

## **Section 1:**

### *Data Description*

The data set that is being used is a crime incident report that is provided by the Boston Police Department (BPD) to document the initial details surrounding an incident to which BPD officers respond. This is a dataset that contains records from the new crime incident report, which includes a reduced set of fields focused on capturing the type of incident as well as when and where it occurred. The data was collected from incidents beginning June 14, 2015 and ending September 3, 2018.

The dimensions of this data set are 16 columns by 319,073 rows.

The attributes included in this data set are:

- **INCIDENT\_NUMBER**
- **OFFENSE\_CODE**
- **OFFENSE\_CODE\_GROUP**
- **OFFENSE\_DESCRIPTION**
- **DISTRICT**
- **REPORTING\_AREA**
- **OCCURRED\_ON\_DATE**
- **YEAR**
- **MONTH**
- **DAY\_OF\_WEEK**
- **HOURL**
- **UCR\_PART**
- **STREET**
- **LAT**
- **LONG**
- **LOCATION**

### *Data Story*

Newly elected city officials, partnered with the Boston Police Department and a newly hired data scientist, N'Dea Jackson, work together to compile data on crimes that have occurred around the city in previous years. The hope is that with this new information, the Boston Public Police Department can gain better insight into which neighborhoods could benefit from an increased police presence. This study would also give city officials better insight into programs that they could offer in communities to curb some of the criminal activity. This data would also be made publicly available so that residents, or potential residents, of the city can get a better understanding of their surroundings.

### *Audience*

The audience that would care about the information in this dataset include the residents of Boston, Massachusetts, the Boston Police Department, and state officials. The residents may want to know areas that are safest to live in based upon the crime levels and types.

*Questions to be answered*

- What is the most common crime in Boston neighborhoods? (4)
- What are the different types of crimes to most likely occur? (4)
- Does the frequency of crimes change over the day of the week? Time of day? Time of year? (5, 7, 8, 9)
- How does the level of crime vary from year to year? (6)
- What districts have the highest crime rate? (10)
- What months of the year have the highest crime rates? (5)

# Crime Analysis – Boston, MA

Description of data set that was used and time period of analysis.

N'Dea Jackson  
IST 719  
Final Project

Question 1: What district has the highest crime rate?

Heat Map of Boston, MA showing the crimes by district.  
Will use latitude and longitude to pinpoint.

Description of the data  
represented in the map  
to the left.

Question 2: What are the top 10 most common crimes?

Description of the data  
represented in the  
graph to the right.

Bar graph of top 10 most frequent crimes

Question 3: Does the frequency of crimes change over the day of the week? Time of day?  
Time of year?

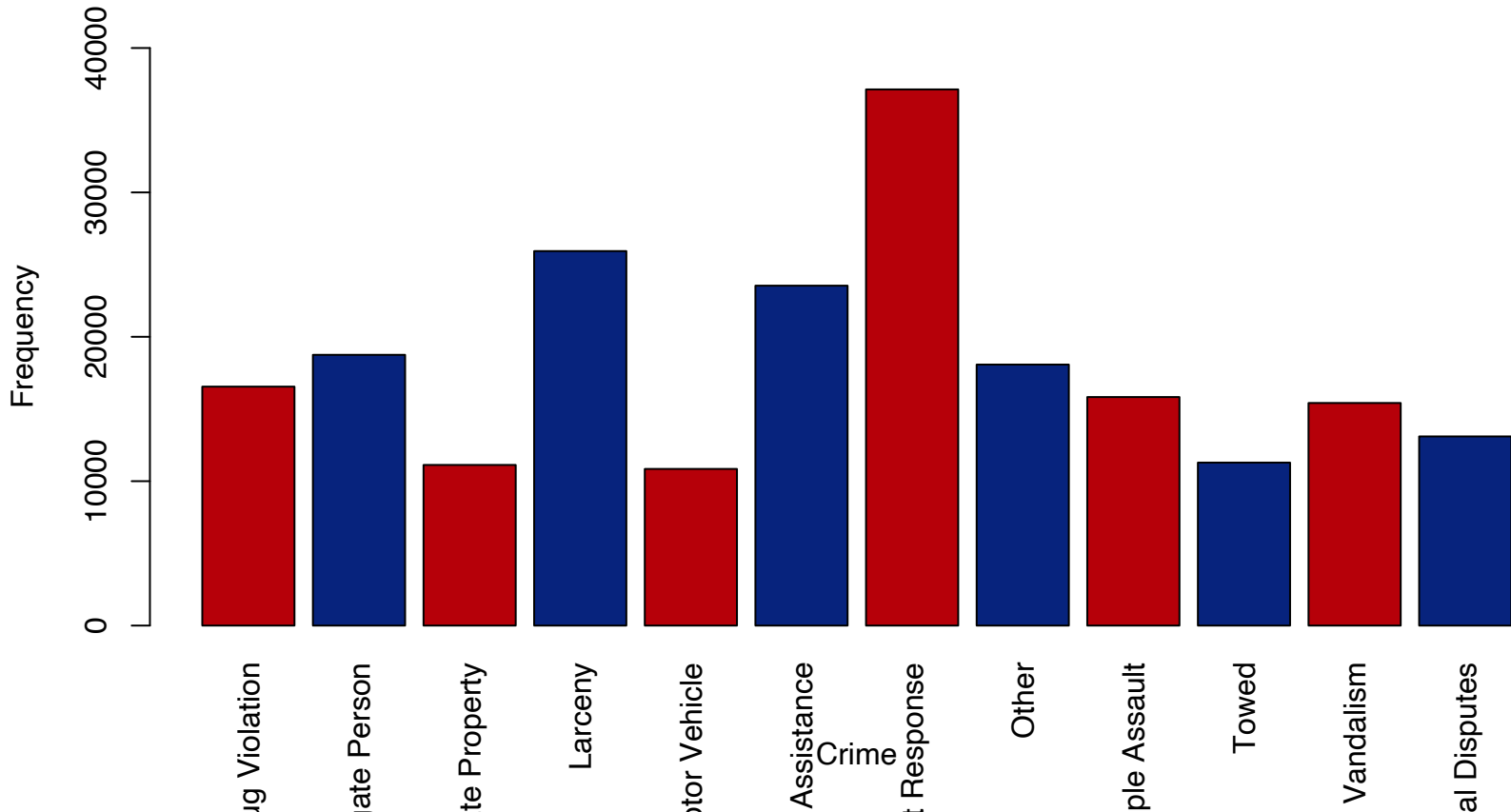
Crime by Day of Week

Crime by Time of Day

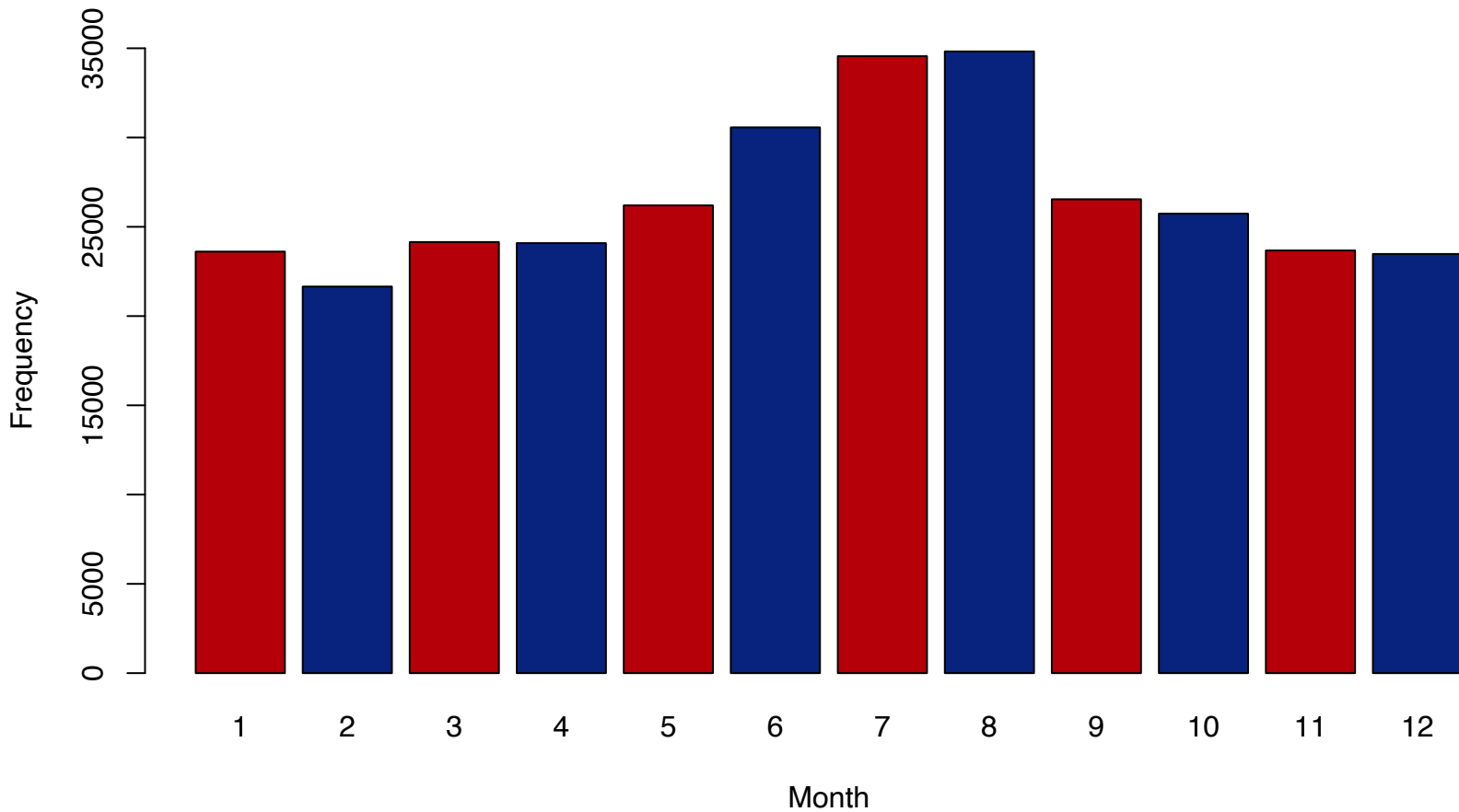
Crime by Month/Time of  
Year

Sources

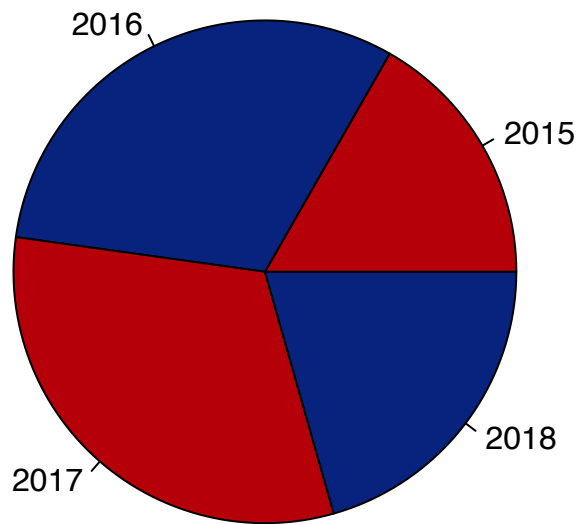
Top 10 Most Frequent Crimes



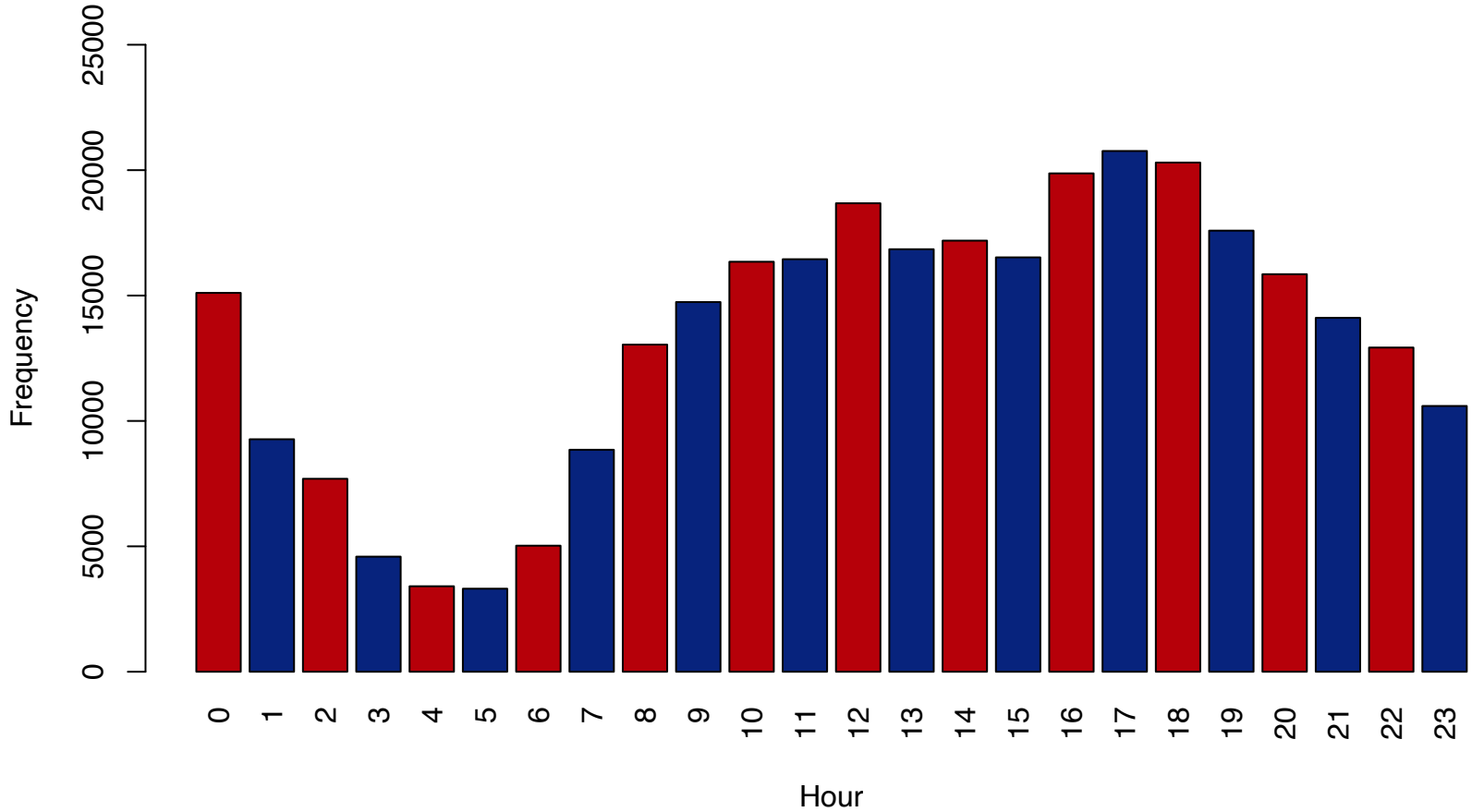
**Distribution of Crime by Month**



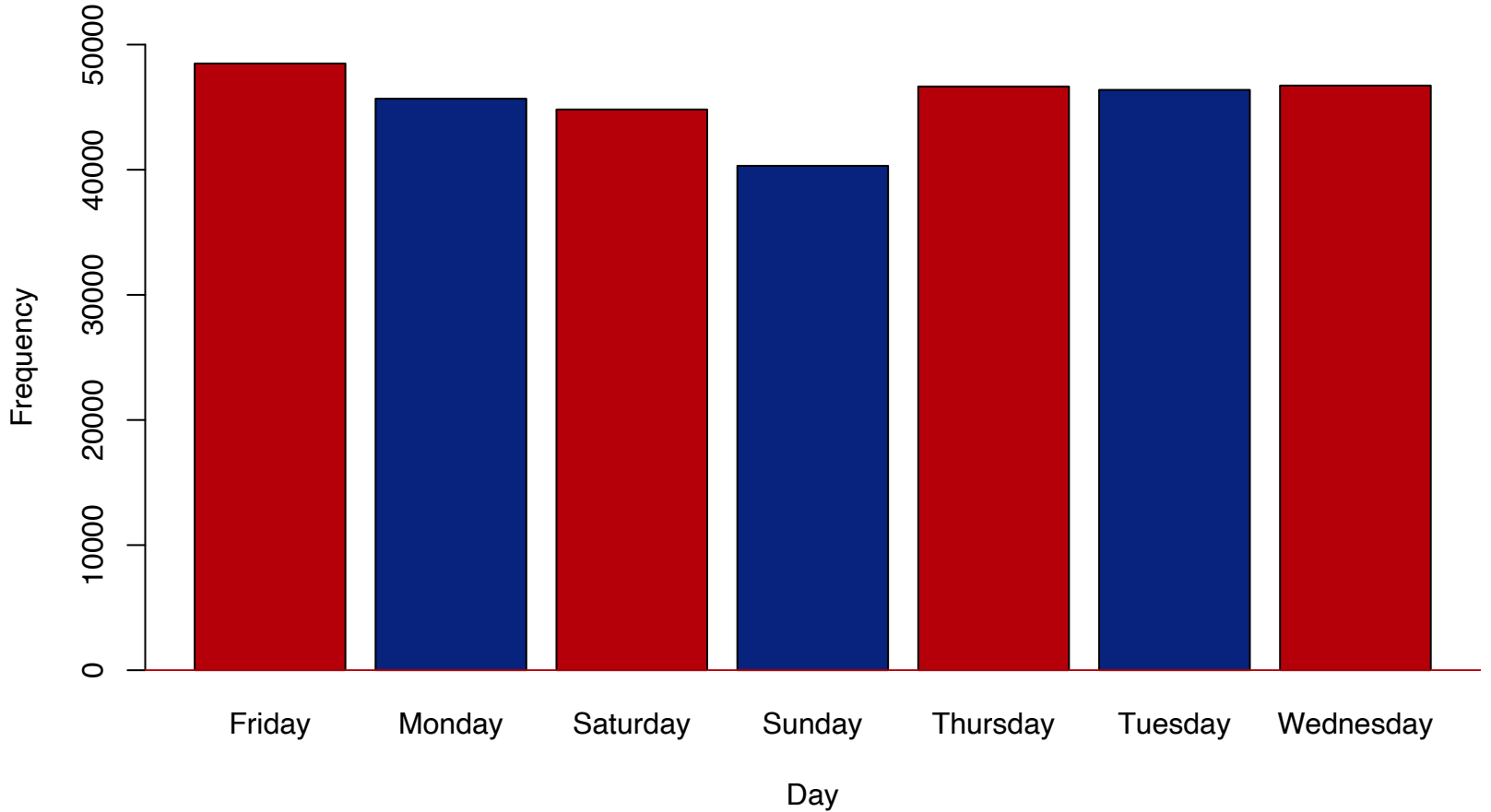
## Distribution of Crime by Year



# Distribution of Crime by Hour of Day

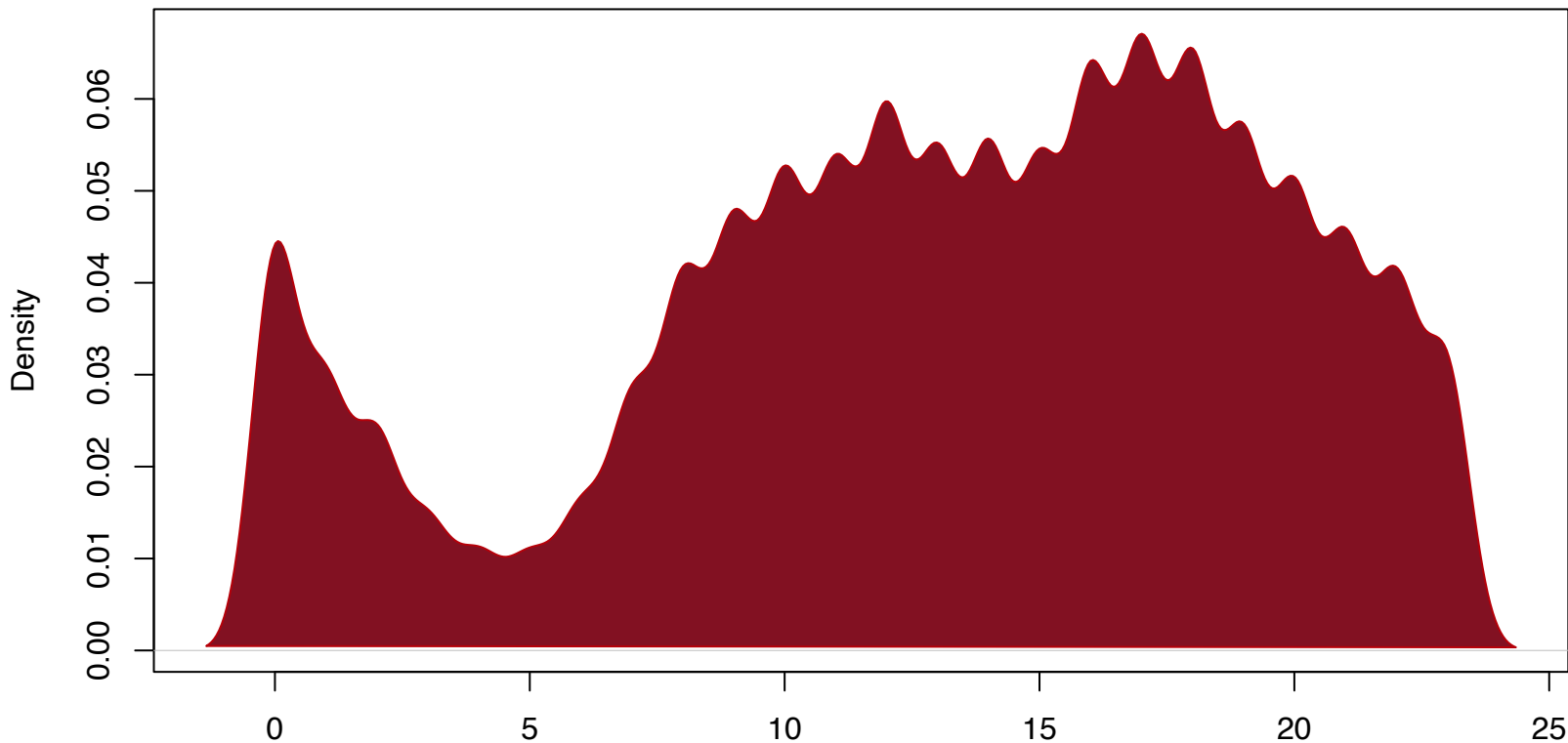


**Distribution of Crime by Day of Week**





## DISTRIBUTION OF CRIME BY HOUR OF DAY



N = 319073 Bandwidth = 0.4492

Distribution of Crime by District

