

NYC Shooting Data Analysis

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Violent crime is prevalent in American cities. Violence impacts young people most profoundly, especially young men, who are eight times more likely to be shot than women. New Yorkers aged 18-44 experience the highest incidents of shootings for both men and women.

New York is the largest city in the United States. It's one of the safest American cities in terms of violent crime per capita, but with a population of more than 8 million, violent crime occurs frequently.

This report is based on the *NYPD_Shooting_Incident_Data_Historic_.csv* data set.

NOTE: This report is not meant to be representative of crime rates in all American cities.

Shootings by Boro (Categorical)

The graph below shows the number of shootings in each of New York City's five boros.

The Bronx (Bronx County)

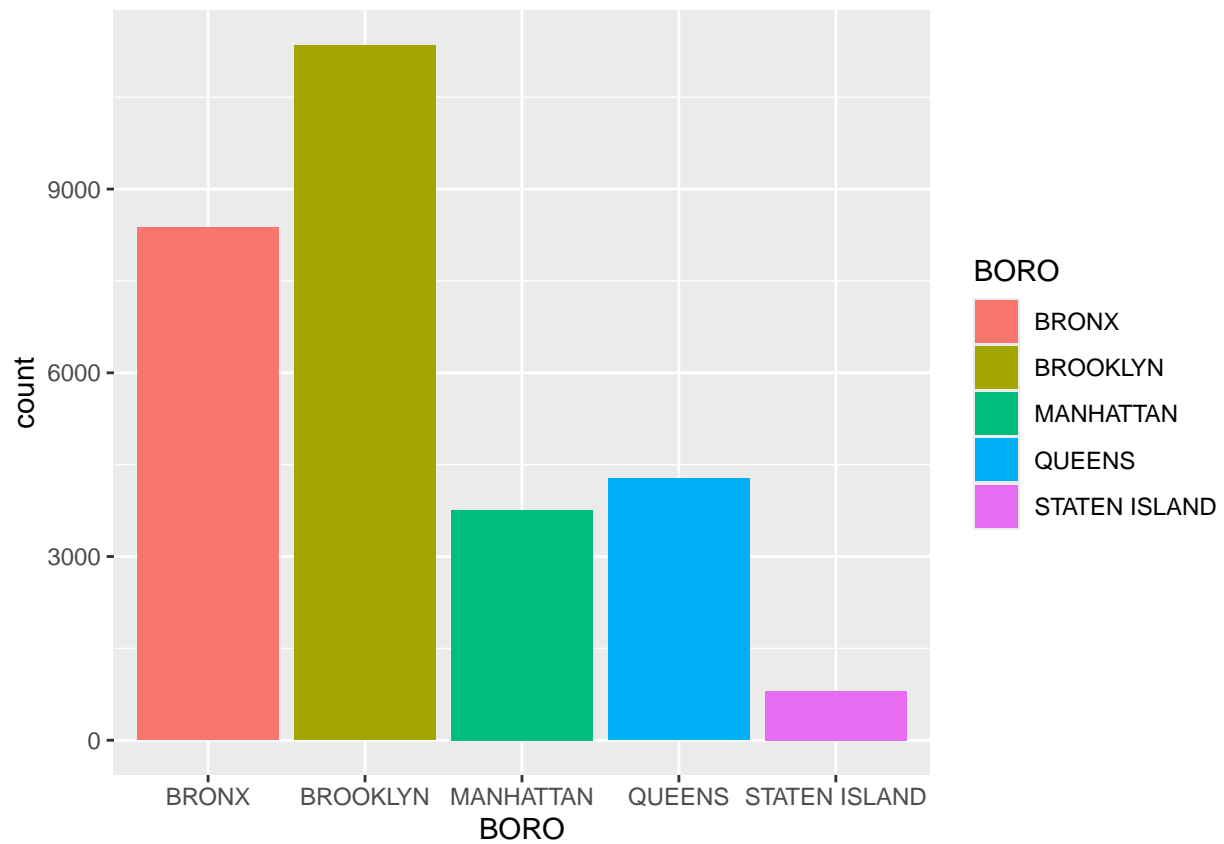
Brooklyn (Kings County)

Manhattan (New York County)

Queens (Queens County)

Staten Island (Richmond County)

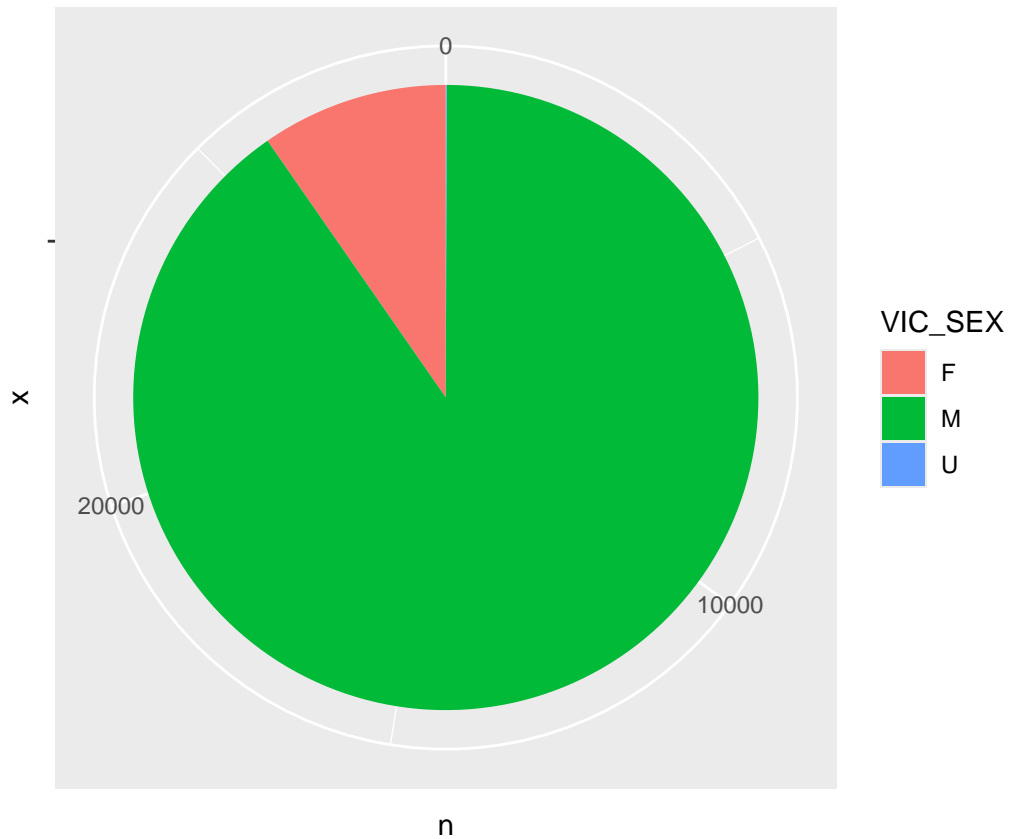
```
ggplot(df, aes(x = BORO, fill = BORO)) + geom_bar()
```



Shooting Victims by Sex

The vast majority of shooting victims in New York City are male.

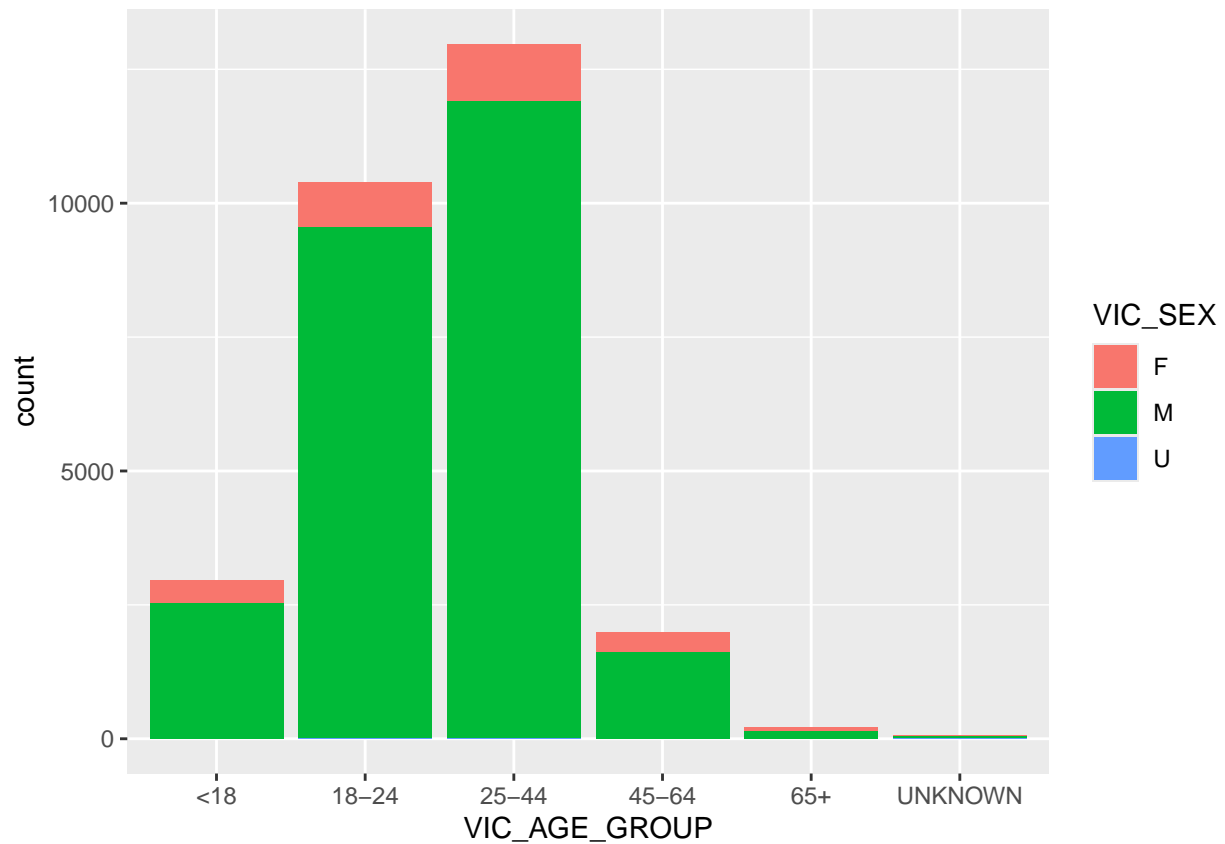
```
df2 = df %>%  
  group_by(VIC_SEX) %>%  
  count() %>%  
  ungroup()  
ggplot(df2, aes(x = "", y = n, fill = VIC_SEX)) + geom_col() + coord_polar(theta="y")
```



Victim by Age Group and Sex

Victim by age bracket further broken down by sex.

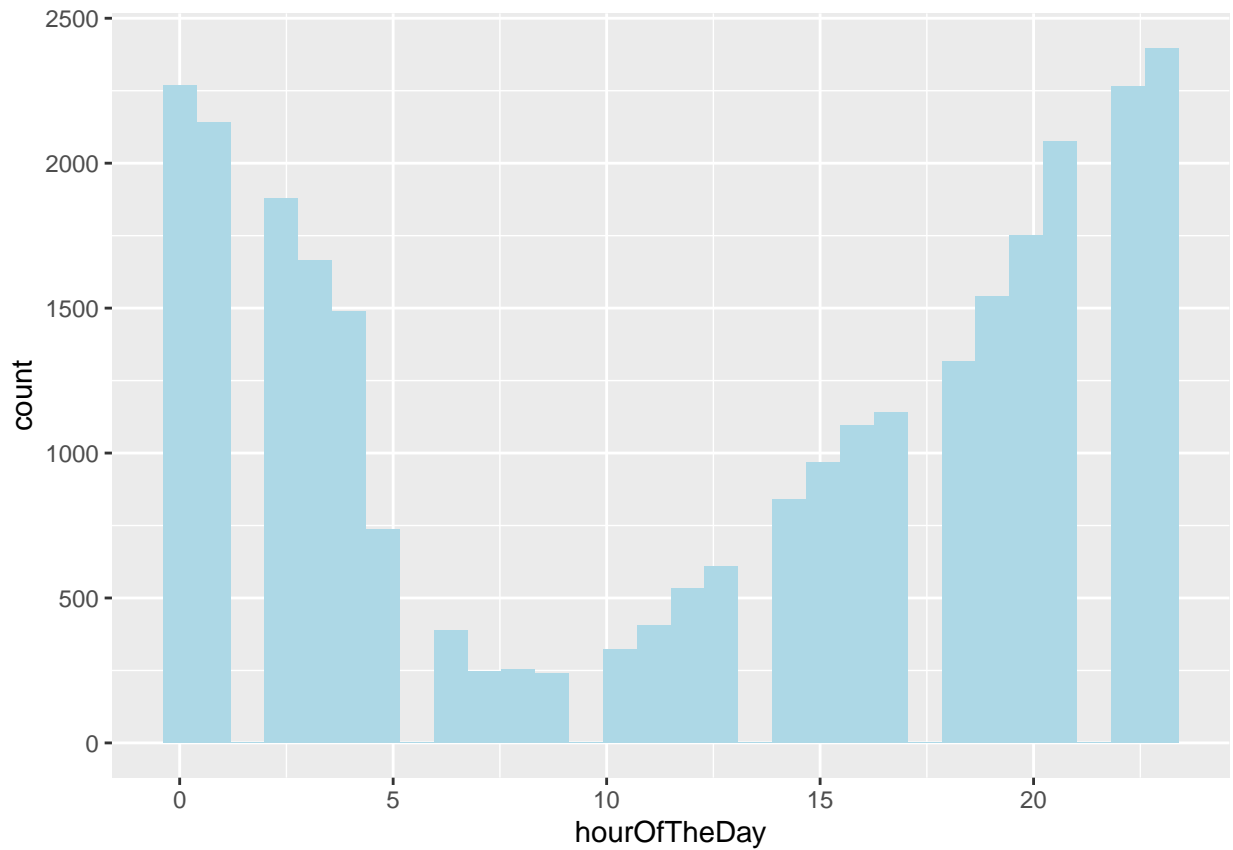
```
df4 = filter(df, VIC_AGE_GROUP != 1022)
ggplot(df4, aes(x=VIC_AGE_GROUP, fill=VIC_SEX)) + geom_bar()
```



Shootings by Hour of the Day

Most shootings occur between 6 pm and 4 am (18:00 - 04:00).

```
df$hourOfTheDay = as.numeric(substr(df$OCCUR_TIME, 1, 2))  
ggplot(data = df, aes(x = hourOfTheDay)) + geom_histogram(fill = "lightblue")
```



Summary of the Data Set

```
summary(df)
```

```
## INCIDENT_KEY      OCCUR_DATE      OCCUR_TIME      BORO
## Min.   : 9953245   Length:28562   Length:28562   Length:28562
## 1st Qu.: 65439914  Class :character  Class :character  Class :character
## Median : 92711254  Mode  :character  Mode  :character  Mode  :character
## Mean   :127405824
## 3rd Qu.:203131993
## Max.   :279758069
##
## LOC_OF_OCCUR_DESC  PRECINCT      JURISDICTION_CODE LOC_CLASSFCTN_DESC
## Length:28562      Min.   : 1.0    Min.   :0.0000   Length:28562
## Class :character  1st Qu.: 44.0   1st Qu.:0.0000   Class :character
## Mode  :character  Median : 67.0   Median :0.0000   Mode  :character
##                      Mean   : 65.5   Mean   :0.3219
##                      3rd Qu.: 81.0   3rd Qu.:0.0000
##                      Max.   :123.0   Max.   :2.0000
##                      NA's    :2
## LOCATION_DESC      STATISTICAL_MURDER_FLAG PERP_AGE_GROUP
## Length:28562      Length:28562      Length:28562
## Class :character  Class :character  Class :character
## Mode  :character  Mode  :character  Mode  :character
##
##
##
## PERP_SEX           PERP_RACE           VIC_AGE_GROUP           VIC_SEX
## Length:28562      Length:28562      Length:28562      Length:28562
## Class :character  Class :character  Class :character  Class :character
## Mode  :character  Mode  :character  Mode  :character  Mode  :character
##
##
##
## VIC_RACE           X_COORD_CD           Y_COORD_CD           Latitude
## Length:28562      Min.   : 914928   Min.   :125757   Min.   :40.51
## Class :character  1st Qu.:1000068   1st Qu.:182912   1st Qu.:40.67
## Mode  :character  Median :1007772   Median :194901   Median :40.70
##                      Mean   :1009424   Mean   :208380   Mean   :40.74
##                      3rd Qu.:1016807   3rd Qu.:239814   3rd Qu.:40.82
##                      Max.   :1066815   Max.   :271128   Max.   :40.91
##                      NA's    :59
## Longitude         Lon_Lat           hourOfTheDay
## Min.   : -74.25   Length:28562      Min.   : 0.00
## 1st Qu.: -73.94   Class :character  1st Qu.: 3.00
## Median : -73.92   Mode  :character  Median :15.00
## Mean   : -73.91           Mean   :12.27
## 3rd Qu.: -73.88           3rd Qu.:20.00
## Max.   : -73.70           Max.   :23.00
## NA's    :59
```