

When and Where Does Crime Occur in Oakland?

A Temporal and Spatial Analysis (January 2008 – July 2013)

March 2014



**THE CHIEF JUSTICE EARL WARREN INSTITUTE
ON LAW AND SOCIAL POLICY**

UNIVERSITY OF CALIFORNIA BERKELEY, SCHOOL OF LAW

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Violence Prevention and Public Safety Act of 2004

In November 2004, Oakland voters passed the Violence Prevention and Public Safety Act, commonly referred to as Measure Y. Measure Y was drafted with the goal of improving public safety in the City of Oakland, focusing particularly on youth violence prevention and community policing. In addition to supporting violence prevention and public safety initiatives, Measure Y specifically designates that some of the funding be used annually for the purposes of evaluating the initiative. The City of Oakland contracted with Resource Development Associates (RDA) for the evaluation for 2013 through 2015. The Warren Institute has partnered RDA for the 2013 evaluation and this report is part of that evaluation effort.

Table of Contents

Executive Summary	4
Introduction	8
When Does Crime Happen in Oakland?.....	9
Crimes by Time of Day	9
Crimes by Day of Week	12
Crimes by Month / Time of Year	14
Where Does Crime Happen in Oakland?	16
Maps of Property Crimes	16
Maps of Violent Crimes.....	18
Crimes by Police District.....	22
Conclusion	26
References	27
Appendix A: Methodology	28

Table of Figures

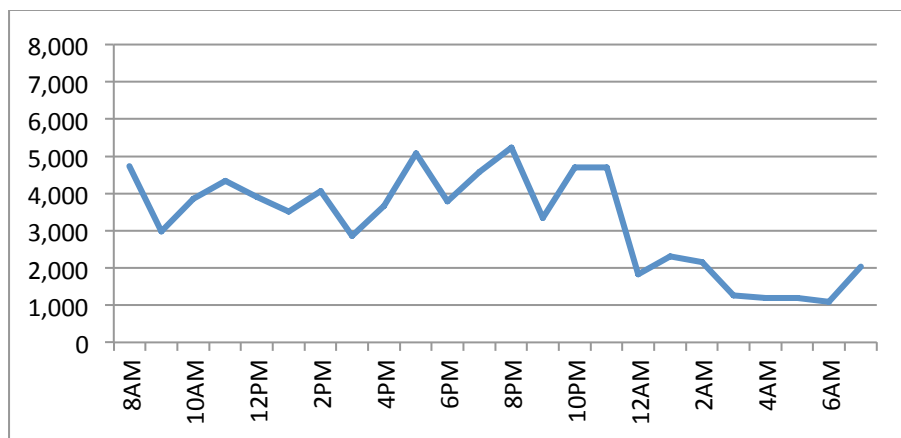
Figure 1. Number of property crimes by hour (January 2008 - July 2013).....	9
Figure 2. Number of violent crimes by hour (January 2008 - July 2013).....	9
Figure 3. Percent of property crime by four-hour blocks (January 2008 - July 2013)	10
Figure 4. Percent of violent crime by four-hour blocks (January 2008 - July 2013)	10
Figure 5. Percent of types of property crime by four-hour blocks (January 2008 – July 2013)	11
Figure 6. Percent of types of violent crime by four-hour blocks (January 2008 – July 2013)	11
Figure 7. Average number of property crimes by day of week (January 2008 – July 2013).....	12
Figure 8. Average number of violent crimes by day of week (January 2008 – July 2013).....	12
Figure 9. Percent of individual property crimes by day of week (January 2008 – July 2013)	13
Figure 10. Percent of individual violent crimes by day of week (January 2008 – July 2013)	13
Figure 11. Property crime by season (January 2008 – July 2013)	14
Figure 12. Violent crime by season (January 2008 – July 2013).....	14
Figure 13. Percent of property crime in Oakland by time of year (2008 – 2012).....	15
Figure 14. Percent of violent crime in Oakland by time of year (2008 - 2012)	15
Figure 15. Property crime density (January 2012 – July 2013)	17
Figure 16. Burglary density (January 2012 – July 2013)	17
Figure 17. Larceny-theft density (January 2012 – July 2013).....	18
Figure 18. Auto theft density (January 2012 – July 2013).....	18
Figure 19. Violent crime density (January 2012 – July 2013).....	19
Figure 20. Aggravated assault density (January 2012 – July 2013)	20
Figure 21. Homicide density (January 2012 – July 2013)	20
Figure 22. Robbery density (January 2012 – July 2013)	21
Figure 23. Oakland Police Districts.....	22
Figure 24. Share of population vs. share of crime by Police District (January 2012 – July 2013).....	23
Figure 25. Share of population vs. share of crime by Police District (January 2012 – July 2013).....	23
Figure 26. Violent crimes per 100,000 residents by Police District (January 2012 – July 2013)	24
Figure 27. Property crimes per 100,000 residents by Police District (January 2012 – July 2013).....	25

Executive Summary

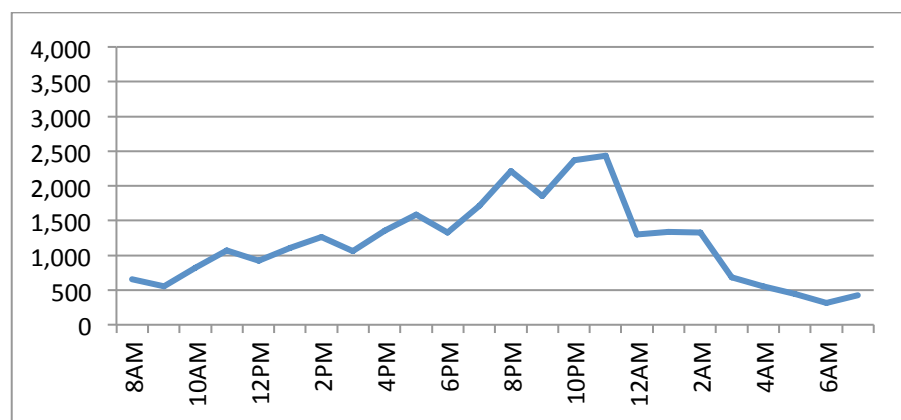
It is well established that crime is not evenly distributed within a city and that it is typically concentrated within certain geographic areas. This is especially true in large, urban municipalities. It is also well established that crime does not occur at the same rate during the course of a day and that some crimes are more likely to happen at certain times of the day. These characteristics of crime are known in a fairly general sense (e.g., neighborhood A has more robberies than neighborhood B or residential burglaries are more likely to happen during the day) but this report takes a more in-depth look and addresses the following questions: When does crime occur in Oakland and where does crime occur in Oakland? Highlights from this analysis include:

- ❖ Property crimes generally happen throughout the day and most of the evening with the exception of a significant decrease between the hours of midnight and 7:00 am. In contrast, violent crime experiences a steady increase during the evening hours until peaking around 11:00 pm before dropping dramatically in the early morning hours.

Number of property crimes by hour (January 2008 - July 2013)

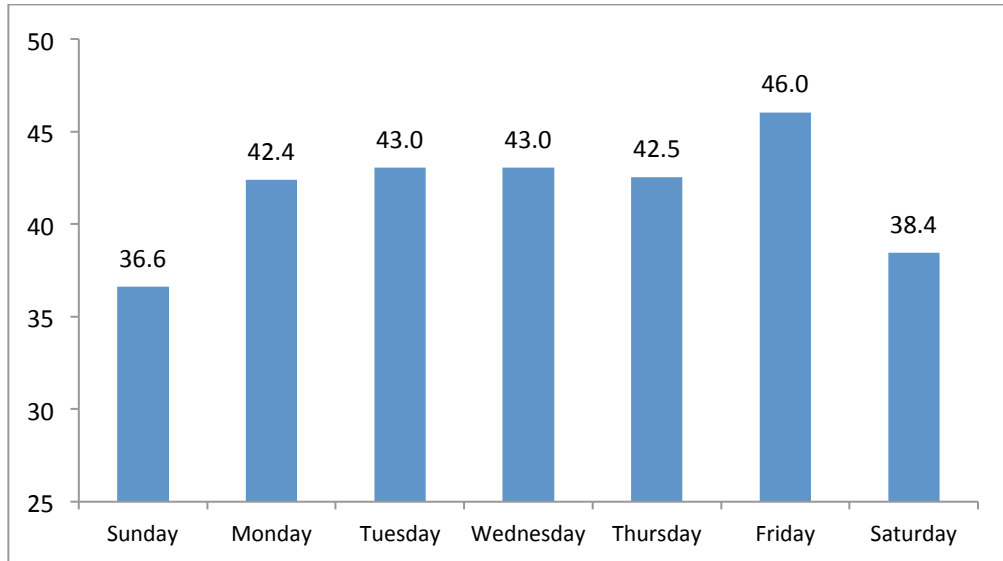


Number of violent crimes by hour (January 2008 - July 2013)

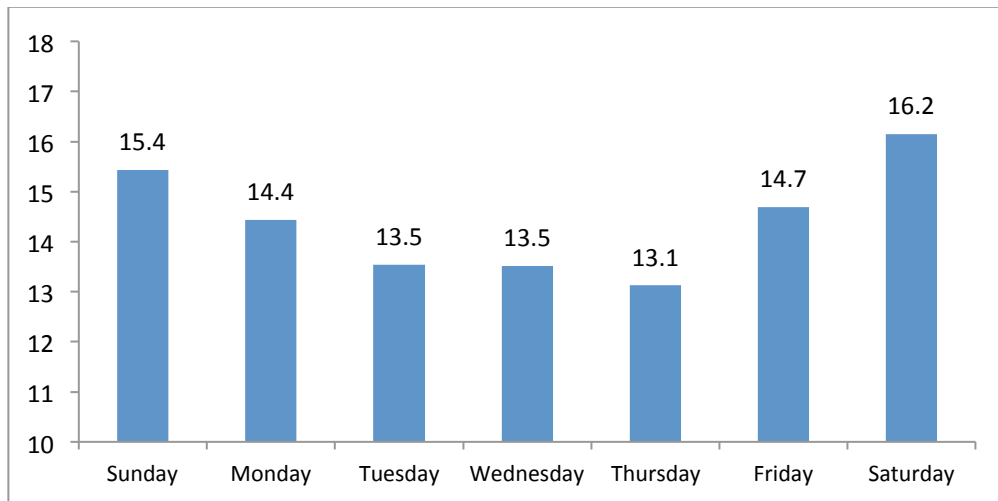


- ❖ Property crimes are somewhat less likely to occur on weekends and more likely to occur on weekdays and, conversely, violent crimes are somewhat more likely to occur on weekends rather than weekdays.

Average number of property crimes by day of week (January 2008 – July 2013)

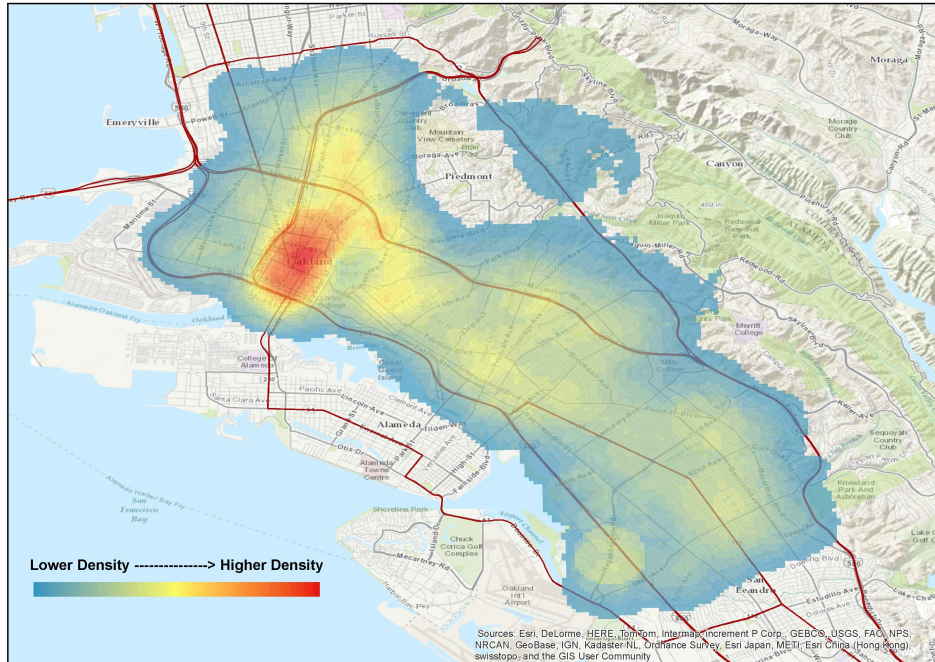


Average number of violent crimes by day of week (January 2008 – July 2013)

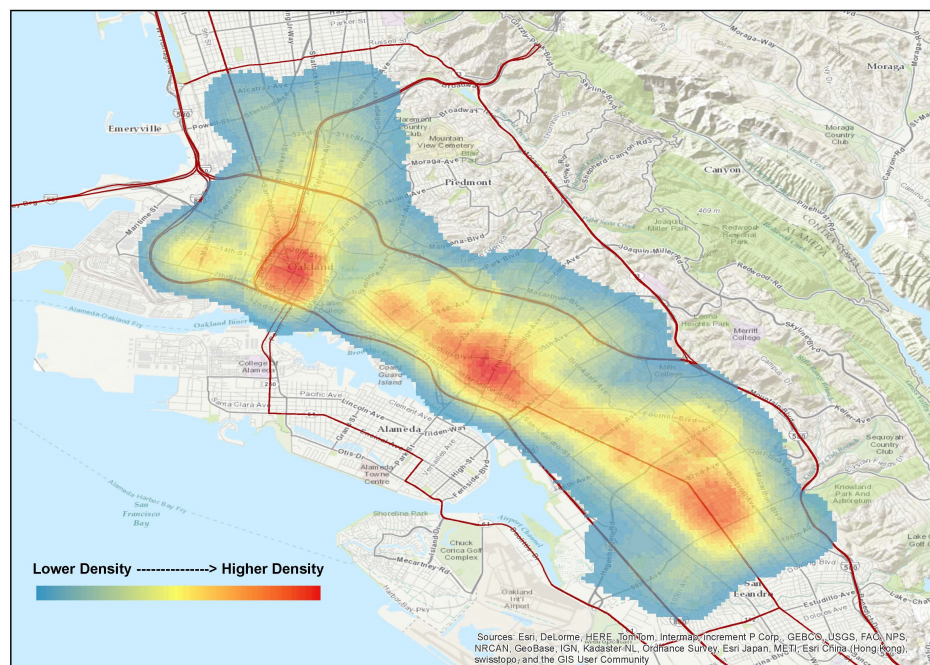


- ❖ A mapping of crime incidents from the period January 2012 through July 2013 shows that crime hot spots in Oakland were notably different across the different types of crime. The following two maps of property crime overall and violent crime overall highlight some of these differences.

Property crime density (January 2012 – July 2013)

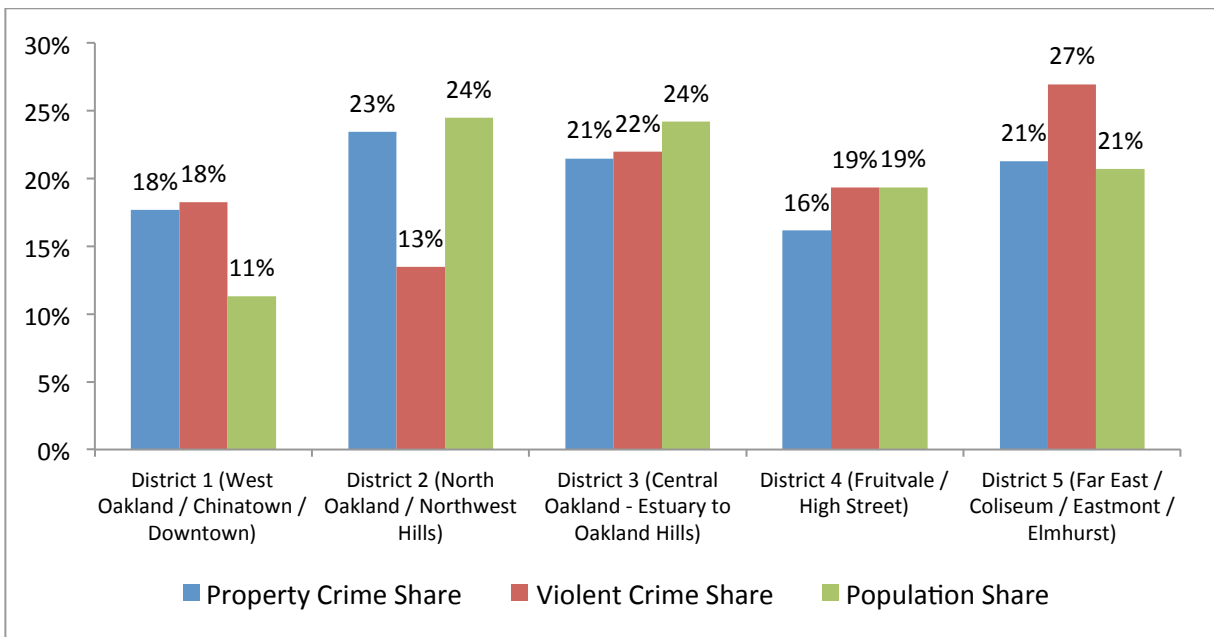


Violent crime density (January 2012 – July 2013)



- ❖ A look at crime by Police District highlighted disproportionality in some crime types in some Police Districts relative to the number of residents who live in that District. For example, District 1 had disproportionately higher levels of property crime and violent crime relative to the size of the population living in that district (11% of the population, 18% of property crime, 18% of violent crime). District 5 accounted for a disproportionate amount of violent crime but not property crime (21% of the population, 21% of property crime, 26% of violent crime). Conversely, District 2 accounted for a disproportionately lower level of violent crime relative to the population that lives there (24% of the population, 23% of property crime, 14% of violent crime).

Share of population vs. share of crime by Police District (January 2012 – July 2013)



Overall, crimes in Oakland are not random events that take place independent of the time of day or location. While these characteristics of crime are generally common knowledge, the intent of this analysis was to use incident-level crime data to get a fairly detailed account of when and where reported criminal activity happened and the extent to which that varied by the type of crime. It is our hope that an analysis focusing on the distribution of crime across time and space is helpful to those who are interested in making effective public safety investments in the City of Oakland.

Introduction

It is well established that crime is not evenly distributed within a city and that it is typically concentrated within certain areas. This is especially true in large, urban municipalities. It is also well established that crime does not occur at the same rate during the course of a day and that some crimes are more likely to happen at certain times of the day. While these characteristics of crime are known in a fairly general sense (e.g., neighborhood A has more robberies than neighborhood B or residential burglaries are more likely to happen during the day), historically, it has been challenging for police departments to dig deeper into *specifically* when and where is crime occurring. Part of the challenge relates to the availability and quality of data that is necessary to do such analyses and part of the challenge relates to having adequate tools to work with large data sets, such as crime analysis tools and mapping tools.

The Oakland Police Department (OPD) provided the Warren Institute with a dataset that included information about the time and location of certain types of reported crime in Oakland over the last several years. This report uses that crime data in an attempt to address the following questions:

- ❖ When does crime occur in Oakland?
- ❖ Where does crime occur in Oakland?

The first question is addressed by examining the crime data by the time of day, by the day of week, and by month, and the extent to which those varied by crime type. The second question is addressed through the development of “heat maps” that show the areas within Oakland that had the highest concentrations of crime, also known as “hot spots.” We also assess crime across the five Police Department Districts to help understand where crime occurred relative to where Oakland residents live.

The data includes crimes reported to the police for the seven major types of property crime and violent crime covering the period January 1, 2008 through July 31, 2013 (see the Methodology section in the Appendix for more detail about the data source and methods that were used to analyze the data). The types of crime are:

- ❖ Violent Crime: Aggravated Assault, Homicide, Rape, Robbery
- ❖ Property Crime: Auto Theft, Burglary, Larceny-Theft

The data behind this report only reflects reported crimes, meaning offenses that were discovered by officers or filed with a police department by a victim, witness, or other party. Crimes that are not reported to authorities are not included in this data and, therefore, it represents an undercount of crime that occurred, as many crimes go unreported to the police.

It is our hope that a deeper dive into this data will allow for a more nuanced and comprehensive understanding of when and where crime is happening. This more in-depth examination is intended to assist policymakers in making better-informed decisions about public safety investments in Oakland, including Measure Y and related community policing and violence prevention efforts.

When Does Crime Happen in Oakland?

The following section examines crime in Oakland over a five and a half-year period (January 2008 through July 2013) by the time of day, day of week, and month that crimes occurred. In some places, this temporal look at crime is also disaggregated by type of crime to identify any notable differences across offense types.

Crimes by Time of Day

Figures 1 and 2 below show that property crimes generally happened throughout the day and much of the evening with the exception of a notable decline between the hours of midnight and 7:00 am. In contrast, violent crime experienced a steady increase during the evening hours until it peaked around 11:00 pm. The low point for violent crimes was the 6:00 am hour.

Figure 1. Number of property crimes by hour (January 2008 - July 2013)

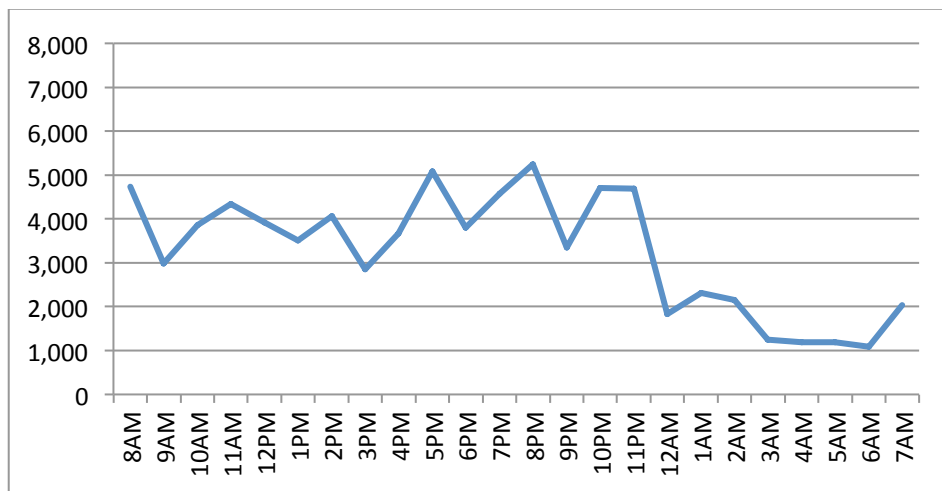
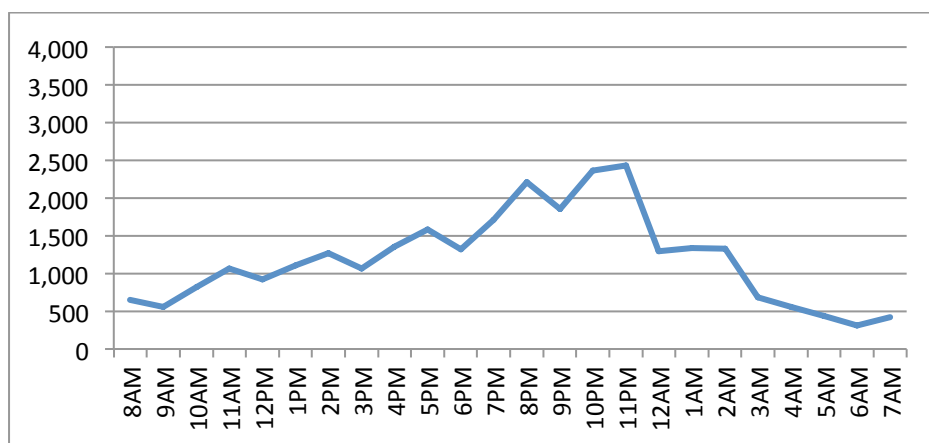


Figure 2. Number of violent crimes by hour (January 2008 - July 2013)



The two pie charts below show the percent of property crimes and the percent of violent crimes by the time of day by looking at four-hour increments. For property crime, the four-hour block of time that accounted for the largest share of crimes was 6:00 pm to 10:00 pm (22% of property crimes), while violent crimes peaked between 10:00 pm and 2:00 am (26% of violent crimes). More than half of all violent crime (51%) occurred during the eight-hour period of 6:00 pm and 2:00 am. The four-hour block of time with the smallest share of property crime was 2:00 am to 6:00 am (7%) and for violent crime it was the 6:00 am to 10:00 am period (7%).

Figure 3. Percent of property crime by four-hour blocks (January 2008 - July 2013)

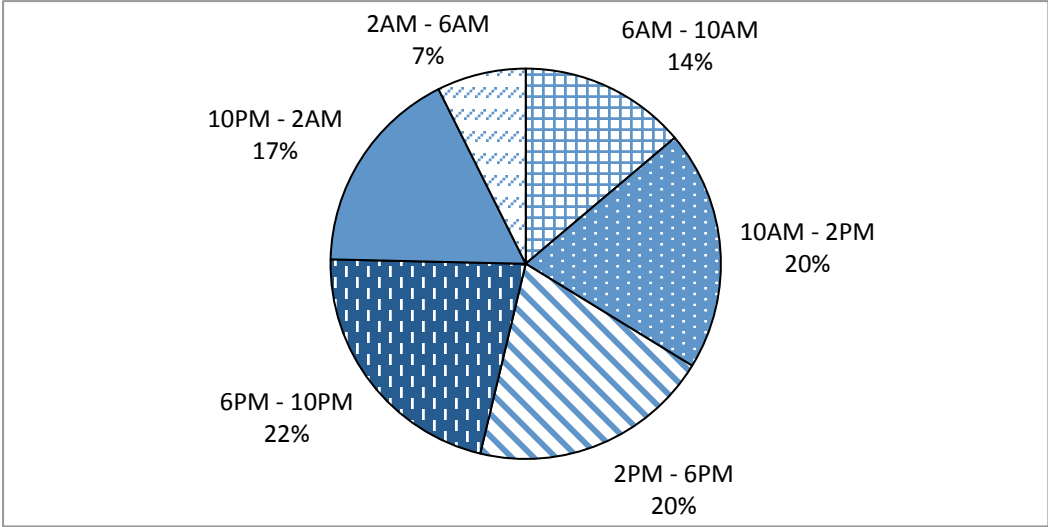
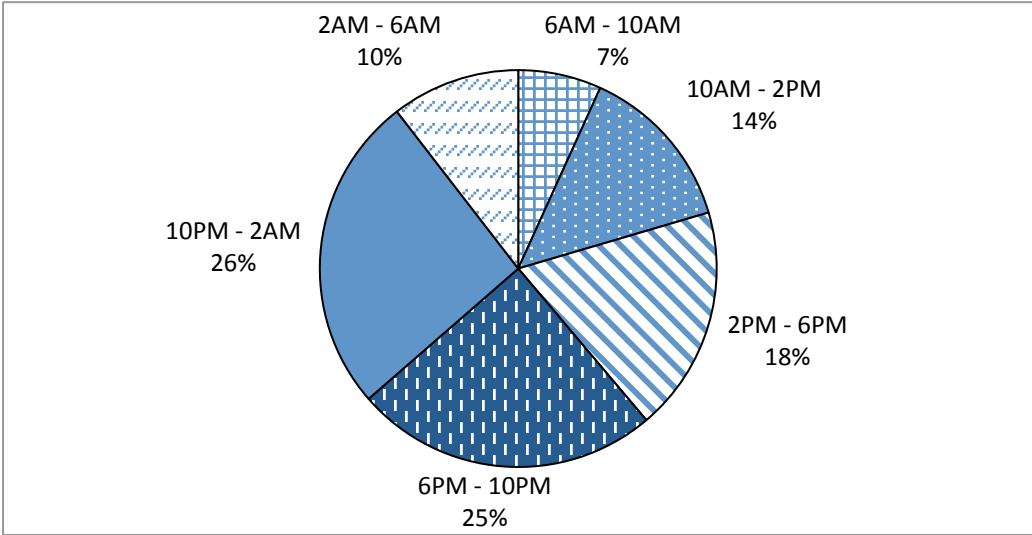


Figure 4. Percent of violent crime by four-hour blocks (January 2008 - July 2013)



The two tables below further disaggregate the time of day analysis by type of crime. Burglary was the crime that was most common during the daytime (69% between 6:00 am and 6:00 pm) and at the other end of the spectrum was homicide, in which only 31% occurred during the daytime. The one crime with a notable increase during a relatively small window of time was homicide, as 34% of all homicides occurred between 10:00 pm and 2:00 am.

Figure 5. Percent of types of property crime by four-hour blocks (January 2008 – July 2013)

	Property Crime	Burglary	Auto Theft	Larceny-Theft
6AM - 10AM	14%	22%	11%	11%
10AM - 2PM	20%	27%	15%	20%
2PM - 6PM	20%	20%	17%	22%
6PM - 10PM	22%	13%	26%	23%
10PM - 2AM	17%	10%	23%	17%
2AM - 6AM	7%	8%	7%	7%
Total	100%	100%	100%	100%

Figure 6. Percent of types of violent crime by four-hour blocks (January 2008 – July 2013)

	Violent Crime	Homicide	Rape	Robbery	Aggravated Assault
6AM - 10AM	7%	6%	7%	7%	6%
10AM - 2PM	14%	9%	13%	13%	14%
2PM - 6PM	18%	16%	14%	18%	19%
6PM - 10PM	25%	21%	18%	26%	24%
10PM - 2AM	26%	34%	28%	26%	25%
2AM - 6AM	10%	13%	20%	9%	12%
Total	100%	100%	100%	100%	100%

Crimes by Day of Week

Figures 7 and 8 show the average number of crimes per day for each day of the week. On an average day in Oakland, approximately 14 violent crimes and 42 property crimes are reported to the police.¹ These averages only include reported crimes and, therefore, are an undercount of the total number of crimes that occurred. Property crimes occurred more often during weekdays, with the lowest levels occurring on Saturdays and Sundays and the highest level on Friday (46 crimes per day). Conversely, violent crimes were more likely to occur on weekends, with a peak on Saturdays (16.2 crimes per day).

Figure 7. Average number of property crimes by day of week (January 2008 – July 2013)

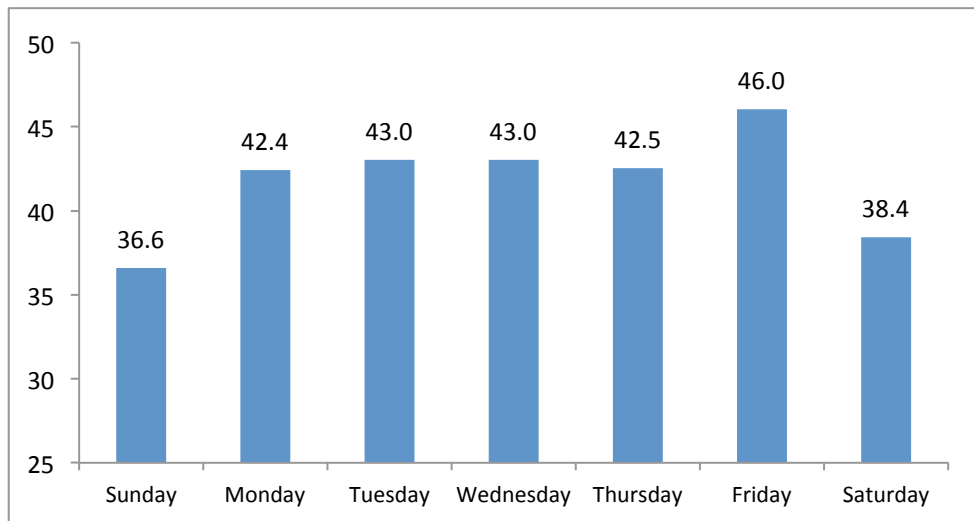
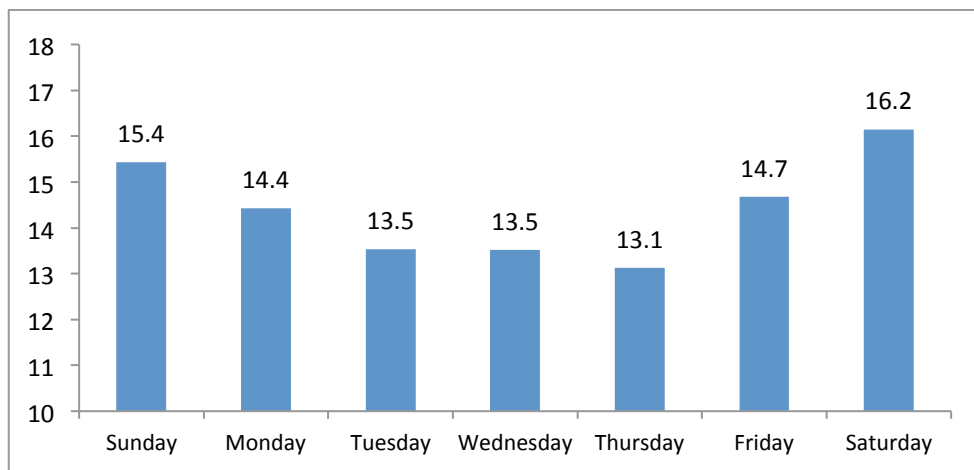


Figure 8. Average number of violent crimes by day of week (January 2008 – July 2013)



¹ Average crimes per day is calculated by summing the number of crimes that occurred on each weekday over the five and a half-year period of the study and dividing it by the number of times (~291) each weekday occurred in that period.

The following two tables further disaggregate specific crime types by day of week. Figures 9 and 10 show that there weren't any dramatic differences in terms of the day of the week that crime occurred, as the percent of crimes by day of week generally ranged between 13% and 17%. Burglaries were somewhat less likely to take place on Sundays (10%) and Saturdays (11%). The one exception to this fairly even distribution across days of the week is homicide, where 21% of homicides happened on Saturdays.

Figure 9. Percent of individual property crimes by day of week (January 2008 – July 2013)

	Property Crime	Burglary	Auto Theft	Larceny-Theft
Sunday	13%	10%	14%	13%
Monday	15%	15%	14%	15%
Tuesday	15%	15%	14%	15%
Wednesday	15%	16%	15%	14%
Thursday	15%	16%	14%	14%
Friday	16%	17%	15%	16%
Saturday	13%	11%	15%	13%
Total	100%	100%	100%	100%

Figure 10. Percent of individual violent crimes by day of week (January 2008 – July 2013)

	Violent Crime	Homicide	Rape	Robbery	Aggravated Assault
Sunday	15%	14%	16%	14%	17%
Monday	14%	11%	14%	15%	14%
Tuesday	13%	11%	12%	14%	13%
Wednesday	13%	13%	13%	14%	13%
Thursday	13%	13%	14%	14%	12%
Friday	15%	17%	15%	14%	15%
Saturday	16%	21%	17%	15%	17%
Total	100%	100%	100%	100%	100%

Crimes by Month / Time of Year²

The following two pie charts combine months into four “seasons” and present crime in three-month groupings. Property crime (Figure 11) was remarkably stable throughout the year, as each season accounted for close to one-quarter of property crime that occurred throughout the year. However, violent crime (Figure 12) appears to slightly fluctuate over the course of the year, as a relatively higher share of violent crime happened during the summer months (27%) and fall months (27%) compared to the winter months (23%) and spring months (22%).

Figure 11. Property crime by season (January 2008 – July 2013)

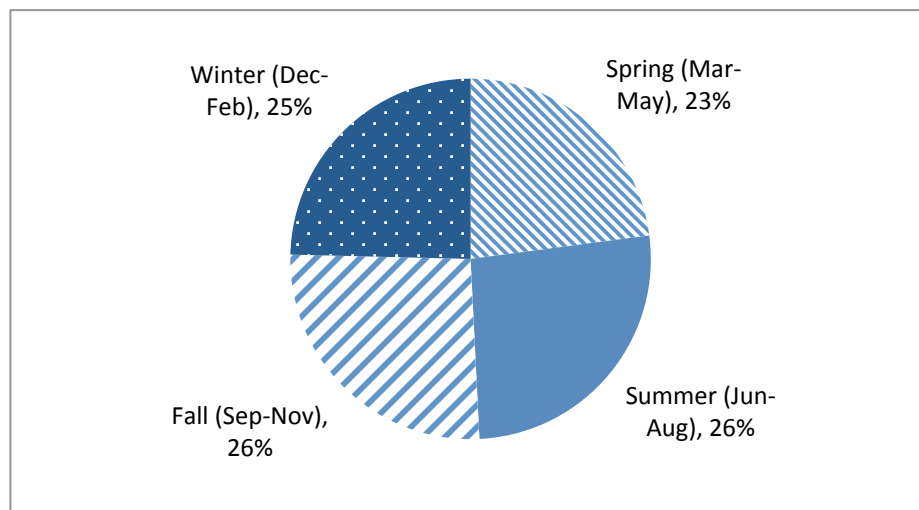
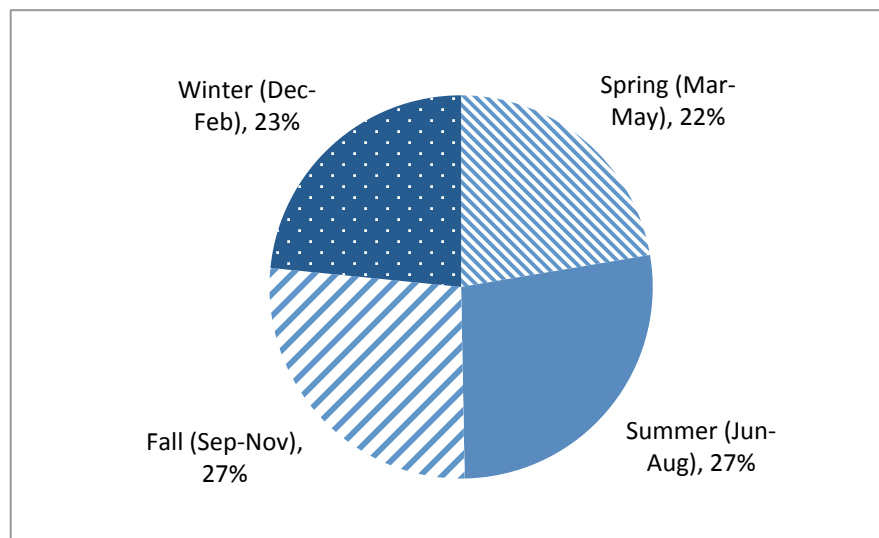


Figure 12. Violent crime by season (January 2008 – July 2013)



² Unlike the day of week and time of day analyses, the month of year analysis contains only data from 2008 through 2012. Because 2013 incident data was only available through July 31, 2013, monthly data for 2013 is omitted from this part of the analysis.

Further disaggregating individual property crimes by season yields no differences in the time of year that specific types of property crime occurred (Figure 13). The same is not true, however, for violent crimes. Homicides are more likely to occur during the summer months (31%) relative to the other types of violent crimes, and rapes are less likely to occur during the summer months (23%) as shown in Figure 14.

Figure 13. Percent of property crime in Oakland by time of year (2008 – 2012)

Season	Property Crime	Burglary	Auto Theft	Larceny-Theft
Spring (Mar-May)	23%	24%	23%	23%
Summer (Jun-Aug)	26%	26%	26%	27%
Fall (Sep-Nov)	26%	26%	25%	27%
Winter (Dec-Feb)	25%	25%	26%	24%
Total	100%	100%	100%	100%

Figure 14. Percent of violent crime in Oakland by time of year (2008 - 2012)

Season	Violent Crime	Homicide	Rape	Robbery	Aggravated Assault
Spring (Mar-May)	22%	21%	24%	21%	24%
Summer (Jun-Aug)	27%	31%	23%	27%	27%
Fall (Sep-Nov)	27%	25%	29%	28%	26%
Winter (Dec-Feb)	23%	23%	23%	24%	23%
Total	100%	100%	100%	100%	100%

Where Does Crime Happen in Oakland?

In this next section the focus shifts from an examination of crime by *when* it occurs to *where* it occurs. The following maps show the density of crime for total property crime, total violent crime, and each of the major crime types.³ Blue areas represent the lowest density, yellow areas represent medium density, and red areas represent the highest density. High-density crime areas are often referred to as crime “hot spots.”⁴ In areas where there is no shading, it does not mean that no crimes were reported to the police, but rather they were not high enough in concentration to be included on the maps. These maps represent the total count of crimes and not the number of crimes per person. Taking into account where Oakland residents live can shed light on variation in crime rates in different parts of the city and that assessment is included in the next section which examines crime by Police District.

Historically, the time of day, day of week, and month of year that crimes occur do not vary significantly from year-to-year and, thus, the previous sections looked at total crime over a five and a half years period (from January 2008 through July 2013). Unlike trends in *when* crimes occurs, trends in *where* crimes occur can vary significantly from year to year. Said another way, crime hot spots can move. Given this, the maps below only represent reported crime for the period January 2012 through July 2013. The reason being that the most recent data is more relevant and crime hot spots from the earlier years can be potentially out of date.

Maps of Property Crimes

The following four maps illustrate crime hot spots for the three types of property crime (burglary, larceny-theft, and auto theft), as well as the three offenses combined. Property crime overall was disproportionately concentrated in the downtown area relative to the rest of the city (Figure 15). However, when this was disaggregated by type of crime, differences in the highest-density areas emerge. The highest concentration of burglaries in 2012 and the first half of 2013 occurred in the area generally bordered by Fruitvale Avenue to the west, 35th Avenue to the east, and Interstate 580 to the north (Figure 16). Looking at larceny-theft, the downtown area had a significantly higher concentration compared to any other part of the city (Figure 17). Because larceny-theft accounts for such a significant share of property crime overall, the maps for total property crime and larceny-theft are very similar. Finally, auto thefts were more dispersed across the city compared to the other types of property crime (Figure 18).

³ A map of reported rapes is not included because a significant share of the data indicated that the location of the offense was at a hospital or other health services provider. In other words, the data on rapes includes both where rapes occurred and where they were reported and, therefore, a hot spot map would be misrepresentative.

⁴ In the worlds of policing and criminology, crime hot spots generally refer to relatively small, discrete geographic areas. For the purposes of this report, we are using the term “hot spots” to refer to a much larger area than is typically done, because this analysis is at a city-level rather than by beat or district where smaller hot spots would emerge.

Figure 15. Property crime density (January 2012 – July 2013)

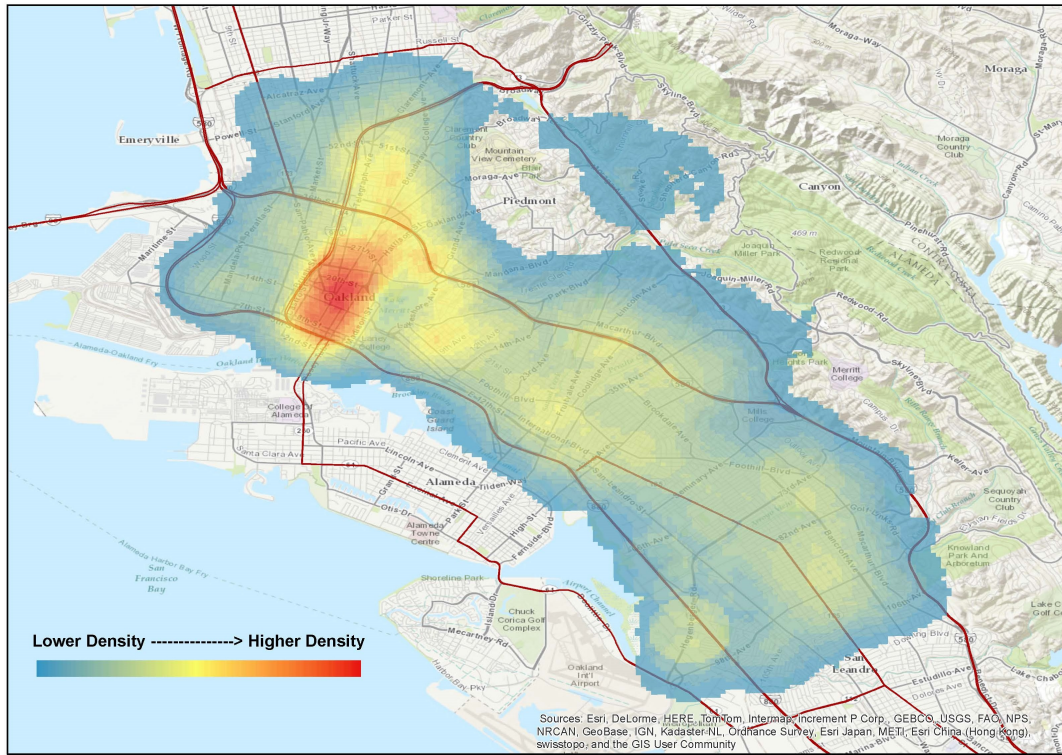


Figure 16. Burglary density (January 2012 – July 2013)

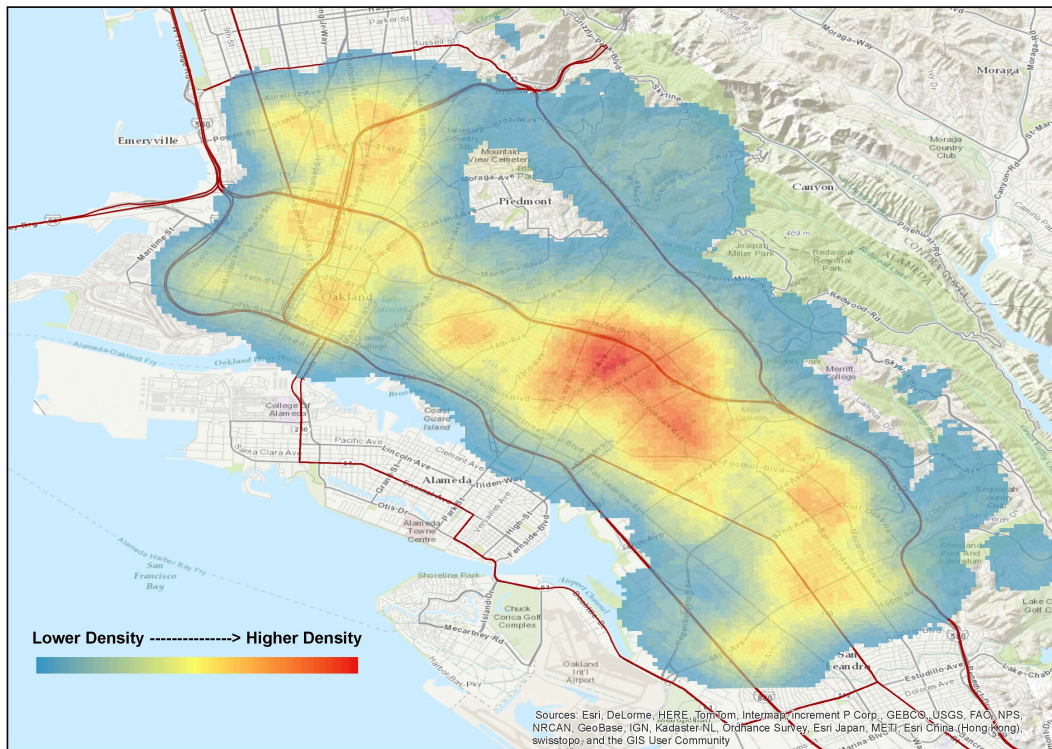


Figure 17. Larceny-theft density (January 2012 – July 2013)

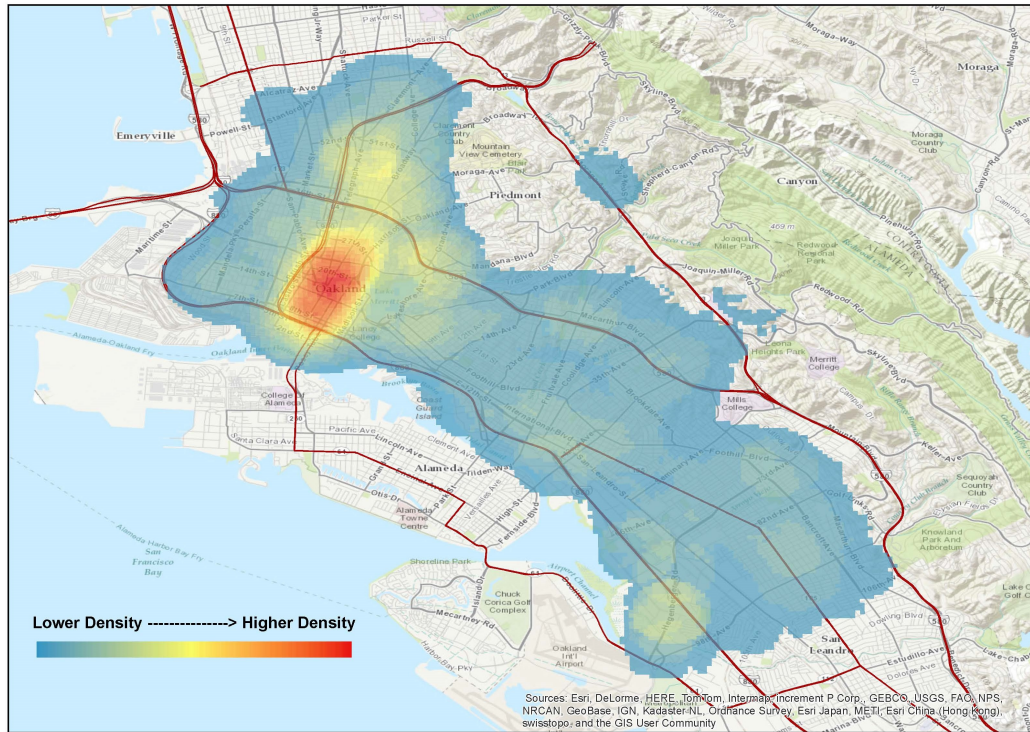
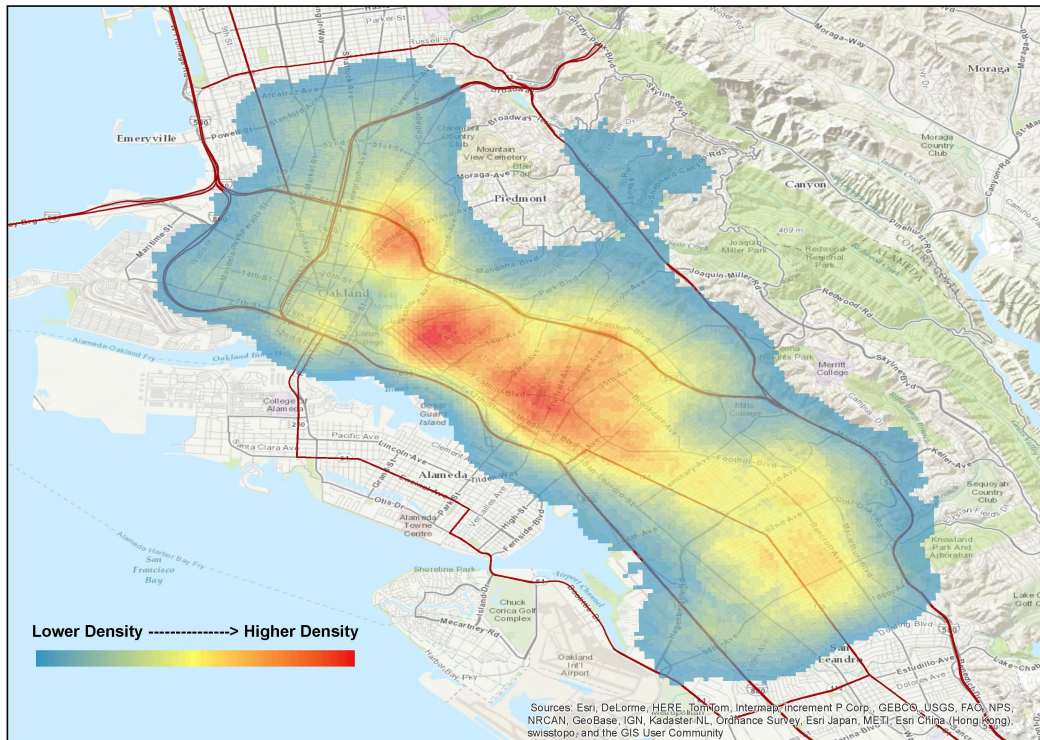


Figure 18. Auto theft density (January 2012 – July 2013)



Maps of Violent Crimes

Violent crime in Oakland during 2012 and the first half of 2013 saw the highest concentrations around three general hotspots: 1) the downtown area, 2) the Fruitvale area bordered by Foothill Boulevard to the north and International Boulevard to the south, and 3) International Boulevard between 82nd Avenue and 98th Avenue, as shown in Figure 19. Aggravated assaults were concentrated in a different part of the city compared to robberies, with the highest concentration in the area loosely framed by 82nd Avenue to the west, 98th Avenue to the east, Bancroft Avenue to the north and International Boulevard to the south (Figure 20). As would be expected, areas with the highest concentration of homicides in Oakland were similar to aggravated assaults as shown in Figure 21. There was a notable difference in hot spots when comparing robbery with aggravated assault. The highest concentration of robberies was in the downtown area followed by the Fruitvale area bordered by Foothill Boulevard to the north and International Boulevard to the south (Figure 22).

Figure 19. Violent crime density (January 2012 – July 2013)

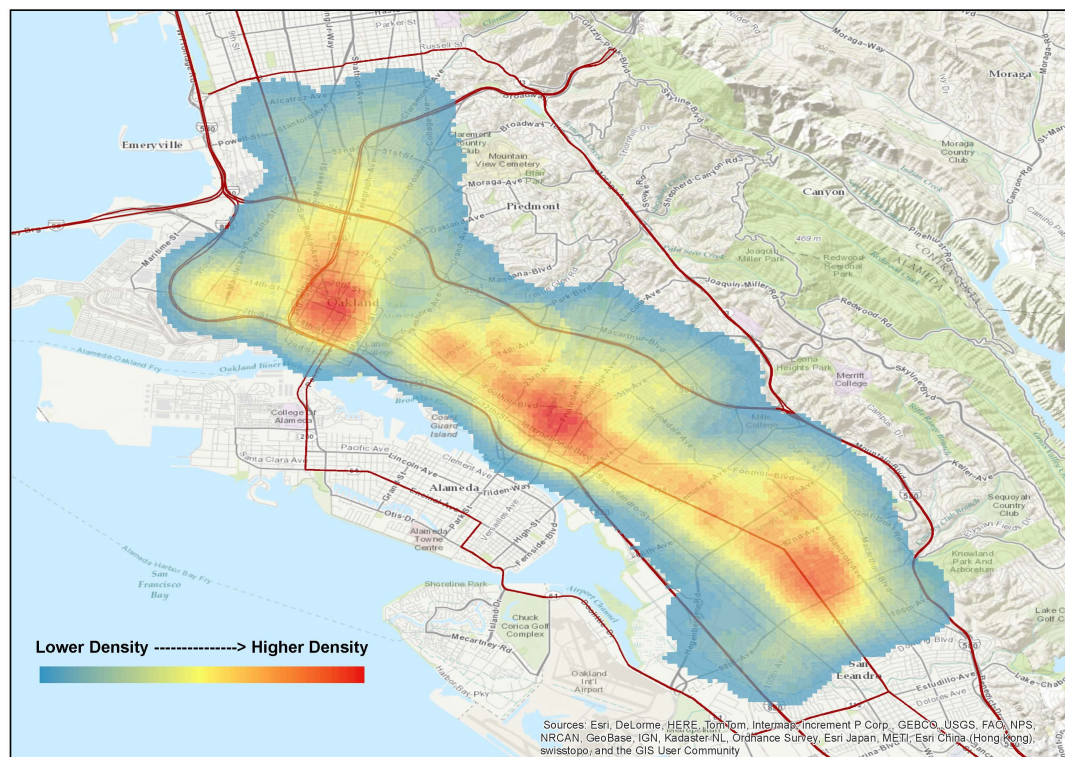


Figure 20. Aggravated assault density (January 2012 – July 2013)

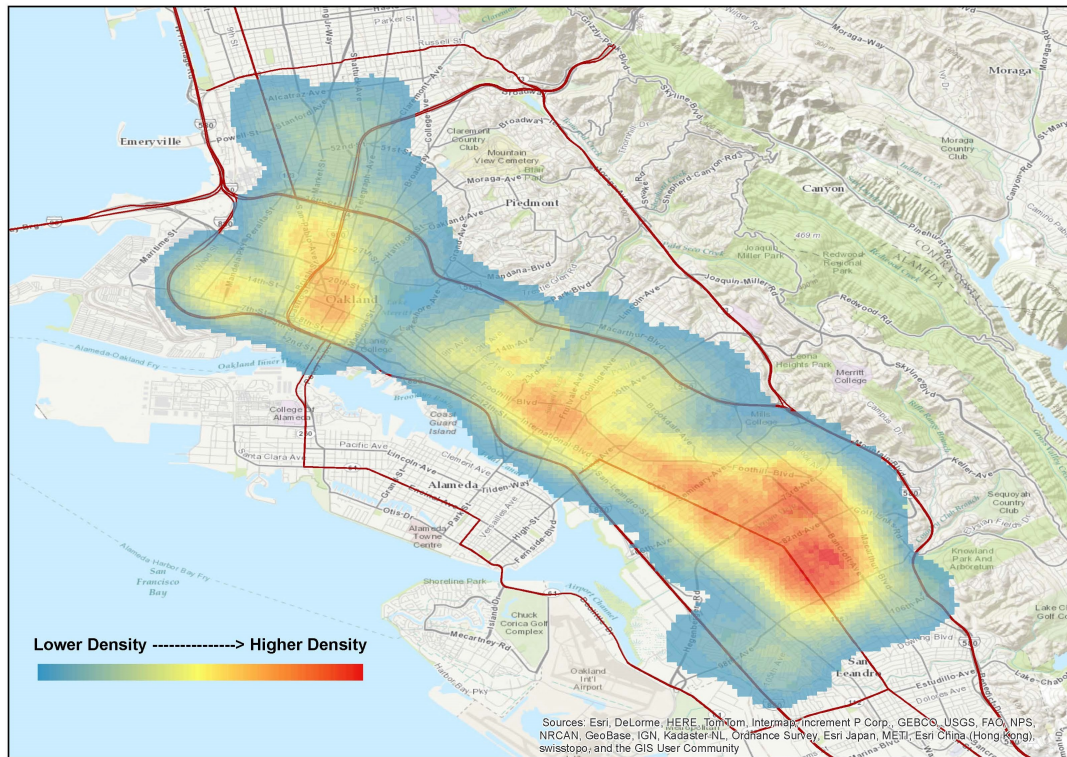


Figure 21. Homicide density (January 2012 – July 2013)

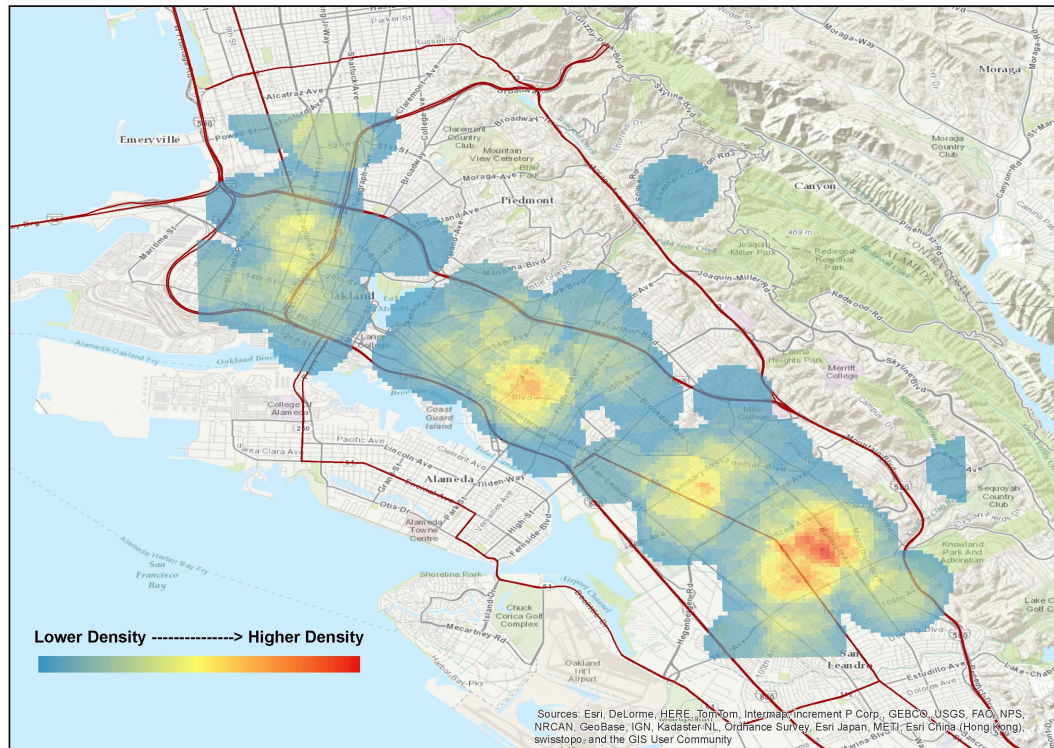
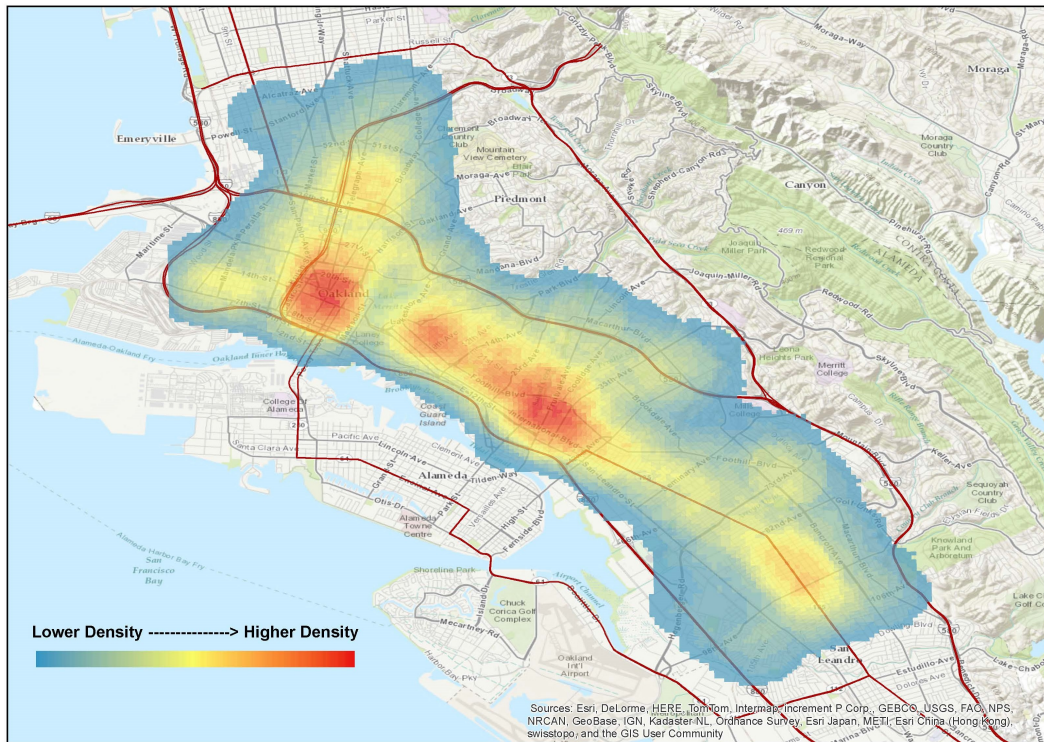


Figure 22. Robbery density (January 2012 – July 2013)

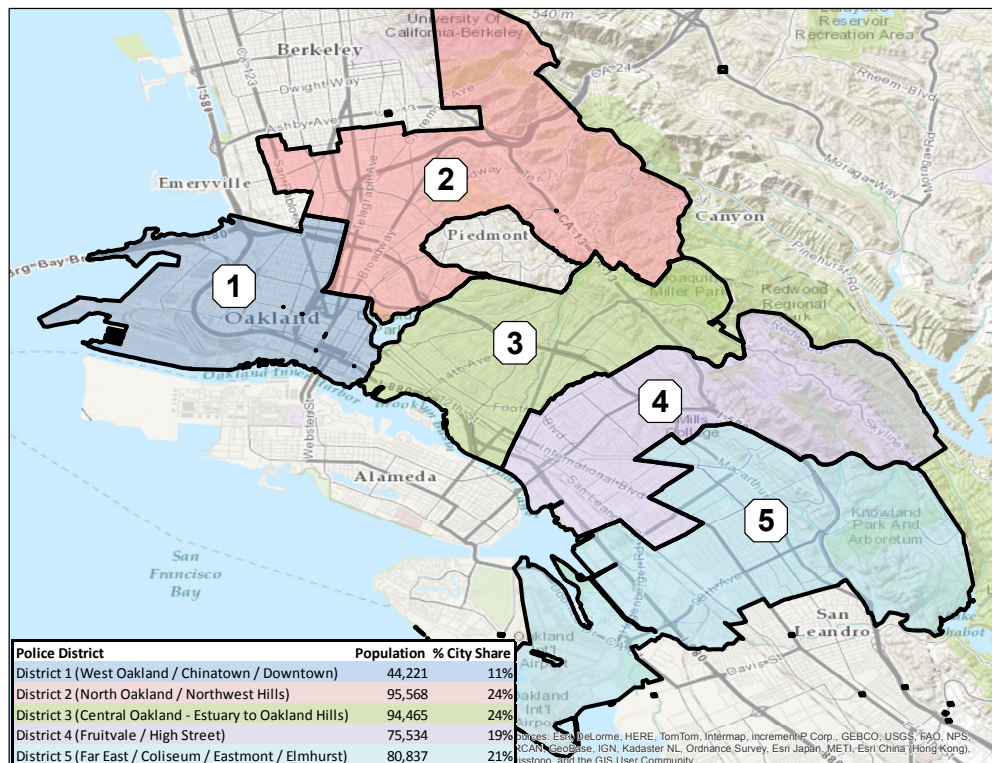


Crimes by Police District

The composition of crime across the five Police Districts was also examined.⁵ The focus of this analysis is to incorporate where Oakland residents live into a spatial assessment of crime. As shown in Figures 24 and 25, the highest share of Oakland residents lives in District 2 and District 3, both at 24%, and the lowest share of Oakland residents lives in District 1 at 11%. Districts 3 and 4 accounted for a slightly lower share of property crime relative to the population, with District 3 accounting for 24% of the population but 21% of property crime and District 4 accounting for 19% of the population and 16% of property crime. The most notable difference is in District 1, which accounts for 11% of the population but 18% of the property crime.

The disproportionality distribution across Districts is different for violent crime compared to property crime. For violent crime, District 1 still has a disproportionately high share of the violent crime (11% of population vs. 18% of violent crime). District 2 shows disproportionality in violent crime (24% population vs. 13% violent crime), yet there was no disproportionality with property crime (24% population vs. 23% property). It is District 5 that has a relatively higher share of violent crime relative to the population, 27% and 21% respectively, yet there was no disproportionality in property crime in this District.

Figure 23. Oakland Police Districts

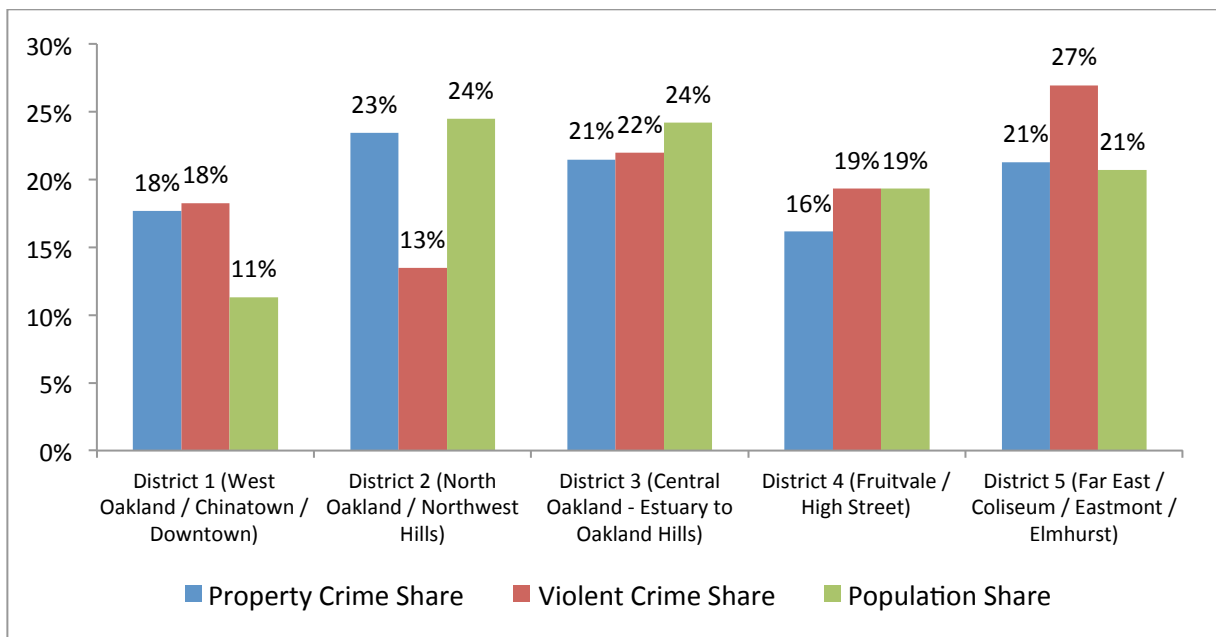


⁵ See Methodology section for more details and descriptions of the Police Districts.

Figure 24. Share of population vs. share of crime by Police District (January 2012 – July 2013)

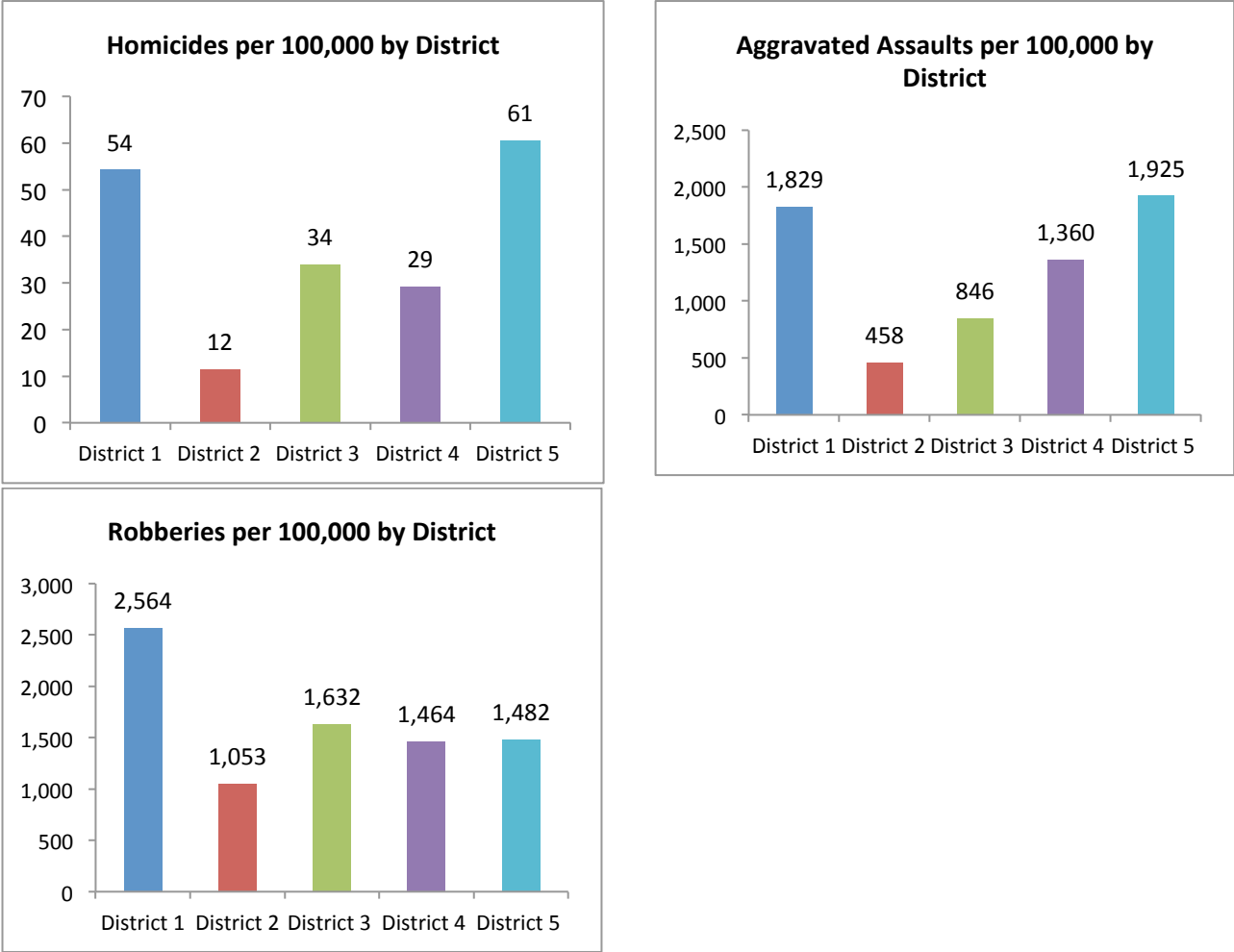
Police District	Population Share	Property Crime Share	Violent Crime Share
District 1 (Downtown / West Oakland / Chinatown)	11%	18%	18%
District 2 (North Oakland / Northwest Hills)	24%	23%	14%
District 3 (Central Oakland – Estuary to Oakland Hills)	24%	21%	22%
District 4 (Fruitvale and High Street Area)	19%	16%	20%
District 5 (Eastmont / Elmhurst / Coliseum / Far East Oakland)	21%	21%	26%
Total	100%	100%	100%

Figure 25. Share of population vs. share of crime by Police District (January 2012 – July 2013)



Figures 26 and 27 show the number of crimes that occurred per 100,000 residents in each of the five Police Districts by crime type for the period January 2012 through July 2013.⁶ The first three charts present three types of violent crime. In terms of homicides and aggravated assaults, District 5 had the highest rate (61 per 100,000 and 1,925 per 100,000, respectively). District 1 had notably more crimes per person than any other District for robberies (2,564 per 100,000).

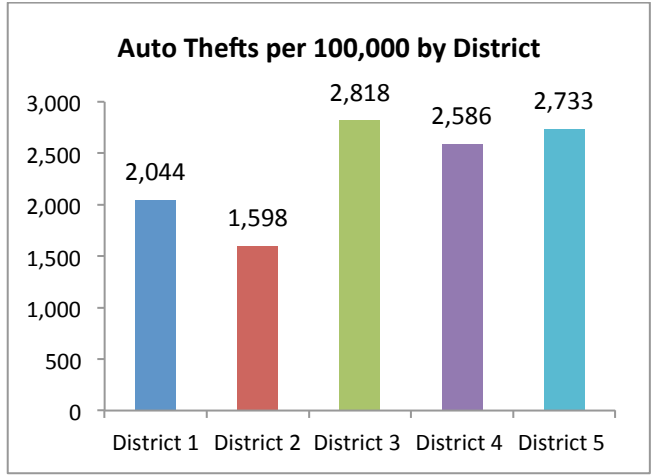
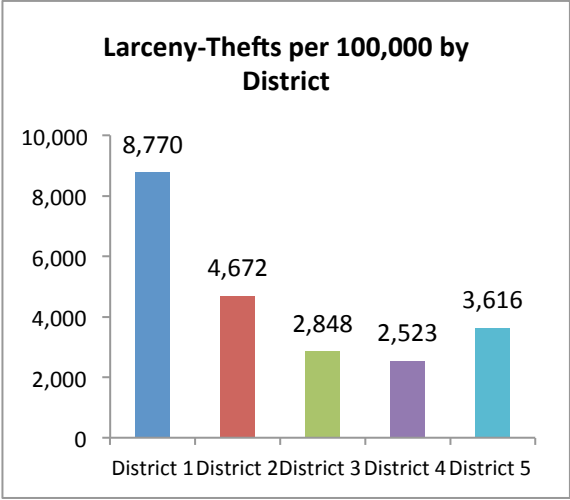
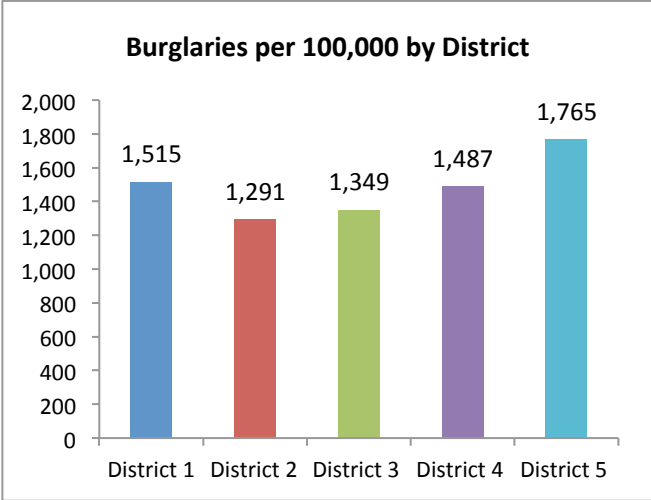
Figure 26. Violent crimes per 100,000 residents by Police District (January 2012 – July 2013)



⁶ A chart for the number of rapes per 100,000 by Police District is not included because of quality issues with the data on location.

Burglary shows the smallest range across Districts from a low of 1,291 per 100,000 in District 2 to a high of 1,765 per 100,000 in District 5. This is in contrast to larceny-thefts, in which the levels ranged from a high of 8,770 to a low of 2,523 per 100,000.

Figure 27. Property crimes per 100,000 residents by Police District (January 2012 – July 2013)



Conclusion

A few highlights emerge from this analysis that help us have a deeper understanding of when and where crime happens in Oakland. Property crimes as a whole generally happened throughout the day and most of the evening with the exception of a significant decrease between midnight and 7:00 am. In contrast, violent crime experienced a steady increase during the evening hours until it peaked around 11:00 pm. Violent crime was relatively more concentrated than property crime, as more than half of all violent crime occurred between the hours of 6:00 pm and 2:00 am. Burglary was the crime most likely to occur during daylight hours (69% between 6:00 am and 6:00 pm). The crime with the highest concentration in terms of time when the crime occurred was homicide, as 34% of homicides were between the hours of 10:00 pm and 2:00 am.

There were no dramatic differences in terms of the days of the week that certain types of crime occurred. Property crimes were somewhat less likely to occur on weekends and more likely to occur on weekdays and, conversely, violent crimes were somewhat more likely to occur on weekends rather than weekdays. Homicide was the only notable outlier in terms of the day of week that a crime occurred, where 21% occurred on Saturdays.

A mapping of crime incidents from the period January 2012 through July 2013 showed that hot spot locations of crime in the city of Oakland are notably different across crime types. A comparison of the three types of property crimes demonstrated that hot spots in the city were different for burglary, larceny-theft, and auto theft. Similarly, within the violent crime categories, the highest concentrations of robberies were in different locations than the highest concentrations of aggravated assaults and homicides.

A look at crime by Police District highlighted disproportionality in levels of some crime types in some Police Districts relative to the number of residents who live in that District. District 1 (Downtown / West Oakland / Chinatown) had disproportionately higher levels of property crime and violent crime relative to the size of the population living in that district. District 5 (Elmhurst / Eastmont / Coliseum / Far East Oakland) accounted for a disproportionate amount of violent crime but not property. Conversely, District 2 (North Oakland / Northwest Hills) accounted for a disproportionately lower level of violent crime relative to the population that lives there.

The intent of this analysis is to look deeper into when and where crime is happening in Oakland above and beyond “most crime happens at night” or “more crime happens in neighborhood A”. Overall, crimes in Oakland are not random events that take place independent of the time of day or location. While these characteristics of crime are generally common knowledge, the intent of this analysis was to use incident-level crime data to get a fairly detailed account of when and where reported criminal activity happened and the extent to which that varied by the type of crime. It is our hope that an analysis focusing on the distribution of crime across time and space is helpful to those who are interested in making effective public safety investments in the City of Oakland.

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Appendix A: Methodology

Crime Incident Data. Data for this analysis contains all reported crime incidents in Oakland between January 1, 2008 and July 31, 2013. Because of lags in reporting and filing, crime records for the second half of 2013 were considered incomplete at the time this analysis was launched. This analysis looks at the seven major crime types as defined by the FBI Uniform Crime Report (UCR) program, also known as “Part I” crimes. This analysis does not look at “Part II” crimes such as simple assault, vandalism, prostitution, drug crimes, and disorderly conduct. In addition, this data does not contain arrest, prosecution or conviction data, or any descriptive, demographic or other identifying information of victims or suspects. Part I crimes include:

- ❖ Violent Crime: Aggravated Assault, Homicide, Rape, Robbery
- ❖ Property Crime: Auto Theft, Burglary, Larceny-Theft

The data provided to the Warren Institute by OPD included the following variables: statute number, statute description, incident year/month/date/time, UCR classification number, incident location X/Y coordinates, police beat location, and a unique eight-digit record.

Hotspot / Density Mapping. A geo-statistical analysis and mapping program commonly used in social science research, ArcGIS, was used to produce the maps included in this report. Incident density or crime “hot spot” maps were generated using the “point density” function. For each crime type, the point density function takes each pixel in the map and assigns it a density value based on the number of incidents that occurred within a set geographic radius of that point. Red/orange-shaded pixels indicate higher density and blue/green-shaded pixels indicate lower density. The shaded hot spots in the density maps in this report indicate only the relatively more dense levels of concentration. The absence of color in a particular area of the city does not mean that zero incidents occurred in that area. Rather, it means an insufficient concentration of incidents to qualify as an incident “hot spot”.

Police Districts. For the purpose of looking at the density of crime as it relates to the resident population, the crime data is disaggregated by the five Police Districts and the number of residents who lives in each of those Districts.

District 1 (Downtown / West Oakland / Chinatown): The westernmost area of the city, including the downtown and the neighborhoods of West Oakland and Chinatown. This district is bordered by the San Francisco Bay to the West, the Oakland Estuary to the south, Lake Merritt to the east, and extends just past the MacArthur Freeway to the north. District 1 contains Police Beats 1-7.

District 2 (North Oakland / Northwest Hills): The northernmost area of the city, including the neighborhoods of North Oakland, Rockridge, and the Northwest Hills. This district is bordered by Berkeley to the north, Emeryville to the west, Lake Merritt and Piedmont to the south, and the Oakland Hills to the East. District 2 contains Police Beats 8-14.

District 3 (Central Oakland from the Estuary to the Oakland Hills): The central part of the city, including the San Antonio neighborhood, as well as a portion of the Oakland Hills. This district begins at the Oakland Estuary to the southwest and runs in an arc approximately following and between Lakeshore Avenue and 35th Avenue. District 3 contains Police Beats 15-22.

District 4 (Fruitvale / High Street Area): Begins at San Leandro Bay and runs through the Coliseum, Fremont, Fairfax, and Laurel neighborhoods towards Hillcrest Estates. District 4 contains Police Beats 23-28.

District 5 (Elmhurst / Eastmont / Coliseum / Far East Oakland): The easternmost part of the city bordering San Leandro, beginning at Oakland International Airport and running east through Elmhurst towards Sequoyah and Cabot Park. District 5 contains Police Beats 29-35.

Resident Population. This report calculates crime rates, or crimes per 100,000 residents, by individual Police Districts. The number of residents in each Police District was estimated by totaling the population of the 122 individual Census tracts in Oakland as of the 2010 U.S. Census and assigning them to Police Districts. Nearly all of the Census tracts (113 of the 122) have street borders that fall entirely within a single Police District. However, nine of Oakland's Census tracts are bisected by a Police District border. In these cases, the population of the Census tract was cut in half and each half was assigned to the respective bordering Police Districts. The per-capita crime rate for each district is calculated as the number of reported crimes divided by the Police District population divided by 100,000.