

Buffalo Police Micro-level Hot Spot Crime Reduction Strategy

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The Buffalo Police Department is committed to reducing gun violence in our city through a community based participatory plan. This plan focuses on violent crime reduction by being Present, Visible and Engaged within the community that we see as partners. The dedicated women and men of the Buffalo Police Department partnering with various other law enforcement organizations, violence interrupters and other social organizations work daily to create safer communities for the residents of the City of Buffalo. Using real time data, we look to strategically place officers at specified locations at the right time in order to prevent crime before it happens by being a physical deterrent. The Department can accomplish this through our Micro-Hotspot Violent Crime Prevention Plan. The Plan involves two pillars of policing. First, it places officers in neighborhoods that have a higher propensity for violent crime to engage and partner with the citizens we serve. Further, placing officers in these areas demonstrates a visible presence that is intended to prevent crime. This plan has our police officers spending time outside their police car and talking with residents, engaging the community, and being participants in the community. The second pillar comes through an intelligence led approach for targeted enforcement against the known violent offenders and gun traffickers who are causing most gun crimes in our city. We analyze various data sources to make highly targeted arrests, removing those identified persons from the community. Once we accomplish the targeted enforcement actions by way of search warrant executions, we activate our Neighborhood Engagement Team officers to perform a foot patrol in the exact area where the search warrant took place to engage neighbors and notify them of why the police were there and what we are doing to provide safer communities. The Neighborhood Engagement Team is a unit of police officers and supervisors that exclusively work with the community to establish relationships and build bonds within the community. This Neighborhood Engagement Team, while engaged in foot patrol, also provides service options from the police department as well as the city.

I would like to thank New York State Division of Criminal Justice Services Erie Crime Analysis Center and Senior Analyst Kevin Schellinger, along with Lt. Craig Macy assigned to Commissioner's officer, for their diligent work on the execution of my vision for this strategy and their continued commitment to violent crime reduction.

Joseph A. Gramaglia Police Commissioner Buffalo Police Department

# The Buffalo Police Micro-level Hot Spot Crime Reduction Strategy

#### Executive Summary

Violent crime has been increasing in many cities across the United States for several years. Unfortunately, this trend has been occurring for almost a decade. Increases in violent crime, particularly gun violence, is not restricted to larger cities, such as New York or Philadelphia. Cities such as Cleveland and Detroit are also experiencing increases in gun violence.

The impact of violence and gun crimes are not equally distributed across a city. Violent crimes are often concentrated in smaller areas, such as street-segments or city blocks. The location of a city accounting for a high concentration of crime is commonly referred to as a "hot spot." In addition, within these hot spots there are often a small network of people who are considered "high risk" for committing crime.

Several empirical studies have examined the police response to crime in hot spots. These officers work in a "directed patrol" fashion, and they are responsible for spending between 10 and 15 minutes within the micro hot spots to which they are assigned. During their directed patrols, the officers are to employ different tactics. For example, some police agencies simply assigned officers to park within a hot spot, under the assumption that their mere presence would deter offenders. Some agencies had police officers conduct vehicle and pedestrian stops, issue citations, and make arrests. Some agencies responded to hot spots by having officers disperse loiterers and stop suspicious persons.

An important aspect of hot spot policing is the normal "dosage" of patrol officer time within a hot spot. The common expectation in most police agencies was approximately 15 minutes during non-specific times within a 10-hour shift.

New research indicates that hot stop dimensions or "areas" might result more efficient policing, and a greater reduction of crime, if these areas are treated as "micro hot spots." That is, rather than identify a high crime location within a few city blocks or a census tract, the police would be better served if a hot spot was concentrated within a few hundred feet.

The Buffalo Police Department's approach to dealing with violence and gun crime takes just such an approach. It uses information and intelligence generated by the Erie Crime Analysis Center to identify violent crime with 500 x 500-foot segments of the city. Further, as part of the department's hot spot tactics, Eric Crime Analysis Center produces "timed heat maps." These maps assess not only the location of shootings and other gun related crimes, but the timeframe for when these events most commonly occur. These timed heat maps are intended to focus on a 4-hour block of time when most shootings or gun crimes occurred in a micro hot spot.

In addition, police officers who are dedicated to micro hot spots are available to provide "custom notifications" between the times spent in the hot spots. A custom notification occurs when personnel from several law-enforcement agencies work together with civilian nonprofit organizations to confront a person known to be affiliated in some way with gun violence. This is intended to have a preemptive deterrent impact on potential offenders and connect these citizens with social services.

The overall goal of using micro hot spots is to provide a general deterrent effect on potential criminal activity. A further benefit of police officers engaging with the public is these informal interactions contributing to the goals of community policing. When the police interact with residents and businesspersons it improves the relationship between these groups. This leads to improved future interactions and a willingness of the public to work in other ways with the police to improve the quality of life in the neighborhood.

### The Problem:

Violent crime has been increasing in many cities across the United States for several years. In 2020, murders in the country increased more than 27 percent. This was the largest increase in murders in approximately sixty years. In 2021, the number of murders again increased, reaching a homicide rate in the U.S. mirroring the mid-1990. It is important to note that while murders and other violent crimes increased overall, most other crimes remained at lower levels.<sup>1</sup>

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<sup>&</sup>lt;sup>1</sup> https://www.nytimes.com/2022/01/18/briefing/crime-surge-homicides-us.html#:~:text=The%20effects%20are%20felt%20unequally%20across%20the%20country.,Most%20homicide%2 0victims%20are%20Black.

National level police agency data indicates that homicides increased seven percent in 2021. Unfortunately, this trend has been occurring for almost a decade. Gun-related violent crime has increased across the U.S. since 2014, with fatal gun assaults having increased by approximately 80 percent in the largest U.S. cities since that year.<sup>2</sup>

Conventional wisdom would suggest that the problem of gun violence is restricted to larger cities, particularly when looking at those locations traditionally associated with violent crime. Some examples include the City of Chicago, which included 797 homicides in 2021.<sup>3</sup> In Washington, DC, there was a 20 percent increase in murders from 2019 to 2020, and another 15 percent increase from 2021 to 2022. That year the city saw more than 200 homicides.<sup>4</sup> Finally, Los Angeles recorded 397 murders in 2021, a nearly 12 percent increase from 2020. In fact, L.A. reported 258 homicides in 2019. Thus, between 2019 and 2021 there was a 54 percent increase in homicides in L.A. in two years. Further, there were over 1,400 shooting victims in 2021.<sup>5</sup> Finally, in 2021 Philadelphia 562 murders occurred, a 12 percent increase over 2020.<sup>6</sup>

Still, other cities also experienced an unfortunate increase in gun violence and homicides. Data from Detroit police saw a 10.25 percent increase in violent crimes between 2019 and 2020, with homicides increasing 29 percent.<sup>7</sup> The police in Cleveland reported a 24 percent increase in firearms assaults in 2021 from the prior year.<sup>8</sup>

<sup>&</sup>lt;sup>2</sup> https://time.com/6138650/violent-crime-us-surging-what-to-do/

<sup>&</sup>lt;sup>3</sup> https://chicago.suntimes.com/crime/2022/1/3/22858995/chicago-violence-dangerous-murders-per-capita-2021-2020-surge-garfield-park-police-lori-lightfoot

<sup>4</sup> https://wtop.com/local/2022/01/2021-wraps-up-as-one-of-regions-most-violent-years-in-ages/

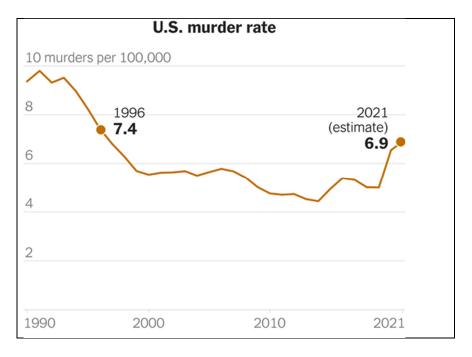
<sup>&</sup>lt;sup>5</sup> https://www.lamag.com/citythinkblog/new-crime-stats-revealed-homicides-in-los-angeles-soared-in-2021/

<sup>&</sup>lt;sup>6</sup> https://time.com/6138650/violent-crime-us-surging-what-to-do/

<sup>&</sup>lt;sup>7</sup> https://www.detroitnews.com/story/news/local/michigan/2021/09/27/detroit-most-violent-big-us-cities-fbi-uniform-crime-report-2020/5883984001/

<sup>&</sup>lt;sup>8</sup> https://www.wkyc.com/article/news/crime/crime-cleveland-community-leaders-solutions/95-0e9b7b5f-cd2e-429b-b567-5b0725571d50

Figure #1 (New York Times, Examining the Spike in Murders: The effects are felt unequally across the U.S. https://www.nytimes.com/2022/01/18/briefing/crime-surge-homicides-us.html)



The impact of violence and gun crimes are not equally distributed across a city. Most American cities will have a small number of street-segments, blocks, and neighborhoods that account for most violent crimes. The location of a city that accounts for a high concentration of crime is commonly referred to as a "hot spot." The street-segments, blocks, and neighborhoods tend to be concentrated in impoverished, minority communities. In addition, within these hot spots there are often a small network of people who are considered "high risk" for committing crime. <sup>10</sup>

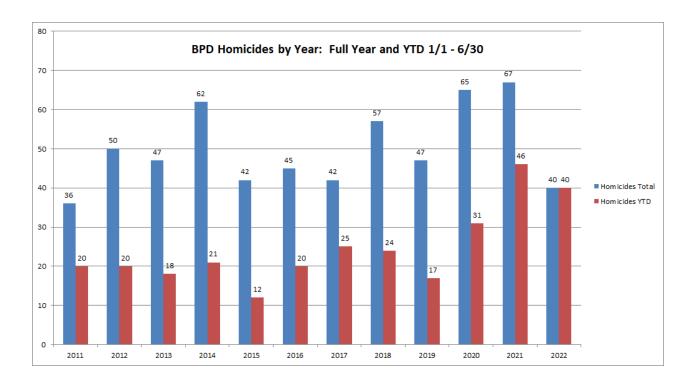
#### **Violent Crime in Buffalo**

The City of Buffalo is like other mid-sized cities with respect to the level of violent crime. Cities with populations between 250,000 and 500,000 have experienced increases in serious crime, with Buffalo's violent crime rate ranked 12th worst among 79 mid-sized cities. This can be seen in the data regarding homicides, shootings, and shots fired incidents (see charts below).

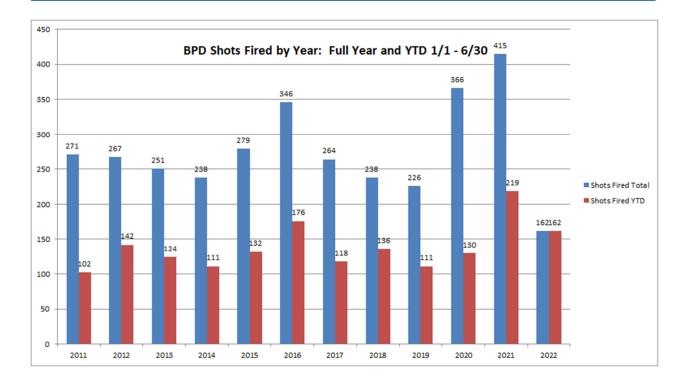
<sup>9</sup> https://www.nytimes.com/2022/01/18/briefing/crime-surge-homicides-us.html#:~:text=The%20effects%20are%20felt%20unequally%20across%20the%20country.,Most%20homicide%20victims%20are%20Black.

<sup>10</sup> https://time.com/6138650/violent-crime-us-surging-what-to-do/

<sup>&</sup>lt;sup>11</sup> https://www.investigativepost.org/2021/10/20/violent-crime-declining-but-still-high/







There have been several examinations of crime control and crime reduction programs in Buffalo in the past decade that provide some guidance on potentially successful policing tactics. For example, the police used SWAT teams to conduct drug-raids during a two-week period in the summer of 2012. An analysis of this program indicated slight evidence of a short-term deterrent effect for Part 1 crimes (i.e., violent crimes) in the two weeks after the intervention. Still, calls for service and drug arrests increased in the treated areas compared with control neighborhoods. It was suggested that the public may have had an increased confidence in the police after the raids occurred, resulting in more calls to the police (Phillips, Wheeler, & Kim, 2016). A second approach to reduce crime focused on the demolition of abandoned houses. Between 2010 and 2015, Buffalo demolished over 2,000 vacant residences to reduce crimes committed in or in association with those abandoned houses. An evaluation of this approach suggested that at the "micro-place level," similar to micro-hot-spots, housing demolitions lead to a sharp reduction in reported crime at the exact parcel. Further, there was an additional crime decrease in buffers locations of up to 1,000 feet away from the demolished house. Using a larger "census tract level" indicated a reduction in Part I crimes, but the impact was not statistically significant (Wheeler, Phillips, & Kim, 2018).

The more recent violent crime problems in Buffalo may be related to the COVID-19 pandemic. An evaluation of shooting data from January 2017 through the first week of October 2020 suggested that the pandemic caused a temporary increase in fatal shootings. Further, the analysis demonstrated a long-term increase in all non-fatal shootings, non-fatal shootings with injury, non-fatal shootings without injury, as well as gang related shootings (Kim & Phillips, 2021). Other researchers argued that violent crime is "sticky" with respect to the time it occurs and the location of the crimes (Weisburd, 2015). Research of Buffalo shooting data appears to support this assumption. The analysis of shooting offense in Buffalo found that during COVID-19 there was little evidence indicating shifts in the neighborhood distribution of shootings in the city. Those locations in the city that were already hot spots of shooting activity simply increased in intensity (Drake, Wheeler, Kim, Phillips, & Mendolera, 2022).

## **Understanding Hot Spots**

Spatial variation analysis is a scientific tool that examines the distribution of social problems to identify the correlates of these issues and develop remedies. Sherman, Gartin and Buerger (1989) applied this analytic approach to the concentration of calls for service in Minneapolis. Sherman and his colleagues used the term "hot spot" to describe the few areas of the city receiving high numbers of calls for service. Over time the term hot spot has been adopted to describe an area having a higher-than-normal concentration of crime or victimization (Eck, 2005). Several scholars replicated this Minneapolis research and demonstrated that crime is not randomly distributed across a city (Brantingham & Brantingham 1981; Ratcliffe, 2002); rather crime is concentrated in specific locations, although the size of those areas can vary (Weisburd, Maher, & Sherman, 1992; Weisburd, Bushway, Lum, & Sue-Ming, 2004).

While the term hot spot is conceptually clear, there is no specific definition with respect to the size or area of a hot spot (Eck, 2005). Researchers have operationalized hot spot locations based on higher levels of crime in census blocks (Bernasco & Block, 2010), or a concentration of crimes within clusters of addresses, street block faces, and street intersections (Braga & Weisburd 2010). Others examined crime levels associated with intersections (Braga, et al., 2008, 2011, 2012; Weisburd & Green, 1995) and street segments (e.g., city blocks) (Andresen &

Malleson, 2011; Weisburd, Morris, & Groff, 2009). A few scholars used mapping programs to identify higher crime sectors that comprised areas based on square miles (Taylor, Koper, & Woods, 2010) or using an intersection as a hot spot "epicenter" (Ratcliffe, et al., 2011).

Recent scholarship suggests that rather than identifying specific street segments or blocks, that smaller areas be used to define a hot spot. For example, the Dallas police used hot spots that were 200 x 200 feet in size (Wheeler & Steenbeek, 2020). A study of hot spot policing in Jacksonville, Florida, examined 83 hot spots averaging 0.02 square miles in size (Taylor, Koper, & Woods, 2011). In St. Louis, researchers examined hot spots that averaged .01 square mile in size. This was roughly the size of four city blocks and suburban in nature (Kochel & Weisburd, 2019).

Locations targeted for increased surveillance or interdictions have been identified based on the level of "violent crime," such as homicides, aggravated assaults, and robberies (Braga, Weisburd, Waring, Mazerolle, Spelman, & Gajewski, 1999; Braga, et al., 2011; Ratcliffe, et al., 2011). Braga et al. (2008) examined the association between locations and assault with a deadly weapon. Others used more general violent crime and property crime levels (Andersen & Malleson, 2011; Jang, Lee, & Hoover, 2012; Taylor, et al., 2010). Sherman and his colleagues (1989) classified hot spots based on calls for service for "predatory" crimes (i.e., rape, robbery, auto theft). A few studies operationalized hot spot locations based on drug crimes (Lawton, Taylor, & Luongo, 2005; Sherman & Rogan, 1995). Weisburd, et al. (2009) used arrest records to determine hot spots associated with juvenile crime. Finally, Sherman and Rogan (1995) identified high-crime locations based on police and citizen lists of problem locations. Ultimately, there is no specific standard for the dimensions or size of a hot spot.

#### **Police Activity within Hot Spots**

The studies that examined specific police behavior when officers are assigned to hot spots attempted to provide detailed measures of officer activity while in those area. Some hot spot responses have included "police presence," which required no specific activity on the part of a police officer (Koper, 1995; Sherman & Weisburd, 1995). Other studies were unable to collect

an officer's activities when working in hot spots (Lawton, Taylor, & Luongo, 2005). Still, there have been police interventions in hot spots that were quantifiable. Officers assigned to hot spots in Dallas, TX were assessed based on vehicle and pedestrian stops, citations issued, and arrests (Jang, et al., 2012). Police officers in Lowell, MA engaged in foot and vehicle patrols, dispersed loiterers, made arrests for public drinking and drug sales, and stopped suspicious persons (Braga & Bond, 2008). Some hot spot tactics relied on "crackdowns" that substantially increased the number of officers patrolling the area rather than a particular police behavior (Hinkle & Weisburd, 2008; Smith, 2001; Weisburd & Green, 1995).

Other evaluations of hot spot policing examined problem-oriented interventions. For example, Braga and his colleagues (1999) measured police activity that included code enforcement and cleaning abandoned buildings and vacant lots. Some police behavior in hot spots included problem solving activities, such as working with community stakeholders to develop solutions to a specific local problem (Groff, et al., 2015; Kochel & Weisburd, 2019; Taylor, et al., 2011). Other hot spot policing tactics were arguably the polar opposite of problem solving. Specifically, directed patrols required police officers to increase their presence within a hot spot for a specified period of time (Kochel & Weisburd, 2019; Taylor, et al., 2011). The officers were not required to complete any specific task or engage in any compulsory behavior; their presence in the hot spot was intended to serve as a general deterrent for potential offenders.

Some studies expected the "dosage" of patrol officer time within a hot spot to be roughly 15 minutes during non-specific times within a 10-hour shift (Kochel & Weisburd, 2019; Schaefer, Hughes, & Cameron Stelzig, 2021). In these studies, there was an expectation of randomness to when an officer spent time in a hot spot. Other hot spot programs examined the violent crime data and identified specific days and times when crime levels were highest in a hot spot, and had the officers spend time on site within that window (Taylor, et al., 2011).

At least one other factor is important in hot spot policing programs. Groff, et al. (2015) discussed the "fidelity" to the goals of their assignments. That is, the officers need to exercise consistency of the research design with treatment implementation. If the hot spot program calls

for a specific timeframe, task, or location, the officers need to be aware of the importance of satisfying their expected duties (Rosenfeld, Deckard, & Blackburn, 2014).

## **Hot Spot Policing in Buffalo: An Overview**

The planned hot spot policing approach in Buffalo has its origins in an unplanned approach used in 2021 when police officers were informally assigned to presumed hot spot areas based on maps showing shooting and shots fired locations. The officers were detailed to specific areas that were identified as hot spots, and they were given instructions to activate their patrol vehicle lights and engage citizens who might be in the area. The goal of this tactic was to serve as both a crime deterrent based on the officer's visible presence, as well as a community policing approach by informally interacting with local citizens.

In early 2022 the Buffalo Police administration engaged in a formal coordinated approach to focus on hot spots. Working with the Erie Crime Analysis Center (ECAC), the city was divided into micro-grids that measured 500 x 500 feet (0.009 square miles) (see Figure #2 for a citywide view and Figure #3 for a closeup example). This approach is in line with the hot spot dimensions used in recent scholarship (Kochel & Weisburd, 2019; Taylor, Koper, & Woods, 2011; Wheeler & Reuter, 2021). Using 500 foot-square grids resulted in a full 4798 grids across the city, with roughly 4,700 usable locations. That is, some areas of the city include industrial structures, water-front sections, or large park-areas. These locations would not likely contain any serious or violent crime and would not be identified as areas to receive additional police treatment.

Figure #2: Full Grids for City of Buffalo



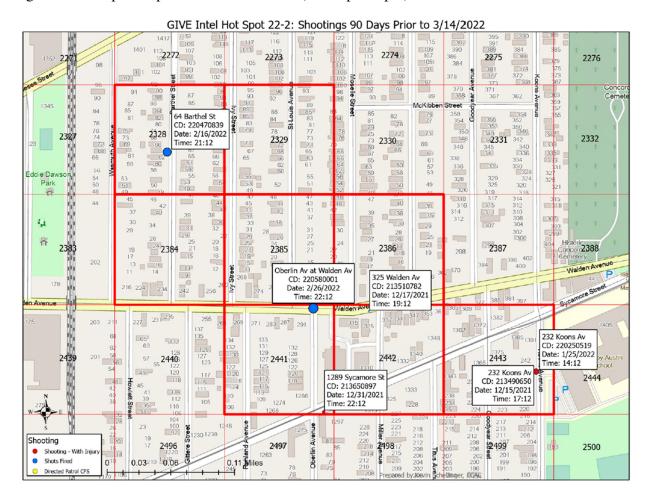


Figure #3: Sample Map with 500x500 Grids (closeup sample)

## **Intelligence Meetings**

Officer "buy in" is essential for a successful execution of any new plan or program. The best way to achieve buy in is to make the officers a part of the process and show that the agency is listening to what they have to offer and integrate that information into agency policy (Correia & Jenks, 2011).

Each week there is a "patrol intelligence" meeting held on a rotating basis in each of the five police districts at different shift times. Included in this meeting is the district detail car patrol officers and other law enforcement partners including county, state, and federal partners. The goal is to take the meetings directly to the officers in their district houses rather than the central police headquarters; thus, all detail shift officers are engaged at some point, ensuring all officers

are exposed to the program. It is believed that by bringing the meetings and intelligence information to the patrol officers in their district stations that they will feel more comfortable when sharing the intelligence in a more open fashion.

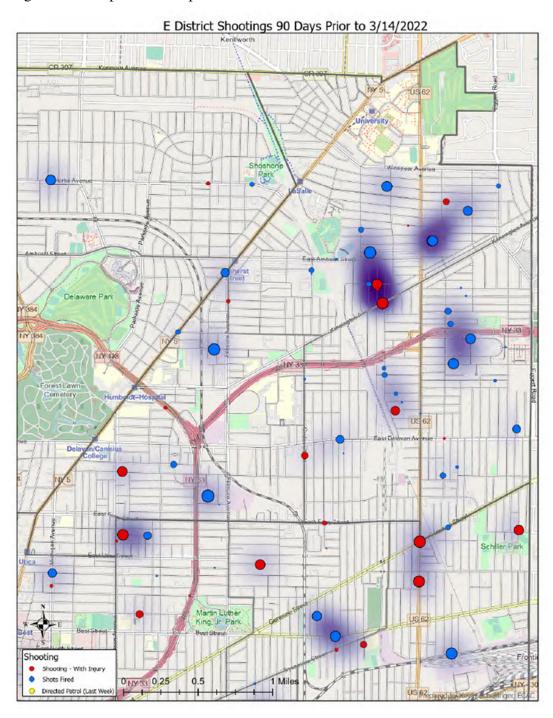
Prior to these weekly district meetings ECAC develops 90-day "heat maps" showing the concentration and intensity of shooting incidents and other gun violence events (see example in Figure #4). Within each district where hot spots are shown, officers in the districts are provided with the grid numbers and locations in which to concentrate their directed patrols. The reason for these weekly grid evaluations is to measure in real time for displacement effects. Displacement occurs when violent crime is reduced in an area and shifted to another area. With the micro-hotspot mapping, we can quickly and effectively respond to the area in a proactive matter to address the situation before it becomes a sustained problem in the new location.

The weekly intelligence meetings include "intelligence packets," which have a significant amount of detailed information, including:

- -social media postings by known offenders, including those who are photographed with guns
- -gun arrests in the last week along with the arrestee's custody status
- -shots fired incidents and shooting location data
- -noteworthy gang activity
- -current gang "beefs," including charts on what gangs are aligned within each "beef"
- -city wide "Be on The Lookout" announcements (BOLO's)

These intelligence meeting included the various district "detail" officers who are responsible for spending time in the hot spots. These officers work in a "directed patrol" fashion (Kochel & Weisburd, 2019; Taylor, et al., 2011), and they are responsible for spending between 10 and 15 minutes within the micro hot spots to which they are assigned. During their directed patrol tactics, the officers are to employ different behaviors while in those areas, such as activating the flashing light on their patrol cars, walk around the area, and or engage citizens. The overall goal of using micro hot spots is to provide a general deterrent effect on potential criminal activity. A further benefit of police officers engaging with the public is these informal interactions

Figure #4: Sample Heat Map



contributing to the goals of community policing. When the police interact with residents and businesspersons it improves the relationship between these groups. This leads to improved

future interactions and a willingness of the public to work in other ways with the police to improve the quality of life in the neighborhood.

As part of the 2022 hot spot tactics, ECAC produces "timed heat maps." These maps assess not only the location of shootings and other gun related crimes, but the timeframe for when these events most commonly occur. These timed heat maps were intended to focus on a 4-hour block of time when most shootings or gun crimes occurred in a micro hot spot. This approach has been utilized in other locations (Jacksonville, FL., see Taylor, et al., 2011), and can optimize the efforts of patrol officers to target hot spots.

It is important for patrol officers to be active participants in the hot spot planning process. There is a large body of scholarship indicating that if street-level workers can participate in decisions made by management, this can increase not only the worker's job satisfaction level (Lambert, Hogan, & Barton, 2002; Slate, Wells, & Johnson, 2003) but program implementation (Lurigio, & Skogan, 1994). In the case of Buffalo's hot spot program, streel-level officers should be encouraged to participate in the intelligence meetings in which maps are discussed so the officers understand how hot spots were identified. Involving patrol officers in the early stages of identifying micro hot spots will also provide the officers with a sense of responsibility to the overall goal of the program (Santos, 2013). That is, officers will be aware that they have a meaningful role in the hot spot program rather than feeling as thought they had been ignored in the planning stages.

The analysis phase in micro hot spot identification includes recognizing high-risk or high-threat individuals in those areas. High-risk offenders were identified using information reported from police, community and paid informants, evidence provided by other law enforcement partners (e.g., local, state, federal agencies), historical and current gang activity as it relates to existing violent disputes, and individuals involved in active feuds being posted on social media. When these high-risk offenders are clearly identified to the patrol officers, the officers may be more likely to appreciate the need to focus on these offenders.

As part of the micro hot spot program, high risk offenders and their associates can be subject to the "custom notification" program (discussed further below). This approach allows the police and other service providers to engage with these high-risk offenders, attempting to get them the social services that can prevent future offenses.

## **Hot Spot Tactics in Buffalo: Some Specifics**

The Buffalo Police created a computer aided dispatch (CAD) call labeled "directed patrol" (DP) for officers who are assigned to a micro hot spot. The patrol officers will "call out" on the CAD system when they begin their activities in their assigned areas, and the system will record the time the officers are working in the hot spot. The agency can then overlay the DPs onto the grids to see where officers are and ensure that they are in the areas during the assigned timeframes. The grid maps can be used to overlay any call type / crime that occur in the city. This will help the police department when evaluating the effectiveness of the hot spot program in relation to the officer's activities ensuring they are in the control areas.

While police officers are working within a micro hot spot they are engaging in a directed patrol. The directed patrol tactic is used as a general deterrent method to disrupt criminal activity. The officer's mere presence, as well as their engaging with the community members, for set periods of time in these areas is intended to prevent offenders from active criminal behavior. This is a focused approach to crime prevention rather than a "grab everyone in sight" philosophy. Connecting with members of the community is intended to build bridges through good community engagement.

Directed patrol can include a variety of different police officer behaviors. For example, the officers will park in a specific identified grid for approximately 15 minutes. The officers will activate the patrol car's flashing lights for high visibility as a deterrent. In addition, officers will document their time and location on the CAD system. This will ensure the officers are maintaining "fidelity" (Groff, et al., 2015) to the goals of their assignments. Further, existing crime data will be examined by the Eric Crime Analysis Center (ECAC) to identify individuals who live in hot spot areas who are shown to be active in a violent criminal lifestyle. Officer

assigned to those micro hot spots will be informed about those individuals and if they are members of groups who involved in violent behavior. Thus, police officers in those micro hot spots can pay particular attention to the individuals identified by the ECAC.

Based on intelligence information provided by the ECAC, search warrants will be acquired for identified violent group members who are known gun traffickers / trigger pullers and are known to carry guns illegally. After a search warrant is executed by SWAT, within a reasonable amount of time, ideally the same day, the Buffalo Police Department's Neighborhood Engagement Team will walk within the neighborhood where the search warrant was executed to engage community members. This allows officers to explain why the raid was conducted and answer questions that residents may have because of the conspicuous police action that took place. Officers will also distribute materials that explain some of the resources and abilities of the police department. The police department is also developing a door hanger that will include a link to an anonymous survey allowing residents to provide feedback on the police department as well as any crime info they may provide.

The officers will also engage in community policing activities, such as foot patrol, in an effort to interact and network with the residents of the neighborhood within that micro hot spot. The vast majority of residents within a micro hot spot are good people living in a bad location. Interacting with these citizens can contribute to their feeling of procedural justice from the officers. Procedural justice occurs when the police give citizens a voice and the opportunity to express their opinion to an officer. Procedural justice is attained when police officers treat citizens with dignity and respect (Skogan, Van Craen, & Hennessy, 2015).

The police department has also purchased a web-based app that can be downloaded to an officer's smartphone. The app allows police officers to easily access the weekly intelligence meeting reports as well as any BOLO's that have been issued. The app can also be used to disseminate training bulletins to officers.

A Gun Involved Violence Elimination (GIVE) grant provided by the New York State Division of Criminal Justice Services allows the police department to dedicate specific police officers to the micro hot spots. These officers are also available to provide "custom notifications" between the time spent in the hot spots. A custom notification occurs when personnel from several lawenforcement agencies work together with civilian nonprofit organizations to confront a person known to be affiliated in some way with gun violence. This is intended to have a preemptive deterrent impact on potential offenders and connect these citizens with social services as a long-term solution to violent behavior. Custom notifications are akin to the "pulling levers" approached used in other police agencies (Braga, Pierce, McDevitt, Bond, & Cronin, 2008). Shift officers who respond to calls are also being held responsible for their "non committed" time (when not on calls) to actively be in these areas while patrolling. We need to best utilize our officers time when it is not a call heavy time.

#### **Planned Evaluation**

An empirical examination of the Micro-Level Hot Spot Crime Reduction Strategy is necessary to properly measure and assess the strategy's success or failure. The Buffalo Police Department has partnered with Dr. Scott W. Phillips and Dr. Dae-Young Kim of SUNY Buffalo State to conduct an evaluation of the strategy. A grant application has been submitted to the Research Consortium in the New York State Division of Criminal Justice Services to support this evaluation. A quasi-experimental research design is a rigorous approach to examining the impact of the Micro-Level Hot Spot Crime Reduction Strategy. More specifically, an interrupted time-series analysis uses a before-and-after approach to measure the changes in violent crimes, including homicides, non-fatal shootings, and non-injurious shootings as a response to the strategic intervention. The approach can also assess changes in calls for service or other crimes. It is also important to document the fidelity of strategy's implementation. This can serve as a guide for properly implementing other crime-reduction programs.

#### REFERENCES

Andresen, M.A., & Malleson, N. (2011). Testing the stability of crime patterns: Implications for theory and policy. *Journal of Research in Crime and Delinquency*, 48(1), 58-82.

Bernasco, W., & Block, R. (2011). Robberies in Chicago: A block-level analysis of the influence of crime generators, crime attractors, and offender anchor points. *Journal of Research in Crime and Delinquency*, 48(1), 33-57.

Braga, A.A., Weisburd, D.L., Waring, E.J., Mazerolle, L.G., Spelman, W., & Gajewski, F. (1999). Problem-oriented policing in violent crime places: A randomized controlled experiment. *Criminology*, *37*(3), 541-580.

Braga, A.A., & Bond, B.J. (2008). Policing crime and disorder hot spots: A randomized controlled trial. *Criminology*, 46(3), 577-607.

Braga, A.A., Pierce, G.L., McDevitt, J., Bond, B.J., & Cronin, S. (2008). The strategic prevention of gun violence among gang-involved offenders. *Justice Quarterly*, 25(1), 132-162.

Brantingham, P.L. and Brantingham, P.J. (1981). Notes on the geometry of crime. In P.J. Brantingham and P.L. Brantingham (eds.) *Environmental Criminology*, Beverly Hills, CA: Sage Publications.

Correia, M.E., & Jenks, D.A. (2011). Expectations of change: The congruency between beat officers and supervisors and its impact on programmatic change. *Police Practice and Research: An International Journal*, 12(1), 16-34.

Drake, G., Wheeler, A.P., Kim, DY., Phillips, S.W., & Mendolera, K. (2022). The impact of COVID-19 on the spatial distribution of shooting violence in Buffalo, NY. *Journal of Experimental Criminology*, 1-18, https://doi.org/10.1007/s11292-021-09497-4

Eck, J.E. (2005). Crime hot spots: What they are, why we have them, and how to map them. In J. E. Eck, S. Chainey, J. G. Cameron, M. Leitner, & R. E. Wilson (Eds.), *Mapping crime: Understanding hot spots* (pp. 1–14). Washington: National Institute of Justice, U.S. Department of Justice.

Jang, H., Lee, C. B., & Hoover, L.T. (2012). Dallas' disruption unit: efficacy of hot spots deployment. *Policing: An International Journal of Police Strategies & Management*.

Kim, D.Y., & Phillips, S.W. (2021). When COVID-19 and guns meet: A rise in shootings. *Journal of Criminal Justice*, 73, 101783.

Kochel, T.R., & Weisburd, D. (2019). The impact of hot spots policing on collective efficacy: Findings from a randomized field trial. *Justice Quarterly*, *36*(5), 900-928.

Koper, C.S. (1995). Just enough police presence: reducing crime and disorderly behavior by optimizing patrol time in crime hot spots. *Justice Quarterly*, 12(4), 649-671.

Lambert, E., Hogan, N. & Barton, S. (2002). Satisfied correctional staff: A review of the literature on the correlates of correctional staff job satisfaction. *Criminal Justice and Behavior*, 29(2), 115-129.

Lawton, B.A., Taylor, R.B., & Luongo, A.J. (2005). Police officers on drug corners in Philadelphia, drug crime, and violent crime: Intended, diffusion, and displacement impacts. *Justice Quarterly*, 22(4), 427-451.

Lurigio, A.J., & Skogan, W.G. (1994). Winning the hearts and minds of police officers: An assessment of staff perceptions of community policing in Chicago. *Crime & Delinquency*, 40(3), 315-330.

Phillips, S.W., Wheeler, A., & Kim, D.Y. (2016). The effect of police paramilitary unit raids on crime at micro-places in Buffalo, New York. *International Journal of Police Science & Management*, 18(3), 206-219.

Ratcliffe, J. H. (2002). Aoristic signatures and the spatio-temporal analysis of high volume crime patterns. *Journal of Quantitative Criminology*, 18(1), 23-43.

Rosenfeld, R., Deckard, M.J., & Blackburn, E. (2014). The effects of directed patrol and self-initiated enforcement on firearm violence: A randomized controlled study of hot spot policing. *Criminology*, 52(3), 428-449.

Santos, R.B. (2013). Implementation of a police organizational model for crime reduction. *Policing: An International Journal of Police Strategies & Management*, 36(2), 295-311.

Schaefer, B.P., Hughes, T., & Cameron Stelzig, W. (2021). Hot spots across the metropolis: Evaluating hot spots directed patrol at city and suburban locations. *Justice Quarterly*, 38(1), 101-123.

Sherman, L.W., Gartin, P.R., & Buerger, M.E. (1989). Hot spots of predatory crime: Routine activities and the criminology of place. *Criminology*, 27(1), 27-56.

Sherman, L.W., & Weisburd, D. (1995). General deterrent effects of police patrol in crime "hot spots": A randomized, controlled trial. *Justice Quarterly*, 12(4), 625-648.

Skogan, W.G., Van Craen, M., & Hennessy, C. (2015). Training police for procedural justice. *Journal of Experimental Criminology*, 11(3), 319-334.

Slate, R.N., Wells, T.L., & Johnson, W.W. (2003). Opening the manager's door: State probation officer stress and perceptions of participation in workplace decision making. *Crime & Delinquency*, 49(4), 519-541.

Smith, M.R. (2001). Police-led crackdowns and cleanups: An evaluation of a crime control initiative in Richmond, Virginia. *Crime and Delinquency* 47(1), 60-83.

Taylor, B., Koper, C.S., & Woods, D.J. (2011). A randomized controlled trial of different policing strategies at hot spots of violent crime. *Journal of Experimental Criminology*, 7(2), 149-181.

Weisburd, D. (2015). The law of crime concentration and the criminology of place. *Criminology*, 53(2), 133-157.

Weisburd, D., Maher, L., & Sherman, L. (1992). Contrasting crime general and crime specific theory: The case of hot spots of crime. Advances in Criminological Theory. New Brunswick, NJ: Transaction Press. pp. 45-69.

Weisburd, D., & Green, L. (1995). Policing drug hot spots: the Jersey City drug market analysis experiment. *Justice Quarterly*, *12*, 711-735.

Weisburd, D., Bushway, S., Lum, C., & Yang, S.M. (2004). Trajectories of crime at places: a longitudinal study of street segments in the city of Seattle. *Criminology*, 42, 283-321.

Wheeler, A.P., Kim, D.Y., & Phillips, S.W. (2018). The effect of housing demolitions on crime in Buffalo, New York. *Journal of Research in Crime and Delinquency*, 55(3), 390-424.

Wheeler, A.P., & Steenbeek, W. (2021). Mapping the risk terrain for crime using machine learning. *Journal of Quantitative Criminology*, *37*(2), 445-480.