
P.I.V.O.T.

Place-based Investigations of Violent Offender Territories

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Herman Goldstein Award Submission

Project submitted by:

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PROJECT SUMMARY

Project Title: Place-based Investigations of Violent Offender Territories (P.I.V.O.T)

Scanning

In 2015, the City of Cincinnati and the Cincinnati Police Department (CPD) made reducing violence, specifically gun-related violence, a primary objective. Analyses revealed that 23 micro-locations experienced a highly disproportionate amount of gun violence – although these locations make up only 1.4% of the city’s land mass, they account for over 42% of all shooting incidents. Further, these locations have remained chronically violent over time. Crime data analyses, coupled with resident surveys, confirmed that these incidents could be addressed using a problem-oriented policing approach (as defined by the CHEERS criteria).

Analysis

A new place-based investigations policing strategy was developed to address the systemically violent locations and complement CPD’s existing focused-deterrence strategy. This new strategy – Place-based Investigations of Violent Offender Territories or P.I.V.O.T. – focuses on identifying and disrupting crime place networks. These networks include crime sites, but also places used by offenders that do not typically come to the attention of police. An initial project site was selected (Baltimore & McHenry) and a P.I.V.O.T. team (along with community partners) conducted investigations to uncover the location’s crime place network. Their location analyses uncovered 6 major gun violence facilitators at networked places, including: unregulated parking space, lack of place management, unsecured structures, illegal vending activities, inadequate lighting, and blighted/abandoned properties.

Response

The P.I.V.O.T. investigations team worked with over 20 public/private partners to disrupt the crime place network. These partners, with community input and support, modified or eliminated the identified violence facilitators. Responses included, but were not limited to, permanent on-street parking restrictions, obtaining compliance from rental property owners, code enforcement and commercial/retail property owner partnerships, directed patrols, lighting, property demolition, and developing a community park and walking trail.

Assessment

Since the initiation of the P.I.V.O.T. project (June 2016), numbers of shooting victims at Baltimore & McHenry have fallen dramatically (over 80%), the time between shooting incidents increased from an average of 32 to 130 days, and gun-related violence, as measured by a violence score metric, decreased from a high pre-intervention score of 172.4 to a low (and most recent) post-intervention score of 26.8. Observable blight at this location has also decreased by over 29%. There is little to no evidence of crime displacement, but analyses indicate a possible diffusion of crime control benefits. The P.I.V.O.T. investigations team is now working in 3 other sites, with preliminary results that support the effectiveness of this place-based investigations approach.

(393 Words)

SCANNING

Cincinnati Police Department and Jurisdiction

The Cincinnati Police Department (CPD) is the primary law enforcement agency for the City of Cincinnati and provides a full range of police services to 52 diverse neighborhoods (see Appendix A). Cincinnati spans approximately 77 square miles, is located in southwest Ohio, and is third largest city in the state. The 2010 U.S. Census reports 296,943 residents live within CPD's jurisdiction, with racial demographics of mostly white (52.7%) and black/African-American (47.8%) residents.

The CPD currently employs approximately 1009 sworn officers and 153 civilian employees. Led by Police Chief Eliot Isaac, law enforcement operations are divided among four Bureaus: Patrol, Investigations, Administration, and Support. In 2015, the FBI reported 3.7 violent crimes per 1,000 U.S. residents – CPD recorded 9.3 violent crimes per 1,000 residents, far above the national average.¹

Cincinnati's Response to Violence

In 2015, the City of Cincinnati and CPD made reducing violence, and specifically gun-related violence, a primary objective. The Department committed resources to develop a new policing strategy aimed at uncovering and addressing crime opportunity structures in historically violent locations. CPD conducted a series of analyses aimed at identifying systemically (chronic or persistent) violent hotspots throughout the city. The methodology used to identify these locations, developed by Senior Crime Analyst Blake Christenson, identified gun violence locations based on the data and methodology outlined in Table 1.

Table 1: Selection of Systemically Violent Locations

Gun Violence Indicators (n = 4)	Time Periods Examined (n = 3)	Locations
Shooting incidents	Prior to December 2015:	100'x100' cells
Robbery incidents	1 year prior	23 gun violence
Gun offense incidents	3 years prior	clusters identified
Shots/shooting CFS	5 years prior	

The methodology goes beyond simple hotspot analysis by (1) analyzing four different data sources, (2) weighting events by time (recent

events are weighted more heavily than distal events), (3) using a kernel density search radius to focus attention on clusters of violent events, and (4) giving more weight to those places that fell within the top 1% of violent locations across all three time periods examined. To conduct this kernel density analysis, the city was divided into 100'x100' cells (n = 225, 618), which represents approximately ¼ of the average length of a Cincinnati city block. Clusters of these cells (micro-locations) that produced gun violence scores of 8 or higher (gun violence scores ranged from 0 to 12) were selected for further analysis. Figure 1 depicts the 23 locations that met these criteria.

Adopting a Problem-Oriented Model to Reduce Gun Violence

Additional analyses in the systemically violent locations revealed that gun violence in these places met each of the six required elements necessary to define a problem.² An analysis of the **CHEERS** criteria, as defined by Eck & Clarke (2003), revealed:

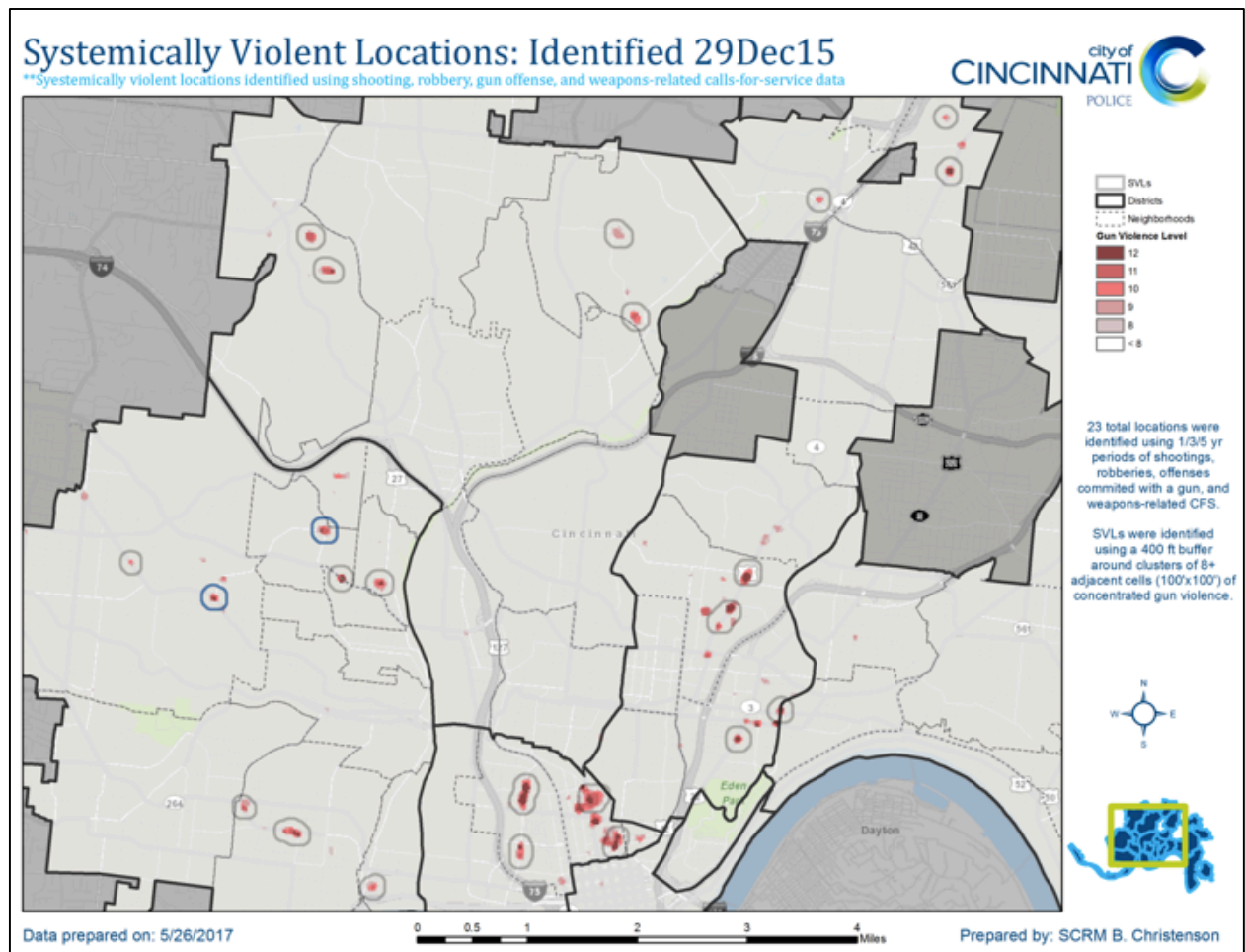


Figure 1: Systemically Violent Micro-Locations (n = 23)

- Community** – Incidents of gun violence negatively impact communities. As expected and consistent with the literature, the systemically violent locations identified fell within disadvantaged neighborhoods. As such, the targets of these crimes (residents and some local businesses) have fewer resources available to them and are more vulnerable than those who can afford private security on their properties. As part of the scanning phase, a resident survey was conducted by volunteers and the Community Police Partnering Center in these locations (n = 412). Survey results revealed that over 25% of residents planned to move out their communities over the next year (Table 2 summarizes this and other survey results).
- Harm** – The harm stemming from these incidents include acts of violence (described below) and an increase in citizen fear of crime. According to resident surveys, 46.7% felt that their neighborhoods were unsafe, 70% worried about becoming a robbery victim, and 67% worried that they would become victims of assault. Almost 81% of residents reported that they worried about the safety of children in their neighborhoods.
- Expectation** – The public expects the police to intervene and find solutions to this problem. This sentiment is evidenced by resident survey data in which over 73% of

the residents gave specific examples of what they thought the police could do or do better to prevent crime (e.g., community partnerships, foot patrols, talk with residents).

- **Events** – Gun violence involves at least three types of dangerous behaviors: predatory (e.g., an offender who intentionally preys on a specific victim), conflict (e.g., gang-on-gang violence), and endangerment (e.g., innocent bystanders in a drive-by shooting).³ Places with these types of activities are also often associated with violence against police officers. In the 23 micro-locations identified (which make up only 1.4% of the city’s landmass), 14.6% of officer injuries (67 of 460) and 24.0% of non-compliant behaviors (1,516 of 6,315 obstruction of official business, resisting arrest and assault on a police officer charges – behaviors that create risk of officer injury) occurred between 2012 and 2015.

Table 2: Early 2016 Resident Survey Results

Percent of residents that...	Percent
Planned to move out of their community in the next year	25.1
Felt their neighborhoods was unsafe	46.7
Was worried about becoming a robbery victim	70.0
Was worried about becoming an assault victim	67.0
Was worried about the safety of neighborhood children	80.7
Gave specific examples of what they though police should do	73.3

- **Recurring** – Although the violent micro-locations make up only 1.4% of the city’s landmass, a disproportion amount of violence recurs in these places. Figure 2 shows that 14.4% of all Part I crimes, 25.7% of Part I violent crimes, and **42.6% of shootings involving a victim** occurred in these small geographic areas.

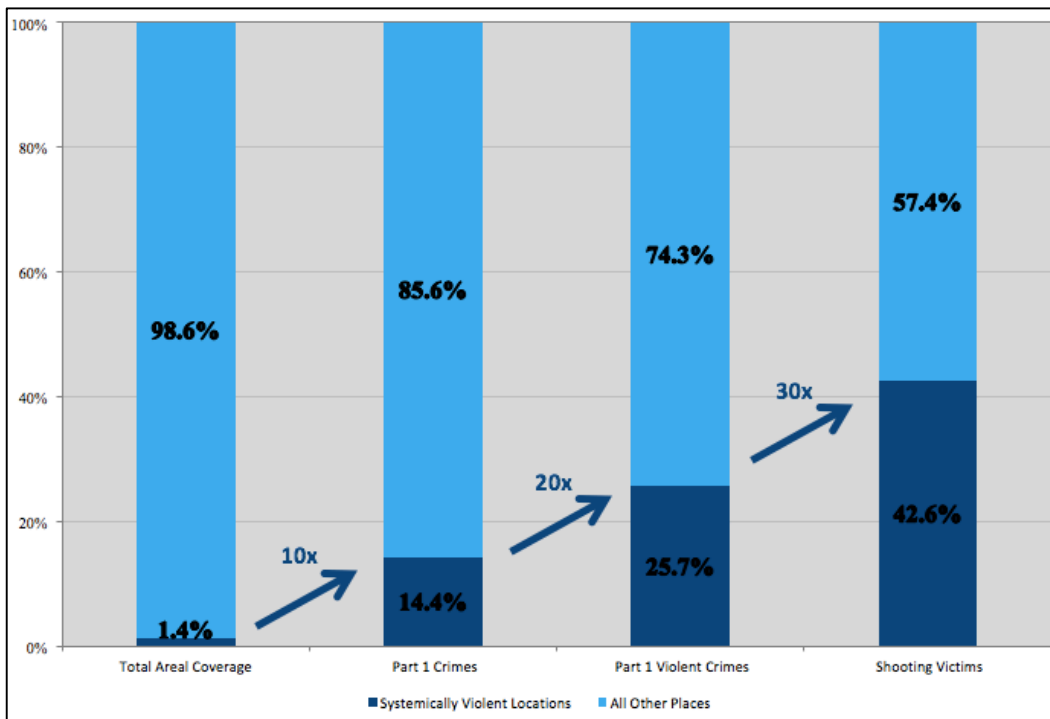


Figure 2: Percent of Total Concentrations in Systemically Violent Locations

- **Similar** – All of the incidents included in the data analysis involved violent gun-related crimes (see Table 1 for types of events).

The CHEERS analysis suggested that the problem of gun violence in Cincinnati could be addressed using a problem-oriented policing approach. This led to the development of a new place-based policing strategy and the selection of an initial project site.

ANALYSIS

Three objectives were identified during the second phase of the problem-solving project: (1) develop a policing strategy to address systemically violent micro-locations, (2) select an initial project site, and (3) analyze data/gather intelligence to create a tailored response.

P.I.V.O.T.: A New Place-Based Policing Strategy

In 2007, the CPD adopted CIRV, the Cincinnati Initiative to Reduce Violence, to address gang violence through a focused deterrence approach.⁴ A partnership among multiple law enforcement agencies (local, state and federal), social service providers, and the community was established to deliver a clear message to violent street groups that violence would not be tolerated and future offenders would face enhanced prosecution. CIRV significantly reduced gang member involved homicides by focusing on networks of **offenders** and **victims**,⁵ but the decline in violence was not sustained. Places where violence concentrated prior to the implementation of CIRV began to experience increases in violent activity over time. In the fall of 2015, former CPD Captain Maris Herold was tasked with developing a place-based policing strategy to reduce gun violence. The Department hoped to increase sustainability of their violence reduction efforts by coupling CIRV with a place-based strategy to address all three sides of the problem analysis (crime) triangle: **offenders, victims, and places**.



Problem Analysis Triangle
Source: popcenter.org

Like crime among offenders and victims, crime is not randomly distributed across places, as confirmed by the analysis conducted during the scanning phase. Recent advances in research and theory suggest that, also like offenders and victims, crime places are networked.⁶ *Crime place networks* provide the “infrastructure” necessary for offenders to operate illicit markets and engage in violent behavior. If left unaddressed, new (or returning) offenders will use these networks to continue to engage in criminal activity.

Crime place networks extend beyond locations where crime occurs to include other types of places used by offenders. These places often remain hidden without targeted police investigation. Crime place networks can include four types of places (CS⁴):

1. Crime Sites—specific places where crime occurs
2. Convergent Settings—public places where offenders routinely meet
3. Comfort Spaces—private meeting, staging, and supplying locations
4. Corrupting Spots—places that encourage criminal activity in other locations⁷

Based on this research, a new CPD policing strategy, Place-based Investigations of Violent Offender Territories (P.I.V.O.T.), was developed to disrupt the crime place networks in Cincinnati's systemically violent locations by supplementing previous and on-going CIRV violence reduction activities. This strategy relies on investigative techniques to uncover crime place networks (e.g., *gathering intelligence, conducting surveillance, and developing information sources and confidential informants*) and a citywide response to engage in problem-solving and identify resources to change crime-facilitating dynamics in the targeted locations. Figure 3 depicts a general outline of the P.I.V.O.T. policing strategy.

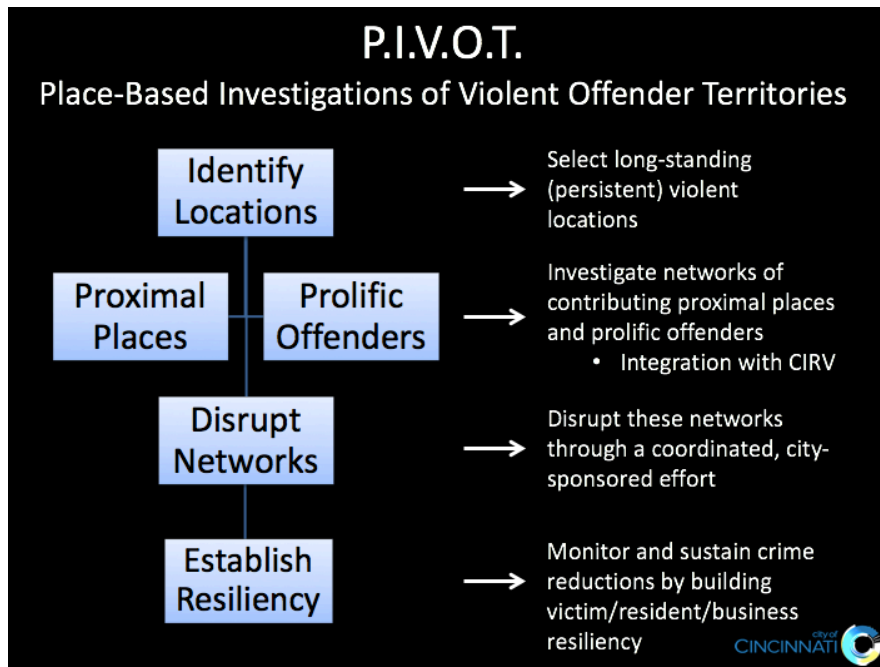


Figure 3: P.I.V.O.T. Strategy

A P.I.V.O.T. investigations team, led by Lieutenant Matthew Hammer, was established in spring of 2016. This team consisted of the Lieutenant, a supervising sergeant and six investigators with diverse backgrounds (four officers and two crime analysts – see Appendix B).

A citywide P.I.V.O.T. Review Board, made up of representatives from various city departments and community agencies was established. This Review Board was designed to meet every two weeks to review CPD investigation findings, physically observe the identified location, provide additional intelligence on the

Local Community Councils	Community Partnering Center	City Planning	Buildings & Inspections
Community & Economic Development	Health Department	Fire Department	Law Department
Environment & Sustainability	Public Services	Transportation & Engineering	Keep Cincinnati Beautiful
Cincinnati Recreation Commission	Parks Department	Port Authority	Community Redevelopment Corporations

Figure 4: P.I.V.O.T. Review Board Partnerships

history of the location (using historical data from their respective departments/organizations), and offer recommendations and resources to dismantle the identified crime place network. Figure 4 provides examples of agencies and organizations who contribute to the P.I.V.O.T. Review Board and strategy.

Initial Project Site

The first site selected for investigation and intervention was Baltimore & McHenry (see Figure 5). This location experienced year-over-year increases in shooting victimization between 2013-2015. With 18 shooting victims in 2015 alone (with 1 fatal and 3 non-fatal shootings occurring in December, 2015 – just prior to the selection of the project site), preliminary analysis revealed intense clustering of shootings on two intersecting street segments. Several indicators of open-air drug market activity were present (based on P.I.V.O.T. investigators’ observations of social and physical disorder and open-air drug transactions). It appeared that volatile drug market activity, associated disorder, and interpersonal disputes were contributing to sustained violence in the area. The crime place network facilitating violence in the area was identified using the investigative techniques outlined in Table 3. Intelligence about the network and associated offenders was gathered throughout 2016 as a result of ongoing analysis.

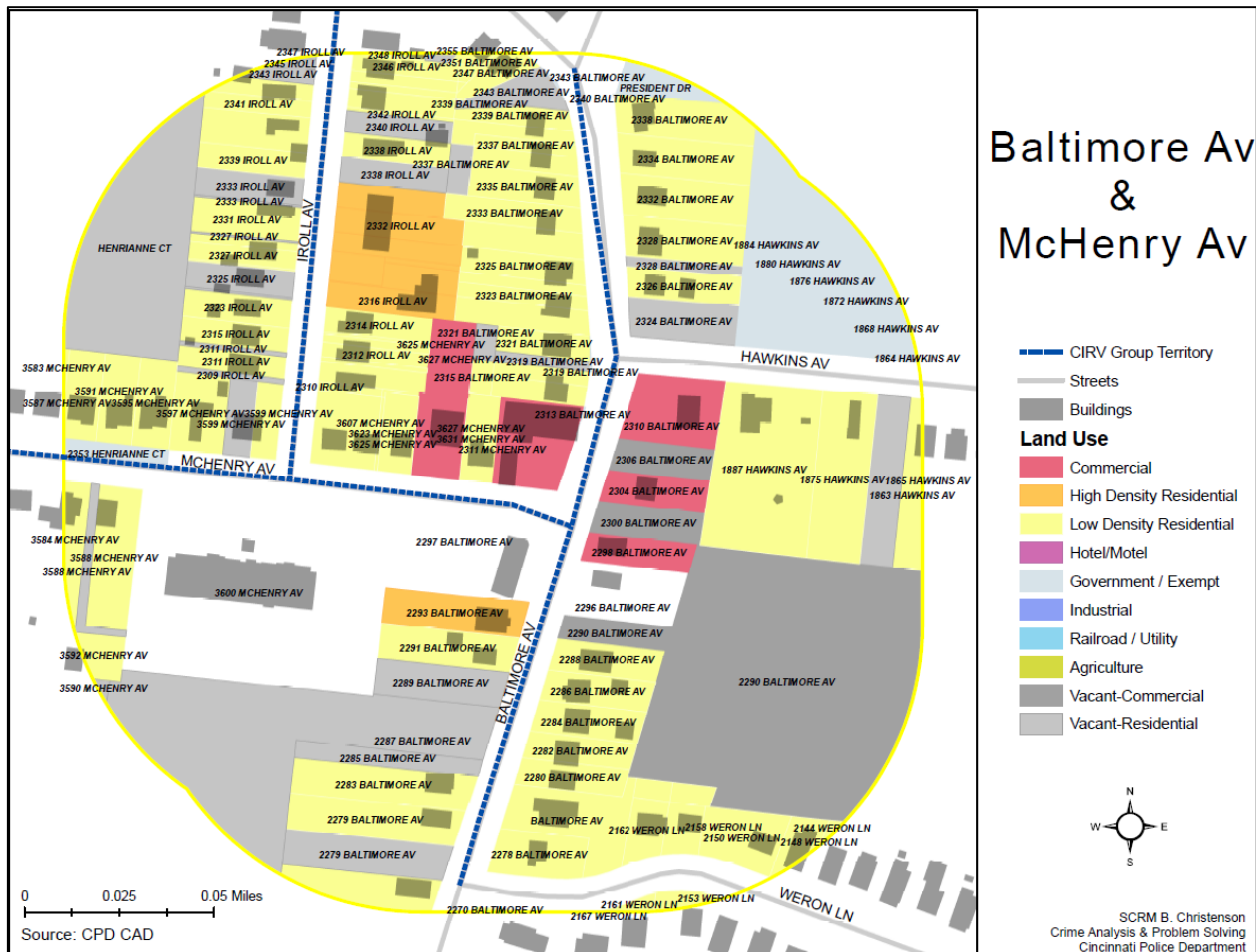


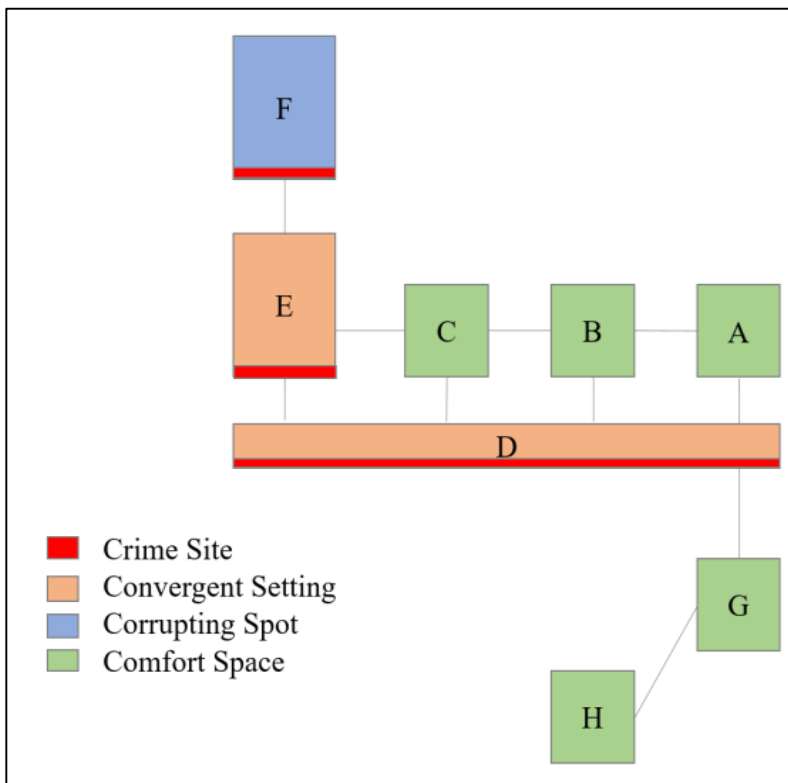
Figure 5: Initial Project Site: Baltimore & McHenry

Table 3: Investigative Techniques Used to Uncover Crime Place Networks

<i>Intelligence</i>
<ul style="list-style-type: none"> Briefings with beat officers, detectives, specialized units (e.g., violent crime squad), crime analysts, all city departments, and community members - intelligence gathered from municipal, state, and federal databases on historical place violations and ownership connections among places.
<i>Surveillance</i>
<ul style="list-style-type: none"> Direct surveillance of place and offender activities (e.g., surveillance cameras, plainclothes officers).
<i>Information Sources</i>
<ul style="list-style-type: none"> Informants to report place activities (e.g., security/management personnel).

The Crime Place Network

Analysis/investigations revealed that drug market offenders capitalized on physical features of the nearby space and management practices of place owners. Figure 5 provides a rough diagram of the crime place network used to operate the illicit market. The network included both low-density rental residential housing (A, B, C, H), commercial/retail corner stores (E, F), and public property (i.e. public street – D, G). Other nearby locations were monitored during the initiative to measure displacement after intervention implementation. Two potential displacement locations were identified based on proximity and similar place features, but neither of which have materialized as an extension the original crime place network.



Investigations revealed that, of the offenders’ private comfort spaces, two were used as meeting locations (A, H), one was used as a supply location (B), and two were used primarily as staging locations (C, G).

Figure 6: Baltimore & McHenry Crime Place Network

Major Findings

The analysis of place dynamics (conducted through investigations, data analysis, observations, community surveys and interviews, officer intelligence briefings, and information received from P.I.V.O.T. Review Board members) revealed six major findings:

1. Community and officer observation confirmed that offenders used street parking to support drug market activity. Hand-to-car transactions occurred along the street, and dealers parked cars along the thoroughfare in an effort to protect themselves from potential drive-by shooters.
2. Three parcels with low-density (one/two-family) rental residences played a role in the facilitating the open-air drug market and associated violence. All three properties were in states of disrepair, primarily with regard to land maintenance. The properties had histories of code, litter, and/or health complaints. P.I.V.O.T. investigators recovered drug paraphernalia and firearms concealed in tall grass on one of these properties, demonstrating a clear public safety risk.
3. Drug market activity and disorder was also noted at location E, a commercial/retail property adjoining locations A, B, and C. City Buildings and Inspections noted several violations, some of which were facilitating drug market operations (examples include a dumpster not enclosed and set near the street to provide cover and concealment, and an illegal street vendor on the property contributing to high volume pedestrian traffic and disorder).
4. Officers observed evidence of regular drug market activity at location F, despite very few calls to police.
5. P.I.V.O.T. investigators received community intelligence that car-to-car drug transactions were occurring on a quiet and unlit portion of a public side-street.
6. A blighted, vacant, and abandoned location (H) had been the site of repeated code violations (trash and debris on property, open and/or broken windows, and partial structural collapse). The P.I.V.O.T. team focused on this property because of general blight and investigation intelligence that suggested the space was operating as a comfort space within the network.

Table 4: Place-Based Violence Facilitators

- Unregulated parking space
- Absentee owners/lack of place management
- Unsecured structures
- Illegal vending activities
- Inadequate lighting
- Blighted/abandon property

Table 4 lists the major place-based violence facilitators identified during the analysis phase.

Research on “Best Practice” Models for Preventing Gun Violence

The POP guides available through the Center for Problem-Oriented Policing website were identified as potential resources for developing solutions. The guides, “Drive-By Shootings,” “Gun Violence Among Serious Young Offenders,” “Drug Dealing in Open-Air Markets,”

“Street Robbery”, “Disorderly Youth in Public Places,” “Shifting and Sharing Responsibility for Public Safety Problems,” and “Improving Street Lighting to Reduce Crime in Residential Areas,” offered insight into potentially effective responses.

Additionally, partnerships with crime and place experts at the University of Nevada, Las Vegas (Dr. Tamara D. Madensen) and the University of Cincinnati (Dr. John E. Eck), as well as the educational/practical background of the P.I.V.O.T. Lieutenant (Matthew Hammer – who developed the concept of comfort spaces through earlier place-based policing initiatives and published this in his thesis) brought additional expertise and resources to the project.

RESPONSE

Beginning in June 2016 and following the P.I.V.O.T. team’s initial investigation and analysis, CPD worked with P.I.V.O.T. Review Board members and other partners to address the conditions facilitating violent crime at the Baltimore & McHenry location. The following provides a brief summary of the major responses and partnerships leveraged to eliminate or change identified crime facilitators. Table 5 summarizes the timeline of P.I.V.O.T. interventions.

Response #1: Permanent On-Street Parking Restrictions

Given that street parking was being used to facilitate drug market and violent activities (location D), the P.I.V.O.T. team assessed the potential impact of removing legal parking spaces. During the analysis phase, investigators noted that the vast majority of nearby residents had access to personal driveways and all businesses had private lots designated for customer parking. In speaking with neighborhood leaders and residents, the community strongly supported proposed parking restrictions. P.I.V.O.T. team officers informed affected residents prior to the implementation of parking restrictions and engaged in a two-week warning-only period prior to enforcement. The removal of parking made drug dealing more difficult and risky since buyers and dealers had to walk to the location or park illegally, drawing attention to their illicit activities. It also removed the physical barrier offenders used for protection from drive-by-shooters.

Table 5: Intervention Timeline

Response #1: Parking restrictions	06/24/2016 - present
Response #2: Owner compliance	07/19, 8/26, 11/16/2016
Response #3: Code enforcement	07/16/2016 - present
Response #4: Directed patrols	08/22/2016-01/23/2017
Response #5: Light tower	12/21/2016 - present
Response #6: Property demolition	03/2017
Response #7: Space activation	05/20/2017

Response #2: Rental property owner compliance

The P.I.V.O.T. team made direct contact with the owners of the three rental properties (locations A, B, and C) identified as part of the crime place network. In each instance, P.I.V.O.T. investigators established communication with owners and coordinated with City departments (e.g., Buildings & Inspections, Law) in an effort to increase levels of effective

place management. This communication and contact led to the removal of key environmental facilitators (e.g., tall grass used to hide firearms, unsecured locations used as drug packaging/distribution locations) and the eviction of tenants associated with illicit activities.

Response #3: Code Enforcement/Owner on Notice

The P.I.V.O.T. team met with the owner of the commercial/retail property (location E) at which several code violations were identified during investigations. The most important changes made as a result of owner contact were (1) securing the loose and mobile dumpster (with direct assistance from city partners) and (2) removal of illegal vendors from the store parking lot. Additionally, a fence was erected around a nearby residential lot, also owned by the store's owner, to prevent dealers from using this space as a stashing/staging area.

Response #4: Directed Patrols

A directed patrol strategy was initiated in August to further disrupt drug market activity and deter associated violence. Coordinating with the Emergency Communications Center (ECC), dispatch prompts were sent to patrol cars on a scheduled basis. This helped to achieve a higher percent of directed patrol completion. While limited in duration, the directed patrol strategy served to compliment and reinforce earlier interventions (e.g., parking restrictions) and increase their effectiveness.

Response #5: Light Tower

To deter car-to-car drug transactions, P.I.V.O.T. investigators stationed a portable light tower/generator along the unlit public street (location G). This elevated light levels, increasing the risks associated with conducting drug activity in this area, and created a high-profile symbol of City/police presence while the Department of Traffic and Engineering coordinated with the local electric provider to install a permanent light source. Regular dialogue with community members was initiated to ensure that unintended side effects (e.g., noise produced by the generator) did not negatively impact nearby residents. On February 16, 2017, a permanent street light was installed at this site at the request of the community, police, and Department of Traffic and Engineering.

Response #6: Blighted Property Demolition

The blighted property (location H) used as part of the crime place network was examined by members of the P.I.V.O.T. Review Board. The property was evaluated by City Buildings and Inspections. The property was subsequently declared a public nuisance and demolished.

Response #7: Activation of Unused Public Space

An unused soccer field owned by the Cincinnati Recreation Commission (CRC) was not an identified component of the crime place network, but it borders location G and is directly across the street from location H (this soccer field is labeled as location I in subsequent

tables). A P.I.V.O.T. partner, the Neighborhood Enhancement Program (NEP), reviewed the site and held discussions to identify ways to “reactivate” this unused public space. Community leadership helped to solicit resident input regarding community needs/wants to facilitate CRC and Economic Development’s mission to re-purpose the space. This intervention became a public-private development project to build a community playground (with the help of “KaBOOM”⁸) and a surrounding walking trail for residents.

News coverage of the playground and walking trail construction can be found at:
<http://local12.com/news/local/sustaining-peace-partnerships-change-a-neighborhood>

Table 6 links activities of P.I.V.O.T. Review Board members and other partners at specific locations within the crime place network. As noted previously, location I represents the unused soccer field (not a direct part of the crime place network). Key private partners for this P.I.V.O.T. project included “KaBOOM,” Rumpke Waste & Recycling Company, and Welsh Excavation Company.

Table 6: Partnerships to Change Location Dynamics

Partners	Locations									
	Site-wide	A	B	C	D	E	F	G	H	I
Police	X	X	X	X	X	X	X	X	X	X
Community Leaders/Council	X	X			X	X	X	X		X
Buildings and Inspections (B&I)		X	X	X		X	X		X	
Community & Economic Development	X					X	X			X
Traffic/Engineering (DOTE)					X			X		
Public Works	X				X					
Law			X			X			X	
Community Leaders/Council	X	X			X	X	X	X		X
Community Police Partnering Center (CPPC)	X									
Keep Cincinnati Beautiful (KCB)	X									
CIRV Leadership/Partners	X					X	X			
Community & Economic Development	X					X	X			X
Health						X				
Recreation Commission (CRC)										X
Hamilton County Probation	X									
Private Partners	X									X

Unanticipated Outcomes

P.I.V.O.T. team members initially anticipated potential resident resistance to the permanent on-street parking restrictions and the light tower. However, during the no-parking sign installation, some nearby residents requested a larger restriction footprint than originally planned. Further, despite the noise of the light generator (prior to the installation of the permanent street light), residents were highly receptive to the intervention and requested the placement of additional generators closer to their homes. The P.I.V.O.T. team believes that this outcome resulted from open dialogue with residents and community support of police intervention to prevent violence.

Challenges to Strategy Implementation

Three major challenges to the implementation of the P.I.V.O.T. during this initial project were identified:

1. **Staffing.** P.I.V.O.T. team members are often detailed to other units/assignments to address other departmental needs. Only one investigation team is dedicated to working on P.I.V.O.T. identified sites at this time.
2. **Buy-in from P.I.V.O.T. Review Board members.** Some agencies/organizations are able or willing to devote more resources than others to addressing issues in these locations.
3. **Speed.** P.I.V.O.T. investigations (including the training of officers) and citywide responses take more time to implement than traditional policing responses (e.g., hotspot analysis to focus police resources).

ASSESSMENT

P.I.V.O.T.'s goal is to reduce gun violence. As such, success can be measured in various ways. However, this assessment will focus on one specific measure (number of shooting victims), one general measure (a violence score metric), and an indirect measure of community quality of life (a blight index).

Shooting Victims

A steady increase in shooting victims occurred at the Baltimore & McHenry micro-location between 2013 and 2015, with 18 shooting victims reported in 2015. Table 7 shows the number of yearly shooting victims. The P.I.V.O.T. project began in **June 2016** and 3 shooting victims were reported during this calendar year – a decrease of more than 83 percent. In 2017, shooting numbers continue to fall. To date, there has been only one shooting victim reported.

Table 7: Yearly Shooting Victims – Baltimore/McHenry

Year	# Victims	% +/-
2013	5	--
2014	8	+60.0%
2015	18	+125.0%
2016	3	-83.3%
2017*	1	-66.6%

*year-to-date

The number of days between shooting incidents was also calculated for the project site. Table 8 shows that, prior to the intervention, the time between shooting events (time-to-failure) was approximately 32 days. During the 1-year post-intervention period, the days between shooting events has increased to 130 days.⁹

Violence Score Metric

In addition to shooting victims, P.I.V.O.T. investigators track overall changes in violence. The primary measure used to assess change in violence over time in these micro-locations is a violence score metric, developed by Senior Crime Analyst Blake Christenson. This metric was developed to address the problem of tracking changes in relatively rare events (e.g., gun violence), over short periods of time, in small geographic areas. The metric incorporates 4 datasets/gun violence indicators, gives greater weight to more serious

crimes and crimes that have occurred more recently, and uses the same 100'x100' cells that were created to identify violent locations at the start of the project. Additional information about how the violence score metric is calculated can be found on CPD's P.I.V.O.T. website.¹⁰

Figure 7 plots the violence score metric as it changed over time. The figure shows that the score decreased from a high pre-intervention score of 172.4 to a low (and most recent) post-intervention score of 26.8.

Changes in the violence metric score are also depicted in Figures 8, 9, and 10. Figure 8 shows the scores associated with the "places" (i.e., 100'x100' cells) in the micro-location before the initiation of the project (November 1, 2015). Darker cells are associated with higher concentrations of violence.

Figure 9 shows the violence scores within the site boundaries on May 22, 2017 (just prior to the authoring this document). The empty or unshaded cells indicate very little to no violent activity.

Figure 10 depicts the change in the violence score metric between these two time periods. All cells show declines in violence – darker cells indicate greater declines in violent activity.

Table 8: Time-To-Failure for Shooting Incidents

Event Date	Days Between
03/13/15	--
04/07/15	25
04/18/15	11
05/07/15	19
05/09/15	2
05/27/15	18
08/02/15	67
09/26/15	55
10/15/15	19
10/23/15	8
10/31/15	8
12/08/15	38
03/26/16	109
05/07/16	42
<i>Pre-intervention (avg = 32 days)</i>	
09/05/16	121
01/23/17	140
To date (5/31/2017)	128
<i>Post-intervention (avg = 130 days)</i>	

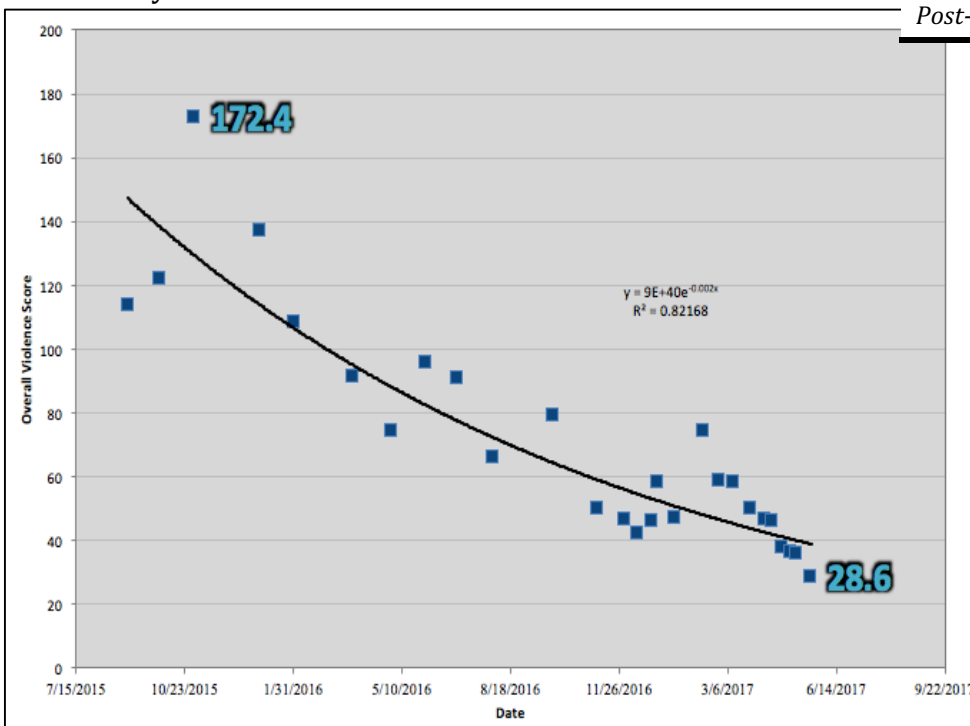


Figure 7: Changes in Violence Metric Score at Baltimore & McHenry

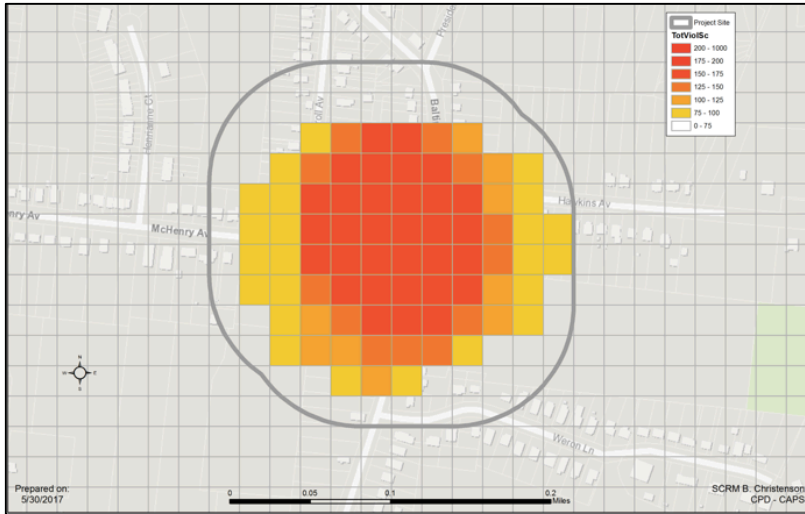


Figure 8: Violence Scores at Baltimore & McHenry–November 1, 2015

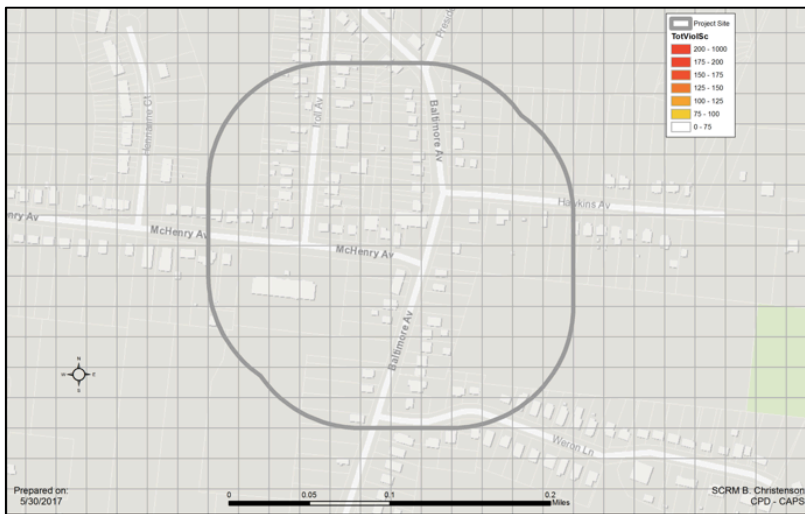


Figure 9: Violence Scores at Baltimore & McHenry–May 22, 2017

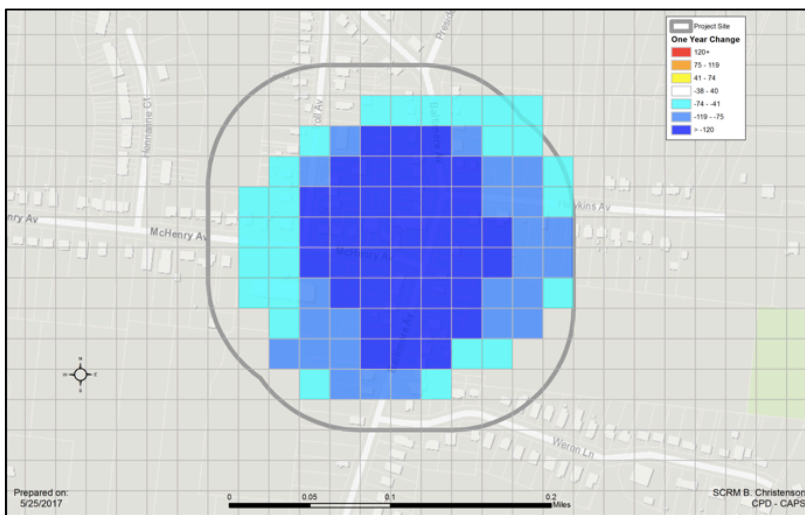


Figure 10: Violence Scores Changes at Baltimore & McHenry–11/01/2015-05/22/17

Quality of Life: Blight Index

P.I.V.O.T. partner, Keep Cincinnati Beautiful, conducted a series of blight index measures during the most active phases of the project. Table 9 presents the results of these blight measures during September, October, November, and December of 2016. Generally, changes made to the project site during this time appear to have reduced levels of blight in the community. The overall blight index for the project site decreased from 2.4 to 1.7 (a 29.2% decrease). Although recent organizational changes and other projects at Keep Cincinnati Beautiful have prevented another site survey, it is expected that this score will decrease even further when a secondary survey is conducted.

Table 9: Blight Index of Streets within Baltimore & McHenry P.I.V.O.T. Project Site

Baltimore / McHenry	Blight Index (1=least blighted; 4=most blighted)			
	Sep 2016	Oct 2016	Nov 2016	Dec 2016
2200 block of Baltimore Av	1.5	1.5	1.0	1.5
2300 block of Baltimore Av	3.0	2.8	1.5	2.0
2400 block of Baltimore Av	3.0	3.0	2.0	2.5
2300 block of Iroll Av	3.0	3.0	2.5	2.0
3500 block of McHenry Av	2.0	1.5	1.5	1.0
3600 block of McHenry Av	2.0	1.5	1.5	1.0
Average Blightedness	2.4	2.2	1.7	1.7

Displacement

When Baltimore & McHenry was selected as a project site, the potential for displacement to nearby areas with similar features and criminogenic opportunity structures was assessed. An adjoining neighborhood which appeared most at risk for geographic displacement experienced no gunshot victims in 2016 and only 2 in 2017, after suffering 4, 4, and 6 during 2013, 2014, and 2015, respectively. Violence scores in surrounding areas also offer little to no evidence of substantial displacement.¹¹ Instead, nearby locations appear to be experiencing a diffusion of crime control benefits.

Future Project Directions

Although beyond the scope of this document, the P.I.V.O.T. team has been actively engaged in 3 of the 23 additional violent micro-locations identified during the initial scanning phase. Preliminary evaluations show the same promising results found at the Baltimore & McHenry site. Place-based investigations appear to hold promise as a problem-solving technique that produces long-term sustainability in violence reduction.

(3,863 words, excluding tables/figures/endnotes)

ENDNOTES

¹ <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015>

² See Step 14, “Use the CHEERS test when defining problems,” in Clarke & Eck (2005)

³ Eck & Clarke (2003)

⁴ <http://www.cincinnati-oh.gov/police/community-involvement/cincinnati-initiative-to-reduce-violence/>

⁵ <http://www.cincinnati-oh.gov/police/linkservid/81E5280A-F1F2-7294-453E0E47BC735A5E/showMeta/0/>

⁶ <http://www.policechiefmagazine.org/research-brief-place-based-investigations/?ref=89888a6170e5fbaeb39a74881cb0f597#sthash.qDiV2shq.dpuf>

⁷ Tamara D. Madensen and John E. Eck, “Crime Places and Place Management,” in *The Oxford Handbook of Criminological Theory*, eds. Francis T. Cullen and Pamela Wilcox (New York, NY: Oxford University Press, 2013), 554–578.

⁸ <https://kaboom.org/>

⁹ This is a conservative estimate given that 5/31/2017 represents year-to-date, not the date of a separate incident.

¹⁰ <http://www.cincinnati-oh.gov/police/assets/File/Data/ViolenceScoring.pdf>

¹¹ <http://www.popcenter.org/tools/pdfs/displacement.pdf>

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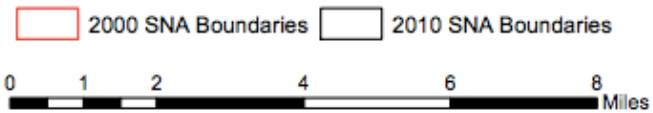
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APPENDIX A Cincinnati Neighborhood Boundaries

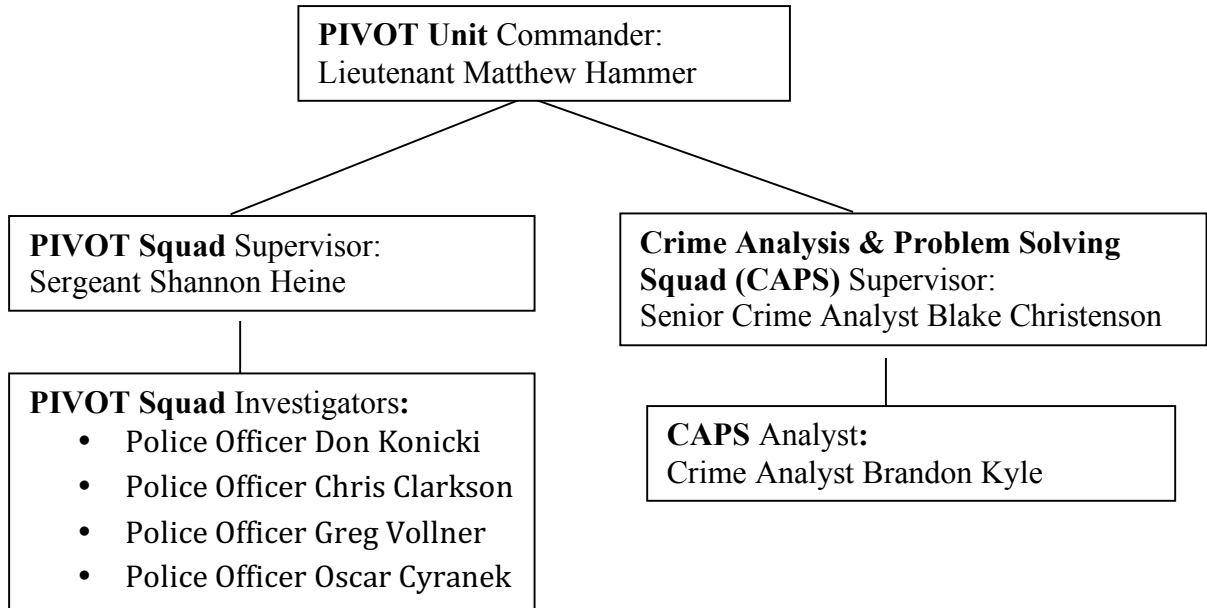


Prepared by:
City of Cincinnati
Department of City Planning & Buildings
Charles C. Graves, III, Director
May 24, 2012



APPENDIX B

PIVOT Unit Personnel 5/30/2017



Background:

PIVOT Unit Commander:

Lieutenant Matthew Hammer is in his 17th year of service with the Cincinnati, Ohio Police Department (CPD) and is currently assigned as the PIVOT Unit Commander, overseeing implementation and operation of the PIVOT Investigative Squad and the Crime Analysis and Problem Solving (CAPS) Squad. He has previously served in a variety of patrol and investigative assignments, with a heavy emphasis on violent criminal activity. He spent seven years working in and supervising violent crimes squads (Districts One and Two). He has also served as Crime Analysis and Problem Solving Squad Supervisor, Assistant Investigations Commander (District Four), Night Inspector, and Shift Commander (Districts Four and Five).

Lieutenant Hammer received his B.A. in Criminal Justice from the University of Dayton (Ohio), and his M.S. in Criminal Justice from the University of Cincinnati. He is currently working toward completion of a Ph.D. in Criminal Justice at the University of Cincinnati.

PIVOT Squad Supervisor:

Sergeant Shannon Heine has been a police officer for 19 years. In addition to patrol work, she has extensive investigative experience. Sergeant Heine has a total of 12 years investigative assignment, including as a district investigator, Professional Standards Section Investigator (Internal Investigations), and as a Homicide Investigator. The depth and breadth of Sergeant Heine's experience is a tremendous asset to the PIVOT Squad.

Sergeant Heine has an Associate's Degree in Business Management from Xavier University (Ohio). She has received training in a variety of topics associated with investigative work including: interview and interrogation, human trafficking, gang and street crimes, and evidence collection.

PIVOT Squad Investigators:

Police Officer Chris Clarkson has been a police officer for 10 years. He has served in District Four and CPD's Vice Unit. He has specialized in long-term investigative work focused particularly on liquor permit premises with persistent violent crime issues. Officer Clarkson has received training in a wide array of investigative tools and techniques, including interview and interrogation and advanced vice and narcotics investigations. Officer Clarkson also serves in the CPD's Marine Patrol and Bike patrol. Officer Clarkson is a member of the United States Air Force reserves.

Police Officer Oscar Cyranek has served CPD for the past 10 years, in Districts 1, 3, 4, 5, District 4 Violent Crimes Squad, and Vice Unit. Officer Cyranek brings a variety of training and experience to the PIVOT unit. He received a Chief's Commendation for his early PIVOT work, which included the recovery of 6 firearms in the focus areas within a short period of time. Officer Cyranek is a United States Army veteran.

Police Officer Don Konicki has 17 years of experience as a police officer with the Cincinnati Police Department. He has previously served in District Four's Violent Crimes Squad, Vice Unit, Personal Crimes Unit, Major Offenders Unit, and the Central Business Section. Officer Konicki earned Bachelor and Master's Degrees in Criminal Justice from the University of Cincinnati. Officer Konicki currently serves in CPD's Honor Guard, the Civil Disturbance Response Team, CPD bike patrol, and has previously served in the United States Army.

Police Officer Gregory Vollner has served CPD for the past 10 years, in District 2 and 5, and assisted District 2's Violent Crimes Squad. Officer Vollner received Field Training Officer training, and participates in CPD bike patrol. He has a Master's Degree in Criminal Justice from the University of Cincinnati. He received a Chief's Commendation for his early PIVOT work, which included the recovery of 6 firearms in the focus areas within a short period of time.

Crime Analysis and Problem Solving Squad:

Senior Crime Analyst Blake Christenson is in his 3rd year of service with CPD. He received his B.A. in Geography from the University of Wisconsin-Eau Claire and his M.A. in Criminology and Criminal Justice from Southern Illinois University Carbondale. Senior Crime Analyst Christenson's work has been recognized with the Special Achievements in GIS (SAG) Award from ESRI. His areas of expertise include: crime and place, spatial analysis, evidence based policing, and environmental criminology.

Crime Analyst Brandon Kyle is completing his first year of service with the Cincinnati Police Department. He received Associates, Bachelor's and Master's Degrees in Criminal Justice from the University of Cincinnati. Crime Analyst Kyle has prior experience as a Crime Mapping Analyst, and has previously served in the United States Marine Corps. Mr. Kyle is a Purple Heart recipient.