin to address through partnership with other agencies and community members. This division of labor was an innovation born of necessity in this case, but it illustrates how the more complex aspects of POP can be shifted to supervisors with more time and resources to effectively engage in the SARA model.

In this way, the district manager and sergeant used the shift officers as "remote scanners" for the SARA process. The district manager and sergeant reviewed the officer activity logs with the research partner and CAU as part of more in-depth problem analysis, and then developed responses to the problems identified in the field. Two classes of persistent problems were identified for further action: poor lighting on several Newhallville streets and properties allowed to fall into disrepair.

Common responses to such problems as poor lighting and abandoned houses are grounded in the principles of Crime Prevention Through Environmental Design (CPTED). These CPTED enhancements often reduce the fear of crime and increase a neighborhood's sense of control. And, like POP, such changes often require partnerships with the community. To address the lighting problems in Newhallville, the district manager and sergeant adopted a multi-level approach. In the short term, beat officers were instructed to record the pole numbers of any street lights found to be in disrepair. This information was relayed to United Illuminating, the utility responsible for maintaining the lights, for repair service. After United Illuminating repaired the broken lights, beat officers identified opportunities to further improve neighborhood lighting. Ten additional LED street lights were installed on Lilac Street, identified as the darkest street in the neighborhood. In several places, street lights were impeded by overgrown tree limbs, limiting their effectiveness. The district manager contacted the New Haven Department of Parks, Recreation and Trees to request that limbs be trimmed away from existing lighting. Significant tree trimming took place on Winchester Avenue and Elizabeth Street, improving the existing neighborhood's lighting.

As the improvements to the existing lighting were in progress, the district manager and sergeant saw an opportunity to make long-term changes to lighting in the impact areas. The district manager reached out to Promise Land Initiative, a Newhallville-based coalition of faith-based organizations seeking to improve area conditions, to propose an expansion of a current lighting project to other parts of Newhallville. The district manager and

sergeant saw this as a natural fit for the violence-reduction goals that they hoped to achieve in the Newhallville impact areas. As a result, significant lighting was added to Read Street and Newhall Street.

The other frequently identified issue in the impact areas was the presence of many lots and properties in varying states of disrepair. Beat officers noted that several lots in Newhallville were overgrown and littered with refuse. Officers had been approached on several occasions by local residents who voiced their concerns about the properties. Not only were these areas unsightly, but they also presented potential opportunities for crime (e.g., unsecured vacant buildings may be used for illicit purposes) and as hazards to public health. In many cases, the problem properties were owned by absentee landlords living in other states.

Similar to the lighting issue, the district manager and sergeant recognized that this issue could not be solved by the police alone. Rather, this was another situation whereby NHPD could team with other city agencies to best address the problem. The district manager reached out to the New Haven Livable City Initiative (LCI), a city agency whose goal is to improve the quality of life in New Haven neighborhoods. Among LCI's methods for accomplishing this goal is promoting the enforcement of New Haven's housing code and public space requirements. LCI worked with the New Haven Department of Public Works to remediate overgrown and trash-strewn lots in the neighborhood. Furthermore, LCI initiated code complaints against properties in violation. Working with NHPD, the group also sought to better secure vacant buildings to prevent them from being used as staging points for crime, as well as to prevent the facilitation of future offenses.

LCI was not the only group to become involved in cleaning up Newhallville. The campus of Southern Connecticut State University (SCSU) abuts Newhallville on the northwest side of the neighborhood. The district manager reached out to the university to see if it could provide any assistance in the clean-up effort. As part of a community service project, a team of SCSU students cleaned and painted property at Lincoln Bassett School, located inside one of the high-risk areas at the intersection of Shelton and Bassett.

III. Assessment[6]

The research partner assisted NHPD in developing logs for tracking SPI officer activities during the 13-week intervention period. Once the intervention began, the research partner met weekly with the CAU and the Newhallville district manager to review Newhallville neighborhood crime statistics and to

[6] Researchers were aware of a threat to treatment integrity relating to a small group of officers who had walked six or more shifts. That is, did these officers perform differently than the officers who walked fewer shifts with regard to problem identification and activity? It appears the differences between shifts featuring frequently participating officers versus those less frequently participating are minimal at best and do not appear to be of any practical significance. Access the full final report for details.

discuss the identified problems and possible responses. Together, the SPI working group developed a plan to measure the impacts of the supplemental foot patrol on crime in the areas identified through RTM. As the intervention would last 13 weeks, the working group sought to compare the incidence of crimes of interest during the intervention to two 13-week time periods—one before implementation and the second after the conclusion of the intervention. The CAU tracked the number of major crimes (murder, robbery, aggravated assault, burglary, motor vehicle theft, theft from motor vehicles, and firearm discharges) in Newhallville, as well as in each of the comparison neighborhoods over a total of 39 weeks. Comparisons of total major crimes reported and of violent crimes were made at both the total neighborhood level and for the specific high-risk areas within each neighborhood.

Table 4. Crime in Newhallville and comparison neighborhoods, broken out by period

		Pre-Intervention	Intervention	Post-Intervention	Pre-Post Change (Percent)
Newhallville	Grand Total	73	82	49	-32.9%
	Violence Total	42	34	20	-52.4%
Hill	Grand Total	140	110	87	-37.9%
	Violence Total	38	50	35	-7.9%
Fair Haven	Grand Total	102	94	82	-19.6%
	Violence Total	41	34	34	-17.1%
West River	Grand Total	53	34	44	-17.0%
	Violence Total	14	6	15	7.1%
Edgewood	Grand Total	59	45	42	-28.8%
	Violence Total	10	10	19	90.0%

Total Crime

Newhallville's total volume of crime was most comparable to the Hill and Fair Haven neighborhoods (Table 4). West River and Edgewood, though judged appropriate comparison areas based upon their LQC ratings, experienced unusual calm during 2013 when compared to past years. Newhallville initially experienced an increase in crime from the pre-intervention to the intervention period; nevertheless, there was an overall decline of 33 percent in all crimes from the pre- to the post-intervention periods. However, there were no statistically significant differences in total crime between the five neighborhoods during each 13-week period.[7]

[7] $X^2 = 10.445$; $V = .069$

Violent Crime

There was a statistically significant difference between the neighborhoods in the number of violent offenses measured.[8] The statistical significance is based in the post-intervention differences between Newhallville and Edgewood (Table 4). While robbery, aggravated assault, and firearm discharge incidents all decreased in Newhallville during the post-intervention period, all those same offenses increased in number in Edgewood. The Newhallville decrease would appear to be driven by a reduction in firearm discharge incidents, as robbery remained stable and aggravated assaults increased only slightly. Seeing a reduction in firearm discharge incidents was encouraging, as this was one of the department's primary goals for Newhallville and a much more common occurrence in Newhallville than in any of the four comparison neighborhoods. To further underscore this point, in each of the three periods, the four comparison neighborhoods combined did not have as many firearm discharge incidents as Newhallville had.

However, these results should be interpreted with caution. During the post-intervention period, there was a violent crime decrease in Newhallville of 40 percent from the intervention period. Similar results in the post-intervention period (October 22, 2013–January 20, 2014) were found in most cases in the comparison areas, suggesting that the reductions during that period may be attributable, in part, to the onset of winter.

High-Risk Areas – Total Crime

Narrowing the focus to only the high-risk areas within each neighborhood serves to compound the issue of the low offense counts noted earlier in the West River and Edgewood neighborhoods. As was the case at the neighborhood level, the volume of offenses in Newhallville's high-risk areas was most in line with those in the Hill and Fair Haven neighborhoods (Table 5). During the post-intervention period, two of the three higher-count neighborhoods saw reductions in total recorded crime. There was a slight increase in the Fair Haven high risk areas attributable in most part to increases in burglary and motor vehicle crimes.

The greatest reductions were in Newhallville, which saw a near 38-percent reduction (intervention to post-intervention). There were no statistically significant differences between the Newhallville high-risk area counts and those of the comparison high risk areas.[9]

In Newhallville, there were decreases in each period, the sharpest of which was in the post-intervention period.

High-Risk Areas – Violent Crime

Within the Newhallville high-risk areas, all forms of violent crime decreased

[8] $X^2 = 18.669$; $V = .152$

[9] $X^2 = 9.333$; $V = .158$

Table 5. Crime in Newhallville's and comparison neighborhoods' high-risk areas, broken out by period

		Pre-Intervention	Intervention	Post-Intervention	Pre-Post Change (Percent)
Newhallville	Grand Total	38	32	20	-47.4%
	Violence Total	25	16	7	-72.0%
Hill	Grand Total	64	53	45	-29.7%
	Violence Total	25	26	14	-44.0%
Fair Haven	Grand Total	20	34	24	20.0%
	Violence Total	7	6	11	57.1%
West River	Grand Total	11	6	9	-18.2%
	Violence Total	1	0	5	400.0%
Edgewood	Grand Total	9	5	6	-33.3
	Violence Total	0	1	1	100.0

during the intervention period. Although the counts themselves are relatively small, these incidents accounted for a considerable proportion of violent offenses in Newhallville. In the pre-intervention period, nearly 60 percent of all violent offenses in Newhallville occurred within the high-risk areas. During the 13-week intervention, this figure dropped to 47 percent. A statistically significant difference ($p \leq 0.05$) was found in violent crime in the three remaining neighborhoods (West River and Edgewood were removed due to zero counts), but these results should be treated with caution.[10] While there was a substantial decrease in violent crime from period to period in the Newhallville high-risk areas, the model's significance appears to be driven in large part by the increase in robberies in Fair Haven's high-risk areas during the post-intervention period. In addition, several zero counts made meaningful analysis on violent offenses impossible when including those high-risk areas. Instead, an analysis was performed that included only the higher-count areas (Table 5).

IV. Lessons Learned

The New Haven SPI project was an ambitious attempt to make fundamental changes to NHPD's use of data in the field to inform day-to-day patrol activity. This was a process that was beset by challenges from the beginning. At the time that the SPI grant was awarded, NHPD was a department on the cusp of a major leadership change. Not only was the entire upper command, including the chief's position, changed in the first six

[10] *$X^2 = 10.365$; $V = 0.194$*

months of the project, but NHPD was also shorthanded in terms of uniformed personnel for the duration of the project.

Compounding these changes were layoffs of sworn officers and a series of retirements. Efforts to effect lasting organizational change are substantially impeded when the organization itself is in a constant state of flux.

In conclusion, the New Haven SPI offers a number of important lessons learned for police managers and line officers, described below:

For the Police Manager

Projects need champions; use a supervisor for consistency.

One of the biggest challenges faced early in the project was the unsettled nature of the department after a change in leadership. At one point or another in the project, no fewer than three assistant chiefs had been the point person for the SPI project. Until the situation settled, it was difficult to proceed, as priorities could change in short order. Therefore, the project was somewhat in a state of flux during the early days. However, once assignments settled, the project quickly gathered steam. This was due in large part to finding players with solid stakes in the project.

Once the assistant chief was in charge and the district manager, who was the project supervisor, was in place, the stability necessary to proceed was present.

"With union rules in hiring overtime, we utilized the project supervisor to be the constant within the project. The officers would document the observations and suggest ideas to better the community, and the project supervisor would be tasked with following up and making the suggestions happen. The program relied heavily upon the observations of the beat cops, but they must then be followed closely and in a timely manner by the supervising officer. It was a great team collaboration and interesting strategy to work within the union contract."

- Sgt. Roy Davis, NHPD, on using a supervisor for consistency

While the New Haven SPI did a great deal of good, a program such as this would likely enjoy even more success with greater continuity in personnel.

The front line needs access to data.

Having access in the field to crime statistics and data regarding current neighborhood patterns not only helps officers make informed decisions, but it also provides a stake for the officer in the data-gathering process. Seeing the benefits of having good data may encourage officers to engage in more—and more careful—data gathering while in the field. The use of flash sheets takes the

data that only command level officers are exposed to during CompStat meetings and puts them in the hands of street-level supervisors and line-level officers. The 19 officers promoted to sergeant in February 2013 were given the opportunity to assist in redesigning the flash sheet in ways that they felt would better support their daily operations.

Active feedback loops are essential.

Ensuring an active feedback loop throughout the chain of command can foster vested interest in a crime-reduction strategy at all levels of the department and, ultimately, contribute to successful implementation. Incorporating feedback into the flash sheet design was just the beginning of the feedback loop at NHPD. The sergeants were also empowered to encourage their officers to use POP and SARA techniques out in the field. An active feedback loop allows line-level supervisors to make adjustments by giving them the responsibility and authority to incorporate changes revealed in the response and assessment parts of the SARA model.

"From a law enforcement perspective, it is an interesting concept to use accurate and timely crime statistics to maneuver walking patrols into the higher-crime areas in an attempt to reconnect with the community, as well as address violent crime. To see the concept work was even more promising for future crime-prevention tactics within New Haven."

- Sgt. Roy Davis, NHPD, on data-driven policing

Obstacles can create innovation.

The modified POP model used in New Haven was initially conceived as a "work-around" measure to address the fact that it would be impossible to keep a consistent team of officers in the field for the duration of the project. The SPI team modified the basic POP model to place deeper responsibility for developing solutions to the identified problems with those who could be a more consistent presence. The longer the SPI team had to think about the idea the less it seemed like a stop-gap measure and more a plan of action that was better suited to the operational realities NHPD was facing. A future site's internal issues or quirks may provide the impetus for innovation beyond the original intent of the project.

Lasting change takes time.

Changing organizational culture is much like turning a cruise ship around in a tight harbor—a slow process requiring a long series of small adjustments. New Haven's SPI was funded under Area 3 of the 2011 SPI solicitation.[11] This particular area was for projects "seeking to inculcate evidence-based policies, procedures, tactics, and strategies throughout their organization in innovative ways that

[11] Smart Policing Initiative: FY 2011 Competitive Grant Announcement, Bureau of Justice Assistance. https://www.bja.gov/Funding/11SmartPolicingSol.pdf

> **"While we were forced to take any officer who applied for the overtime, we observed that after taking the first shift and being assigned specific jobs, the officers enjoyed the program. We saw certain officers (not surprisingly, the ones who enjoyed the idea of community policing) continue to take the overtime repeatedly, while officers who did not enjoy the community policing idea rarely took the job again."**
>
> **- Sgt. Roy Davis, NHPD, on overcoming obstacles in hiring officers within overtime contract rules**

reach beyond tactical approaches in one area of the department or the community." The intent of the New Haven SPI was, in part, to bring data-driven decision making to daily operations. With the department's commitment to exposing all levels of uniformed personnel to POP and the introduction of the flash sheet for line officers, NHPD took significant positive steps in that direction.

To expect a complete shift in the span of two years, however, is probably unrealistic. Future sites are likely to face disappointment if they anticipate wholesale change in a relatively short timeframe. Therefore, departments should set reasonable, incremental goals to achieve lasting change. Change is happening in New Haven, but at a pace that will allow it to take strong root.

For the Line Officer

Constructive feedback makes a difference.

During the POP training delivered to the 19 newly promoted sergeants, instructors tasked the sergeants with critiquing the current flash sheet and providing suggestions for making the sheet more useful to officers in the field. While the flash sheet was universally declared to be a useful product, several of the sergeants suggested adding directory information for command-level staff and key contacts from outside agencies (e.g., referral agencies) to the revised product. These suggestions are consistent with POP principles in that they facilitate communication with agencies that may be positioned to support solutions falling outside of traditional police response. Opening these lines of communication may then serve to promote innovative thinking about persistent neighborhood problems. As noted in the flash sheet example, line-level input makes a difference.

Line-level officers play a critical role in evaluation.

The reality is that the line-level officer can make or break a crime-reduction project on many different levels. Evaluation is essential for contributing to evidence-based practice in policing and criminal justice. And rigorous process and outcome evaluations are dependent on the actions of the street-level officer. The actions of these line-level officers affect everything from the fidelity of the

intervention implementation to accurate data collection. Without evaluation, it is impossible to determine the effects of an intervention with confidence, which in turn affects the proper informing of policy and practice.

Data collection is an important part of evaluation, and researchers working with police departments often depend on the cooperation of officers working on the project. The New Haven research team had some success in showing NHPD officers that their data-collecting efforts had meaning beyond just generating a report—it was being used to help NHPD be more effective. And, by the end of the project, NHPD had a real stake in improving the data quality.

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