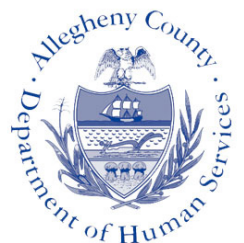


**Allegheny County**  
**Department of Human Services**  
One Smithfield Street  
Pittsburgh, PA 15222

**Phone:** 412.350.5701  
**Fax:** 412.350.4004  
[www.alleghenycounty.us/dhs](http://www.alleghenycounty.us/dhs)

# **VIOLENCE IN ALLEGHENY COUNTY AND PITTSBURGH**

**PREPARED BY ERIN DALTON, MICHAEL YONAS,  
LATOYA WARREN, AND EMILY STURMAN**



## Contributors

### **ALLEGHENY COUNTY DEPARTMENT OF HUMAN SERVICES**

The Department of Human Services (DHS) is responsible for providing and administering human services to Allegheny County residents. DHS is dedicated to meeting these human services needs, most particularly to the county's most vulnerable populations, through an extensive range of prevention, early intervention, crisis management, and after-care services provided through its program offices.

DHS services include programs serving the elderly; mental health services (includes 24-hour crisis counseling); drug and alcohol services; child protective services; at-risk child development and education; hunger services; emergency shelters and housing for the homeless; energy assistance; non-emergency medical transportation; job training and placement for youth and adults; and services for individuals with mental retardation and developmental disabilities. In 2006, DHS provided services to 182,000 individuals, nearly 16 percent of the population of Allegheny County.

### **UNIVERSITY OF PITTSBURGH MEDICAL SCHOOL, DEPARTMENT OF FAMILY MEDICINE**

The mission of the Department of Family Medicine and Clinical Epidemiology is three-fold: to provide high quality patient care; to support research initiatives; and to equip future physicians with the competencies required for family-oriented patient care and to nurture their leadership characteristics.

To accomplish this mission, the Department delivers care at seven health centers and practices throughout Pittsburgh and its surrounding neighborhoods, as well as at several local hospitals. Research in community based health is conducted by the faculty and by research staff members. Faculty also lead many undergraduate and graduate courses and programs.

# Contents

- Research Brief** ..... 1
- Methodology** ..... 4
- Data Analysis** ..... 6
  - Violence Nationally & a Comparison to Other Regions ..... 6
    - National Violence ..... 6
    - Microtrends of Violence in Pittsburgh ..... 8
    - Trends of Violence in Pittsburgh & Allegheny County ..... 8
  - Who are the Victims & Offenders of Homicide? .....10
    - Homicide Victims .....10
    - Homicide Offenders .....13
    - Connections Between Victims & Offenders .....13
  - Where did Violence Occur? .....14
  - When did Violence Occur? .....18
    - Month of the Year .....18
    - Day of the Week .....18
    - Time of Day .....18
    - Variation by Age in Time-of-day Trends .....19
    - Using Routine Activity Theory to Understand Patterns .....20
  - Why is Violence Occuring? .....22
    - Motive .....22
    - Incident Reviews .....22
- Conclusions & Recommendations** .....23
- Sources** .....25
- Appendix A: Spatial Analysis Techniques** .....26
- Appendix B: City of Pittsburgh Demographics, Census 2000** .....27
- Appendix C: Annie E. Casey Foundation** .....28
- Community Health Criteria** .....28
- Appendix D: Cluster Analyses of Homicides, Aggravated Assaults with Firearm, and Shootings** .....28
- Appendix E: Routine Activity Theory** .....29
- Appendix F: DHS Data Warehouse Matching Algorithm** .....30

## Research Brief

### VIOLENCE AS A PUBLIC HEALTH CONCERN

**Community violence has persisted as a public health problem throughout the United States, and particularly within urban, impoverished communities of color, despite considerable intervention and prevention efforts made by public officials, researchers, law enforcement officials, and community-based individuals and organizations.**

Research points to a number of causes and risk factors for community violence, including individual risk factors (e.g. low IQ; deficits in behavioral control, social or cognitive ability, or attention; antisocial behavior; and early aggressive behavior), relationship risk factors (e.g. limited or poor-quality parental involvement; poor academic performance; and gang involvement), and community risk factors (e.g. social disorganization or limited community participation; poverty; crime; and community blight). Various protective factors also exist that decrease the likelihood of an individual's involvement in violent behavior, including positive adult role models and guidance, strong value placed on education, community cohesiveness, and consistent policies aimed at violence prevention.

By understanding the myriad factors affecting community violence, communities are better equipped to combat violence with effective intervention and prevention efforts. The Allegheny County Department of Human Services (DHS) is particularly interested in community violence as it disproportionately affects individuals and families in vulnerable population groups and communities. In this report, the authors attempted to provide a profile of community violence in Allegheny County and to better understand the relationship with violence held by DHS consumers and clients.

### COMMUNITY VIOLENCE

#### National Violence Trends

The United States saw a steady and sharp incline in violent crime and homicide between 1960 and the early 1990s. After that point, violence began to drop, but still remained at a higher level than in the early 1960s. The national homicide rate in 2005 was 5.6 homicides per 100,000 individuals.

Violence tends to disproportionately affect certain subgroups within the population, and young African American men are at greatest risk of homicide victimization. Crime data from 2005 show that the homicide rate for this subset of the American population was 123 per 100,000 individuals, 22 times the national rate.

## Research Brief

### Violence in Pittsburgh and Allegheny County

Although homicides and drive-by shootings tend to receive the most media coverage, they occur far less frequently than aggravated assaults with firearms. In Pittsburgh, aggravated assaults with a firearm are ten times more common than homicides, and shootings (defined as aggravated assaults with a firearm which result in injury) are six times as common as homicides.

Pittsburgh's murder rate (4.8 per 100,000 in 2005) is lower than the national average and that of many benchmark cities like Detroit, St. Louis, Baltimore, and Richmond. However, examination of violence trends among different demographic groups shows that, in particular, Pittsburgh's young black men are at acute risk of homicide victimization; the homicide rate for this group was 284.2 per 100,000 – 60 times the city-wide average and more than 50 times the national average.

### Homicide Victims

- Males accounted for 81 percent of all homicide victims within Allegheny County, and 85 percent of victims within the City of Pittsburgh, for the period between 1997 and 2007.
- Although African Americans make up only 27 percent of Pittsburgh's population, more than 80 percent of city homicide victims were black. On average, African Americans experienced homicide victimization at a rate 19 times greater than the rate for non-blacks.
- Individuals between the ages of 18 and 24 comprised 36 percent of all homicide victims; 25- to 34-year-olds made up an additional 27 percent of victims.
- Thirty percent of homicide victims reside in just 5 percent of Pittsburgh's neighborhoods, 67 percent of which are designated as severely distressed according to the Annie E. Casey distressed neighborhood criteria.
- Between 58 and 72 percent of adult homicide victims (ages 25-54) had criminal records themselves. Male or African American victims were more likely to have records than female or white victims.

### Homicide Offenders

- Demographic information on the offender was known in about half of the cases studied. In those known cases, the demographic characteristics of offenders mirrored those of homicide victims: 51 percent of offenders were under the age of 25, 80 percent were African American, and 93 percent were male.
- Most of the homicide offenders had at least one prior arrest (88%) and only 8 percent had never been arrested. Drug charges and gun-related crimes were the most common prior offenses.

## Research Brief

### Connections between Victims and Offenders

- While the nature of the relationship between victim and offender was known in only one-third of cases, we found that in those incidents the victim and offender usually knew each other in some way (45% were acquaintances/other relationship, 16% were family members, and 18% were friends/neighbors). Only 21 percent of these cases occurred between strangers.
- Homicides were most often perpetrated between individuals of the same race; 74 percent were perpetrated by a black offender against a black victim and 11 percent between a white offender and white victim. Six percent of cases were between a black offender and white victim; 7 percent between a white offender and black victim.
- Overwhelmingly, homicide victims and offenders were of the same gender. Males were five times more likely to kill another male than a female (76% vs. 16% of cases). In the 8 percent of cases perpetrated by female offenders, most were against a female victim (7% vs. 1% against male victims).

### Where did violence occur?

- Violence was heavily concentrated in specific neighborhoods in the City of Pittsburgh, as well as in municipalities bordering yet outside the city limits, such as Penn Hills, Wilkinsburg, West Mifflin, and McKeesport.
- Within the City of Pittsburgh, 75 percent of homicides were clustered in just 25 neighborhoods. Homewood, the Hill District, and the North Side had the highest levels of victimization.
- Nearly all communities with high homicide rates have higher-than-average concentrations of African American residents and of residents living in poverty.

### When did violence occur?

- Homicides and shootings were fairly well distributed throughout the year, although they tended to spike slightly during the summer months (June for homicides, August for shootings).
- Homicides and shootings were slightly more common on the weekends. Incident frequency tended to increase throughout the day and spike during the early morning hours between midnight and 2:00 a.m.
- Victimization time trends varied by age group:

## Research Brief

• • •

- o Morning victimization was uncommon for all age groups. Teen victimization (youth ages 13-17) was more common mid-day and throughout the evening but tapered off in the late night and morning hours. Young adults (18-24) were more likely to be victimized in the evening through the early morning hours (10:00 p.m. to 1:00 a.m.). Adults ages 25-34 were most often victimized during the late night/early morning hours (midnight – 1:00 a.m.).
- o The temporal categories used in this analysis were identified by Caterina Gouvis Roman in her study of crime in Washington D.C. Much of the variation can be explained using Marcus Felson's routine activity theory, a sub-field of rational choice criminology, which posits that crime is normal, common, and dependent upon the opportunities available to individuals.

### Why did violence occur?

- Data on motive was limited in scope and accuracy for this study, but in cases where motive was identified, argument was the most commonly cited cause of homicides.
- While incident reviews add some perspective into motive, more work needs to be done in order to gain an accurate and insightful picture of why violence is occurring.

## Methodology

### DEFINITIONS

This report limits its study of violent incidents to homicides and aggravated assaults with a firearm. Where appropriate, violence is narrowed further to include only homicides and shootings, which are defined as aggravated assaults with a firearm in which injury has occurred.

### DATA SOURCES

#### City of Pittsburgh Bureau of Police

Incident data from 1997 to 2007 were provided by the City of Pittsburgh Bureau of Police and contain information on all homicides and aggravated assaults with a firearm that were recorded by the City Police. Homicide data include date, time, location of offense by address and census tract, and victim's race, sex, and age. Aggravated assault data include date, time, offense (categorized as either firearm assault with injury, without injury, drive-by aggravated assaults resulting in injury, or drive-by assaults without injury), and location of offense by address, census tract, and neighborhood. Unlike the homicide data, demographic information is not provided for aggravated assault victims. Further, the offenses represented by the aggravated assault data from years 1997 to 2002 were coded in a different manner from more recent data, making it difficult to distinguish the different types of incident; therefore, only aggravated assault data from 2003 to 2007 is used.

## Methodology

It should be noted that incident data reflect only offenses that were reported to the police. Although reporting tends to be better for both homicides and aggravated assaults with a firearm than for other crimes, these data still undercount the actual level of victimization and violence in Pittsburgh and Allegheny County.

### **Allegheny County Medical Examiner's Office**

This report relies on data extracted from the Allegheny County Medical Examiner's (ACME) records from years 1997 to 2007 and the ACME Annual Reports from years 2003 and 2006. The ACME is required to autopsy all premature and unexplained deaths that may have resulted from a sudden, violent, unexplained, or traumatic event. Incident information and victim demographics were manually compiled from the ACME records.

The ACME data do not always agree with the City Police data but they add depth to this investigation by providing more information about the victims and offenders, as well as information about homicides occurring outside the City of Pittsburgh.

### **Pennsylvania State Police**

The Pennsylvania State Police collect Uniform Crime Report data from participating police departments. These data are available for query from their Web site<sup>1</sup>. These data include information on incidents, victims, offenders, relationships, weapons, and motives, and were used primarily to provide information on offenders.

### **U.S. Census**

Population data for Allegheny County municipalities and Pittsburgh neighborhoods were obtained from the U.S. Census Bureau Web site. When possible, tables and figures in this report represent information points as rates (e.g. the number of violent crime victims per 100,000 persons).

### **ANALYTIC TECHNIQUE FOR SPATIAL ANALYSIS**

Geographic mapping and cluster analysis were used to identify patterns of violence in Allegheny County and Pittsburgh from 1997 to 2007. Demographic information on each incident and, when possible, on each victim was used to create a geographic information system (GIS) to analyze the distribution of crime across Allegheny County municipalities and Pittsburgh neighborhoods and to map concentrations of crime.

Two types of spatial analysis were conducted using offense reports filed by the police and Allegheny County medical examiner's office. For more information, see Appendix A.

<sup>1</sup> <http://ucr.psp.state.pa.us>



## Methodology

### ABOUT ALLEGHENY COUNTY AND THE CITY OF PITTSBURGH

This report examines violence that occurred between 1997 and 2007 in Allegheny County, focusing heavily on the core city of Pittsburgh. Population estimates from the 2000 census state that a total of 1,281,666 individuals reside in Allegheny County, with Pittsburgh accounting for 334,563 individuals (or 26% of the total population); Pittsburgh's total population had dropped nearly 10 percent since the 1990 census. By studying the city's demographic composition based on the 2000 census data (see Appendix B), we were able to calculate victimization rates for various gender, racial, and age groups in order to assess a group's relative risk of victimization.

## Data Analysis

### VIOLENCE NATIONALLY AND A COMPARISON BETWEEN REGIONS

#### National Violence

National violence increased sharply between 1960 and the early 1990s, but began to drop after that point, as seen in Figure 2-1. Compared to other metropolitan regions, Pittsburgh's murder rate falls below the national and benchmark city averages, ranking tenth out of 15 cities studied (see Figure 2-2).

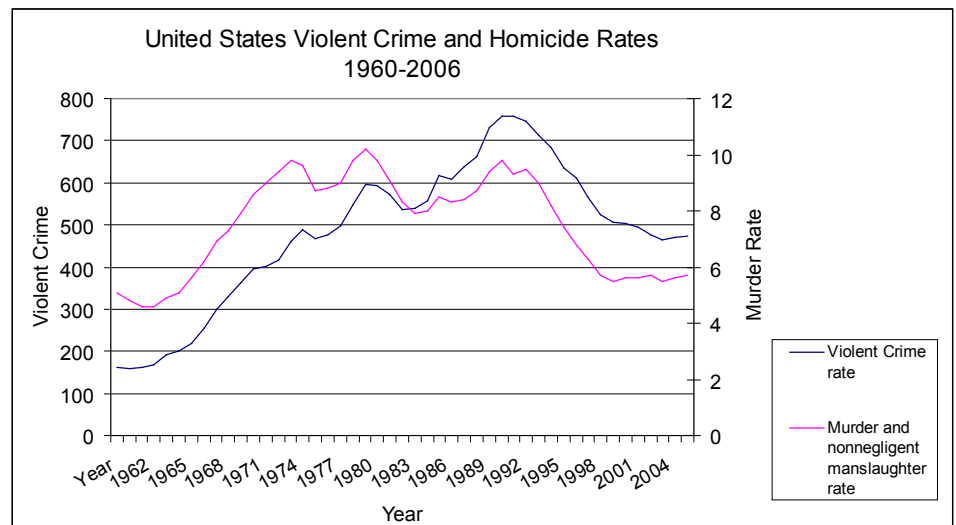


Figure 2-1: United States Violent Crime and Murder, 1960-2006 (data source: U.S. Bureau of Justice Statistics)

## Data Analysis

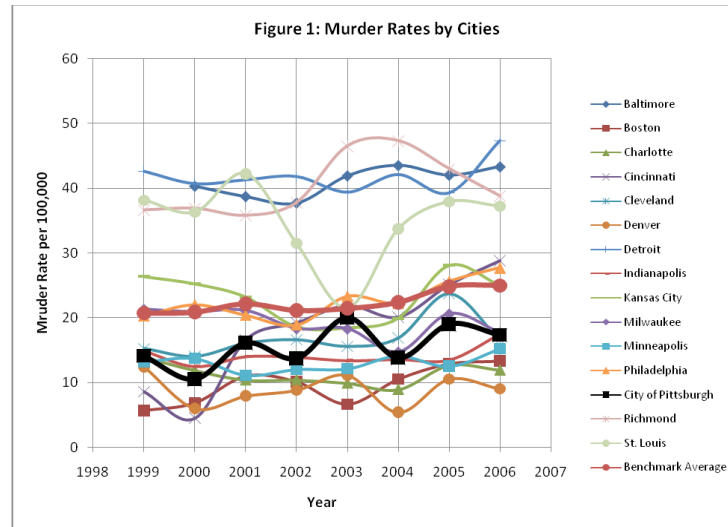


Figure 2-2: Murder Rates by City, 1999-2006 (source: Blumstein and Jun, 2007)

Many studies have confirmed that violence disproportionately affects certain subgroups with populations, and young African American men are particularly susceptible to homicide victimization. An examination of homicide trends between 1986 and 1994 in eight United States cities (Washington, D.C., Atlanta, Detroit, Tampa, New Orleans, Richmond, Indianapolis, and Miami) demonstrated that even when controlling for population size, young black men experience much higher incidence of homicide victimization than other groups; the authors also noted that “in cities where blacks were not in the majority (Tampa, Indianapolis, and Miami), the disproportionality for black males age 25 and over was larger” (Lattimore et al., 1997) (see Figure 2-3). More recent data from 2005 showed that the homicide rate for this subset of the United States population was 22 times the national rate.

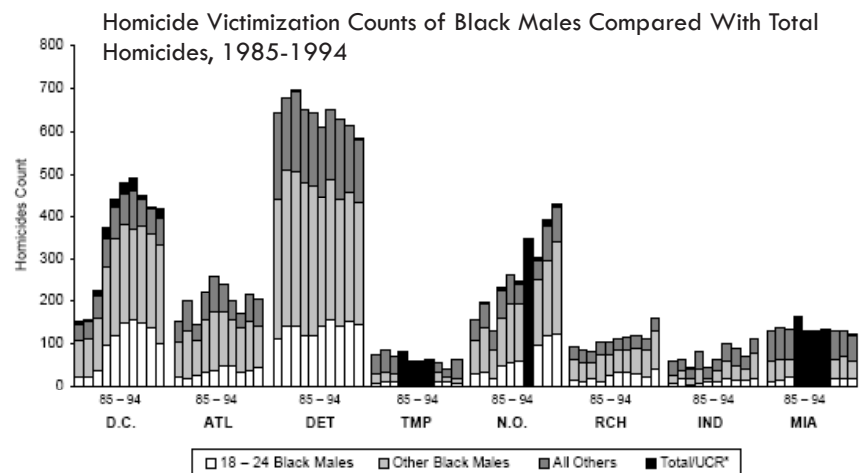


Figure 2-3: Homicide victimization for young African American males in eight American cities, 1985-1994. (source: Lattimore et al., 1997)

## Data Analysis

### Micro-trends of Violence in Pittsburgh

Although homicide does not appear to be as acute a problem in Pittsburgh as in many other urban centers, violence remains at epidemic levels for some. Young people are more likely to be homicide victims than older adults; 12- to 29-year-olds are over three times more likely to be homicide victims than the population as a whole. Young men are even more at-risk (almost six times the national average) for violence. Mirroring trends documented in other urban areas, the homicide rate for young, black men in the City of Pittsburgh was nearly 60 times the city-wide average and more than 50 times the national average (see Figure 2-4). It is the violence rate for this sub-population that grabs national and local headlines.

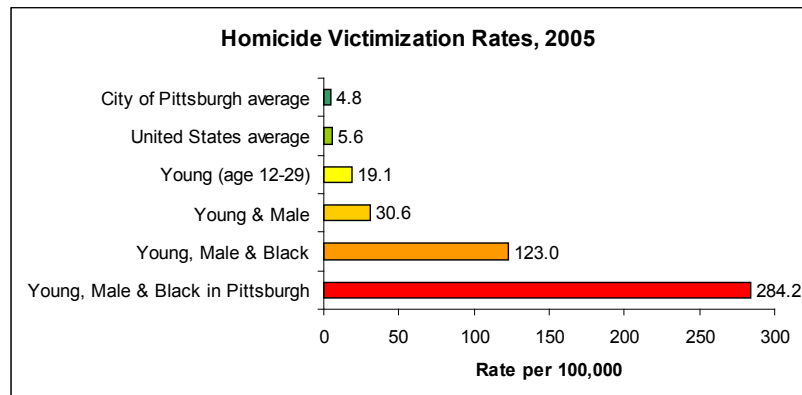


Figure 2-4: Homicide Victimization Rates per 100,000 Residents by High-Risk Populations; 2005

### Trends of Violence in Pittsburgh & Allegheny County

#### Homicides

Similar to the United States overall, homicides in the City of Pittsburgh have been on the rise since the late 1980s, spiking in the early 1990s before leveling off at a higher point throughout the 2000s (Figure 2-5).

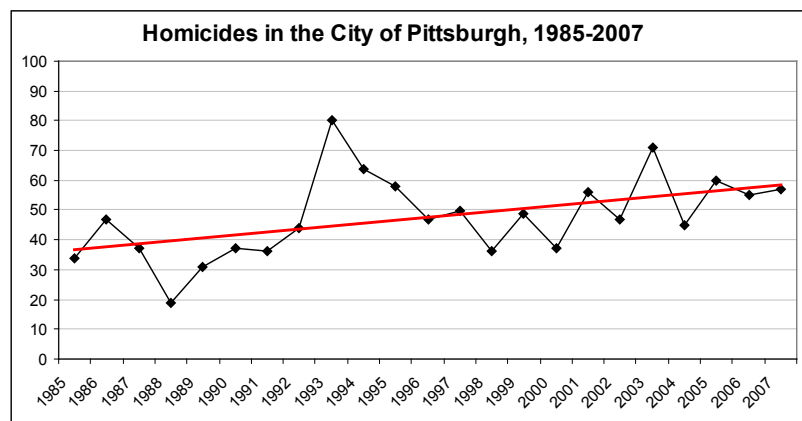


Figure 2-5: Homicides in the City of Pittsburgh, 1985-2007 (City of Pittsburgh Bureau of Police)

## Data Analysis

Allegheny County's and the City of Pittsburgh's homicide trends tend to move together, with the City's incidents driving the County total. Between 1997 and 2007, an average of 55 percent of all County homicides occurred within the City of Pittsburgh (see Figure 2-6). This trend, coupled with the fact that the City of Pittsburgh accounts for just 25 percent of Allegheny County's total population, suggests that homicides are not uniformly distributed and disproportionately affect certain communities.

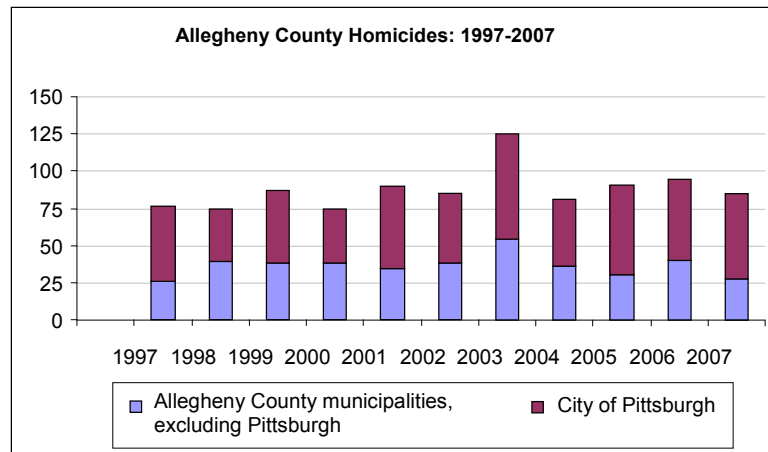


Figure 2-6: Allegheny County Homicides

### Aggravated Assaults with Firearm and Shootings

Although homicides and drive-by shootings tend to receive the most media coverage because of their dramatic and tragic outcomes, they actually make up a small percentage of all gun-related violent incidents (drive-by shootings account for only 8% of all aggravated assaults with a firearm). Aggravated assaults with a firearm are ten times more frequent than homicides, and shootings are nearly six times more frequent than homicides (see Figure 2-7). Further, because more than one quarter of all aggravated assaults resulted in an injury, it's essential to examine non-fatal accidents in addition to homicides.

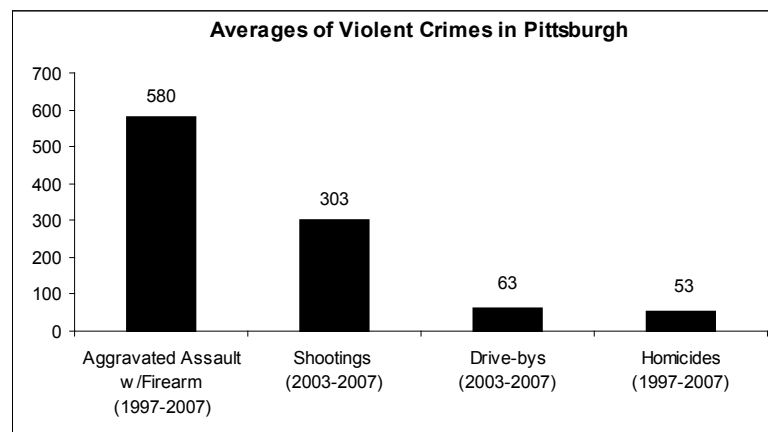


Figure 2-7: Violent Crime Averages in Pittsburgh

## Data Analysis

### WHO ARE THE VICTIMS AND OFFENDERS OF HOMICIDES?

#### Homicide Victims

##### Gender

Males are between four and six times more likely to be homicide victims than females. Males accounted for 81 percent of all homicide victims within Allegheny County, and at least 85 percent of victims in the City of Pittsburgh.

##### Race

African Americans are at a much greater risk of homicide victimization than whites. Although African Americans comprise only 27 percent of the City of Pittsburgh's population, more than 80 percent of homicide victims are black. Between 1997 and 2007, blacks in Allegheny County experienced an average homicide victimization rate that was 19 times greater than the rate for non-blacks.

##### Age

Young adults are also much more likely to be victims of homicides than children under 18 or adults older than 35. Individuals between the ages of 18 and 24 account for 36 percent of all homicide victims, 25- to 34-years-olds make up an additional 27 percent of victims.

##### Population at Highest Risk

When considering these demographic characteristics together (gender, age, and race), a stark picture emerges. Young black men are far more likely to be victims of homicide than any other group. Black women are also more likely than whites of either gender to be victimized (see Figures 2-8). Notably, the homicide rates for pre-adolescent or post-thirties black males are not strikingly dissimilar to other groups, confirming that the critical age range for intervention seems to be 18-35.

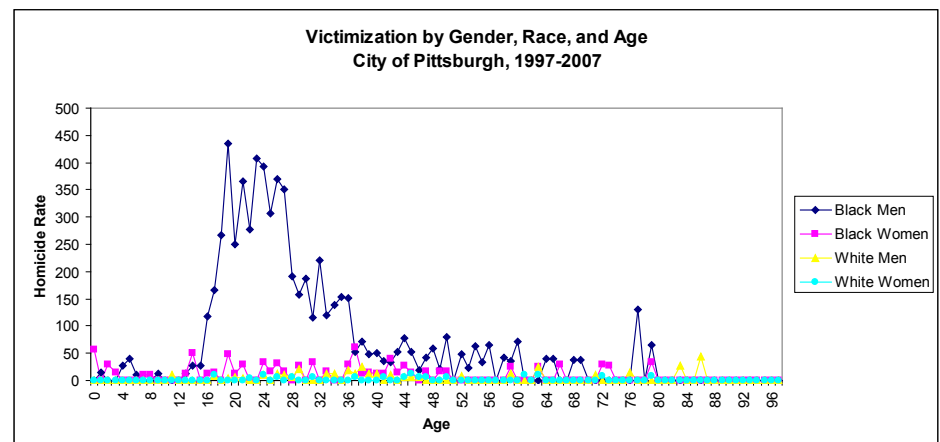


Figure 2-8: Victimization by Gender, Race, and Age (City of Pittsburgh, 1997-2007)

## Data Analysis

### Residency Patterns for Victims – Distressed Neighborhoods

Extensive literature points to the strong connection between poverty, neighborhood distress, and violence (Benson and Fox, 2004). To examine this issue locally, the Annie E. Casey distressed neighborhood criteria were used to determine the degree to which the victim's neighborhood of residence was distressed (O'Hare and Mather, 2003) (see Appendix C for additional information about the Casey criteria). Thirty percent of homicide victims reside in just 5 percent of neighborhoods in Pittsburgh, 67 percent of which are designated as severely distressed.

### Prior Human Service Access

The Department of Human Services compared the personal identification information of 603 homicide victims (from June 2002 to October 2008) with the information stored in the department's Data Warehouse.<sup>2</sup> We expected to see fairly high service usage rates among these individuals, as previous analysis of similar populations found high access of human services among individuals involved with the criminal justice system. For example, of individuals booked in the Allegheny County Jail between 2006 and 2009, 62 percent had accessed DHS services at some point since 2002. Similarly, 59 percent of individuals on parole and 66 percent of those involved with the PA Department of Corrections had accessed DHS services.

However, after matching the homicide victims against the Data Warehouse, only 38 percent were found to have been involved with the child welfare (either as child or parent), mental health, or drug and alcohol treatment systems. There were no differences in overall service usage by gender but unexpected differences by race emerged: 46 percent of African-American victims had accessed services, compared to only 28 percent of white victims.

These findings do not reflect the previous trends we have seen – there are typically significant differences by gender and by race, with women and white people more likely to access services. For example, 89 percent of female DOC offenders accessed DHS services, compared to only 64 percent of male offenders; similarly, 64 percent of female Jail inmates accessed services, compared with 43 percent of males. These findings are surprising and require further examination.

<sup>2</sup> In order to triangulate community and social problems it is helpful to integrate numerous data sources. To match data, DHS uses an algorithm to compare external data sources with our DHS client data. For a detailed description of the matching algorithm, please see Appendix F.

## Data Analysis

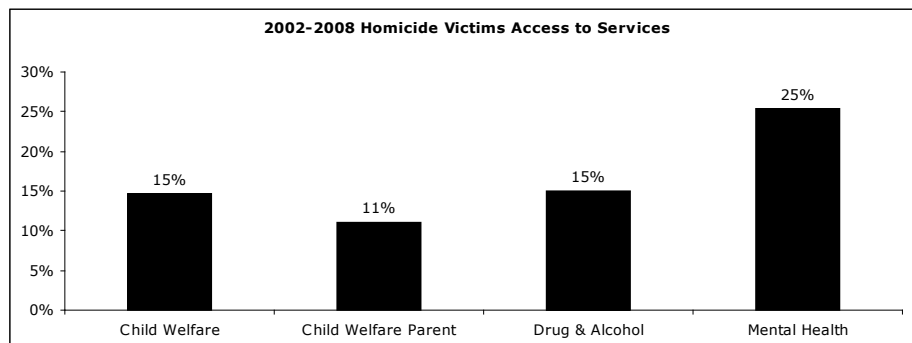


Figure 2-9: Homicide Victims' DHS Service Access, 2002-2008

### Prior Criminal Activity of Homicide Victims

While newspaper accounts highlight innocent victims – those murdered in a home invasion or caught in the cross-fire of a drive-by shooting – those victims without criminal records are relatively rare; in fact, many homicide victims have criminal records themselves. By comparing the names of homicide victims between 2003 and 2005 to court records in the Court Information Management System and the Court of Common Pleas Online Web Docket Sheets system, we found that over 70 percent of victims between the ages of 25 and 44 had some criminal record. Of victims ages 17 to 24 and 45 to 54, more than 50 percent had records. Male victims were more likely than females, and black victims more likely than whites, to have criminal records (60% vs. 28% and 62% vs. 29%, respectively). See Figure 2-10.

Because the data sources noted above only capture adult criminal cases and are unreliable before the early 1980s, the estimates above do not include homicide victims younger than 17 and may under-represent older victims as well. In addition, victim involvement in the criminal justice system is likely to be further understated because this analysis does not consider cases charged in other jurisdictions.

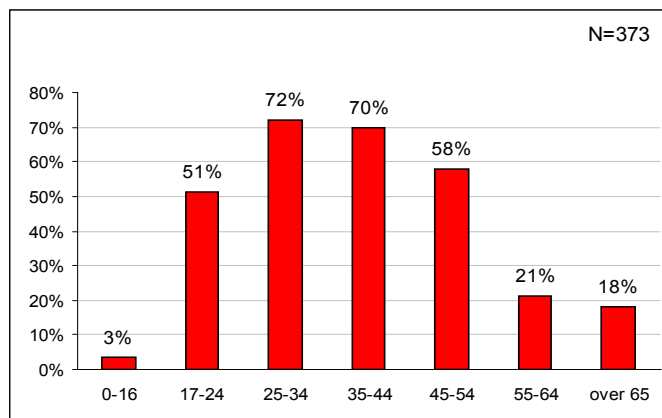


Figure 2-10: Victim Involvement in Criminal Justice System, by Age

## Data Analysis

### Homicide Offenders

Offender information from the Pennsylvania State Police (whose Uniform Crime Reports cover jurisdictions across the state and includes data from the Pittsburgh Bureau of Police) was examined for homicide incidents reported by the Pittsburgh Police between 2000 and 2007 (data was not available for the years 1997-1999). During that time, 472 incidents were reported but on average, offender information is known in only about half of those incidents.

#### Demographic Characteristics of Homicide Offenders

The available information shows that in cases where age, race, and gender were known (49%, 51%, and 52%, respectively), 51 percent of the offenders were under the age of 25, 80 percent were African American, and 93 percent were male.<sup>3</sup> Overall, those at highest risk of being a victim of a violent crime have similar demographics as those most likely to commit a violent crime.

#### Prior Criminal Activity of Homicide Offenders

Most homicide offenders had prior involvement with the justice system; 2002 data from the Pittsburgh Police Department's Annual Report indicates that 88 percent of homicide offenders had at least one prior arrest record and only 8 percent had never been arrested (N=48). More than two-thirds had been arrested on drug charges (64%) and nearly half for gun-related offenses (45%).

### Connections between Victims and Offenders

#### Relationship

For homicides committed between 2000 and 2007, the relationship between the victim and offender was known in 32 percent of cases (N=151). In those cases, the victim and offender frequently knew each other – in 79 percent of incidents, the victim and offender were acquaintances or knew each other in some other way (45%), family members (16%), or friends/neighbors (18%). Only 21 percent of these cases occurred between strangers. See Figure 2-11.

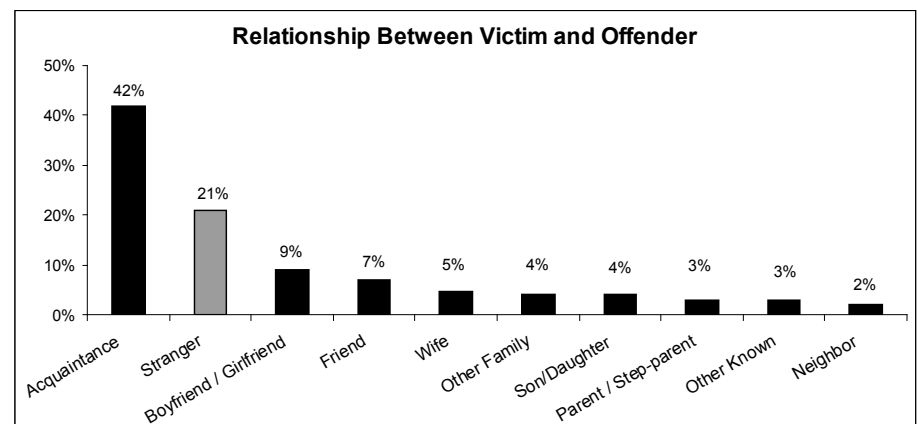


Figure 2-11: Relationship between Victim and Offender

<sup>3</sup> Age information was available for 49% (N=234) of the incidents; race information was available for 51% (N=240) of the incidents; and gender information was available for 52% (N=244) of the incidents.



## Data Analysis

### Race and Gender

The race of both the victim and offender was known in 51 percent of homicide cases (N=207). In most cases, the victim and offender were of the same race; 74 percent of homicides were perpetrated by a black offender against a black victim and 11 percent were between a white offender and victim. Only 6 percent of homicide cases were perpetrated by a black offender against a white victim and 7 percent by a white offender against a black victim.

In homicide cases where the gender of both the victim and offender was known (52% of cases; N=135), the victim and offender were usually the same gender; most often, both were male. Males were nearly five times as likely kill another male (76% of total victims) than a female (16% of total victims). In contrast, 7 percent of homicides were perpetrated by a female offender against a male victim, and only 1 percent by a female offender against a female victim.

### **WHERE DID VIOLENCE OCCUR?**

Violence was heavily concentrated in a select group of county municipalities and city neighborhoods. By using municipality/neighborhood and cluster analyses, we were able to better understand where violence occurred most frequently. For detailed information about these methodologies, see Appendix A.

### **Allegheny County**

Figure 2-12 shows homicide incident locations (N=878) from 1997 to 2007. Violence was heavily concentrated in specific neighborhoods in the City of Pittsburgh, as well as in municipalities bordering yet outside the city limits. Outside the city, high victimization (defined as 11 or more incidents) occurred in Penn Hills, Wilkinsburg, West Mifflin, Duquesne, and McKeesport.

The municipalities in which the most homicide incidents occurred also tended to have the highest homicide rate per 100,000 people (Table 2-1). Nearly all have higher concentrations of African American residents than the county average of 12.8 percent.

## Data Analysis

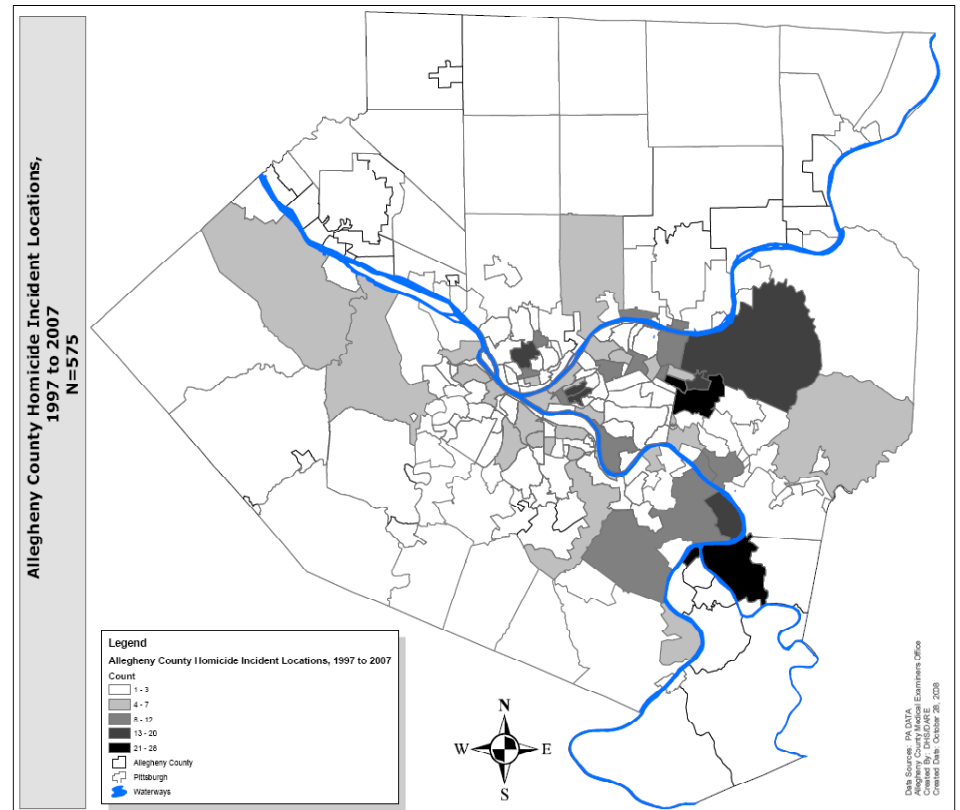


Figure 2-12: Allegheny County Homicides, 1997-2007 (N=878)

Top 10 County Municipalities, excluding City of Pittsburgh Homicide Counts			Top 10 County Municipalities, excluding City of Pittsburgh Homicide Rates		
Municipality	Homicides (1997-2007)	% in Poverty	Municipality	Homicide Rate (per 100,000)	% in Poverty
Wilkinsburg	51	19%	Wilkinsburg	68.6	19%
Penn Hills	31	8%	Braddock	27.5	35%
McKeesport	26	23%	Duquesne	23.2	35%
Duquesne	17	35%	Wilmerding	18.6	17%
Swissvale	11	15%	Homestead	16.8	27%
Clairton	10	20%	Sharpsburg	16.7	17%
North Braddock	9	23%	East Pittsburgh	14.9	22%
Monroeville	8	7%	North Braddock	14.0	23%
West Mifflin	8	10%	Pennsbury Village	13.6	3.4%
Braddock	8	35%	Rankin	13.0	45%

Table 2-1: Allegheny County Homicides, Incidents and Rates by Municipality, Excluding City of Pittsburgh, 1997-2007. (Allegheny County averages, 2000: 11.2% in poverty) (Source: Census 2000)

## Data Analysis

**City of Pittsburgh**

We see a similar pattern within the City of Pittsburgh; 75 percent of homicides were clustered in just 25 neighborhoods, or 27 percent of neighborhoods within the city limits (see Figure 2-13). The communities of Homewood, Hill District and the Northside experienced the highest levels of victimization. Fourteen percent of all homicides occurred in Homewood (made up of Homewood South, Homewood West, and Homewood North), 11 percent in the Hill District (Middle Hill, Terrace Village, and Crawford-Roberts) and 6 percent in the Northside (Perry South and Central Northside). Each of the neighborhoods with very high homicide rates are predominantly African American communities (see Table 2-2).

Neighborhood homicide rates and counts do not tell the full story of community violence. Cluster analysis demonstrates that there are concentrated pockets of violence within communities that sometimes cross neighborhood borders. See Appendix D for cluster maps of homicides, aggravated assaults with firearms, and shootings in the City of Pittsburgh.

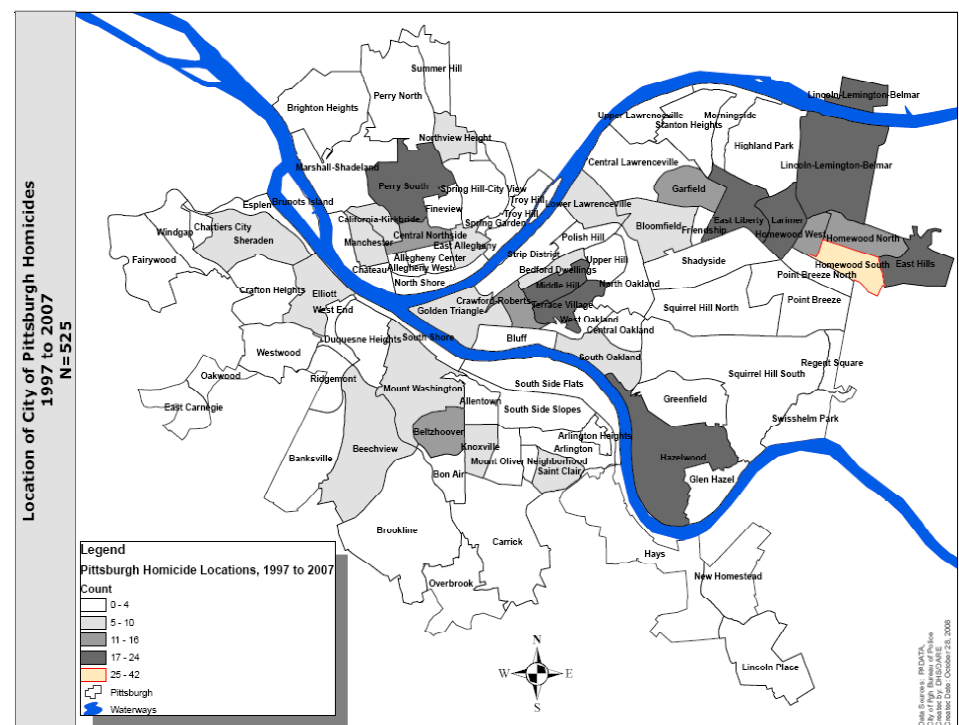


Figure 2-13: Homicides in the City of Pittsburgh, 1997-2007

## Data Analysis

Top 10 City of Pittsburgh Neighborhoods Counts and Percent of Total Homicides				Top 10 City of Pittsburgh Neighborhoods Homicide Rates		
Neighborhood	Homicides (1997-2007)	% of Total	% in Poverty	Neighborhood	Homicide Rate (per 100,000)	% in Poverty
Homewood South	41	9%	38%	South Shore*	178.6	60%
Middle Hill	24	5%	34%	Strip District*	150.4	37%
Larimer	21	4%	29%	Homewood South	115.2	38%
East Hills	20	4%	37%	Middle Hill	112.0	34%
Perry South	19	4%	29%	North Shore*	111.1	n/a
Hazelwood	19	4%	24%	Homewood West	98.7	14%
East Liberty	18	4%	30%	Larimer	80.7	29%
Lincoln-Lemington-Belmar	17	4%	26%	Terrace Village	68.4	62%
Garfield	16	3%	41%	St. Clair	61.9	n/a
Terrace Village	16	3%	62%			

Table 2-2: City of Pittsburgh Homicides, Incidents and Rates by Neighborhood, 1997-2007. (City of Pittsburgh averages, 2000: 20.4% in poverty) (Source: Census 2000, University of Pittsburgh-University Center for Social and Urban Research)

### Location of Victims' Deaths

Another approach to understanding incident location is to look at the type of venue most common for violent incidents (e.g. residence, street, bar or retail establishment, public park, etc.). Information on particular incident locations was available for 77 percent of cases (N=676); as Figure 2-14 shows, the majority of victims died in either a residence or on the street. This data may be useful in developing targeted intervention policies for each specific venue of homicide incidents.

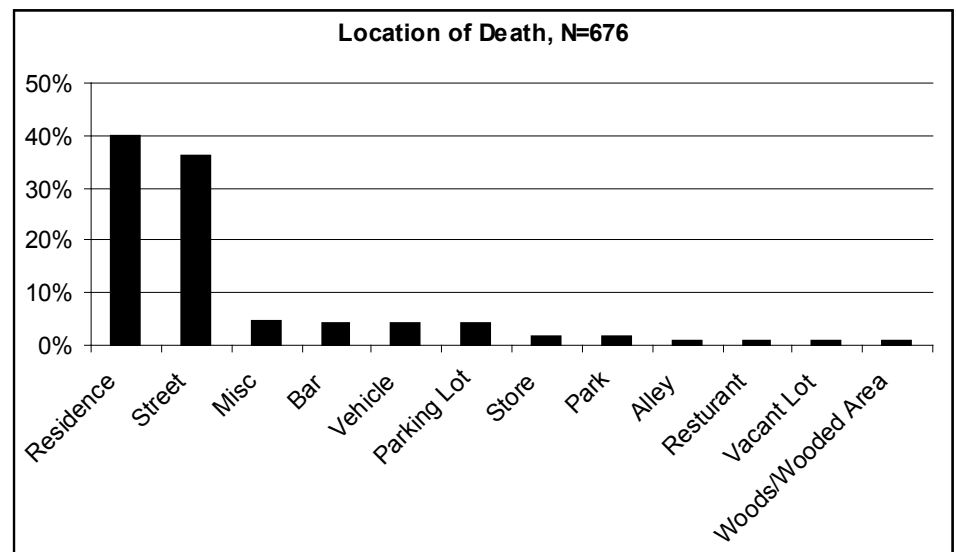


Figure 2-14: Specific Location of Homicides

\* Note: The high homicide rates in the Strip District, South Shore and the North Shore should be considered in the context of their small populations (the Strip District had 266 residents in 2000, the South Shore had 56 residents, and the North Shore had only 270).

## Data Analysis

### WHEN DID VIOLENCE OCCUR?

#### Month of Year

The frequency of homicides and shootings tended to increase during the warmer months, with high points in June (homicides) and August (shootings). Monthly fluctuations were more pronounced for shootings than for homicides, which were more evenly distributed throughout the year (see Figure 2-15).

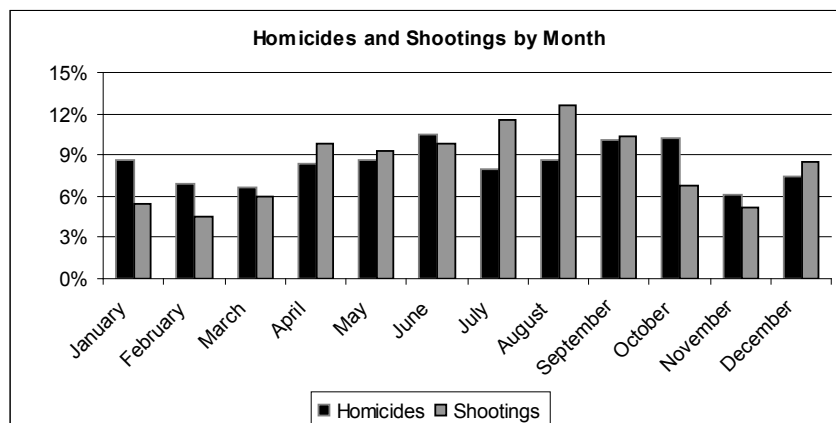


Figure 2-15: Homicides and Shootings by Month

#### Day of week

Although homicides and shootings occurred slightly more often on weekends, they were fairly well distributed throughout week (see Figure 2-16).

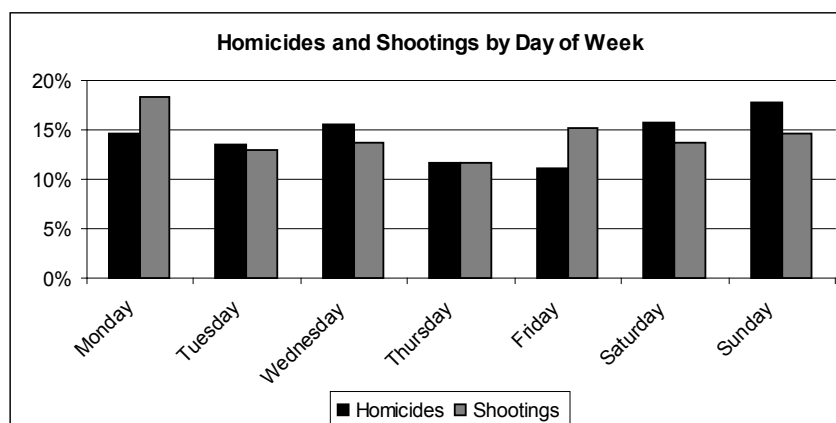


Figure 2-16: Homicides and Shootings by Day of Week

#### Time of Day

Homicides and shootings occurred most frequently in the morning hours between 12:00 midnight and 2:00 a.m. Incident frequency gradually increased throughout the day with a notable rise after 2:00 p.m., corresponding with the end of the school-day for many youth (see Figure 2-17).

## Data Analysis

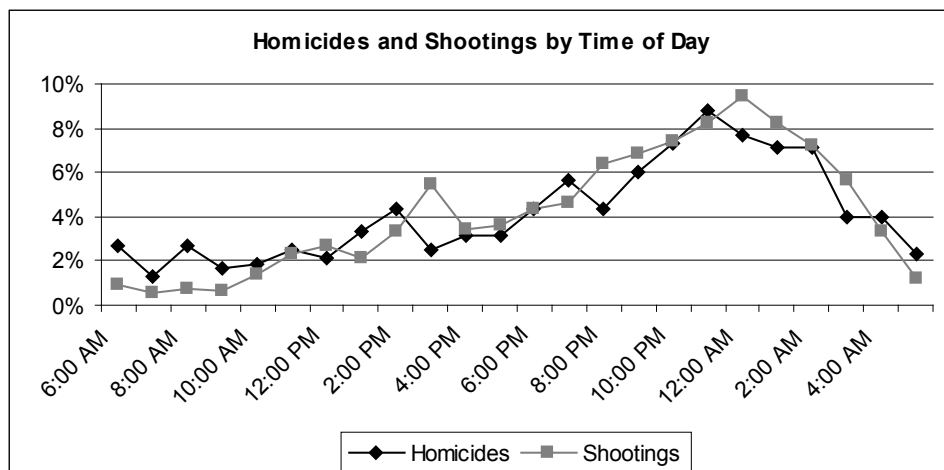


Figure 2-17: Homicides and Shootings by Time of Day

### Variation by Age in Time-of-Day Trends

We have already seen that young adults tend to be more susceptible to violence than young children or older adults. Among adults ages 13-34, though, we see distinct temporal patterns based on particular age ranges, and these patterns typically match the expected activity patterns of individuals in these age ranges. The age groups examined are 13-17 years, 18-24 years, and 25-34 years (see Figure 2-18).

Individuals aged 13-17 years old were more often victimized mid-day and throughout the evening. Victimizations were uncommon in the mornings (6:00 a.m. – 10:00 a.m.) but became more frequent starting at 1:00 p.m., spiking at 6:00 p.m. and decreasing throughout the evening.

Like the teen cohort, 18- to 24-year-olds were victimized least in the morning. Incident frequency increased gradually after 10:00 a.m., but rose significantly after 9:00 p.m., suggesting that individuals within this group were more likely to be victimized at night and into the early morning hours (10:00 p.m.-1:00 a.m.).

Individuals aged 25-34 years were most often victimized during the early morning hours between 12:00 midnight and 2:00 a.m.

## Data Analysis

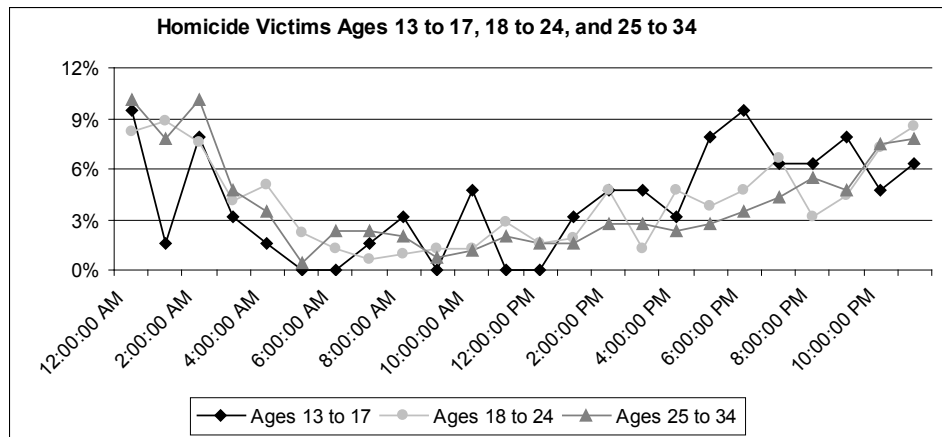


Figure 2-18: Homicide Trends by Time of Day for Specific Age Cohorts

### Using routine activity theory to understand patterns

To better predict when children and young adults are at greatest risk of victimization, this report borrows methods used by Caterina Gouvis Roman in her analysis of crime in Washington, D.C. Roman categorized every hour of the week into one of eight temporal categories to correspond to the daily routine of youth ages 5 to 17 years and to young adults ages 18 to 24. For those ages 5 to 17 years, the summer months were analyzed separately using a six-category scheme. More information on the specific time categories and corresponding activities can be found in Appendix E.

During the school year, victims ages 17 years and younger were most susceptible to violence during weekday evenings (Sunday through Thursday from 6:00 p.m. to 11:59 p.m.) and weekend late nights (Friday and Saturday from midnight to 6:59 a.m.). See Figure 2-19.

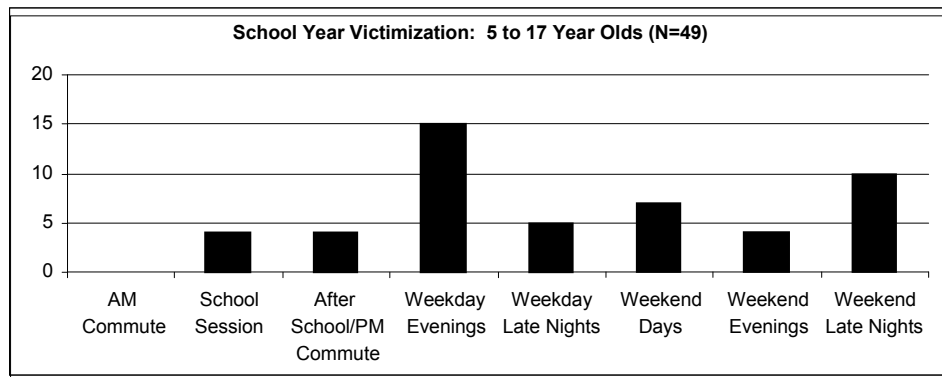


Figure 2-19: School Year Victimization Patterns, youth ages 5-17

Data Analysis

During the summer months, victimization for individuals ages 17 years and younger occurred more often during the week, particularly during daylight and evening hours, than during late nights or during daylight hours on the weekend (see Figure 2-20).

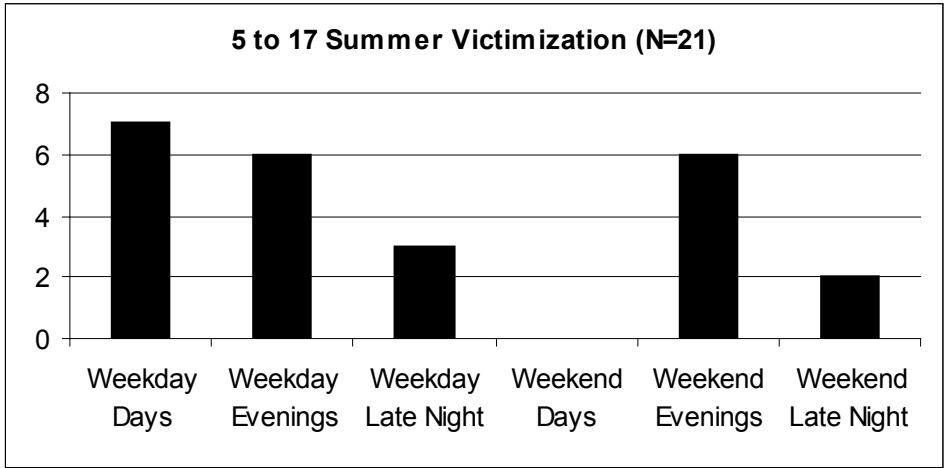


Figure 2-20: Summer Victimization Patterns, youth ages 5-17

The same analysis was conducted for 18-24 year-olds, using temporal categories appropriate that age group. For this population, victimization was most common during late nights throughout the week and on the weekend (see Figure 2-21).

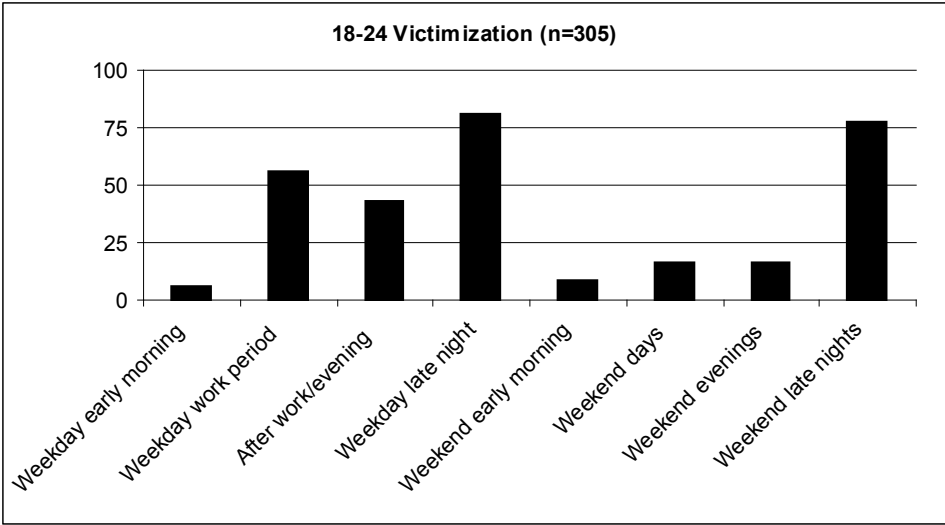


Figure 2-21: Victimization Patterns, young adults ages 18-24



## Data Analysis

### WHY IS VIOLENCE OCCURRING?

#### Motive

Understanding why violence occurs is a key factor in the development of prevention methods. Using data from the Pennsylvania State Police, we were able to look at the motive for 186 homicides reported by the Pittsburgh Bureau of Police, representing the 43 percent of cases in which motive was identified. Though this sample is small, it does shed some light on the potential impetus behind violent acts.

As demonstrated in Figure 22, argument was the most common motive, cited in 33 percent of the incidents. Burglary, robbery, and theft were cited in 13 percent of the incidents; narcotics in 5 percent of the incidents. In nearly one third of cases (30%), a motive other than those provided as a choice was identified. Furthermore, gang-related disputes were only identified as a motive in 3 percent of cases; this is probably significantly underestimated.

This type of administrative data falls short in helping understand the real motives and causes of violence. A qualitative case review approach, known as “incident review,” is being employed in a number of jurisdictions across the county to try to better understand motive.

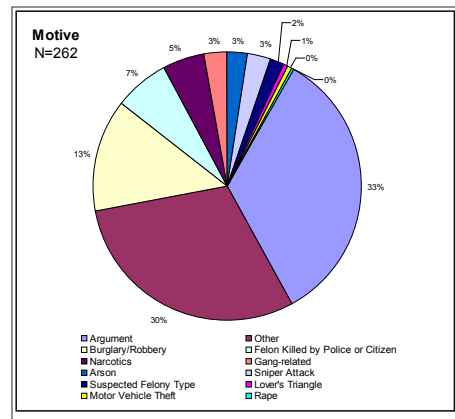


Figure 2-22: Motive Stated in Homicide Cases (Source: State Police File—filtered for Pittsburgh)

#### Incident Reviews

At incident review sessions, front-line staff with street-level knowledge of the crimes in question, along with representatives from across the criminal justice system (law enforcement officials, attorneys, probation and parole officers, etc.), come together to share “detailed information about a specific types of crime, most often homicide, in the local criminal justice system and us[e] that information to develop strategic approaches to reduce

that crime” (Klofas and Hipple, 2006). One goal of these case reviews is to strategize ways to intervene in future situations and prevent poor outcomes by identifying trends and patterns across cases.

The Uniform Crime Report (UCR) is typically the starting point for an incident review; the UCRs are made available by state reporting agencies or the FBI, and include data on crime counts and rates. Other information, such as medical examiners’ reports, trial or case processing data, and court and correctional data on the prior criminal histories of victims and suspects, are also used to analyze incidents.

## Conclusions & Recommendations

However, even this aggregate of official data does not paint a full picture, as it doesn't provide information on the personal dynamics or motives involved in homicides. The success of an incident review is largely dependent on the participation of many people with information to share, particularly "street knowledge." It is this information about the personal and social dynamics that influence crime in particular neighborhoods and groups that is critical to understanding the specific incident and to identifying patterns in motives and underlying causes. In Milwaukee, for example, the Homicide Review Commission identified numerous enforcement and intervention activities that have proven successful in developing innovative responses and solutions to reduce crime. In Pittsburgh and Allegheny County, incident reviews in a criminal justice context are not being implemented.

Violence is a serious community concern and is an epidemic in some of our communities. More work is needed to specify when interventions need to be operating in order to have the most impact. Further, more work is needed to understand the motives behind violence and the networks of offenders that perpetuate it. It is only with this information that we can consider successful interventions to interrupt it.

Despite this, the core work of the Department of Human Services already serves to prevent violence and help individuals who have been impacted by violence.

DHS operates several prevention and intervention services for youth at risk of witnessing or engaging in violence:

- **Safe Start:** The Safe Start program works with children who have witnessed a violent act in their home or community. The program helps those children process the experience and links them and their family with any additional services that are needed.
- **Family Support Centers:** These centers, are located in most communities throughout the county, provide services to improve the growth and development of children and parents. A variety of services are provided at the centers, including education (both children and adults), child care, after-school and summer youth programs, and parenting classes.
- **After-school programs:** The Office of Children, Youth, and Families supports the Beverly Jewel Wall Lovelace Program (BJWL) which provides after-school and summer activities for children in 23 public housing communities. CYF supports many faith-based institutions in their provision of after-school programs for at-risk children in high poverty communities. These programs provide community-based support and resources, and assist CYF by strengthening families and preventing costly interventions in the future.

## Conclusions & Recommendations

- **Truancy prevention:** The Department also works with the Allegheny Intermediate Unit, the Allegheny County Children and Youth Services, and the Juvenile Court to prevent truancy through the Truancy Prevention Program, a coordinated early intervention program.
- **SNAP:** The Stop Now and Plan (SNAP) Delinquency Prevention Initiative, or SNAP, reduces offending behavior and improves social competence in children (ages 6 to 12) who have been in trouble with the police, or who are referred by other members of the community (such as school personnel) and are evaluated to be among the top 2 percent in terms of severe antisocial and defiant behavior. These children are at great risk for engaging in a course of escalating and severe criminal and antisocial behavior.
- **Family support services:** The Family Focused Solution Based (FFSB) Program is designed to work with families which are involved in either the child protective service system or the juvenile justice system who could benefit from intense therapeutic and support services such as coping capacities, problem-solving abilities and life skills, or improving management of stress and parenting skills.
- **Youth workforce investment:** Youth employment and training services are offered through a variety of in-school and out-of-school providers. In-school services provide education and career preparation for teenagers between the ages of 14 and 18 years old; out-of-school providers give youth a hands-on educational experience through vocational training. Classes such as machining or computer repair are taught with the focus of gaining valuable skills that lead to training-related employment. Another program serves pregnant and parenting youth who left high school before graduating.
- **Transition-aged youth services:** DHS is investing numerous resources in its services for transition-aged youth. The Independent Living Initiative addresses the needs of 16- to 18-year-olds in out-of-home placement by providing academic, career and life skills preparation as they prepare to transition from placement to independence. A Youth Engagement Specialist works with DHS caseworkers and several Youth Support Partners (young adults who have been involved in DHS systems) to carry out these activities, using the high-fidelity wraparound process when appropriate.
- **Neighborhood Review Teams:** This pilot program will reduce the number of out-of-home placements from the Hill District and Homewood, both neighborhoods that have an overrepresentation of African American boys in the child welfare system. The neighborhood review teams will include community consultants that are identified by the communities served and may include a number of different sources such as family members, community leaders, support individuals, community advocates, etc. The teams will review each case before it is accepted for service and will help the families develop and implement a viable safety plan for the safety and well-being of their child(ren).

## Conclusions & Recommendations

The department also supports services for individuals who are currently or have previously been involved with the criminal system. Individuals currently incarcerated can receive services from a variety of social service providers stationed in the Allegheny County Jail. The primary goal is to provide offenders with services (e.g., employment, education, and housing assistance) that will benefit them upon release from the Jail and reduce the likelihood of recidivism. Further, the unit of Justice Related Services (JRS) within the Office of Behavioral Health provides additional services to criminal-justice involved individuals who have mental health and/or substance abuse issues. The JRS unit ensures that those offenders receive appropriate treatment during and following incarceration.

Finally, the Department of Human Services supports programs that actively reduce crime and violence in the community. One Vision One Life (OVOL), which is program supported by the Office of Community Services, works with high-risk communities to address violence through a six-point plan to stop shootings. OVOL mediates and intervenes in conflicts; implements outreach efforts to individuals at high risk of engaging in or falling victim to violence; builds strong community coalitions; publicizes a unified message of “No Shooting”; provides a rapid response to all shootings in target areas; and establishes programs for at-risk youth.

## Sources

Benson Michael L. and Greer Litton Fox. “When Violence Hits Home: How Economics and Neighborhood Play a Role.” National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. September 2004.

Blumstein, Alfred and Hee Jun. “Crime: Public Safety Indicators.” Pittsburgh Today: Key Indicators for Understanding Our Region.

<http://www.pittsburghtoday.org/web/downloads/crime.doc>

DuRant, R. H., Cadenhead, C., Pendergrast, R. A., Slavens, G., Linder, C. W. “Factors associated with the use of violence among urban black adolescents.” American Journal of Public Health. 1997; 84(4), 612-617.

Ellickson, P. L., and K. A. McGuigan. “Early predictors of adolescent violence.” American Journal of Public Health. 2000; 566-572.

Klofas, John and Natalie Kroovand Hipple. “Project Safe Neighborhoods: Crime Incident Reviews: Case Study 3.” Office of Justice Programs, U.S. Department of Justice. May 2006.

## Sources

Lattimore, Pamela K., James Trudeau, K. Jack Riley, Jordan Leiter, and Steven Edwards. "Homicide in Eight U.S. Cities: Trends, Context, and Policy Implications, An Intramural Research Project." National Institute of Justice, U.S. Department of Justice. December 1997.

May 2007 Interim Progress Report. Milwaukee Homicide Review Commission, Milwaukee Police Department.

<http://www.ci.mil.wi.us/HomicideReviewComm22506.htm>

O'Hare, William and Mark Mather. "The Growing Number of Kids in Severely Distressed Neighborhoods: Evidence from the 2000 Census." October, 2003.

[www.aecf.org/upload/publicationfiles/da3622h1280.pdf](http://www.aecf.org/upload/publicationfiles/da3622h1280.pdf)

Pennsylvania Uniform Crime Reporting System. Uniform Crime Reporting Unit, Bureau of Research & Development, Pennsylvania State Police.

<http://ucr.psp.state.pa.us/UCR/ComMain.asp?SID>

Roman, Caterina Gouvis. "Violence in the District of Columbia." Urban Institute. 2000. <http://www.urban.org/url.cfm?=410008>

Thornton, T. N., Craft, C. A., Dahlberg, L. L. Lynch, B. S., & Baer, K. "Best practice of youth violence prevention: A sourcebook for community action." Center for Disease Control and Prevention, Division of Violence Prevention. June 2002.

Wasting America's Future. Children's Defense Fund. Beacon Press. October 1994.

Werner, Emmy E. "The children of Kauai: Resiliency and recovery in adolescence and adulthood." Journal of Adolescent Health (Volume 13, Issue 4, 262-268). June 1992.

## Appendix A:

### Spatial Techniques

#### Municipality/Neighborhood Analysis:

This analysis examines the total number of reported victimizations that occurred within municipality/neighborhood boundaries.

#### Cluster Analysis:

This method involves a statistical procedure to locate areas or locations that have a high concentration of violence incidents—a cluster of incidents that is spatially closer than what could have happened by chance. The cluster or "hotspot" analysis was included to add depth to the municipality/neighborhood analysis because neighborhoods borders are administrative boundaries that may not reflect meaningful violence boundaries.

## Appendix A:

### Spatial Techniques

The size of the clusters represents the extent of the spatial distribution of the cluster. To state it differently, a large cluster reflects a very spread out or diffuse set of incidents, not a larger number of incidents contained within. For example, a very small cluster with a large number of shootings can simply mean that many shootings happened on the same few blocks.

First, the municipality and neighborhood maps show the total number of reported victimizations that occurred within municipality/neighborhood boundaries.

Second, high concentration areas or clusters were identified using the “nearest neighbor cluster” technique of the CrimeStat program (Levine, 2000). Nearest neighbor clustering is a hierarchical technique that first groups points based on the next closet point (nearest neighbor). This technique then generates an ellipse around each cluster of incidents based on the following user-specified criteria: the probability level; the minimum number of incidents (events) to generate an ellipse; and the number of standard deviations for determining the size of the ellipse.

This study uses one-standard-deviation ellipses with 95 percent confidence that the clustering is spatially closer than would have happened by chance if the crimes were spread evenly over the City of Pittsburgh. Criteria for choosing the minimum number of events were selected after preliminary examination of the data. Due to variation in the frequency of the different types of violent crimes, the number of minimum events used to form the clusters varied for each crime type.

## Appendix B:

### City of Pittsburgh Demographics, Census 2000

Age	Male	Female	Total	% of total population
0-9	18,612	17,999	36,611	11%
10-17	15,220	14,677	29,897	9%
18-24	24,742	24,719	49,461	15%
25-34	25,148	23,712	48,860	15%
35-44	23,149	23,721	46,870	14%
45-54	19,698	21,384	41,082	12%
55-64	11,784	14,964	26,748	8%
65-74	11,149	15,334	26,483	8%
75-84	7,712	13,650	21,362	6%
85+	1,905	5,284	7,189	2%
<b>TOTAL</b>	<b>159,119</b>	<b>175,444</b>	<b>334,563</b>	

Table A-1: Population by Gender and Age Group, City of Pittsburgh, 2000

BLACK	NON-BLACK
90,750	243,813
27%	73%

Table A-2: Population by Race, City of Pittsburgh, 2000

## Appendix C:

**Annie E. Casey Foundation  
Criteria for Neighborhood  
Health**

To be deemed as distressed, a community must demonstrate at least three of the four following characteristics:

1. High percentage of people living in poverty (27.4% or more)
2. High percentage of families with related children headed by women with no husband present (37.1% or more)
3. High percentage of 16- to 19-year-olds who are not enrolled in school and not high school graduates (23.0% or more)
4. High percentage of civilian, non-institutionalized men ages 16 to 64 who are unemployed or not in the labor force (34.0% or more)

## Appendix D:

**Cluster Analyses of  
Homicides, Aggravated  
Assaults with Firearm,  
and Shootings**

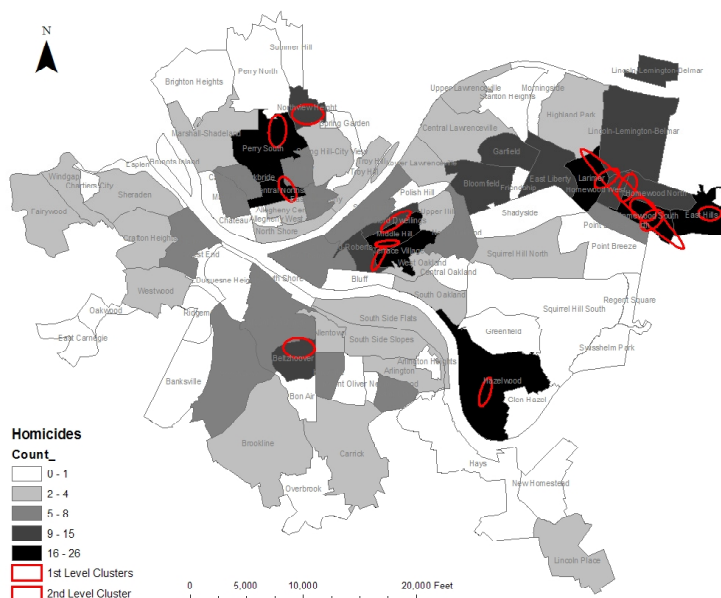


Figure B-1: Homicide Clusters with the City of Pittsburgh, 1997-2007

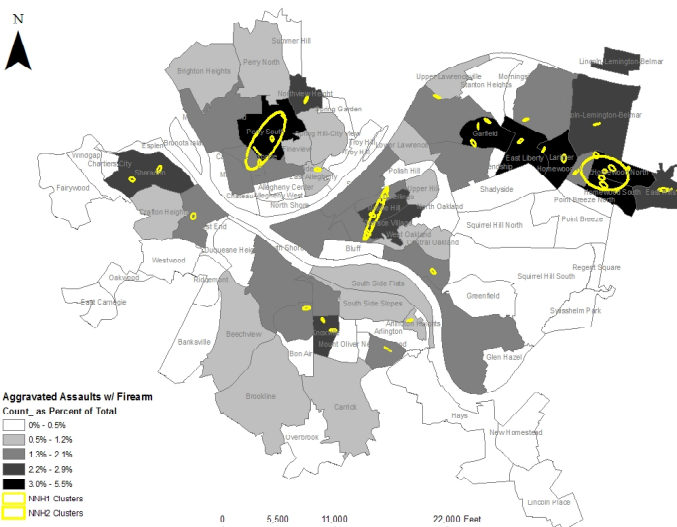


Figure B-2: Aggravated Assaults with Firearm Clusters with the City of Pittsburgh, 1997-2007

## Appendix D:

### Cluster Analyses of Homicides, Aggravated Assaults with Firearm, and Shootings



Figure B-3: Shooting Clusters with the City of Pittsburgh, 1997-2007

## Appendix E:

### Routine Activity Theory

#### Activity Categories, Youth Ages 5-17

School Year		
AM Commute	Monday-Friday	7:00 am-8:59 am
School Session	Monday-Friday	9:00 am-2:59 pm
After School/PM Commute	Monday-Friday	3:00 pm-5:59 pm
Weekday Evenings	Sunday-Thursday	6:00 pm-11:59 pm
Weekday Late Nights	Sunday-Thursday	12:00 am-6:59 am
Weekend Days	Saturday-Sunday	7:00 am-5:59 pm
Weekend Evenings	Friday-Sunday	6:00 pm-11:59 pm
Weekend Late Nights	Friday-Sunday	12:00 am-6:59 am
Summer		
Weekday Days	Monday-Friday	7:00 am-5:59 pm
Weekday Evenings	Sunday-Thursday	6:00 pm-11:59 pm
Weekday Late Nights	Sunday-Thursday	12:00 am-6:59 am
Weekend Days	Saturday-Sunday	7:00 am-5:59 pm
Weekend Evenings	Friday-Sunday	6:00 pm-11:59 pm
Weekend Late Nights	Friday-Sunday	12:00 am-6:59 am

Table C-1: Routine Activity Time Categories, Ages 5-17



## Appendix E:

### Routine Activity Theory

Activity Categories, Adults Ages 18-24		
Weekday early morning	Monday-Friday	5:00 am-8:59 am
Weekday work period	Monday-Friday	9:00 am-5:59 pm
After work/evening	Monday-Friday	6:00 pm-9:59 pm
Weekday late night	Monday-Thursday	10:00 pm-4:59 am
Weekend early morning	Saturday-Sunday	5:00 am-8:59 am
Weekend days	Saturday-Sunday	9:00 am-5:59 pm
Weekend evenings	Saturday-Sunday	6:00 pm-9:59 pm
Weekend late nights	Friday-Sunday	10:00 pm-4:59 am

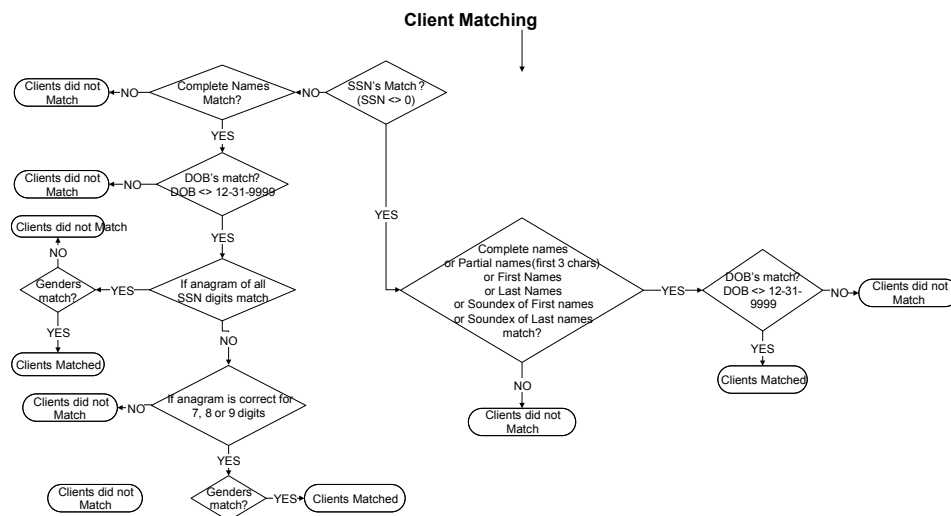
Table C-2: Routine Activity Time Categories, Ages 18-24

## Appendix F:

### DHS Data Warehouse Matching Algorithm

In order to triangulate community and social problems it is helpful to integrate numerous data sources. For example, understanding the relationship between individuals in mortgage foreclosure and their use of DHS services (historically or actively) may point to strategies to prevent and/or mitigate these foreclosures.

To match data, we use an algorithm to compare external data sources with our DHS client data. This matching algorithm goes through a series of steps to confirm a client's presence in both data directories, looking at his or her social security number, first and last name, date of birth, and gender. In cases where the data may not match exactly, this process take further steps to confirm identity, using Soundex, a phonetic algorithm for indexing names by pronunciation, and anagrams of social security numbers.



**Allegheny County**  
**Department of Human Services**  
One Smithfield Street  
Pittsburgh, PA 15222

**Phone:** 412. 350. 5701  
**Fax:** 412.350.4004  
[www.alleghenycounty.us/dhs](http://www.alleghenycounty.us/dhs)

