The Los Angeles *Smart Policing Initiative*: Reducing Gun-Related Violence through Operation LASER

Smart Policing: Research Snapshot

The Los Angeles Smart Policing Initiative (SPI) sought to reduce gun-related violence in specific neighborhoods in the city of Los Angeles, through application of the SARA problem-solving model—Scanning, Analysis, Response, and Assessment. As part of the scanning phase, the LAPD and its research partner examined gun-related crimes by Division and by Reporting District for 2011. In 2011, the Newton Division was ranked third in gun violence among the 21 Divisions.

The Los Angeles SPI team next sought to identify specific areas for intervention in the Newton Division, employing a geographic analysis of data on gun-related crimes, arrests, and calls for service over a six-year period (2006-2011). The location-based analysis resulted in the identification of five large hotspots.

Once the target areas were identified, the Los Angeles SPI team developed their intervention strategy, called Los Angeles' Strategic Extraction and Restoration Program (Operation LASER). Established in September 2011, Operation LASER's overall goal is to target with laser-like precision the violent repeat offenders and gang members who commit crimes in the target areas. LASER involves both location- and offender-based strategies, most notably the creation of a Crime Intelligence Detail (CID). CID's primary mission centers on the development of proactive, real-time intelligence briefs called *Chronic Offender Bulletins.* The bulletins assist officers in identifying crime trends and solving current investigations, and they give officers a tool for proactive police work.

The Los Angeles SPI team assessed the impact of Operation LASER using Interrupted Time-Series Analysis. In particular, the team analyzed monthly crime data for the Newton Division and 18 other divisions from January 2006–June 2012. Results show that Part I violent crimes, homicide, and robbery all decreased significantly in the Newton Division after Operation LASER began. After the program was implemented, Part I violent crimes in the Newton Division dropped by an average of 5.4 crimes per month, and homicides dropped by 22.6 percent per month. Importantly, the crime declines did not occur in the other LAPD divisions, which provide strong evidence that Operation LASER caused the declines in the Newton Division.

The Los Angeles SPI experience offers a number of lessons learned for both police managers and line officers. The initiative underscores the value of the SARA model as an evidence-based framework for crime control, and it highlights the central role of both crime analysis and technology in data-driven decision-making. The Los Angeles SPI invested heavily in the relationship between line officers and crime analysts, and the investment paid off in sizeable reductions in gun-related crime in the target areas. The initiative also demonstrates the importance of focusing intervention strategies on both people and places to achieve success in crime control and prevention.

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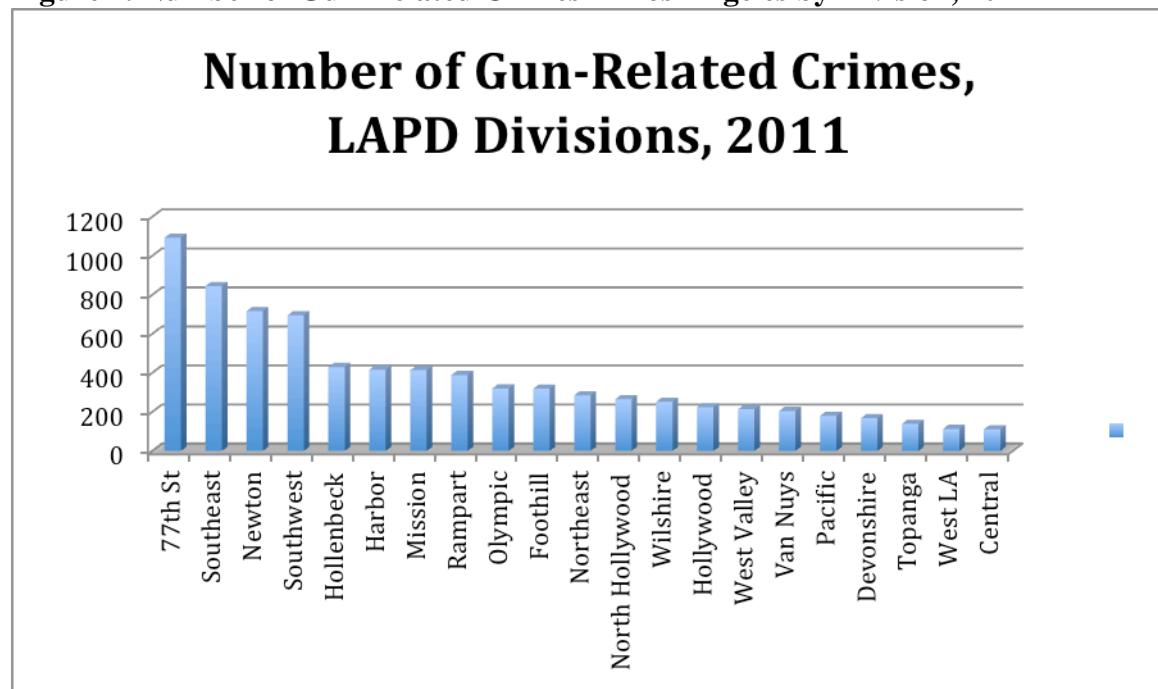
I. INTRODUCTION

The Los Angeles Police Department (LAPD) and its research partner, Justice and Security Strategies, Inc. (JSS; led by Dr. Craig Uchida), sought to reduce gun-related violence and crime in specific neighborhoods in the Newton Division, one of 21 areas the LAPD serves. The Los Angeles Smart Policing Initiative (SPI) team selected this division because it has consistently ranked among the top three Divisions for the number of shootings and shooting victims over the last six years, and because there are more than 40 active gangs in the area. The Los Angeles SPI team sought to address gun violence in the Newton Division through a data-driven, evidence-based approach that incorporated both place- and offender-based strategies. The Los Angeles SPI team developed their strategy, called Los Angeles' Strategic Extraction and Restoration Program (Operation LASER), using the SARA problem-solving framework—Scanning, Analysis, Response, and Assessment.

II. THE PROBLEM

Scanning

In 2011, 7,794 gun-related crimes occurred throughout the city of Los Angeles. Figure 1 shows the top generators of gun violence across the city. The Newton Division, which has a population of about 150,000 and covers nine square miles, experienced the third highest number of gun crimes among the 21 LAPD divisions.

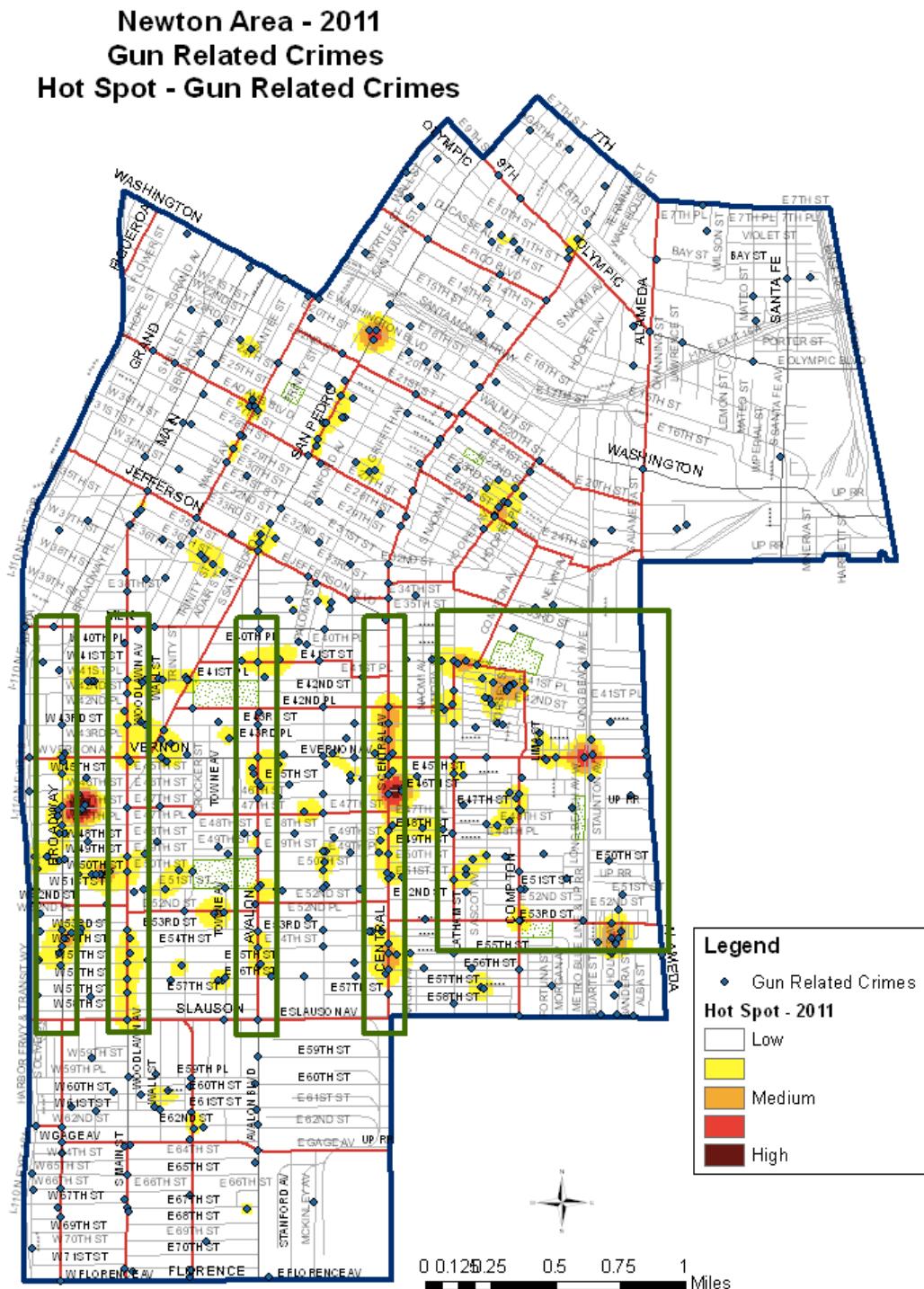**Figure 1. Number of Gun-Related Crimes in Los Angeles by Division, 2011**

Additional analysis demonstrated that gun crimes were concentrated in a small number of locations. For example, of the 1,135 reporting districts in Los Angeles, about 6 percent accounted for 30 percent of the gun-related crimes in the city, and a number of these violent reporting districts were concentrated in and around the Newton Division. In addition to experiencing a disproportionate number of gun crimes, the SPI team also targeted the Newton Division because of the prevalence of gang activity in the Division. Gangs have been active in the area for over 40 years, beginning with the *Crips* and *Blood*s in the 1970s, and continuing with Hispanic gangs like *Primera Flats*, *38th Street*, *Playboys*, and others. In 2011, the LAPD documented 44 active gangs in the Newton Division. Finally, the SPI team selected the Newton Division because the area had been given little research attention in the past and because the recently promoted Captain was receptive to using data to drive decision-making.

<u>Analysis</u>

To identify specific areas for intervention, LAPD crime analysts in the Newton Division and in the Real-time Analysis and Critical Response Division (RACR), along with JSS, analyzed crime data to identify the top locations of gun violence in the Newton Division. Analysts examined the locations of crime incident and arrest data, as well as calls for police service, over a six-year period (from 2006 to 2011). Specifically, the SPI team focused on any Part I or Part II crime and arrest that involved a firearm, including drive-by shootings, shots fired, robberies, aggravated assaults, homicides, gang-related crime (with a firearm), drug offenses with a gun, and vandalism with a gun. For calls for service, the SPI team developed a rigorous protocol that flagged calls for crimes, as well as incident code descriptions that included 'shot' or 'gun' in the text fields.

The SPI team then used spatial analysis (in ESRI's ArcView) to create hotspot/density maps of the locations of gun crimes for each year. The six-year location-based analysis resulted in the identification of five large hotspots, shown in Figure 2 (the four narrow rectangular boxed areas, and the wider rectangular boxed area). From left to right, the first four hotspots are business corridors along major arteries in the Newton Division: Broadway, Main, Avalon, and Central Avenues. The fifth, larger hotspot is designated as a Community Law Enforcement and Recovery Program or "CLEAR" area. In 1995, the city of Los Angeles identified a total of nine CLEAR sites based on the level of gang activity, and, since that time, these areas have received additional community and law enforcement resources. Rather than break off a piece of the designated area, the SPI team decided to adopt the already-identified CLEAR boundary for the fifth project hotspot.

Figure 2. Gun-Related Crime Hotspots in Newton Division, 2011

Newton Area - 2011
Gun Related Crimes
Hot Spot - Gun Related Crimes

Legend

◆ Gun Related Crimes

Hot Spot - 2011

- Low
- Yellow
- Medium
- High

III. THE RESPONSE: OPERATION LASER

Once the scanning and analysis phases were complete, the Los Angeles SPI team

designed and implemented their response, called the Los Angeles' Strategic Extraction and

Restoration Program, or Operation LASER. Operation LASER has five primary goals:

- Extract offenders from specific neighborhoods and areas.
- Restore peace to neighborhoods and communities.
- Remove the anonymity of gun offenders.
- Remove the anonymity of gang members.
- Reduce gun- and gang-related crime in the Newton Division.

Operation LASER is grounded in situational and environmental theories of crime. The basic

premise is to target with laser-like precision the violent repeat offenders and gang members who

commit crimes in the specific target areas. The program is analogous to laser surgery, where a

trained medical doctor uses modern technology to remove tumors or improve eyesight. First, the

area is carefully diagnosed: Who are the offenders, and where and when are they involved in

criminal activity? Plans are then developed to remove offenders from an area with minimal

invasiveness and minimal harm to the people and areas around them. Extraction of offenders

takes place in a "non-invasive" manner (no task forces or saturation patrol activities), and the

result produces less disruption in neighborhoods. Continuing with the medical analogy, by

extracting offenders surgically, recovery time of the neighborhood is faster.

Offender- and Location-Based Strategies

Operation LASER, which includes both offender- and location-based strategies, was

implemented in the five hotspot areas identified in the Newton Division. The centerpiece of the

offender-based strategies involved the creation of a Crime Intelligence Detail (CID), composed

originally of two sworn officers and one crime analyst (a third officer was added to the Detail in

January 2012). CID's mission is to gather information from all available sources to produce proactive intelligence briefs called *Chronic Offender Bulletins*.[1] The CID unit gathers data daily from each patrol shift in the Newton Division, as well as from the Bicycle Unit, foot patrol, and Parole Compliance Unit (PCU) at Newton. CID also conducts daily reviews of all Field Identification Cards (FI), Citations, Release from Custody Forms (RFC), Crime Reports, and Arrest Reports from each of these entities, and then selects potential chronic offenders based on pre-determined criteria. Once CID has identified probable offenders, the Detail conducts more in-depth analyses of those individuals to confirm that they have been appropriately identified (e.g., review of each individual's criminal history, gang affiliation, previous detentions, and other factors).[2]

If an individual meets the criteria, CID prepares a *Chronic Offender Bulletin*. The bulletin contains pertinent information on each individual, such as description, physical idiosyncrasies (tattoos), gang affiliation, prior crimes committed, parole or probation status, and locations where the individual was stopped in or near the Newton Division. The bulletins are disseminated to all supervisors, officers, and detectives via an internal computer drive that only sworn personnel can use. Each *Chronic Offender Bulletin* is then placed into an online folder based on the location of where the individual was stopped (usually the Reporting District) in the Newton Division. The bulletins, which are updated every two months, are accessible through the officers' patrol car computers. The bulletins are intended to assist officers in identifying crime trends and

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[1] The Los Angeles City Attorney has approved the creation, use, and dissemination of the bulletins.

[2] The Palantir platform that LAPD uses allows law enforcement personnel to search multiple databases in one place. The program can map information, make associations among suspects and persons of interest, and aggregate data across Divisions, Bureaus, and the whole department. Palantir is described in greater detail in the last section of this Site Spotlight.

solving current investigations, and to give officers a tool for proactive police work (e.g., a list of offenders to proactively seek out).

Initially, CID focused on individuals who committed robberies, weapons violations, burglaries, burglary from motor vehicles, and aggravated assaults related to gun and gang violence, though the primary focus soon turned to violent gun offenders. From July 2011 through June 2012, CID created 124 *Chronic Offender Bulletins*. Additionally, CID officers and the SPI research partner established consistent and uniform criteria to rank-order chronic offenders. The scheme assigns additional points based on known risk factors:

- 5 points if the individual is a gang member;
- 5 points if the individual is on Parole or Probation;
- 5 points if the individual had any prior arrests with a handgun;
- 5 points if the individual had any violent crimes on his rap sheet; and
- 1 point for every quality police contact in the last two years (2009-2011).

The worst offender had 31 points, and the top ten all had more than 25 points. These top ten chronic offenders became the primary targets for patrol and special units, who employed traditional enhanced surveillance, as well as License Plate Readers, in probable offender locations. By August 2012, 87 of the 124 identified chronic offenders (70 percent) had been arrested at least once.

The Los Angeles SPI team also conducts location-based strategies in each of the five identified hotspots. These include:

- Directed patrols—Patrol officers are given "missions" to work the areas, watching for criminal activity at specific times and in specific locations;
- Bike officer and foot patrol missions in the hotspot corridors; and
- Use of closed-circuit television (CCTV) cameras.

All officers were asked to record the additional time they spent in the five hotspots as a result of Operation LASER. The SPI team examined officers' reports to calculate SPI project time across four-week periods (LAPD calls these "deployment periods"), from September 2011 through August 2012. During this time, officers spent an additional 8,900 to 18,000 minutes per deployment period in the five hotspots (an average of 13,326 extra minutes per period). Put another way, the hotspot corridors received 55.5 extra man hours per week, or about 8 hours per day.

IV. ASSESSMENT: MEASURING OPERATION LASER'S IMPACT

The LAPD SPI team sought to measure the impact of Operation LASER using a strong quasi-experimental, Interrupted Times Series design. The Interrupted Time Series design assesses whether the interventions in the Newton Division had an effect on crime while controlling for the previously existing trends. The SPI team examined monthly crime incident data for the Newton Division and 18 other divisions, from January 2006 to June 2012. Specifically, the analysis focused on Total Part I Crime, Part I Violent Crime, Part I Property Crime, Part I Gun-Related Crime (any Part I crime where a firearm was indicated as a weapon), and individual crimes of Homicide, Robbery, Burglary, and Motor Vehicle Theft.[3] The results from the analysis of Newton Division are presented visually in the figures below. In each graph, the solid grey line represents the observed crimes for each category for the Newton Division from January 1, 2006 to June 30, 2012. The dotted line represents the predicted crime from the

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[3] The Foothill and North Hollywood Divisions were excluded from consideration due to the fact that these divisions are currently implementing strategies from Predictive Policing and because these efforts started around the same time as Operation LASER. For more information on the Interrupted Time Series methodology, as well as the analysis and modeling techniques, see Uchida, C.D. & Swatt, M.L. (2012). "Smart Policing in Los Angeles: Preliminary Results." Washington, DC: *Justice and Security Strategies*.

various models for each crime type. The dashed vertical line, labeled "Intervention," is a

reference line for the start date of Operation LASER that occurred on September 2011 (month

69).

Figure 3A. Results for Total Part I Violent Crimes and Gun Crimes in the Newton Division

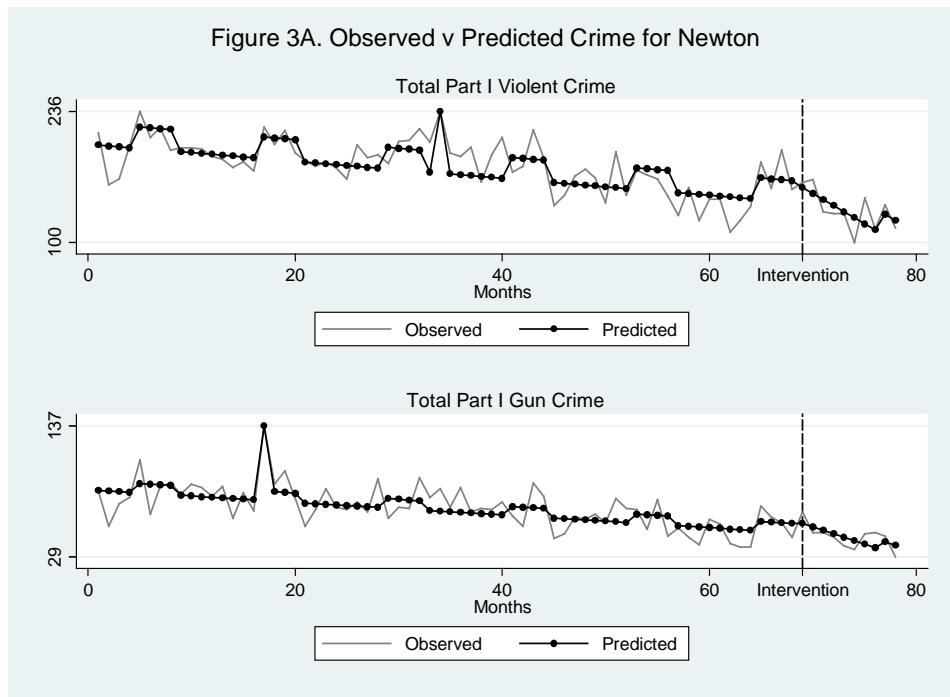Figure 3A. Observed v Predicted Crime for Newton

Figure 3A shows the results for Total Part I Violent Crimes and Gun Crimes. For Total

Part I Violent Crime, there is a pronounced downward trend after the intervention that is

statistically significant, and it suggests that the Newton Division experienced 5.393 fewer Part I

Violent crimes per month after Operation LASER was implemented. The change in the slope of

Gun-Related Part I crimes is less pronounced and did not reach statistical significance, though

this finding may be tied to the limited number of post-intervention observations (e.g., number of

months since LASER started). If the downward trend continues through the end of 2012, it will

likely reach statistical significance.

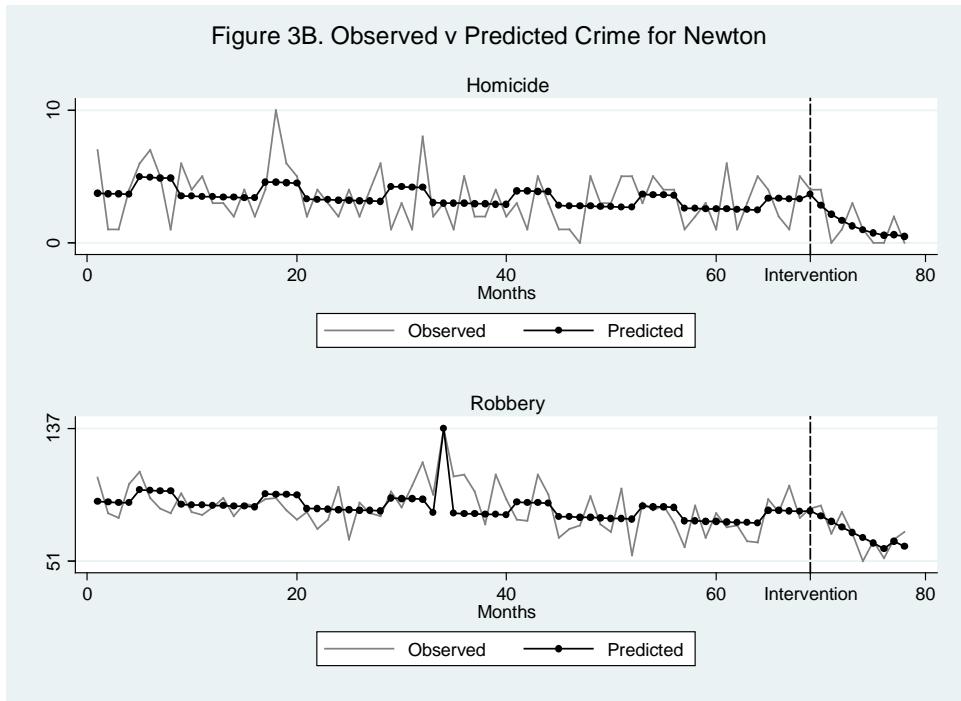**Figure 3B. Results for Homicide and Robbery in the Newton Division**

Figure 3B. Observed v Predicted Crime for Newton

Figure 3B shows the results for Homicide and Robbery, and for both types of crimes, a statistically significant decrease follows the intervention.[4] For Homicide, this translates into an additional 22.59 percent per month decrease after Operation LASER began. For Robbery, this translates into an additional decrease of 0.218 robberies per month after Operation LASER began. The SPI team also tested whether the findings in the Newton Division were unique or part of larger crime trends in Los Angeles. Similar models were run for 18 other divisions, and the

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[4] Note that there is a general downward trend for all of the crimes shown in Figures 3A and 3B. As stated earlier, one of the advantages of Interrupted Time Series Analysis is that it accounts for trends prior to an intervention and assesses whether an intervention "accelerated" the trend. This is what occurred in the Newton Division; Operation LASER led to accelerated declines in Part I Violent Crimes, Homicides, and Robbery. Although not show here, the authors also ran models for Total Part I Crime, Total Part I Property Crime, Burglary and Motor Vehicle Theft. The findings were not significant, which is likely explained by the fact that Operation LASER did not focus on property crimes.

findings from the Newton Division were not observed in those other areas.[5] This suggests that the findings in the Newton Division are distinctive, and provides strong evidence that Operation LASER caused the crime reductions in Newton.

V. LESSONS LEARNED

For the Police Manager

The SARA model provides an evidence-based foundation for crime control: There is a large and growing body of evidence highlighting the effectiveness of problem-oriented policing and of the SARA model in addressing a host of crime and disorder-related problems.[6] The SARA model's phases – Scanning, Analysis, Response and Assessment – are straightforward and logical: first, identify a problem; then, determine the cause of the problem. Once the scope, nature, and causes of the problem are understood, develop a comprehensive response to target the underlying conditions (or causes) of the problem. Last, evaluate the response to make sure that it had the intended effect on the problem. In Los Angeles, the SPI team identified gun-related violence in the Newton Division as a problem, and through crime analysis, determined that the problem was tied to chronic offenders in specific hot spot locations. The SPI team developed strategies that were both offender- and location-based, and targeted those individuals and places with "laser-like" precision. With assistance from their research partner, the Los Angeles SPI team used a rigorous quasi-experimental methodology to document significant

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[5] The analysis of other Divisions did identify four trends that were consistent with the reductions in the Newton Division. Each of these findings was explored in detail and was determined to be a statistical artifact. For more detail on this analysis, see Uchida, C.D. & Swatt, M.L. (2012). "Smart Policing in Los Angeles: Preliminary Results." Washington, DC: *Justice and Security Strategies*.

[6] See Weisburd, D. & Eck, J.E. (2004). "What police can do to reduce crime, disorder, and fear?" *Annals of the American Academy of Political and Social Science,* 593, 42-65.

reductions in Part I violent crime, homicide and robbery in the target areas (with promising

results for gun crime as well). Results from the Los Angeles SPI demonstrate that the SARA

model is an effective strategy for controlling and preventing crime.

Crime analysis is the key to data-driven decision making: The analysis phase of the

SARA model has traditionally been given short-shrift by police, who often do not have the time

or resources for in-depth analysis. However, responses that do not properly target the causes of a

problem can provide, at best, only a temporary solution. Crime analysis provides an in-depth

understanding of a problem, and it provides answers to important questions, such as: *Why is this

a problem now? What is causing this problem? Why has this problem persisted for so long at

this location? What (and who) needs to be targeted to effectively address this problem?* Crime

analysis provides the necessary guidance and direction for effective responses to these questions.

In Los Angeles, the SPI team harnessed the resources and expertise of the newly formed CID,

which used real-time, daily analysis of all available data to effectively identify offenders and

locations that were intimately tied to the violence and gun crime in the Newton Division. CID

effectively became the "eyes and ears" of the Newton Division, and provided patrol officers,

detectives, and supervisors with a road map for targeting the places and people most responsible

for crime problems in the area. The LAPD's upfront investment of resources and staff in CID

paid off in the long-term, as illustrated by Operation LASER's impact on violent crime,

homicide and robbery in the Newton Division.

Technology can improve efficiency and effectiveness: Technology has been central to the

LAPD's ability to improve efficiency and effectiveness. A new platform called Palantir enables

crime analysts, officers, and detectives to search LAPD's data in a single place and discover

associations and connections between internal and external sources. Data sources include crime

incidents, arrests, field interviews, calls for service, license plate readers, vehicle recovery, and citizen tips, allowing crime analysts and detectives to find suspects, vehicles, and locations quickly and easily.[7] When Operation LASER first began, it took the CID unit about an hour to generate a bulletin; using Palantir, the process now takes three to five minutes. Additionally, Palantir allows officers to search for license plates when they may only have three numbers or letters, and it creates visual work-ups of criminal networks and marks crime incidents on maps. This technology has been central to the success of the Los Angeles SPI.[8]

For the Line Officer

Focus on both people and places: Research has consistently shown that crime is not only tied to people, it is tied to places. For example, results from the Boston SPI indicate that many of the violent street corners and segments in the city have been crime hot spots for decades. That is, the most violent streets and corners in 1980 are still the most violent streets and corners more than 30 years later. The people living and spending time on those streets have certainly changed, but violence has persisted at those locations because of the relationship between crime and place. In fact, many of the prevailing theories of crime and crime prevention now focus on the interplay between people and places (e.g., Broken Windows, Routine Activities).

Results from the Los Angeles SPI also highlight the importance of targeting places. For the veteran line officer, the idea that certain street corners, bars, apartment complexes, and

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[7] Currently, Palantir is undergoing beta testing and refinements in the Newton Division.

[8] LAPD also makes use of predictive policing tools to guide deployment of officers into areas where they are needed the most. Using a mathematical algorithm developed at University of California, Los Angeles, LAPD has been testing the premise that property crimes (e.g., burglary and burglaries from motor vehicles) can be predicted at specific locations at specific times. Five divisions are currently testing the predictive policing model.

convenience stores are persistently violent is no surprise. However, line officers traditionally focus on the people at those locations, rather than the locations themselves. Place-based strategies that increase guardianship of places reduce opportunities for crime and increase the risk of apprehension for criminals, both of which are effective tools in the line officer's toolbox. Examples of place-based strategies include working with property and business owners to manage their properties more effectively, using technology to increase surveillance (CCTV and license plate readers), and adhering to the principles of Crime Prevention through Environmental Design (CPTED). In short, effective crime control and prevention is grounded in targeting both people and places.

Rely on your crime analyst: The 21st century law enforcement agency is data-driven, strategic, and proactive. Though line officers are increasingly expected to engage in systematic problem-solving, including problem analysis, they often lack the time, resources, and analytic skills to comprehensively examine complex problems. This is the core of the crime analyst's role, however. Line officers should develop a positive working relationship with their agency's crime analysis unit. This working relationship should be defined by open communication, responsiveness, and constructive feedback. Unfortunately, this is often not the case. In some agencies, crime analysts work out of headquarters and are isolated from line officers. In other agencies, crime analysts are civilians who are under-valued by sworn personnel. In addition, some crime analysts are overburdened with administrative tasks tied to weekly meetings and the demands of police leadership (e.g., CompStat), and they struggle to balance those demands with requests from line officers.

In Los Angeles, the SPI team invested heavily in the relationship between line officers and crime analysts. The newly formed CID has become an invaluable resource to line officers in

the Newton Division. CID produces real-time intelligence that directly guides the work of line officers. Moreover, the CID unit is able to respond to requests from officers about specific offenders and locations. In effect, the Los Angeles SPI has produced a seamless integration of crime analysis into the day-to-day activities of line officers. In simple terms, the crime analyst plays a crucial role in the 21st century police department. The closer the relationship between the crime analyst and the line officers, the more likely that those line officers will engage in data-driven decision-making, ultimately leading to more effective crime prevention and control.

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