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CENTER FOR BUSINESS  
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# Literature Review of Crime Prevention Strategies Applicable to Huntington District 3

## FINAL REPORT

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## Introduction

This literature review explores research conducted regarding the effectiveness of strategies developed to reduce the incidence of crime, focusing on crimes and initiatives that are applicable to Huntington's District 3. Analysis of incident data indicate the more common crimes that occur in the district are larceny and vandalism. Violent crimes are less common than property crimes, although the number of aggravated assaults increased between 2004 and 2013.<sup>1</sup>

The following review outlines the existing research on the relationship between crime and economic characteristics. Categories of crime prevention strategies particularly germane to economic development are then summarized. Finally, this review presents brief overviews of case studies – cities both geographically “close” to Huntington, WV and similar in size – where certain strategies have been implemented and documented.

## Crime and Economic Characteristics

A goal of this project is to evaluate the relationship between crime and economic activity. The essential question is the extent to which crime (of any sort) or a perception of crime (whether accurate or inaccurate) may affect business activity in an area and thus be correlated with economic conditions. While the literature maintains a clear association between crime and socioeconomic conditions<sup>2</sup>, existing research provides little consistent evidence to support the hypothesis that reducing the incidence of crime will cause economic growth. For example, research has found wages to be a significant determinant of crime, more important than the unemployment rate, and that economic factors are more important for crimes with a pecuniary motive than violent crime.<sup>3</sup> Thus, low wages are generally associated with higher rates of crimes such as burglary, larceny and robbery.

In contrast, analysis of FBI data from 10 states, including West Virginia, found that “despite poor economic conditions and high unemployment, residential burglary in the United States has decreased.”<sup>4</sup> An additional finding was that “increased guardianship engendered by more unemployed individuals being home during the day resulted in fewer burglaries.”<sup>5</sup> These results illustrate some of the difficulties in identifying causation of crime with respect to economic variables. Economic factors considered negative with respect to economic development, e.g. higher rates of unemployment or low labor force participation, may be associated with reduced crimes in some instances.

Existing literature on crime prevention provides some guidance on what type of crime to target. Research has placed attention on historical efforts to reduce disorder - classified as minor crimes and

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<sup>1</sup> Huntington Police Department (2014). Annual Report 2013.

<sup>2</sup> Grubestic, H. and E. Mack (2008). “Spatio-Temporal Interaction of Urban Crime.” *Journal of Quantitative Criminology*. 24.

<sup>3</sup> Gould, E., Weinburg, B., and Mustard, D. (1998). “Crime Rates and Local Labor Market Opportunities in the United States: 1979-1995.”

<sup>4</sup> D’Alessio, S., Stolzenberg, L. and Eitle, D. (2012). “Unemployment, Guardianship, and Weekday Residential Burglary,” *Justice Quarterly*, Vol. 20, No. 6.

<sup>5</sup> Ibid.

nuisance behaviors – in hopes of reducing more serious crime, i.e. violent crime. One study found that “places with disorder do not necessarily have violence problems and that correlation between the disorder and violence does not imply causality.”<sup>6</sup> For this study, “social disorder” was defined to include: disorderly conduct, noise, alcohol and public drinking, gambling, drug-related offenses (not including large scale drug trafficking), and prostitution. “Physical disorder” was defined to include: illegal dumping, litter, graffiti, weeds, vacant lots and buildings, abandoned cars on the street, junk storage, exterior abatement, substandard housing and minor property damage.

In spite of the above conclusion, other researchers advise that “regardless of whether disorder causes more serious crime, it is more firmly established that disorder can generate apprehension among citizens, a matter worthy of police attention in its own right.”<sup>7</sup> Huntington’s District 3 lacks high levels of violent crime but possesses social and physical disorder. Thus, reducing apprehension of residents, business owners and visitors to the area via a reduction in disorder may improve at least the perception of crime in the area. Researchers also advise crime reduction strategists to “not get bogged down in debates about the root causes of crime” such as poverty, joblessness, homelessness, racism, education deficiencies, and class conflict, as these factors do not necessarily directly cause crime and disorder.<sup>8</sup>

## Crime Prevention Strategy Categories

The attention to place of crime has increased with improved data and analytical tools, such that it is possible, and potentially desirable, to examine the crime characteristics of individual streets or blocks.<sup>9</sup> Thus the existing research supports the approach of identifying specific locations where crime occurs to target resources for prevention.

There are several broad approaches which seek to prevent future occurrence of crime. These strategies are oriented toward improved communities and quality of life for residents. Major categories of strategies outlined below are: Hot Spot Policing, Problem-Oriented Policing, Case of Places, Situational Prevention, and Environmental Design. All are examples of “evidence-based policing”, or strategic approaches that seeks to learn from prior crime-reduction efforts. “Evidence-based policing” is defined as “the use of the best available research on the outcomes of police work to implement guidelines and evaluate agencies, units and officers.”<sup>10</sup> The goal of “evidence-based policing” is to “move beyond the three Rs of policing (response, reactive investigations, and random patrol) to the three Ts of policing: targeting problems, high-risk people, and places; testing interventions; and tracking results and delivery of services.”<sup>11</sup>

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<sup>6</sup> Yang, S. (2009). “Do Broken Windows Cause Violence?” Department of Criminal Justice, Georgia State University. Congressional Briefing Presentation.

<sup>7</sup> Blant, J. and M. Scott (2009). “Effective Policing and Crime Prevention.” Center for Problem-Oriented Policing.

<sup>8</sup> Ibid.

<sup>9</sup> Groff, E., Weisburg, D. and Yang, S. (2010). “Is it Important to Examine Crime Trends at a Local “Micro” Level?: A Longitudinal Analysis of Street to Street Variability in Crime Trajectories.” *Journal of Quantitative Criminology*. 26:7-32; Taylor, B., Koper, C. and Woods D. (2011). “A Randomized Controlled Trial of Different Policing Strategies at Hot Spots of Violent Crime.” *Journal of Experimental Criminology*. 7: 149-181;

<sup>10</sup> Sherman, L. (2013)

<sup>11</sup> Ibid.

While the research supports a connection between evidence-based policing and declines in serious crime, there is little conclusive evidence establishing causality.<sup>12</sup> To provide guidance to law enforcement and communities, the Center for Evidence-Based Crime Policy (CEBCP) developed the Evidence-Based Policing Matrix. As evaluated by CEBCP, “hundreds of examinations of police activity exist, but there are only less than 150 currently that reach at least a moderate level of methodological rigor.”<sup>13</sup> The Evidence-Based Policing Matrix organizes studies according to three common dimensions of crime prevention: the nature of the target, the extent to which the strategy is proactive or reactive, and the specificity or generality of the strategy.<sup>14</sup>

### Hot Spot Policing

“Hot spot policing” is a key evidence-based strategy that involves systematic deployment of police officers to areas identified to have concentrated levels of crime. “Hot spot policing” is one of the most strongly supported police tactics with regards to evidence, but its success depends on dosage, timing, and what officers do when they are inside these concentrated areas of crime.<sup>15</sup> Results of a meta-analysis of multiple “Hot spot policing” initiatives suggests that this strategy “generates small but noteworthy crime reductions, and that these crime control benefits diffuse into areas immediately surrounding targeted crime hot spots.” Crime reduction strategies may focus both on identifying where crime takes place, “spatial hotspots,” and when crimes take place, or “temporal hotspots”.<sup>16</sup>

### Problem-Oriented Policing

“Problem-oriented policing” (POP) is a strategy that calls for police to focus on problems, instead of single incidents, and to be “proactive in identifying underlying problems that could be targeted to alleviate crime and disorder at their roots.”<sup>17</sup> POP places value on responses that are “preventive in nature, that are not dependent on the use of the criminal justice system, and that engage other public agencies, the community, and the private sector when their involvement has the potential for significantly contributing to the reduction of the problem.”<sup>18</sup> Additionally, POP interventions generate larger mean effect sizes when compared to interventions that simply increase levels of traditional police actions in crime hot spots.<sup>19</sup>

The Center for Problem-Oriented Policing in its “Problem-Oriented Guide for Mayors” has a section titled “Specific Responses to Some Common Public Safety Problems” that provides guidance on methods

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<sup>12</sup> Ibid.

<sup>13</sup> CEBCP (2013). Evidence-Based Policing Matrix. <http://cebc.org/evidence-based-policing/the-matrix/>

<sup>14</sup> Ibid.

<sup>15</sup> Koper, C. S. (2013). Putting Hot Spots Research into Practice. Presentation at the sixth international Conference on Evidence-Based Policing. Cambridge University, United Kingdom.

<sup>16</sup> Ratcliffe, J. (2004). “The Hotspot Matrix: A Framework for the Spatio-Temporal Targeting of Crime Reduction.” *Police Practice and Research*. 5(1): 05-23; Grubestic, H. and E. Mack (2008)

<sup>17</sup> Weisburd, D., Telep, C.W., Hinkle, J.C., and J. E. Eck. 2012. Crime Prevention Research Review No. 4: “The Effects of Problem-Oriented Policing on Crime and Disorder.” Washington, D.C.: U.S. Department of Justice, Office of Community Oriented Policing Services. First published 2010.

<sup>18</sup> Plant, J. and M. Scott (2009). “Effective Policing and Crime Prevention: A Problem-Oriented Guide for Mayors, City Managers, and County Executives.” Center for Problem-Oriented Policing.

<sup>19</sup> Braga, A. A., Papachristos, A.V., & Hureau, D. (2012). Hot spots policing and crime prevention: An updated systematic review and meta-analysis. *Justice Quarterly*.

of addressing specific crimes/issues.<sup>20</sup> The publication is a review of current public safety strategies and is focused on how local governments can work with police to address common public safety problems.

### Case of Places

“Case of Places” focuses detective activities on high-crime places as the investigative unit of analysis, as opposed to persons. The three principles behind Case of Places are: 1) devote as much resources to investigating problem places as to suspects, 2) use existing cultural and organizational structures to facilitate the place-based policing, as opposed to an ad hoc, special projects approach, and 3) acknowledge that place-based policing is a crime prevention concept strongly supported by research. For this approach the “suspect” might be a group of people, a building, a business, or something in the physical environment.<sup>21</sup>

### Situational Prevention

Similar to “case of places”, “situational prevention,” is a strategy that focuses on managing physical space to “design out” crime. This concept was developed in Britain, where researchers concluded that conventional justice system responses could not prevent crime. This approach was supported by older research which showed that misbehavior in juvenile institutions seemed to depend more on the way the institution was run than on the personality or the background of the juvenile, or that geographical factors such as the location of bars could be used to explain patterns of crime.<sup>22</sup>

### Environmental Design

“Crime prevention through environmental design” (CPTED) addresses the relationship between the physical environment and the incidence of crime.<sup>23</sup> CPTED applies to themes like visibility, territoriality, cohesion, accessibility, attractiveness, connectivity and community culture, but due to lack of evidence-based results needs a better knowledge base to prove ability to impact crime.<sup>24</sup> As described by the Bureau for Justice Assistance:

“[t]here are few process evaluations of CPTED, which limits what is known about how these strategies are implemented, whether they are implemented properly, and potential reasons for program failure. However, systematic reviews of CPTED evaluation studies as well as results from individual studies provide preliminary evidence that implementing CPTED strategies does impact crime. Overall, the evidence currently available on the effectiveness of CPTED indicates that these

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<sup>20</sup> Ibid.

<sup>21</sup> CEBCP (2013). *Case of Places*. Retrieved from Center For Evidence-Based Crime Policy:

<http://cebcp.org/evidence-based-policing/the-matrix/matrix-demonstration-project/case-of-places/>

<sup>22</sup> Linden, R. (2007, March). “Situational Crime Prevention: Its Role in Comprehensive Prevention Initiatives,” *IPC Review*, pp. 139-159.

<sup>23</sup> Saville, G., & Mangat, M. (2008). *Creating Safety & Sustainability through Community Building and Urban Design*. Local Initiatives Support Corporation.

<sup>24</sup> Linden (2007)

strategies are promising although more rigorous evaluations are needed to show more clearly how and why these strategies work.”<sup>25</sup>

One example of applying CPTED concepts in practice is the phased planning and problem-solving process to improve public safety established by SafeGrowth<sup>26</sup>. The purpose of the SafeGrowth model is to provide a “roadmap for integrating CPTED principles into a process that ensures that public safety concerns are a connected part of planning for neighborhood well-being.”<sup>27</sup>

There are three versions of CPTED in the SafeGrowth strategy<sup>28</sup>:

1. 1<sup>st</sup> Generation CPTED / Basic - Basic strategies include access control, natural surveillance and lighting, and maintenance;
2. 1<sup>st</sup> Generation CPTED / Advanced - Advanced strategies include movement predictors and wayfinding, crime generators, positive displacement control, and conflicting user groups;
3. 2<sup>nd</sup> Generation CPTED - These include social factors such as neighborhood cohesion, community culture, and connectivity to outside agencies. They also included a review of security procedures, such as tenant screening and assessing the demographics and capacity of the buildings.

The city of Durham, NC provides a guide to using crime prevention through environmental design (CPTED) on its website.<sup>29</sup> The promotion of this strategy is based on the county and city’s acceptance of the philosophy that “crime is a man-made hazard which can be resisted through quality design” but also acknowledging that it is “not considered possible to make a building or area crime-proof.” The guide describes various broad CPTED strategies, including the concepts of Natural Surveillance, Territorial Reinforcement, Natural Access Control, and Maintenance. Information is also provided on methods of applying these techniques to specific properties, e.g. single and multi-family homes, neighborhoods, commercial drive-throughs, office buildings, parking garages, public parks, etc. The document also provides tips on target hardening. A primary effect of CPTED strategies is to remove some of the low-risk situations that would-be criminals prefer due to public visibility.

## Crime Reduction Tactics

Crime prevention strategies provide frameworks for how communities and law enforcement may identify problem areas, potential solutions, and allocate resources. Crime reduction tactics are specific actions or interventions. The following crime reduction tactics were selected to align with the results of a survey executed by the Center for Business & Economic Research in May and June of 2015. Survey respondents consistently ranked improved lighting and reduction of dilapidated properties as

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<sup>25</sup> Bureau of Justice Assistance (n.d.). “What Have We Learned From Evaluations of Crime Prevention Through Environmental Design Strategies?” <https://www.bja.gov/evaluation/program-crime-prevention/cpted2.htm>

<sup>26</sup> <http://www.safegrowth.org/>

<sup>27</sup> Saville & Mangat (2008).

<sup>28</sup> <http://www.safegrowth.org/knowledge-bank.html>

<sup>29</sup> Durham City and County CPTED Private Sector Taskforce (n.d.). “CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN: Durham Guide to Creating a Safer Community.”



intervention strategies that they thought would be most effective in reducing crime in Huntington's District 3.<sup>30</sup>

### Improved Street Lighting

A review of available research evidence on the effects of improved street lighting indicates that improved street lighting does reduce crime. The two main theories for this conclusion are: 1) increased surveillance, via improved visibility and increased numbers of people on the street, increases deterrence of potential offenders, and 2) better lighting signals investment in an area and indicates improvement, which leads to increased community cohesiveness and informal social control. As the research indicates that nighttime crimes did not decrease more than daytime crimes, it is thought that a lighting initiative focused more on "increasing community pride and informal social control may be more plausible than a focus on increased surveillance and deterrence."<sup>31</sup> Further, a Swedish study of the benefits of improved street lighting concluded that it is "an inclusive intervention benefiting the whole of a neighborhood that leads to an increase in perceived public safety." The study also found that improved street lighting is associated with greater positive use of public space and neighborhood streets.<sup>32</sup>

According to the Center for Problem-Oriented Policing "improved street lighting is widely thought to be an effective means of preventing crime, second in importance only to increased police presence." The Center has published a guide detailing the considerations that should be weighed in pursuing a lighting improvement project, and lists steps that should be followed to install or improve lighting. Suggestions of measures that can be used to assess the effectiveness of implemented lighting solutions is also included.<sup>33</sup>

### Dilapidated Properties

Another crime prevention strategy is to eliminate blight caused by properties that are abandoned or dilapidated. There is extensive debate on what causes a community to have periods of deterioration and rejuvenation, but there is much greater consensus as to the harms vacant and abandoned properties inflict.<sup>34</sup>

"Vacant and abandoned properties, whether residential or commercial, create costly problems for cities. They are a drain on city budgets. They detract from the quality of life, as well as the economic opportunities, of those living around them. They are an impediment to individual

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<sup>30</sup> Center for Business & Economic Research (2015). "Survey of Business and Resident Perceptions of Crime in Downtown Huntington."

<sup>31</sup> Welsh BP, Farrington DC (2008). Effects of improved street lighting on crime. *Campbell Systematic Reviews* 2008:13. DOI: 10.4073/csr.2008.13

<sup>32</sup> Welsh, B and D. Farrington (2007). "Improved Street Lighting and Crime Prevention: A Systematic Review." Report for the Swedish National Council for Crime Prevention.

<sup>33</sup> Clarke, Ronald (2008). "Improving Street Lighting to Reduce Crime in Residential Areas." Response Guide No. 8, Center for Problem-Oriented Policing.

<sup>34</sup> Alexander, F. and L. Powell (2011). "Neighborhood Stabilization Strategies for Vacant and Abandoned Properties," *Zoning and Planning Law Report*, Vol. 34, No. 8.

neighborhood redevelopment and, ultimately, to achievement of city-wide economic development goals.”<sup>35</sup>

Many cities, including Huntington, have undertaken initiatives to reduce the number of abandoned and dilapidated properties, citing crime reduction and potential disinvestment as motivations for such efforts.<sup>36</sup> A “best practices” document provides examples of actions that can be taken:

- Create an ordinance that defines a vacant structure or building and details the obligations of owners of vacant or abandoned buildings
- Involve building and safety management staff members with counterparts in other major cities at the national level in efforts to provide uniform and more constant code and ordinance enforcement.
- Put in place a housing receivership law that applies to egregious properties with a long history of code violations and public safety complaints.
- Adopt an urban land use plan that requires property owners to develop their property in accordance and allows the city to acquire property at fair market value when land owners are unable or unwilling to follow the plan.

### Other Specific Responses

The Center for Problem-Oriented Policing in its “Problem-Oriented Guide for Mayors” has a section titled “Specific Responses to Some Common Public Safety Problems” that provides guidance on methods of addressing specific crimes/issues.<sup>37</sup> The publication is a review of current public safety strategies and is focused on how local governments can work with police to address common public safety problems. Select problems/strategies outlined in the report that may be relevant to District 3 include:

- Control Alcohol Distribution and Consumption
  - Ensure there is meaningful enforcement of alcohol regulations.
  - Set a tone that promotes responsible alcohol distribution and consumption in your community.
  - Encourage and compel responsible licensed-establishment management.
- Expect Property Owners and Managers to Control Activity in and around Their Properties
  - Establish a normal or acceptable level of problems at rental properties, motels, and lodging houses, and put owners and managers on official notice when problems exceed that level.
  - Use nuisance abatement procedures to recover the costs associated with policing problem establishments.
  - Enforce relevant building and health codes, and business license requirements.
- Reduce Vehicle Crime
  - Concentrate prevention measures on those lots, structures, streets, blocks, and neighborhoods where the crimes are concentrated.
  - Put people in the parking lots and structures.

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<sup>35</sup> City Policy Associates (2006). “Combating Problems of Vacant and Abandoned Properties.” Prepared for The United States Conference of Mayors.

<sup>36</sup> Ibid.

<sup>37</sup> City Policy Associates (2006). “Combating Problems of Vacant and Abandoned Properties.” Prepared for The United States Conference of Mayors.

- Design parking lots and structures properly: secure the lots' and structures' perimeters with transparent barriers, improve lighting and signs, use video surveillance, and/or require drivers to present a time-stamped ticket received at entry in order to exit.
- Prevent Repeat Burglaries
  - Do not depend solely on alarms to prevent burglary.
  - Neighborhood watch programs, although popular, are not always effective in preventing burglary.
  - Modify building codes to encourage or require good burglary-prevention design and construction.
  - Monitor and regulate common outlets for stolen property, such as pawn shops, secondhand shops, and scrap-metal dealerships.
- Prevent Shoplifting
  - Clarify the circumstances under which police will respond to retail thefts, and the respective responsibilities of the police and merchants.
  - Persuade retailers to improve store layout and merchandise displays based on an analysis of what types of merchandise are being stolen, and where.
  - Work with the courts to establish a first-time offender program to streamline the adjudication process and minimize the costs to local government agencies.
- Control Disorderly Behavior on the Streets
  - Recognize that most courts deem panhandling constitutionally protected activity, but governments can prohibit aggressive panhandling and panhandling at certain locations.
  - Ensure that truly needy people have access to emergency food, clothing, shelter, and medical care.
  - Ensure that police can quickly access mental health services to help them deal with people in mental crisis.
- Control Street Prostitution
  - Change the physical and commercial environment where prostitution markets exist to make them less attractive to prostitutes.
  - Establish or support programs to educate, counsel, and deter prostitutes and their clients from continuing their activity.
  - Be careful about publicly shaming prostitutes or their clients.

## Examples from Peer Cities

The following examples illustrate the implementation of hot spot analyses and place-based solutions for crime reduction. Cities were selected on the basis of population and location, those most similar to Huntington, WV. Examples were primarily taken from a collection of projects submitted as candidates for the Herman Goldstein Award by the Center for Problem-Oriented Policing. The award “recognizes outstanding police officers and police agencies that engage in innovative and effective problem-solving efforts and achieve measurable success in reducing specific crime, disorder, and public safety problems.”<sup>38</sup> With the exception of the Manhattan, KS study these are not academic studies but are examples of initiatives cities have taken that fall under the strategy of problem-oriented policing.

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<sup>38</sup> <http://www.popcenter.org/library/awards/goldstein/>

### **Lima, Ohio – Population: 40,000**

The city of Lima, Ohio deployed a strategy of “pin-point patrolling” to counter a rise in crime that was believed to be related in to the introduction of crack-cocaine within the community in the 1980s. Neighborhood police officers were assigned to specific outstations and tasked with identifying problems within their respective neighborhoods and bringing together the resources necessary to solve or reduce the impact of the problems identified. The approach is an example of community-oriented and problem-oriented policing. This initiative is considered successful as the pilot neighborhood for implementation changed from accounting for approximately nineteen percent of all calls for service to the Lima Police Department to less than five percent of all calls for service one year after the program began.<sup>39</sup>

### **Joplin, Missouri – Population: 51,000**

Joplin, MO implemented a street lighting initiative, installing of new lights according to crime data in eight targeted places. The City Public Works Department targeted the areas where new streetlights were to be installed and augmented that action with attention to the infrastructure of the neighborhood; road conditions, sidewalk repair, and code enforcement. The police department’s Special Enforcement Bureau also developed action plans for neighborhoods where the most interest was shown.”<sup>40</sup>

The effectiveness of the program was evaluated by comparing crime data before new streetlight installation and after. The neighborhood perception of security was also surveyed. Results showed significant reductions in crime in all eight sub beats and an improved sense of security among residents. Crimes identified as most likely to be affected improved lighting were: burglary, theft from vehicle, larceny, vandalism, and vehicle theft. In the first two years of the initiative these five crime types were reduced by a total of 47%.<sup>41</sup>

### **Manhattan, Kansas – Population: 56,000**

A hot spot policing initiative in Manhattan, KS was undertaken to determine the ability to impact crime with police presence in micro areas. The hot spots were identified using historical crime data. The project was labelled “Initiative: Laser Point” and targeted street-length segments that experienced a relatively high number of crime incidents over the previous 12 months. The project resulted in a statistically significant decrease in crimes and calls for service across all hot spots during the trial; although no difference in crimes were found between hot spots where officers were only visible and areas where officers were visible and engaged in normal policing activity.<sup>42 43</sup>

### **High Point, North Carolina – Population: 95,000**

The city of High Point, NC undertook an initiative to eliminate “overt” drug markets – street sales, and associated drug houses – citywide. The goals were to reduce harms associated with the markets

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<sup>39</sup> Lima Police Department (2010). “Reducing Crime and Disorder in Lima, Ohio Utilizing Pin-Point Patrolling.”

<sup>40</sup> Joplin Police Department. (2010). “Public Safety Streetlight Enhancement.” Joplin.

<sup>41</sup> Ibid.

<sup>42</sup> “Research in Brief: Hot Spot Policing at Work in Non-Urban Jurisdictions.”

<sup>43</sup> The methodological rigor with which this initiative was conducted allowed it to be included in the Evidence-Based Studies Matrix, which only profiles crime initiatives with quantifiable results based on academic standards of statistical significance.

including violence, disorder, prostitution, economic devaluation and disinvestment, but were also explicitly framed to include “damage to race relations associated with the usual frameworks on drug issues, and the individual and community harms created by traditional drug enforcement.”<sup>44</sup> The initiative was a series of “interventions” in each identified market.

Because the city believed many of the problems associated with “the drug problem” to be a function of overt, disorderly drug markets, rather than with drugs as such, the project was thus framed not as doing something about drugs but as eliminating overt drug markets. The project evolved from an earlier Violent Crime Task Force initiated in the 1990s that included research partners from Harvard University as well as Federal agencies, city agencies and community groups. Overt drug markets were identified based on mapped drug arrests, calls for service, field contacts, and related offenses, e.g. Part I, weapons, sexual, and prostitution offenses. Following identification of active players in a market, a key point in an intervention was a “notification” at which “law enforcement, community members, and service providers delivered a unified message to dealers in the company of their families.” The project was considered to be successful, as the city’s report on the initiative states the markets were eliminated.<sup>45</sup>

#### **Dayton, Ohio – Population: 141,000**

The “Bar Safe” initiative in Dayton, OH was founded after an initial analysis demonstrated that bars and nightclubs accounted for 40% of all of downtown Dayton’s violent crime. The primary goal of the initiative was to create downtown community expectations for bar operations and obtain voluntary compliance by bar and nightclub owners. The secondary goal was to reduce assaults at liquor establishments. Bar Safe is a program designed to train bar owners and managers to more effectively manage their establishments and reduce the number of assaults and other targeted crimes in and around their establishments.

Several of the goals of the Bar Safe training regard relations with law enforcement and compliance with liquor laws. Others involve training for dealing with a variety of bar-related issues, included irate customers. One goal regards improving a liquor permit environment through CPTED. The City Commission directs problem bars that come to their attention to attend the Bar Safe training sessions. The Bar Safe initiative engaged the downtown community and resulted in a 50% reduction in serious assaults while minor assaults rose only slightly, even with an increase in downtown bars.<sup>46</sup>

#### **Richmond, Virginia – Population: 214,000**

The Case of Places strategy developed by the Center for Problem-Oriented Policing was applied in Richmond, Virginia in an area that had seen growth and the emergence of new restaurants, bars, clubs, as well as businesses and residential units. This economic development provided opportunities for crime during certain times of the day and days of the week. Theft from vehicles during the night when bars and clubs were open was a particularly common problem. The police department also saw an uptick in assaults and shootings after young people left clubs and bars.<sup>47</sup>

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<sup>44</sup> High Point Police Department (2006). “Eliminating Overt Drug Markets in High Point, North Carolina.”

<sup>45</sup> High Point Police Department (2006). “Eliminating Overt Drug Markets in High Point, North Carolina.”

<sup>46</sup> Dayton Police (2011). “Safer Bars for a Safer Community - Dayton, Ohio.”

<sup>47</sup> Renee Tate, T. N. (2013). Case of Places. *Translational Criminology*, pp. 18-21.

Several specific place-based issues were identified in the area. These included recurring crimes such as theft from vehicles; complaints about a specific eating establishment; bus stops, alleys, and bus lines that provided opportunities for crime; and parking lots with obstructed views. Environmental conditions such as overgrown trees and bushes, poor lighting, natural voids around buildings that blocked visibility, graffiti, and building abandonment that contributed to these problems were also identified. The Richmond Police Department was able to use this information about the nature of the place to identify ways in which the location might be remediated, and which police units or other city agencies could help resolve the problem. Investigation also led to a new focus on three micro places within the initial target area.<sup>48</sup>

## Key Strategies

The extensive collection of crime prevention literature devoted to evidence-based strategies provides many examples of successful initiatives that can be models for Huntington's District 3. The overarching goals of these approaches are to prevent future crime, and in the process create communities where residents and visitors perceive crime to be low. Many of the tools of these strategies involve community building and urban design.

The HPD Stakeholder group will review the evidence, as characterized by the crime data, and select the strategy or strategies to address the problems selected as priorities. In comparison to the broader actions advised by the SafeGrowth phased process, the BCJI HPD team is engaged in items #1 through #4 via community outreach and surveys. Although the process was developed for CPTED, the overall strategy may be adaptable to whatever approach is selected. The SafeGrowth process is:<sup>49</sup>

1. Establish a community voice (form a safety panel)
2. Create a neighborhood profile (data collection)
3. Form local priorities (develop a plan)
4. Encourage community engagement (invite resident input)
5. Implement a plan
6. Adapt the plan according to community needs.

CPTED is a broad strategy that could have applicability to Huntington District 3. The Bureau of Justice Assistance created the following outline of CPTED strategies to facilitate successful implementation in communities.

- Prepare
  - Identify the goals of the intervention.
  - Conduct a community needs assessment to determine the most effective CPTED strategy or strategies that will be both directly related to the crime and address the local environment.
  - Develop a plan to sustain the CPTED strategy before program implementation.
  - Develop cooperative partnerships with community stakeholders to gain support for the CPTED strategy.
- Implement
  - Apply CPTED principles in broader community planning and design.
  - Clearly define borders of controlled space with physical or symbolic barriers.

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<sup>48</sup> Ibid.

<sup>49</sup> Saville (2008).

- Put unsafe activities in safe areas (e.g., place automated teller machines (ATMs) in well-lit, high traffic areas).
- Put areas where groups gather in locations with natural surveillance and access control.
- Several CPTED strategies can be implemented for low or no cost (e.g., cutting shrubbery, removing signs that block the view of store personnel) after construction.
- Evaluate
  - Ensure accurate crime data and information is available to the community.
  - Document other events/factors that could be responsible for any observed changes that might be attributed to the implementation of the CPTED strategy.
  - Collect data to assess the degree to which the CPTED strategy is implemented according to original plans.

The City of Huntington has already engaged in several initiatives similar to those described in this review. For example, Huntington already has programs in place for dealing with abandoned properties, such as the Huntington Urban Renewal Authority's Land Bank.<sup>50</sup> This program allows the Land Bank to acquire vacant and abandoned tax delinquent property and to market the property to individuals, developers and non-profit organizations for development.<sup>51</sup> Thus, a strategy that targeted additional reduction in dilapidated properties would need to incorporate the current approach to see where value could be added.

The Mayor's Office of Drug Control Policy has outlined several objectives and strategies for addressing the city's drug problem. These strategies are targeted at prevention, treatment and rehabilitation, but also include enforcement and research and education goals. A specific short-term activity of the office that involves the HPD is adoption of the LEAD (Law Enforcement Assisted Diversion) Program. LEAD is a "pre-booking diversion program that allows law enforcement to redirect low-level offenders engaged in drugs or prostitution activity to treatment services instead of jail and prosecution," and designed for addicts to kick their habits and give those who survive by selling drugs an opportunity at legitimate employment.<sup>52</sup>

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<sup>50</sup> City of Huntington. <http://www.cityofhuntington.com/residents/landbank> (accessed September 2015).

<sup>51</sup> Huntington Urban Renewal Authority. [http://www.huralandbank.com/pdfs/important\\_information\\_for\\_all\\_land\\_bank\\_applicants.pdf](http://www.huralandbank.com/pdfs/important_information_for_all_land_bank_applicants.pdf) (accessed September 2015)

<sup>52</sup> City of Huntington. <http://www.cityofhuntington.com/city-government/mayors-office-of-drug-control-policy> (accessed September 2015)

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# Huntington District 3 Crime Incident and Hot Spot Analysis

## FINAL REPORT

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The contents of this report reflect the views of the authors, who are responsible for the accuracy of the data presented herein. The views expressed in this report are those of the authors and do not reflect the official policy or position of Marshall University or its governing bodies. The use of trade names, if applicable, does not signify endorsement by the authors.

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## I. Crime Statistics

This analysis is based on crime incident data provided by the Huntington Police Department (HPD) for the years 2004 through 2014. Counts of criminal incidents are shown in tables by major categories of crime for District 3 and, for comparison, the balance of the City of Huntington. Data is also shown in maps using geospatial analysis software to identify the location of hot spots within the district.

Rates of crime (incidents per 1000 people) of the district are shown in Table 1 for District 3 compared to the balance of the City of Huntington as a whole for the year 2010.

**Table 1: Per Capita Crime – District 3 and Balance of City Comparison, 2010**

	<b>District 3</b>		<b>Balance of the City</b>	
	<b># of Incidents</b>	<b>Per Capita*</b>	<b># of Incidents</b>	<b>Per Capita*</b>
<b>Violent</b>	<b>54</b>	<b>10.54</b>	<b>182</b>	<b>4.14</b>
<i>Aggravated Assault</i>	16	3.12	51	1.16
<i>Forcible Rape</i>	7	1.37	14	0.32
<i>Murder/Homicide</i>	0	0.00	1	0.02
<i>Robbery</i>	31	6.05	116	2.64
<b>Property</b>	<b>413</b>	<b>80.59</b>	<b>2054</b>	<b>46.67</b>
<i>Arson</i>	3	0.59	20	0.45
<i>Burglary</i>	103	20.10	655	14.88
<i>Larceny</i>	275	53.66	1270	28.86
<i>Motor Vehicle Theft</i>	32	6.24	109	2.48
<b>Part II</b>	<b>757</b>	<b>147.71</b>	<b>2663</b>	<b>60.50</b>
<i>Destruction/Damage/Vandalism</i>	109	21.27	521	11.84
<i>Disorderly Conduct/Drunkenness</i>	67	13.07	84	1.91
<i>Drug</i>	42	8.20	124	2.82
<i>DUI</i>	65	12.68	95	2.16
<i>Fraud/Counterfeit/Forgery/Embezzlement</i>	65	12.68	156	3.54
<i>Other Part II</i>	276	53.85	1050	23.86
<i>Prostitution</i>	6	1.17	10	0.23
<i>Sex Offense</i>	2	0.39	26	0.59
<i>Simple Assault</i>	117	22.83	555	12.61
<i>Weapon Law Violation</i>	8	1.56	42	0.95

\*Per Capita crime is reported as incidents per 1,000 people.

Per capita crime rates are higher in District 3 as compared to the Balance of the City in every category except Murder/Homicide and Part II Sex Offense. In many cases, District 3 per capita crimes rates are double or triple those of the Balance of the City. The most notable differences in District 3 crime rates are present in Forcible Rape, Disorderly Conduct/Drunkenness, DUI, and Prostitution. These four categories have District 3 rates that are four to seven times higher than the Balance of City rates.

Additionally, Aggravated Assault and Robbery rates are about 3 times higher in District 3 than the Balance of the City.

Tables 2 and 3 show total number of incidents for 2004, 2013 and 2014. Robbery is the most common Violent crime for both District 3 and the Balance of City. (In 2014, Aggravated Assault is the most common Violent crime for the Balance of City.) Larceny is the most common Property crime for both areas in all years. Destruction/Damage/Vandalism and Simple Assault are the most prevalent Part II crimes.

**Table 2: District 3 Crime Data – Short-term and Long-term Change**

	<u>2004</u>	<u>2013</u>	<u>2014</u>	<u>Short-term Change</u>	<u>Long-term Change</u>
<b>Violent</b>	<b>66</b>	<b>57</b>	<b>42</b>	<b>-26%</b>	<b>-36%</b>
<i>Aggravated Assault</i>	25	24	17	-29%	-32%
<i>Forcible Rape</i>	6	8	6	-25%	0%
<i>Murder/Homicide</i>	2	0	0	0%	-100%
<i>Robbery</i>	33	25	19	-24%	-42%
<b>Property</b>	<b>622</b>	<b>509</b>	<b>512</b>	<b>1%</b>	<b>-18%</b>
<i>Arson</i>	2	2	12	500%	500%
<i>Burglary</i>	134	110	109	-1%	-19%
<i>Larceny</i>	438	373	365	-2%	-17%
<i>Motor Vehicle Theft</i>	48	24	26	8%	-46%
<b>Part II</b>	<b>1,289</b>	<b>754</b>	<b>614</b>	<b>-19%</b>	<b>-52%</b>
<i>Destruction/Damage/Vandalism</i>	254	109	108	-1%	-57%
<i>Disorderly Conduct/Drunkenness</i>	58	39	35	-10%	-40%
<i>Drug</i>	65	27	53	96%	-18%
<i>DUI</i>	56	90	66	-27%	18%
<i>Fraud/Counterfeit/Forgery/Embezzlement</i>	96	53	51	-4%	-47%
<i>Other Part II</i>	546	284	165	-42%	-70%
<i>Prostitution</i>	15	13	14	8%	-7%
<i>Sex Offense</i>	9	4	2	-50%	-78%
<i>Simple Assault</i>	178	125	102	-18%	-43%
<i>Weapon Law Violation</i>	12	10	18	80%	50%

**Table 3: Balance of City Crime Data – Short-term and Long-term Change**

	<u>2004</u>	<u>2013</u>	<u>2014</u>	<u>Short-term Change</u>	<u>Long-term Change</u>
<b>Violent</b>	<b>166</b>	<b>160</b>	<b>185</b>	<b>16%</b>	<b>11%</b>
<i>Aggravated Assault</i>	60	55	88	60%	47%
<i>Forcible Rape</i>	30	17	16	-6%	-47%
<i>Murder/Homicide</i>	1	5	4	-20%	300%
<i>Robbery</i>	75	83	77	-7%	3%
<b>Property</b>	<b>2504</b>	<b>2389</b>	<b>2321</b>	<b>-3%</b>	<b>-7%</b>
<i>Arson</i>	9	20	19	-5%	111%
<i>Burglary</i>	663	820	745	-9%	12%
<i>Larceny</i>	1649	1446	1429	-1%	-13%
<i>Motor Vehicle Theft</i>	183	103	128	24%	-30%
<b>Part II</b>	<b>3718</b>	<b>2739</b>	<b>2408</b>	<b>-12%</b>	<b>-35%</b>
<i>Destruction/Damage/Vandalism</i>	742	474	409	-14%	-45%
<i>Disorderly Conduct/Drunkenness</i>	101	46	55	20%	-46%
<i>Drug</i>	246	146	168	15%	-32%
<i>DUI</i>	200	214	205	-4%	3%
<i>Fraud/Counterfeit/Forgery/Embezzlement</i>	151	209	136	-35%	-10%
<i>Other Part II</i>	1586	1070	942	-12%	-41%
<i>Prostitution</i>	6	4	5	25%	-17%
<i>Sex Offense</i>	29	29	23	-21%	-21%
<i>Simple Assault</i>	612	499	402	-19%	-34%
<i>Weapon Law Violation</i>	45	48	63	31%	40%

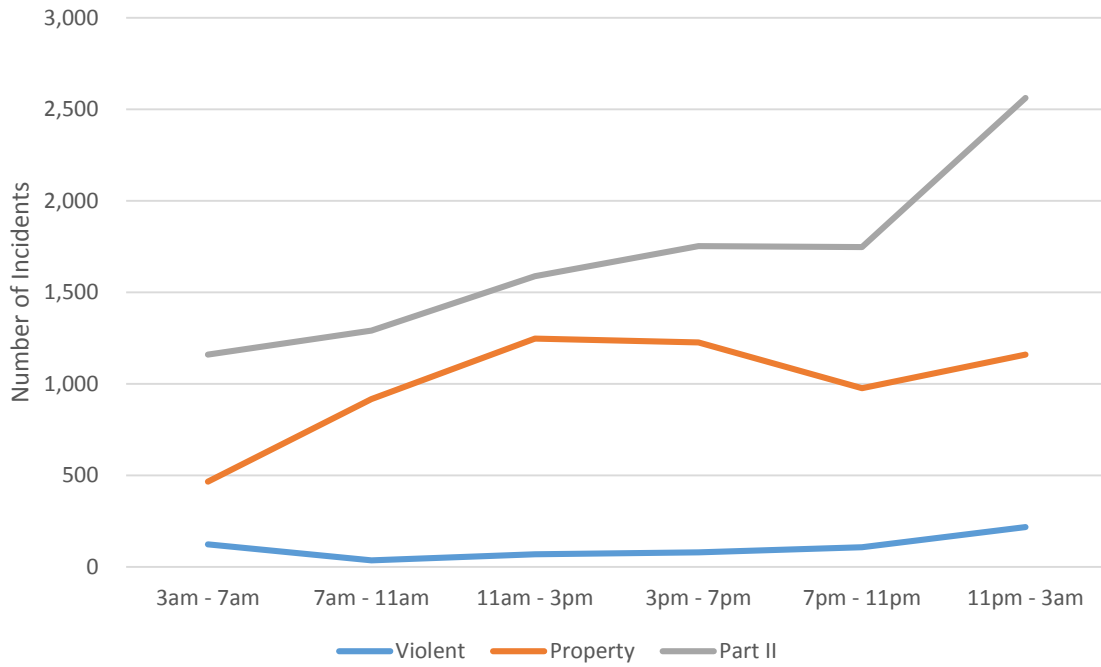
Most crime types show a long-term decline in District 3; however, Property crime (as a whole), Arson, Motor Vehicle Theft, Drug-related crime, Prostitution, and Weapon Law Violations show increases in the short-term.<sup>1</sup> Most notably incidences of Arson have increased in District 3 from two cases in 2013 to twelve in 2014.

Figures 1 and 2 show the incidence of crime by major type (Part I Violent, Part I Property, Part II) by time of day for District 3 and the Balance of City.

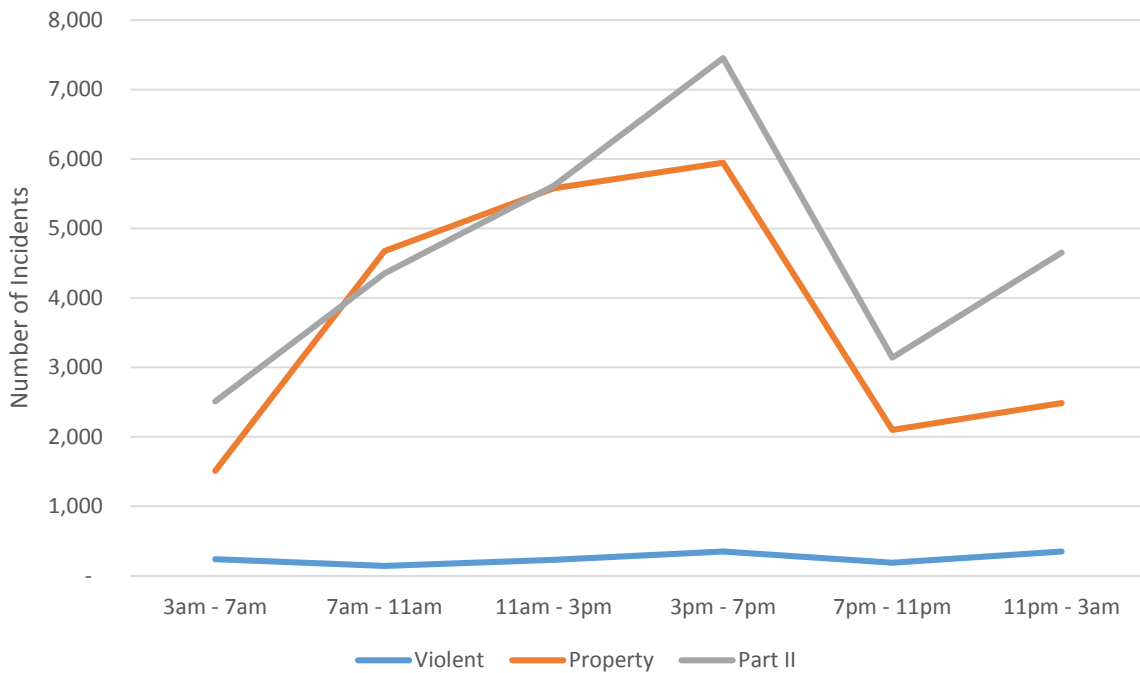
<sup>1</sup> Short-term change is calculated as the rate of change from 2013 to 2014. Long-term change is the rate of change from 2004 to 2014.



**Figure 1: District 3 Crimes by Time of Day, 2004-2014**

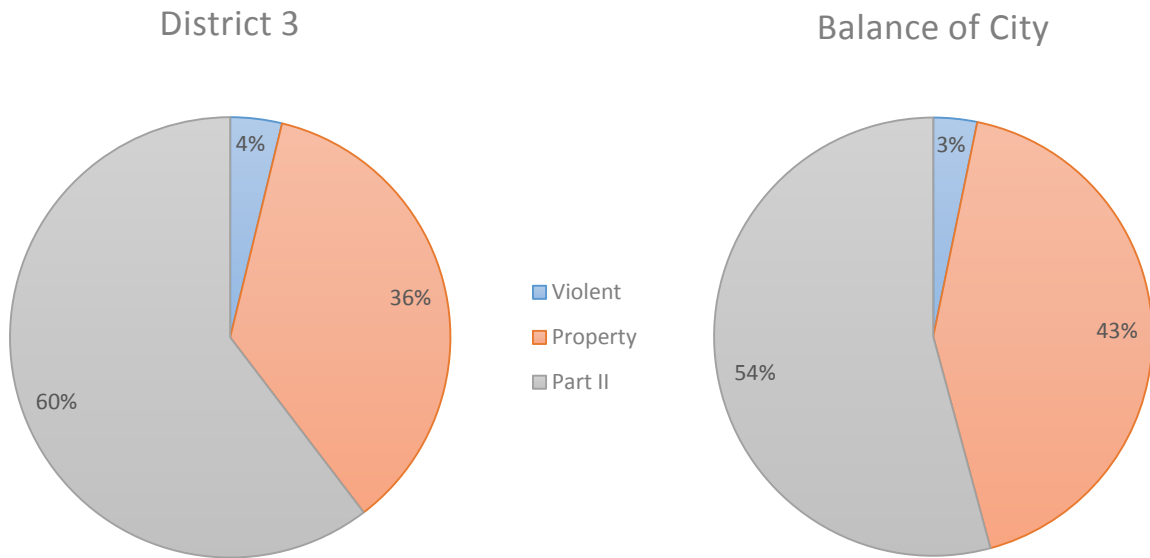


**Figure 2: Balance of City Crimes by Time of Day, 2004-2014**



Analysis of crime by time of day shows similar trends for both District 3 and the Balance of City. Violent crimes are most prevalent during the third shift which includes the 11pm-3am and 3am-7pm time frames. Property crime is most common during working hours in the Balance of City (7am – 7pm) while Property crime in District 3 occurs most during the afternoon (11am – 7pm) and late evening (11pm – 3am). Part II crimes follow the same as Property crimes for the Balance of City. Part II crimes are concentrated in the 11pm – 3am hours in District 3.

**Figure 3: Proportion of Crime in District 3 and Balance of City**



	<u>2004</u>		<u>2013</u>		<u>2014</u>		<u>All Years</u>	
	District 3	Balance	District 3	Balance	District 3	Balance	District 3	Balance
<b>Violent</b>	66	166	57	160	42	185	634	1,947
<b>Property</b>	622	2,504	509	2,389	512	2,321	5,996	25,692
<b>Part II</b>	1,289	3,718	754	2,739	614	2,408	10,101	32,713

## II. Nearest Neighbor Hierarchical Cluster Analysis

To illustrate the existence of potential crime hotspots, Nearest Neighbor Hierarchical Cluster Analysis (NNH)<sup>2</sup> was performed on incident data provided by the Huntington Police Department (HPD). Data were divided first into two major categories of interest – Part I Violent and Part I Property. Larceny (a Part I Property subcategory) and Vandalism (a part II subcategory) incidents were also analyzed. NNH analyses were run on crime data for all years (2004 through 2014) pooled, and on individual years (2004, 2013, and 2014) to illustrate long- and short-term changes. Indirect (Manhattan) distance<sup>3</sup> measurement was used to account for likely paths of travel along city blocks. The analysis compared crime incident locations to determine if incident pairs occurred within a 0.25 mile radius (approximately four city blocks). A minimum of ten incidents within the radius was required to define a potential cluster.

The following maps display the results, including the mean centers of clusters and one-standard deviation ellipses. Ellipses are shaded based on the number of incidences, or frequency (FREQ), occurring within the defined area. In other words, darker shaded areas indicate a higher concentration of incidents. Ranges for display are based on quartiles where a sufficient number of incidents exist to identify differing concentrations.

As displayed in Figures 5 and 6, Part I Violent crime exhibits one potential cluster in 2013 and 2014, located along 4<sup>th</sup> Avenue towards the eastern portion of District 3. This cluster consisted of 11 incidents in 2014 and 22 incidents in 2013. The remaining Part I violent crime incidents are distributed sufficiently randomly throughout the District. In contrast, the 2004 incident data displays four potential clusters in District 3 (see Figure 7).

Part I property crime occurs in four potential clusters across District 3 in 2014 (see Figure 9). The most concentrated clusters appear just south of 5<sup>th</sup> Avenue on the western side of the district and just west of Hal Greer Boulevard. Part I property crime clusters are driven largely by Larceny, which is the largest category of Part I Property crime in District 3 (see Figures 9 – 15). As displayed in Figure 13 Larceny incidents in 2014 remain prevalent in the center of the District, compared with 2004 (see Figure 15); however clusters in the western portion of the District manifest more prominently in 2014 as well. Similarly, a cluster of vandalism incidents arises in 2014 in the western portion of the District, compared to 2004 (see Figures 17 and 19).

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<sup>2</sup> CBER performed the analyses using the CrimeStat IV program.

<sup>3</sup> <http://xlinux.nist.gov/dads/HTML/manhattanDistance.html>,  
<https://www.icpsr.umich.edu/CrimeStat/files/CrimeStatChapter.3.pdf>

Figure 4: Part I Violent Incidents Clusters, All Years

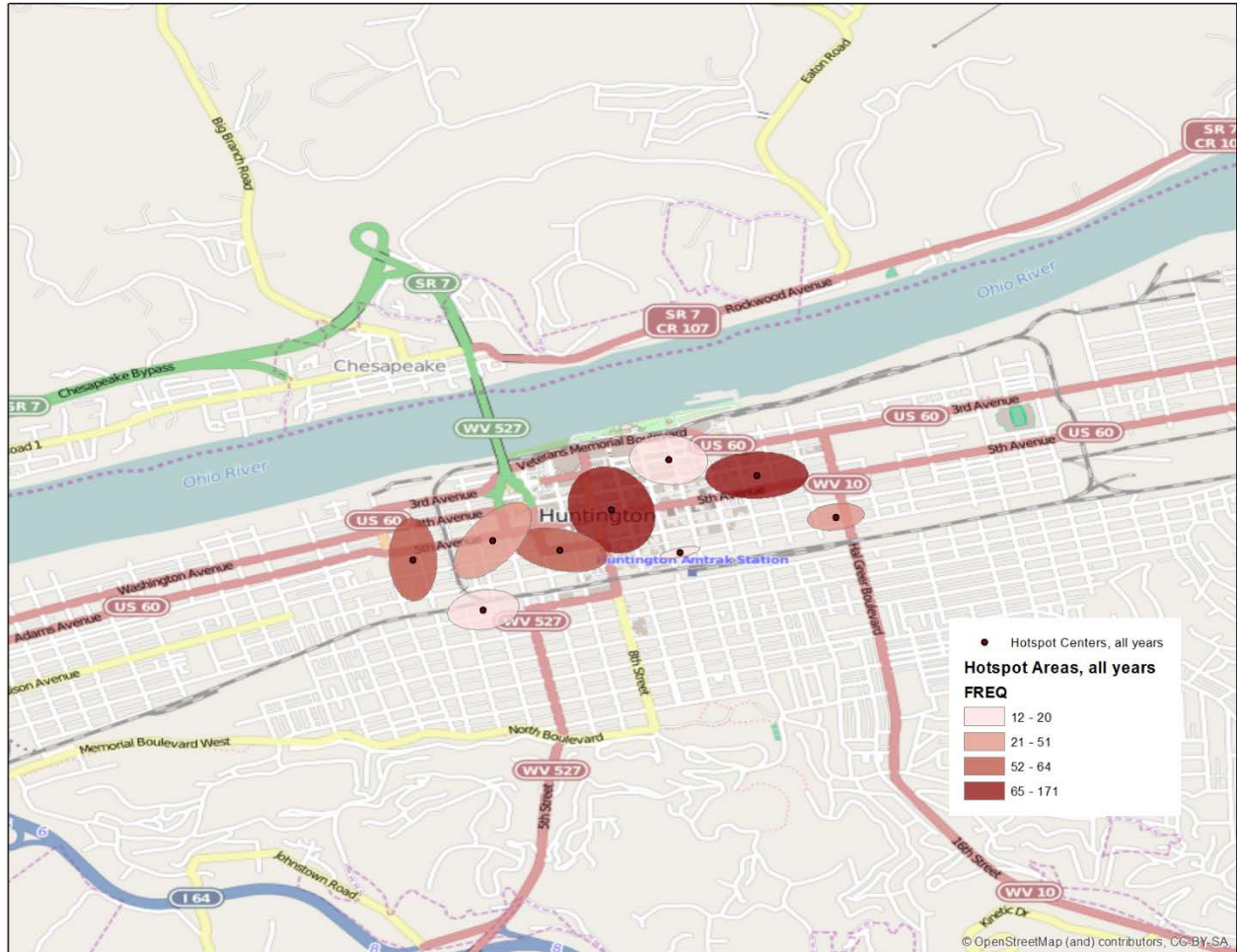


Figure 5: Part I Violent Incidents Clusters, 2014

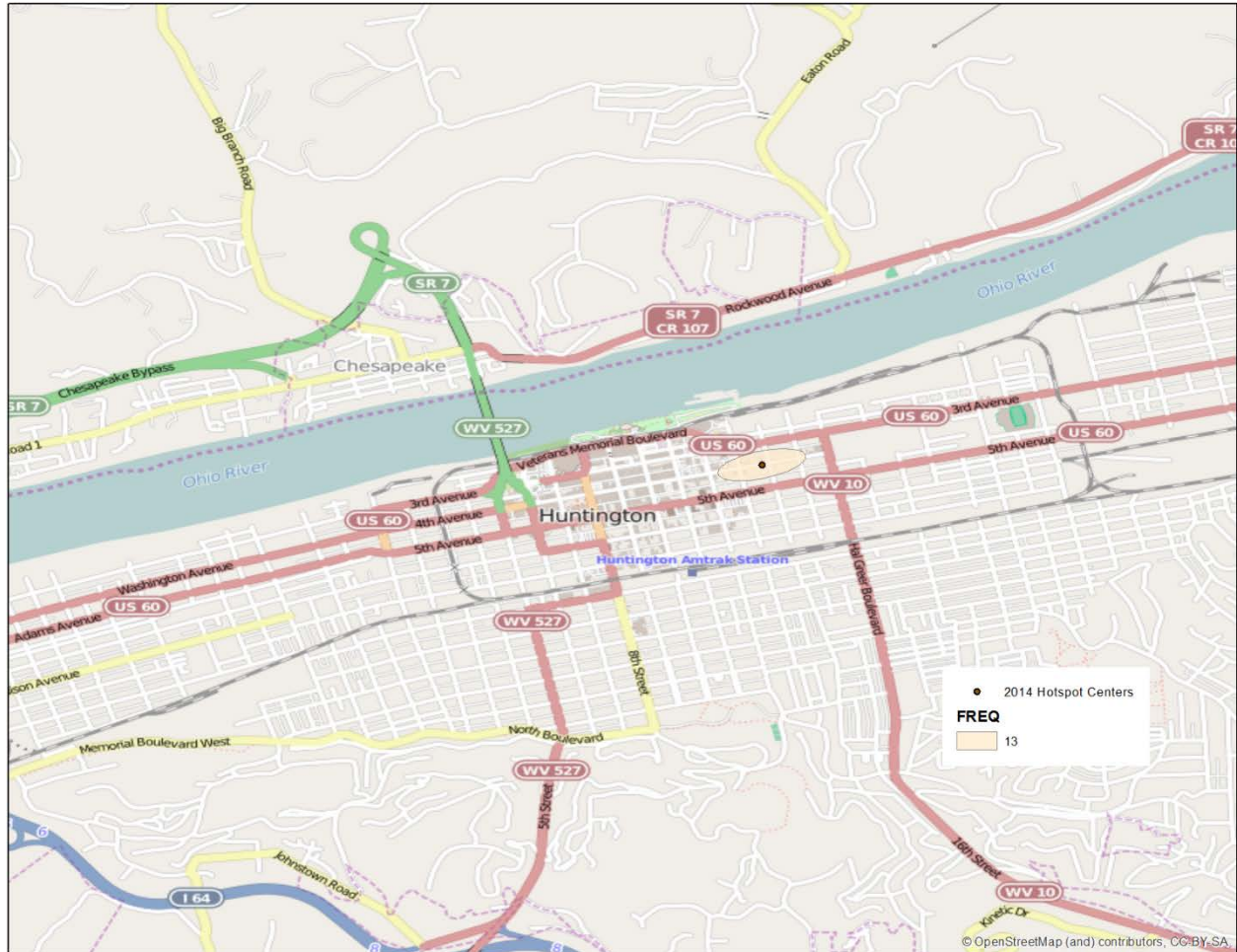


Figure 6 Part I Violent Incidents Clusters, 2013

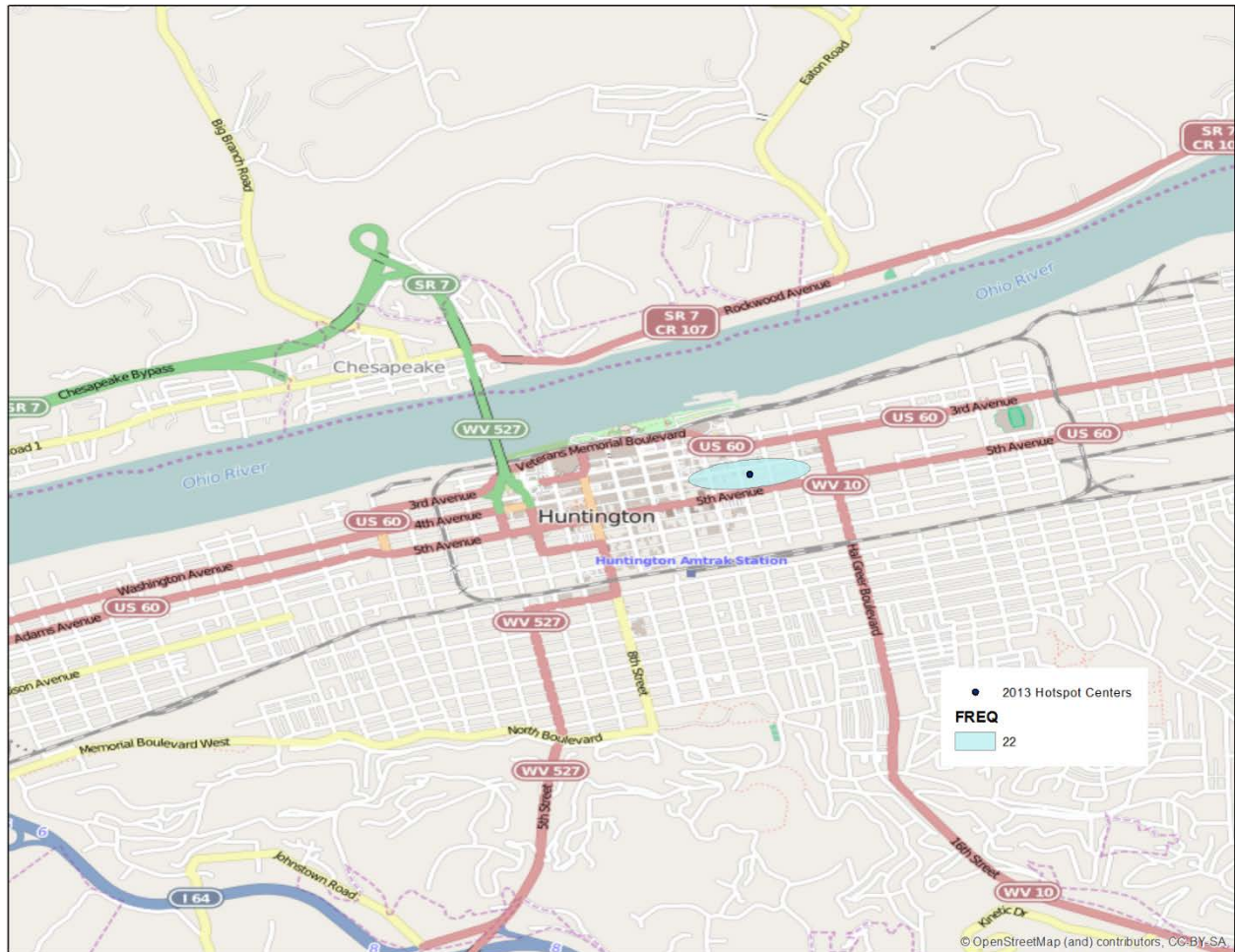


Figure 7 Part I Violent Incidents Clusters, 2004

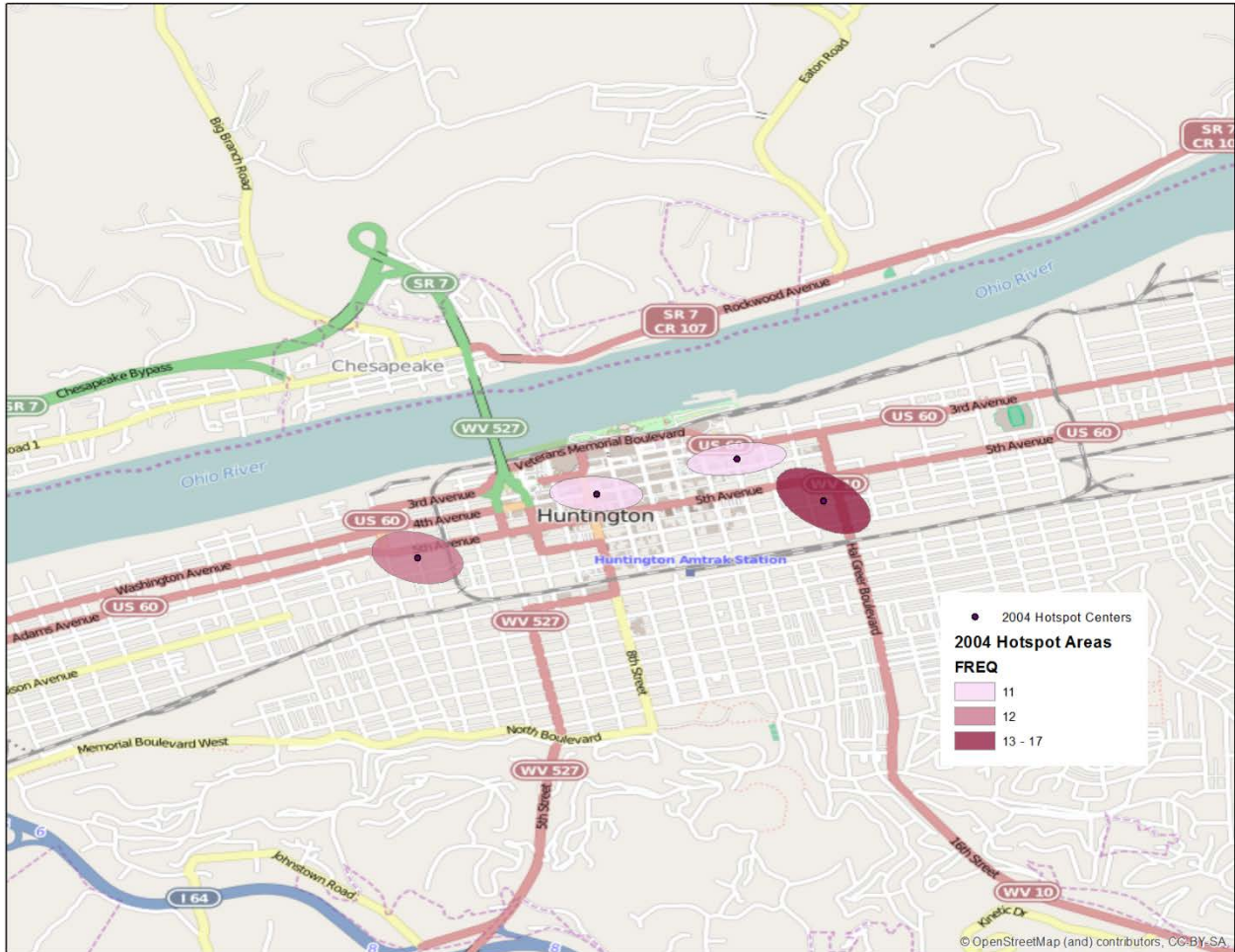


Figure 8 Part I Property Incidents Clusters, all years

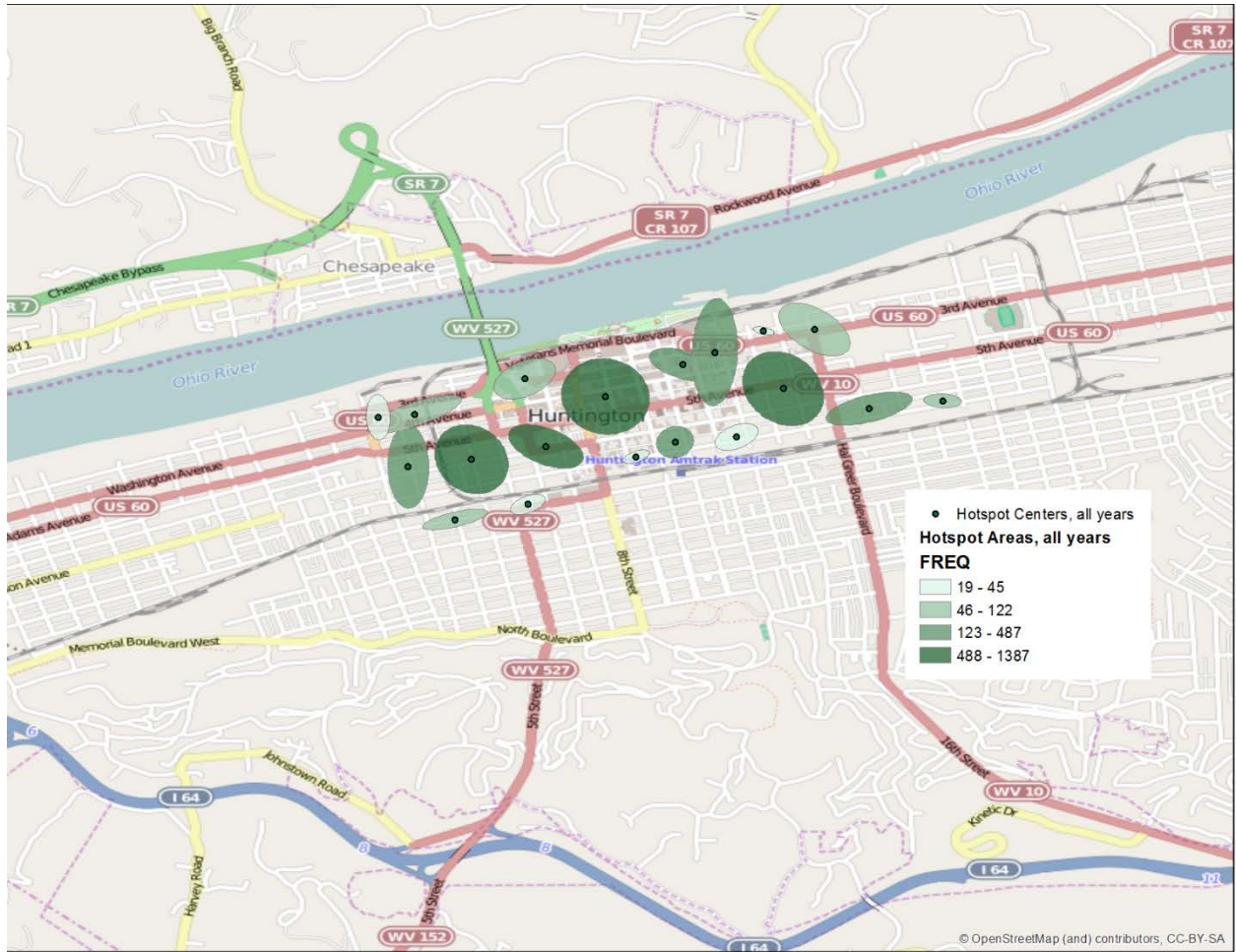




Figure 9 Part I Property Incidents Clusters, 2014

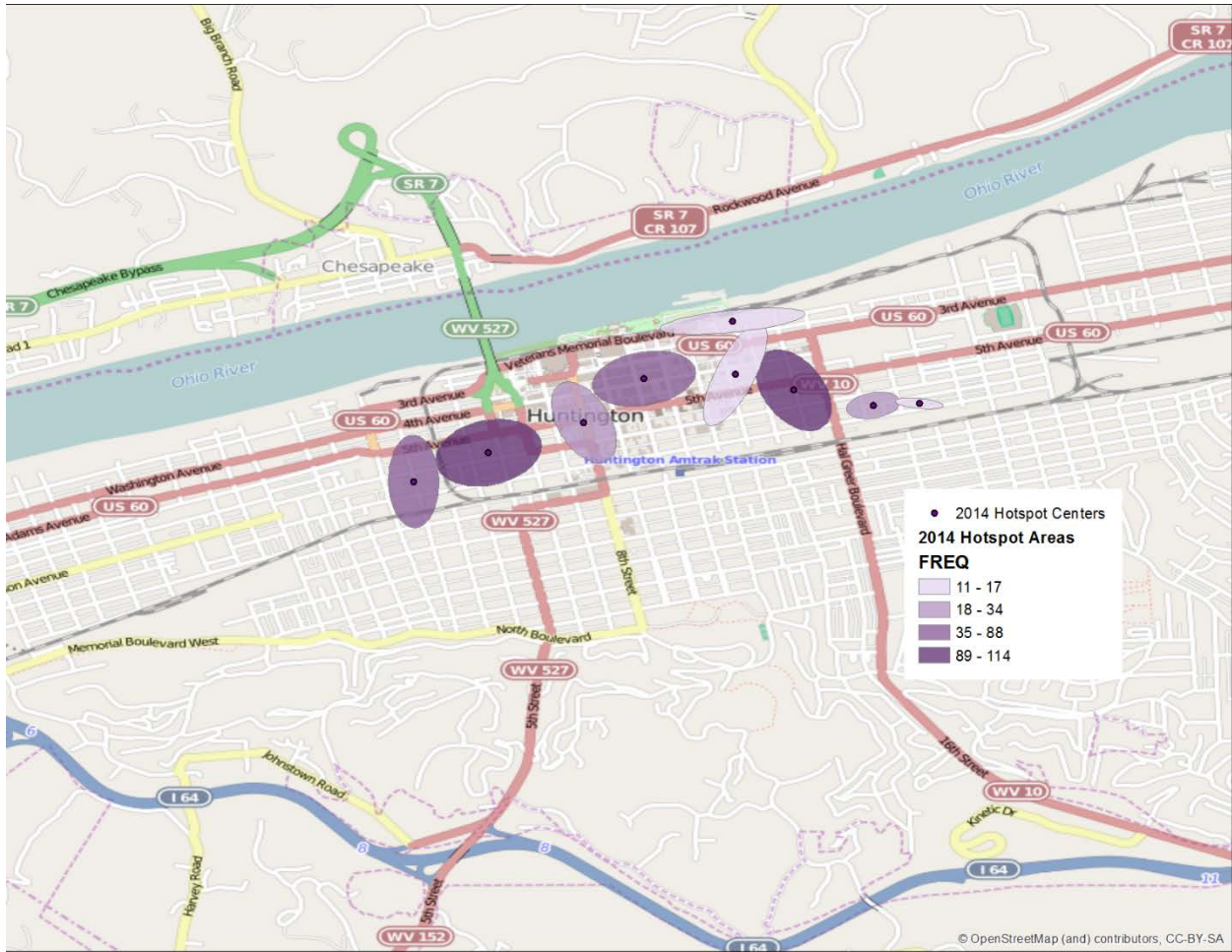


Figure 10 Part I Property Incidents Clusters, 2013

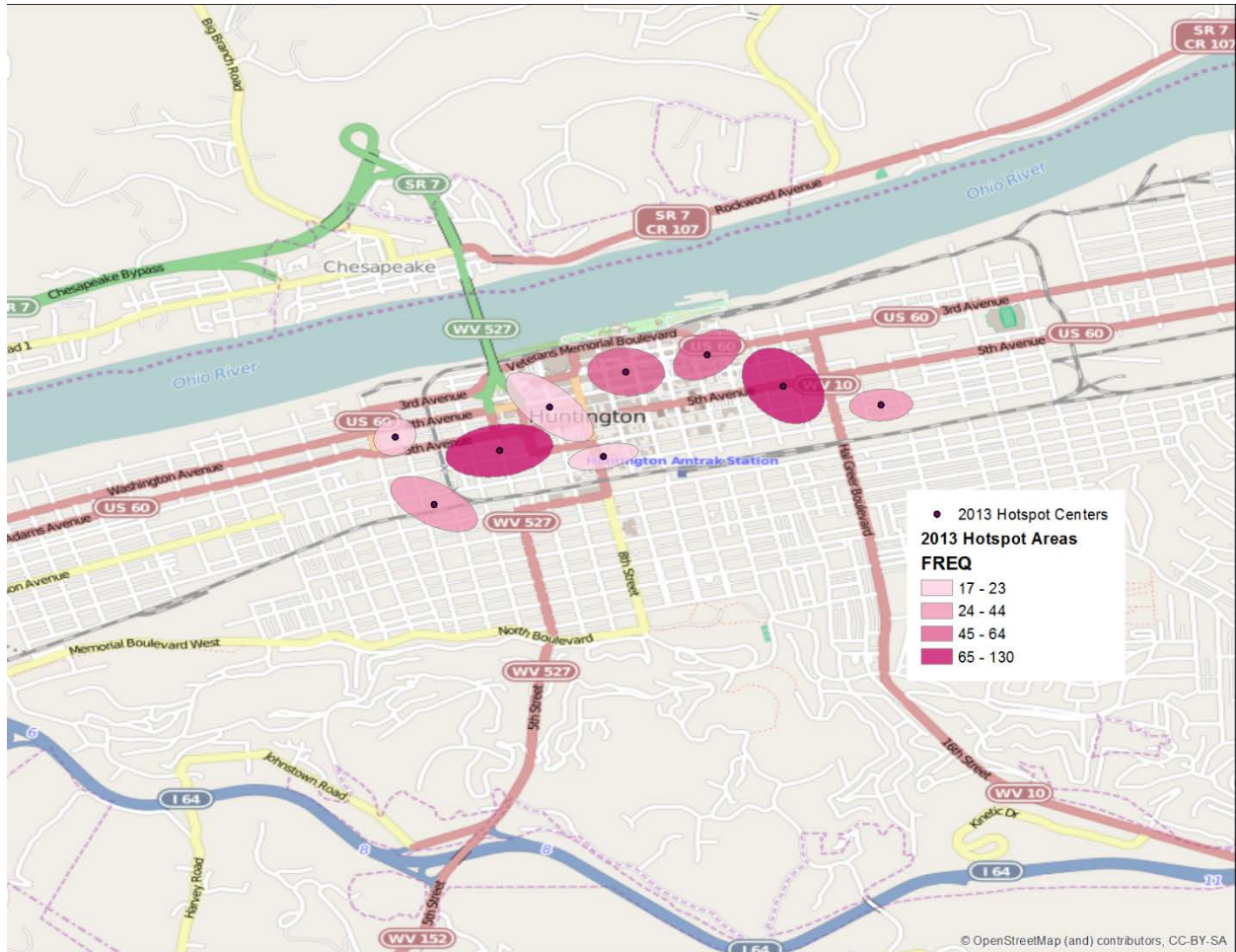


Figure 11 Part I Property Incidents Clusters, 2004

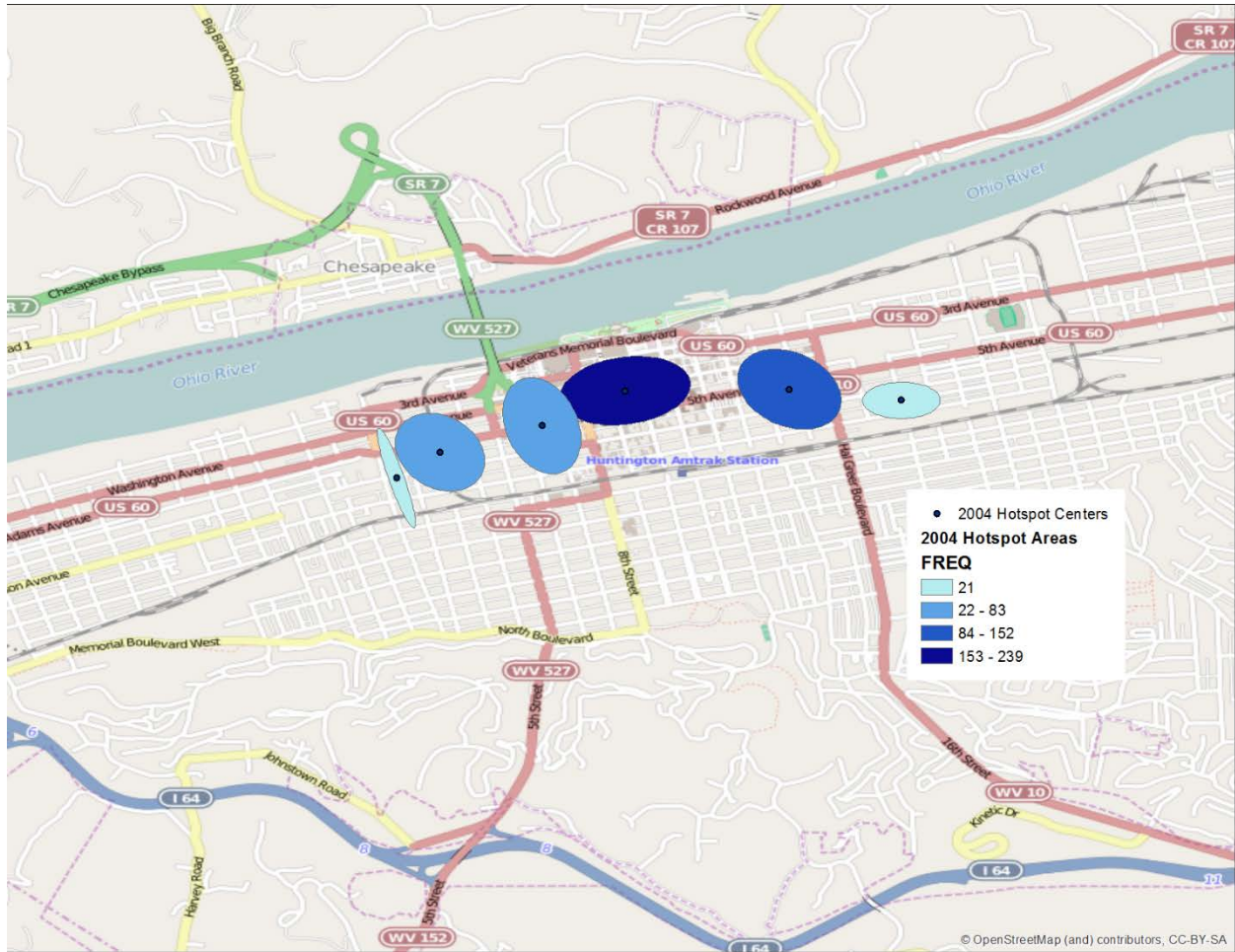


Figure 12 Larceny Incidents Clusters, All Years

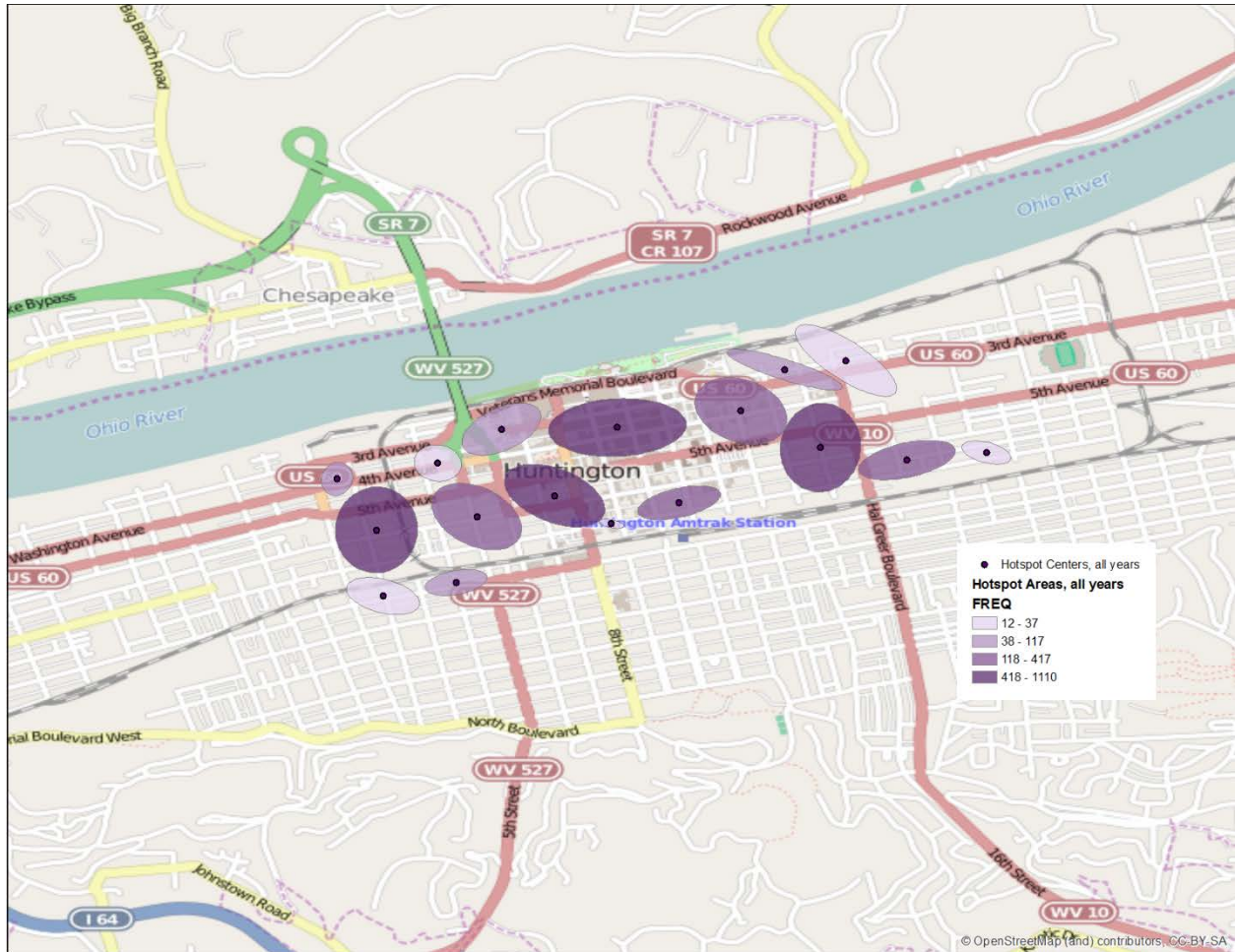


Figure 13 Larceny Incidents Clusters, 2014

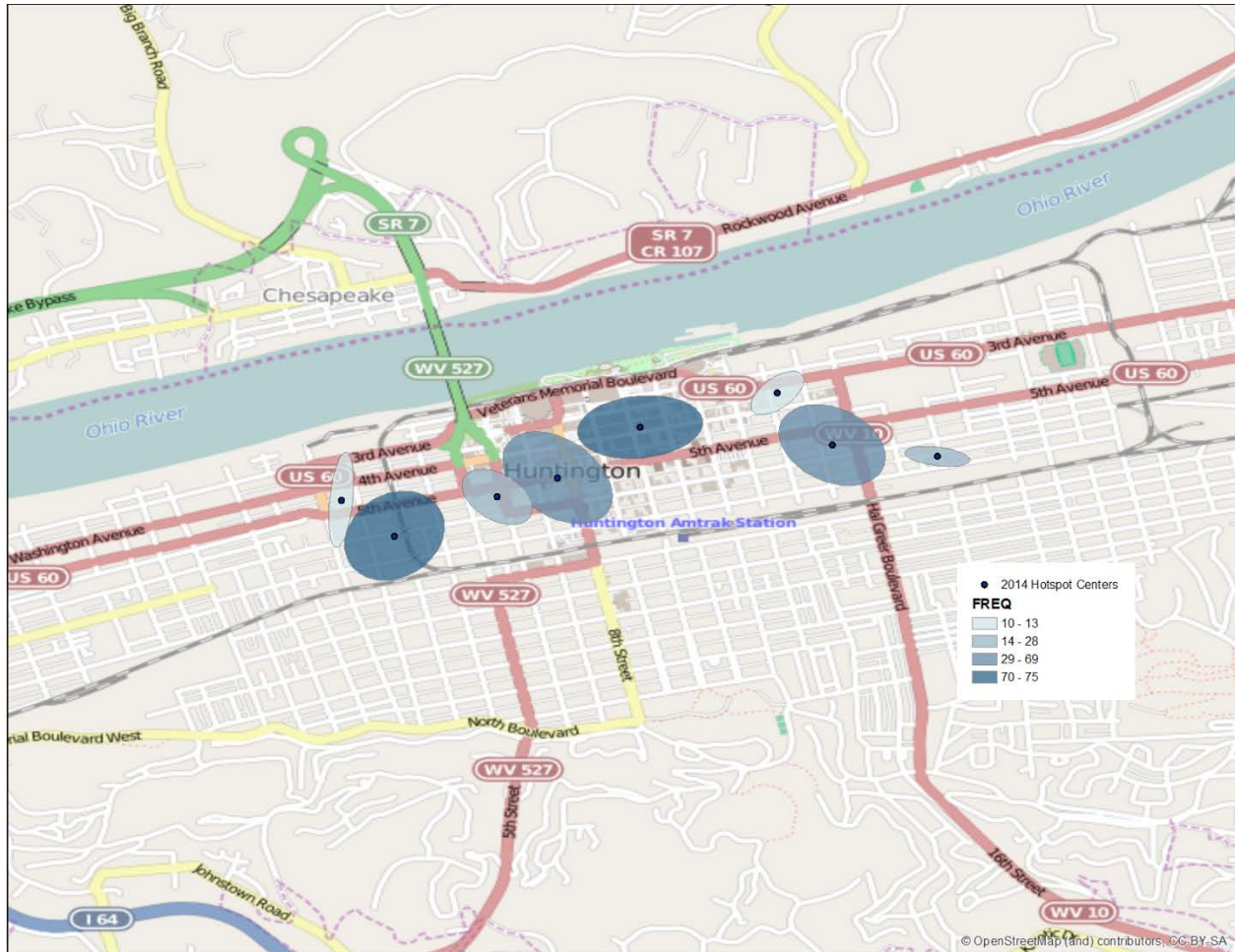


Figure 14 Larceny Incidents Clusters, 2013

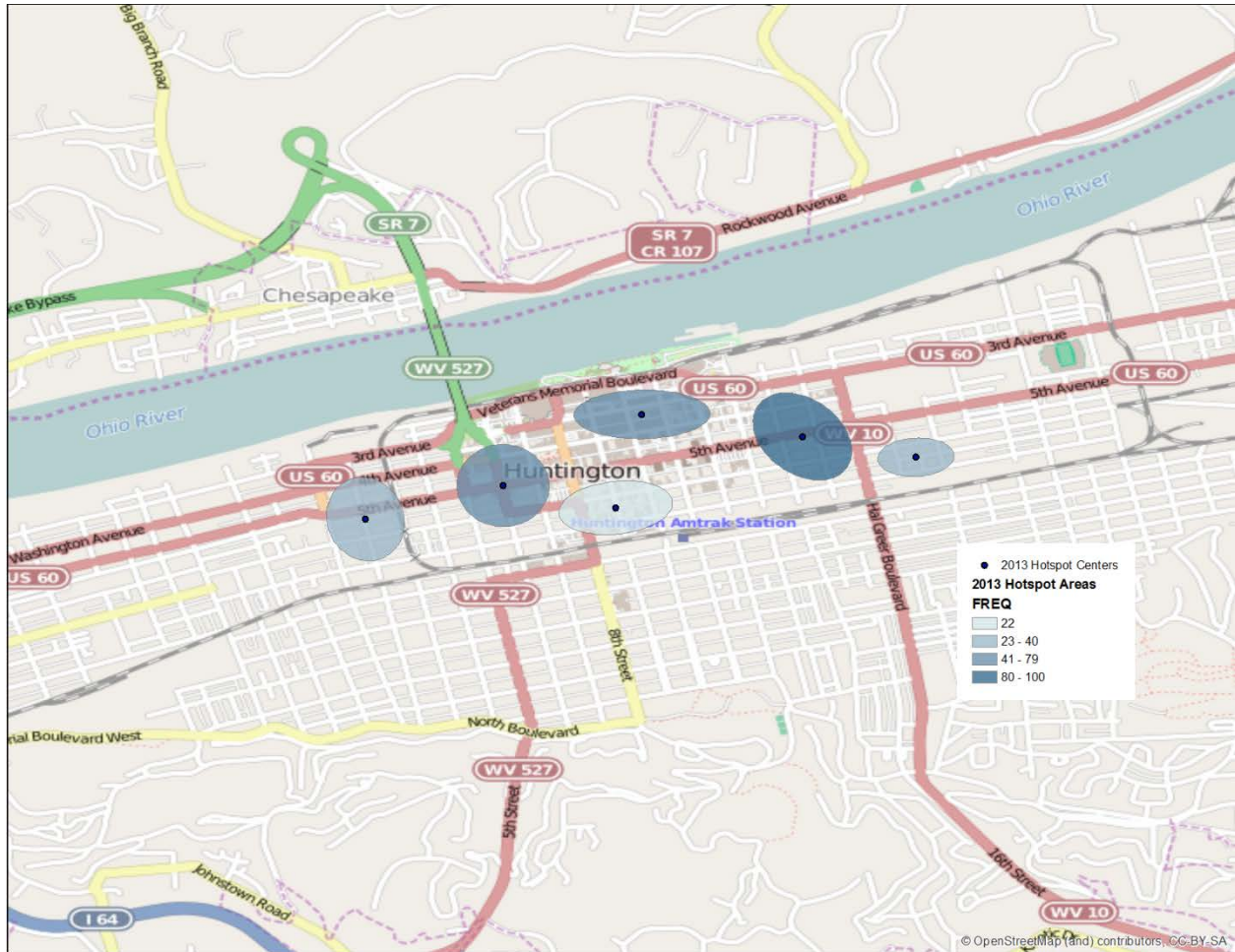


Figure 15 Larceny Incidents Clusters, 2004

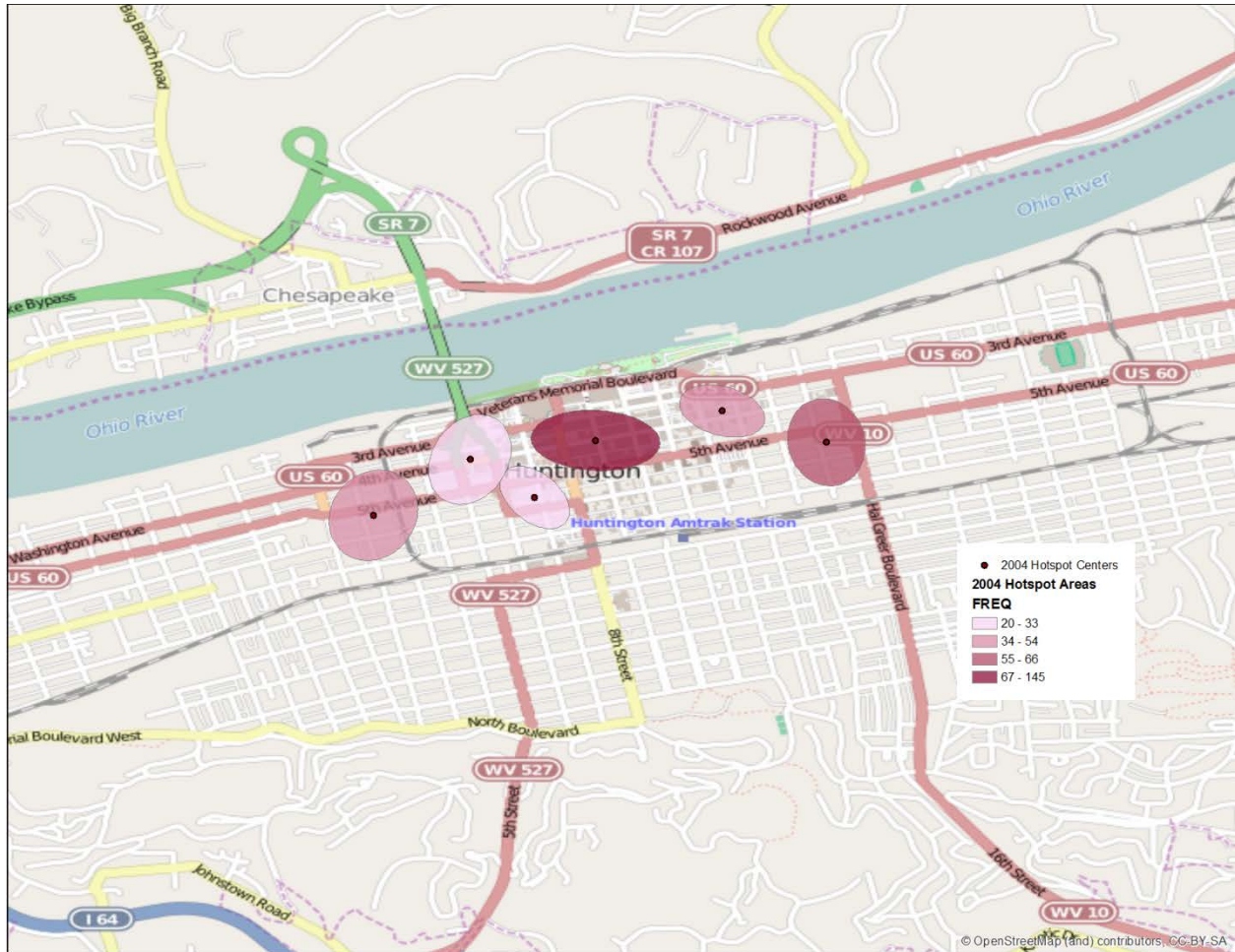


Figure 16 Vandalism Incidents Clusters, All Years

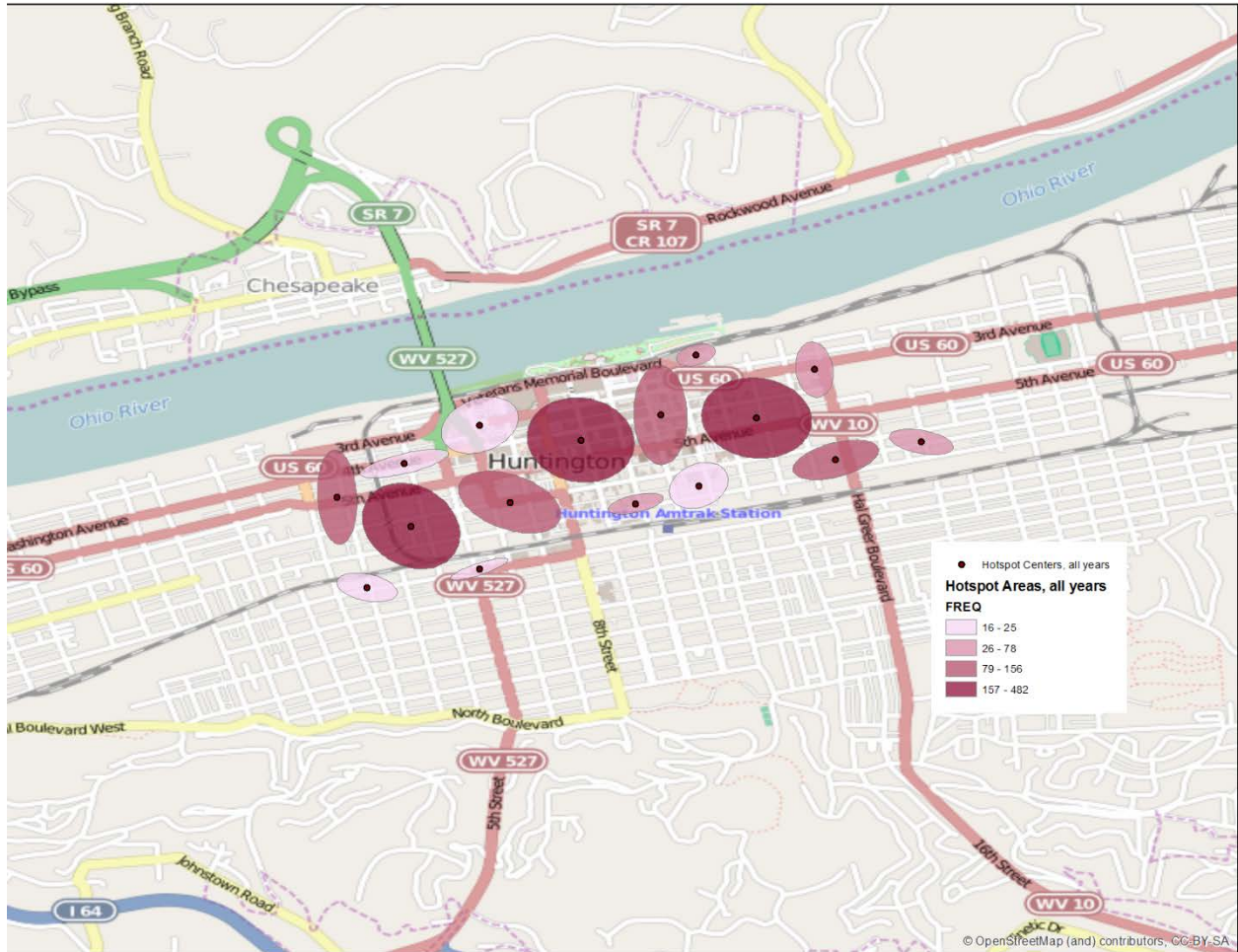




Figure 17 Vandalism Incidents Clusters, 2014

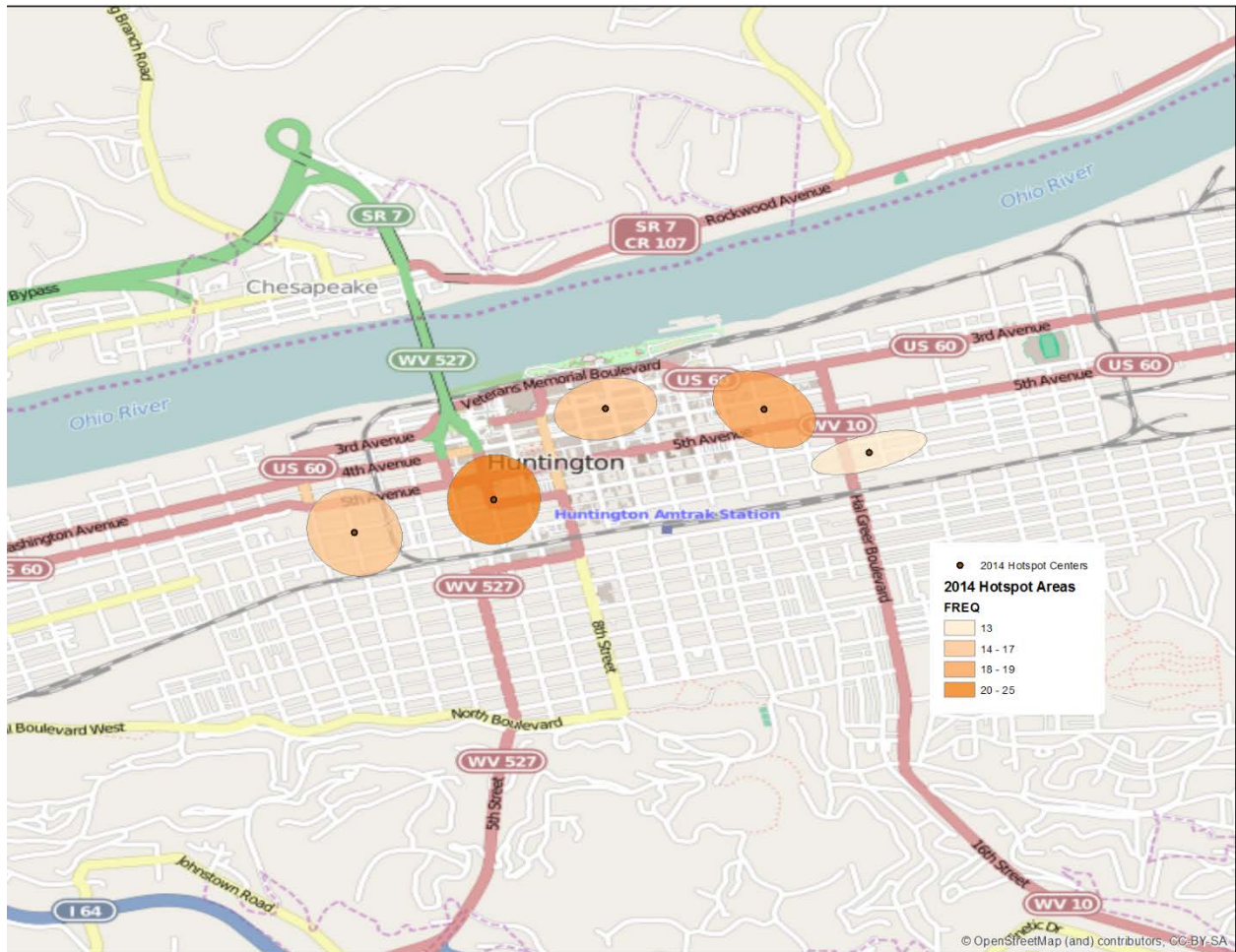


Figure 18 Vandalism Incidents Clusters, 2013

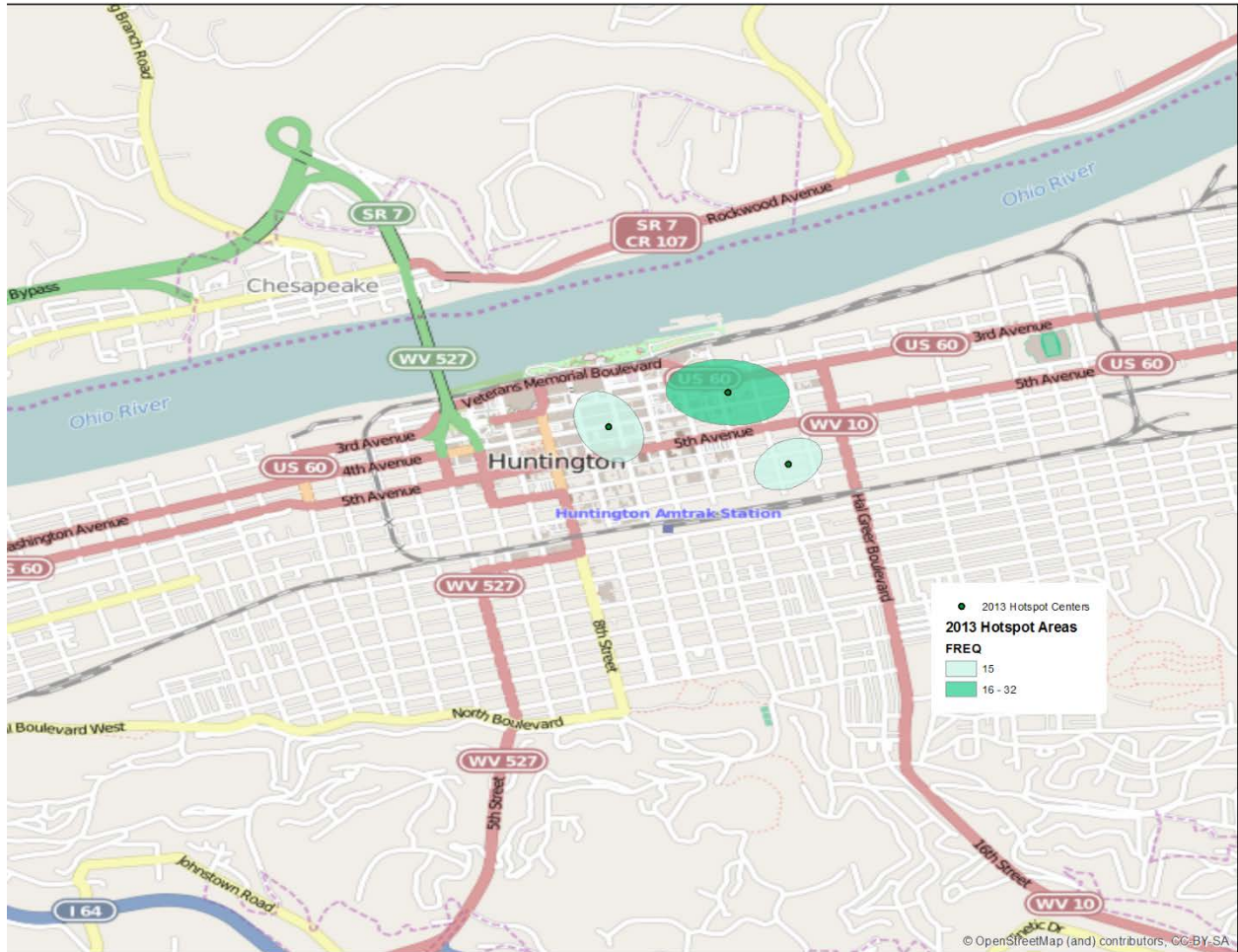
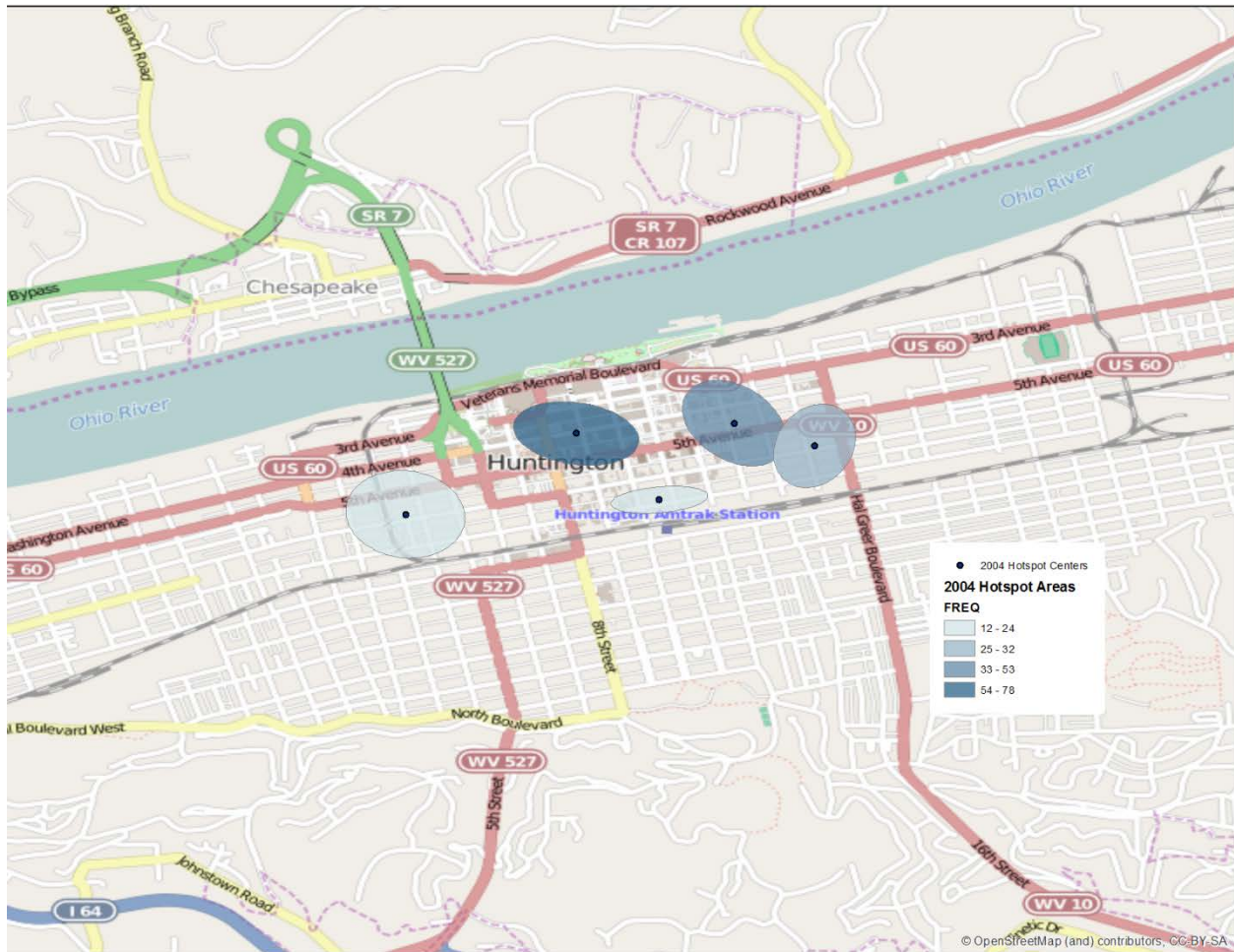


Figure 19 Vandalism Incidents Clusters, 2004

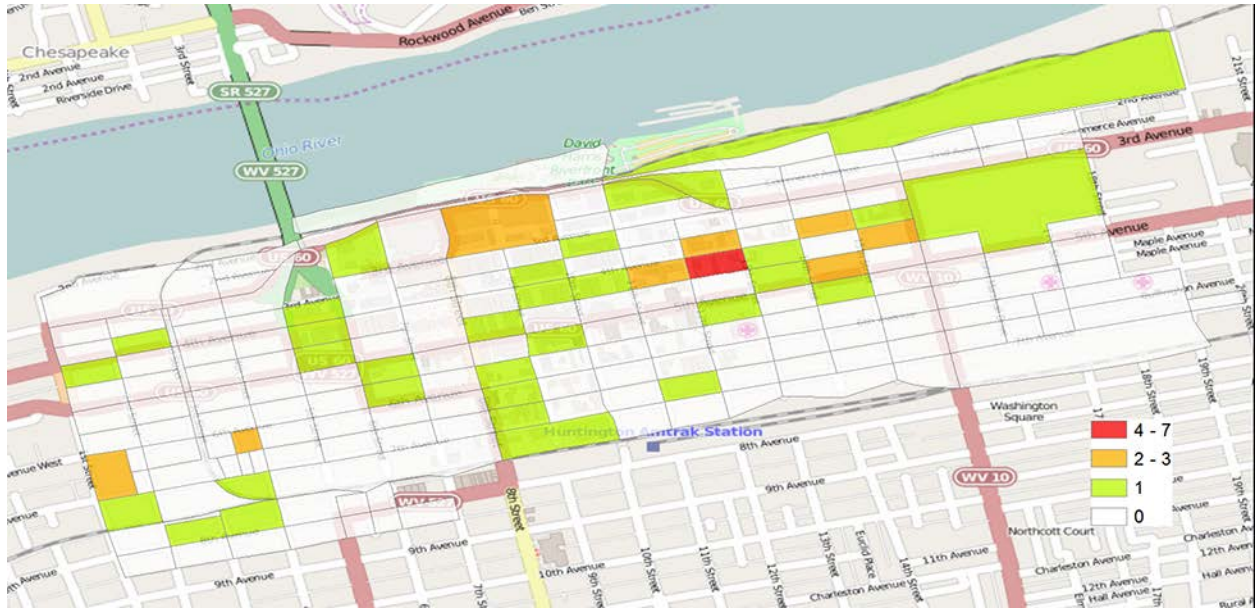


### III. Block Level Hot Spots Maps

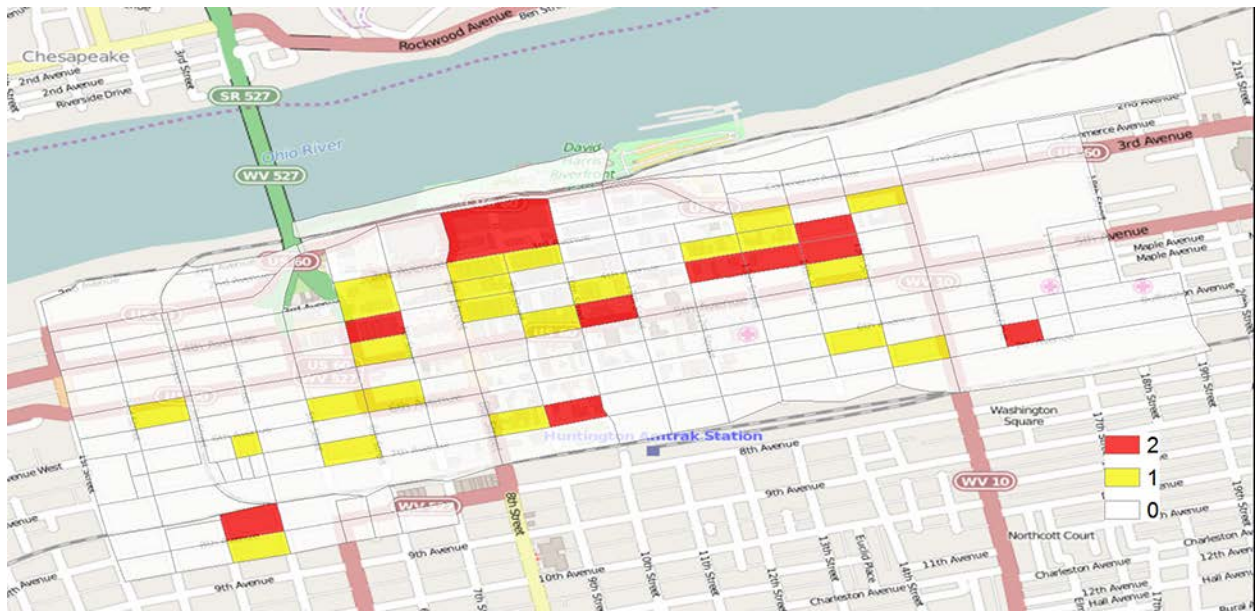
This section provides block-level mapping of the location of crime incidents by major category of crime for the years 2013 and 2014 to illustrate locations of recent crimes. Maps are based on crime incidents aggregated at the block level. This grouping combines incidents reported at specific addresses and incidents reported at a non-specific location on a block, e.g. the 600 block of 4th Ave. or the 400 block of 9th St. Due to incomplete information as to which side of the block some crimes occurred, i.e. the north vs. the south side of an avenue or the east vs. the west side of a street, it is best to consider groups of blocks when developing a crime reduction strategy.

The Figures 20 through 29 display the number of incidents of various major categories of crime within District 3 per Census block. As also shown in the Nearest Neighbor Hierarchical Cluster analysis, Part I Violent crimes appear most prominent along 4<sup>th</sup> Avenue towards the eastern portion of District 3 while Part I Property crimes are more dispersed.

**Figure 20: Part I Violent – Block Level Incidents in 2013**



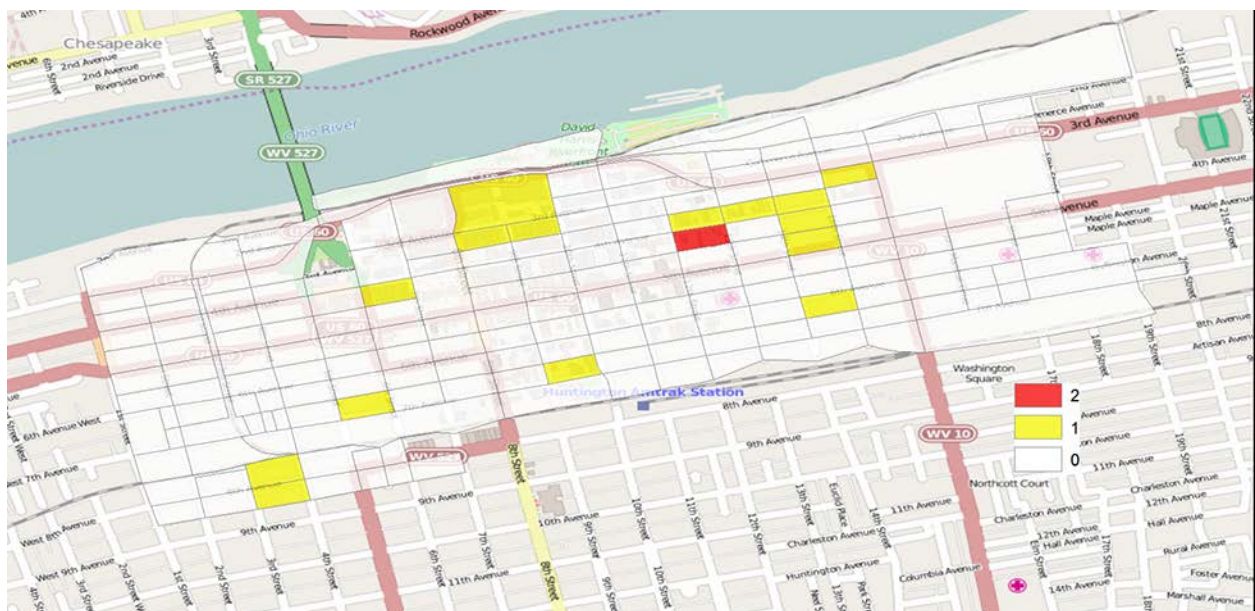
**Figure 21: Part I Violent - Block Level Incidents in 2014**



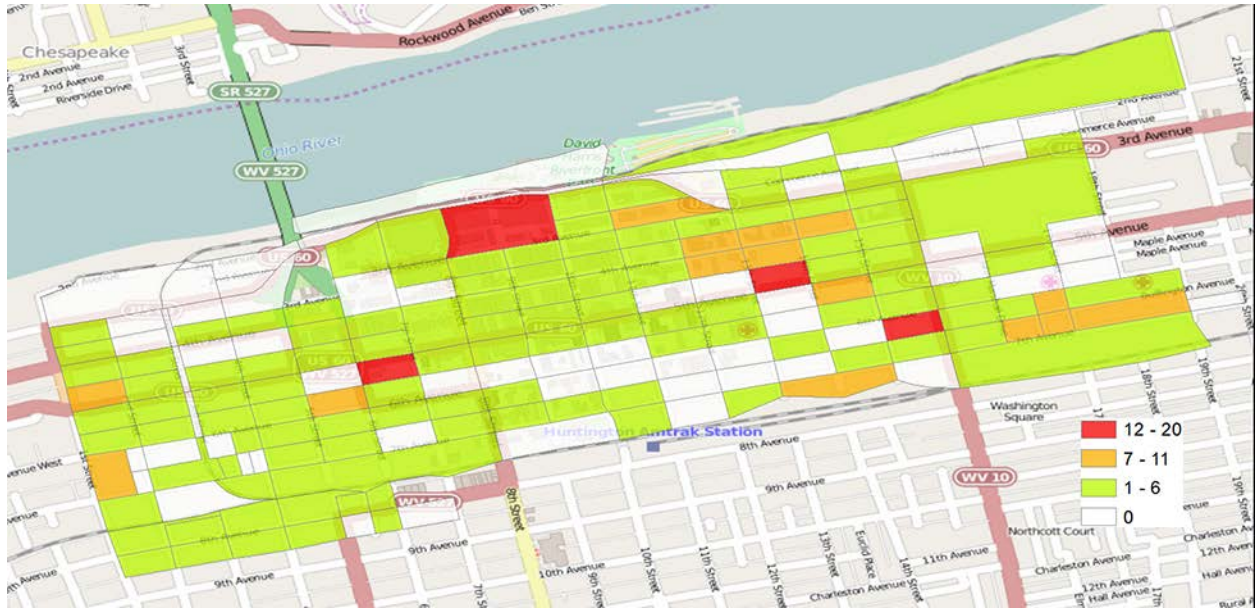
**Figure 22: Part I Assault - Block Level Incidents in 2013**



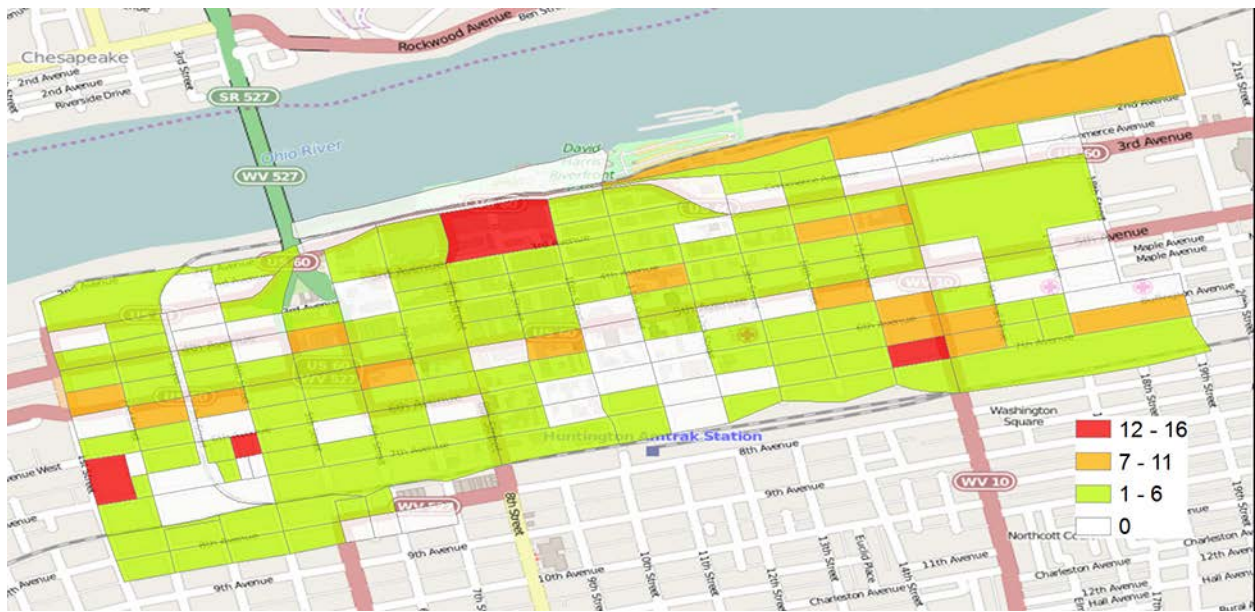
**Figure 23: Part I Assault - Block Level Incidents in 2014**



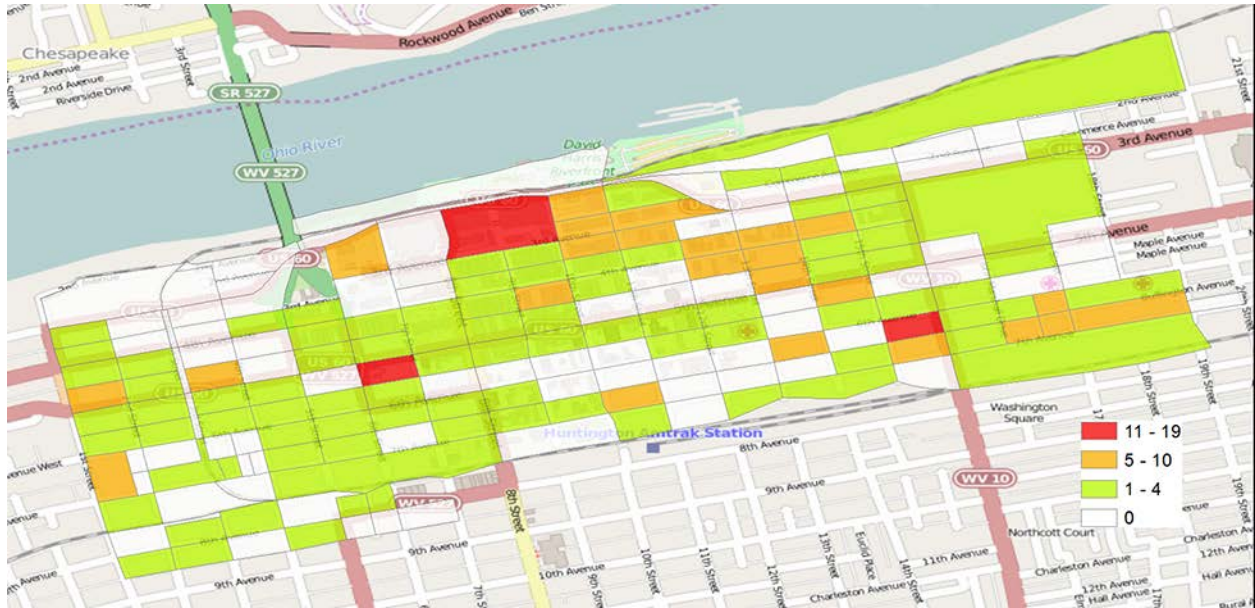
**Figure 24: Part I Property - Block Level Incidents in 2013**



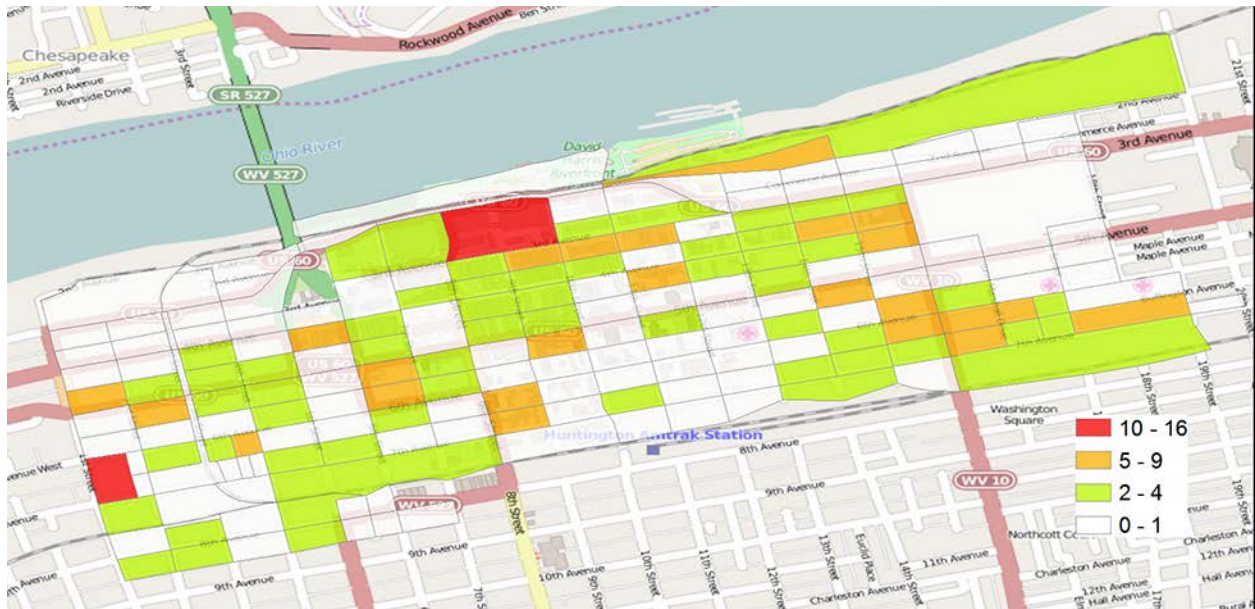
**Figure 25: Part I Property - Block Level Incidents in 2014**



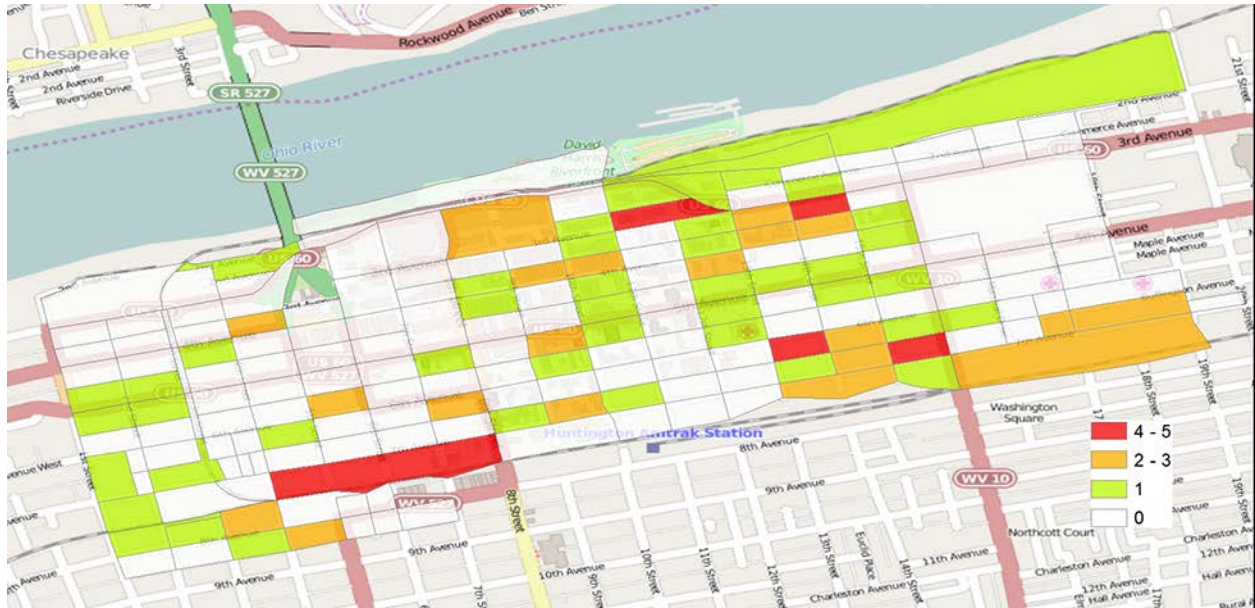
**Figure 26: Larceny - Block Level Incidents in 2013**



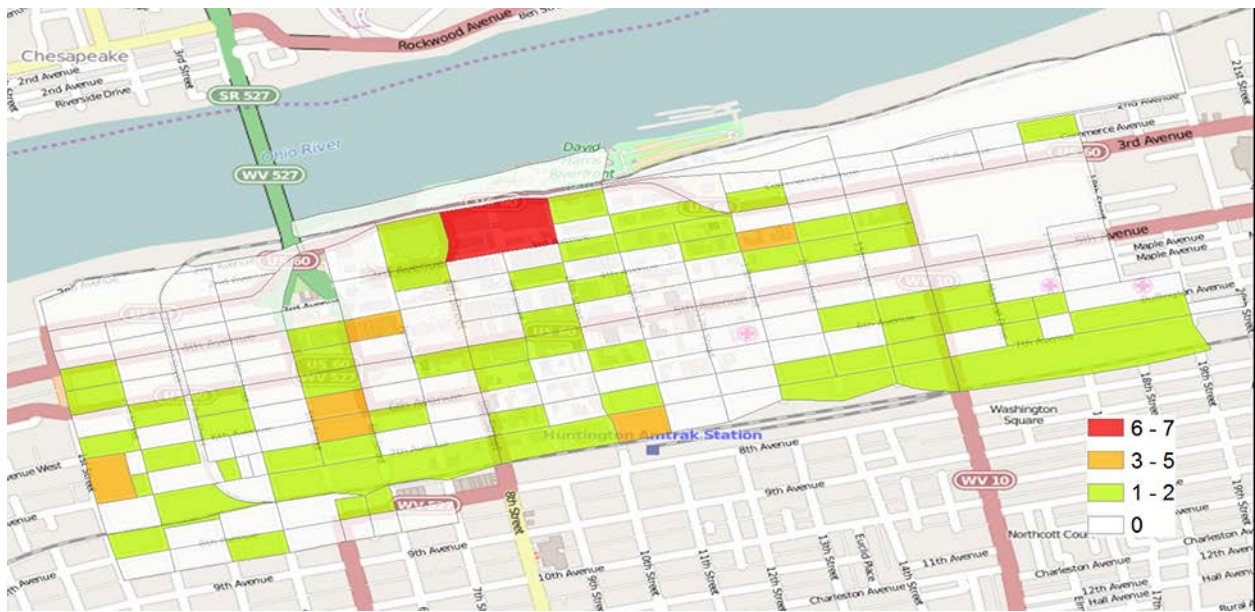
**Figure 27: Larceny - Block Level Incidents in 2014**



**Figure 28: Vandalism - Block Level Incidents in 2013**



**Figure 29: Vandalism - Block Level Incidents in 2014**



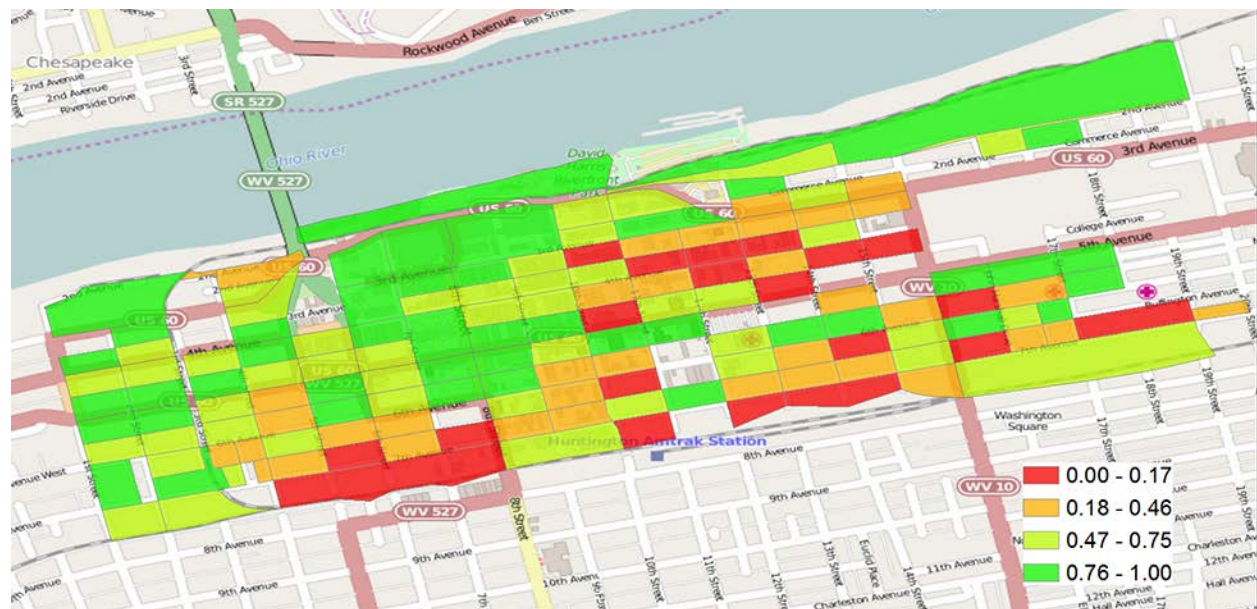


## IV. Property Condition Indicators

The following map is based on property condition data provided to CBER by the City of Huntington. Interns from the City's Planning Division were assigned to rank properties based on physical appearance. Each property was assigned a rank of Excellent, Fair or Poor. While subjective, this ranking is useful in identifying the areas of District 3 that might benefit most from environmental design improvements. Rankings took place at the end of 2014.

Figure 30 shows the resulting rankings based on the proportion of properties on each block that were ranked Excellent. The majority of the lowest ranked properties are located along the railroad tracks south of 7<sup>th</sup> Avenue, on both sides of 4<sup>th</sup> Avenue along the Old Main Corridor west of Marshall University, and on the North side of 7<sup>th</sup> Avenue in the off-campus student housing area south of Marshall's campus.

**Figure 30: Property Condition Indicator, by Block**



\*Blocks without shading contain no ranked properties.

Table 4 provides summary data on block characteristics and crime incident densities for District 3.

**Table 4: Block-Level Summary Condition and Area Data**

Item	Mean	Standard Deviation	Maximum	Minimum*
Share Excellent (% of properties)	56%	31%	100%	-
Area (m <sup>2</sup> )	14,835	16,521	174,509	2,980
<i>Incident Density (crimes per km<sup>2</sup>)</i>				
Part I Violent	0.019	0.048	0.275	-
Part I Property	0.226	0.285	2.239	-
Aggravated Assault	0.007	0.021	0.138	-
Robbery	0.009	0.031	0.187	-
Arson	0.005	0.021	0.138	-
Burglary	0.049	0.104	0.768	-
Larceny	0.160	0.215	1.679	-
Vandalism	0.048	0.082	0.417	-

\*Minimum values are zero unless otherwise noted.

Table 5 provides simple correlation coefficients calculated for block-level crime density (# of incidents/km<sup>2</sup>) and the portion of properties considered to be in excellent condition. This analysis identifies a weak negative correlation between property condition and crime density for most major types of crime. For property crimes, these weak correlations may be due to the fact that blocks with the highest concentration of incidents, mostly larceny, contain grocery and convenience stores, and are blocks where the majority of properties were deemed to be in excellent condition. Violent crimes are more negatively correlated, although still weakly, with property condition.

**Table 5: Correlation Coefficients for Crime Density and Block-Level Property Condition**

Crime Type	Correlations
Part I Violent	-0.23
Part I Property	-0.12
Aggravated Assault	-0.23
Robbery	-0.12
Arson	-0.14
Larceny	-0.08
Burglary	-0.15
Vandalism	0.00

These correlation coefficients do not imply that poorly-maintained properties cause higher levels of crime or that excellently-maintained properties cause lower levels of crime. However, the figures do indicate a mild association between relatively lower crime densities on blocks with properties that are well-maintained, and vice versa.