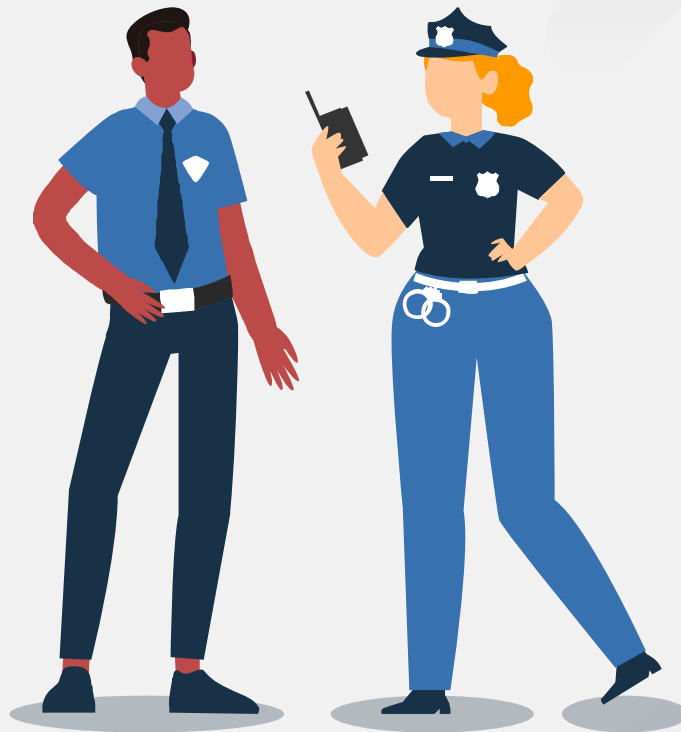# ANALYZING LOS ANGELES CRIME DATA

DATASCI 200 Project 2
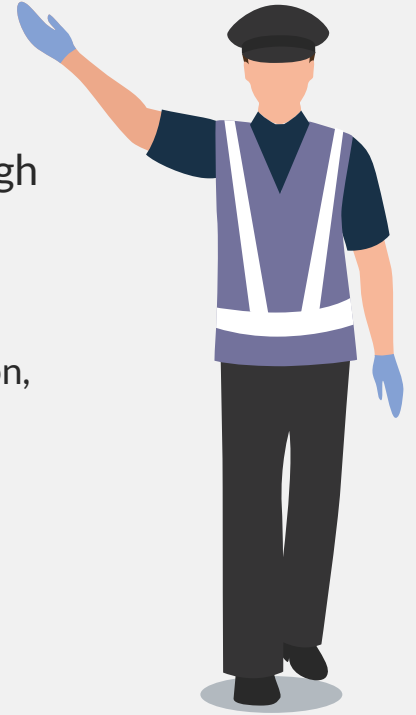
By: Sineli Gamage, Shruti Jain, Himaja Jangle

INTRODUCTION

- **Dataset**: Crime in the LA area from 2010 through September 2017
- **Size**: 1,584,316 rows and 26 columns
- **Variables of Interest:**
  - Date of Occurred, Area Name, Status Description, Crime Description, Victim age/sex/descent, and Weapon Description

DATA CLEANING & SANITY CHECKS

1

Convert str dates into datetime objects

'01/01/2010' → 2010-01-01

2

Map values

'F' → 'Female'
'M' → 'Male'

'A' → 'Other Asian'
'B' → 'Black'
'C' → 'Chinese'

3

Remove NaN values

4

Check if dates and times are in correct range

2010-2017 only

1-2359 (24hr time)

RESEARCH QUESTIONS

Q1 — **What is the most prevalent type of crime?**

Q2 — **At what times are crimes most frequently occurring?**
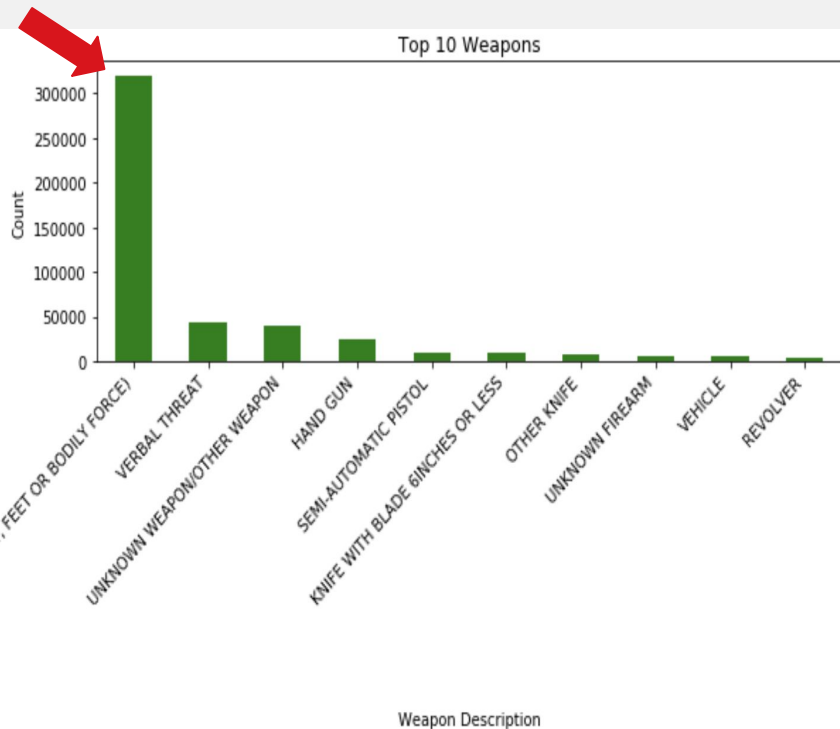
Q3 — **Who are the most frequently identified victims or perpetrators?**

Q1

What is the most prevalent type of crime?

WHAT IS THE MOST COMMON WEAPON USED?

1A

Top 10 Weapons

1. STRONG-ARM
2. VERBAL THREAT
3. UNKNOWN WEAPON/OTHER WEAPON
4. HAND GUN
5. SEMI-AUTOMATIC PISTOL
6. KNIFE WITH BLADE 6 IN OR LESS
7. OTHER KNIFE
8. UNKNOWN FIREARM
9. VEHICLE
10. REVOLVER

1B FOR THE TOP 10 CRIMES, WHAT IS THE TOP WEAPON FOR EACH?

	Crime	Top Weapon
0	BATTERY - SIMPLE ASSAULT	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)
1	INTIMATE PARTNER - SIMPLE ASSAULT	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)
2	ASSAULT WITH DEADLY WEAPON, AGGRAVATED ASSAULT	HAND GUN
3	ROBBERY	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)
4	CRIMINAL THREATS - NO WEAPON DISPLAYED	VERBAL THREAT
5	ATTEMPTED ROBBERY	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)
6	BRANDISH WEAPON	HAND GUN
7	INTIMATE PARTNER - AGGRAVATED ASSAULT	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)
8	BURGLARY	UNKNOWN WEAPON/OTHER WEAPON
9	BATTERY WITH SEXUAL CONTACT	STRONG-ARM (HANDS, FIST, FEET OR BODILY FORCE)

1C

DO CERTAIN AREAS IN LOS ANGELES EXHIBIT A HIGHER FREQUENCY OF SPECIFIC CRIME CODES?

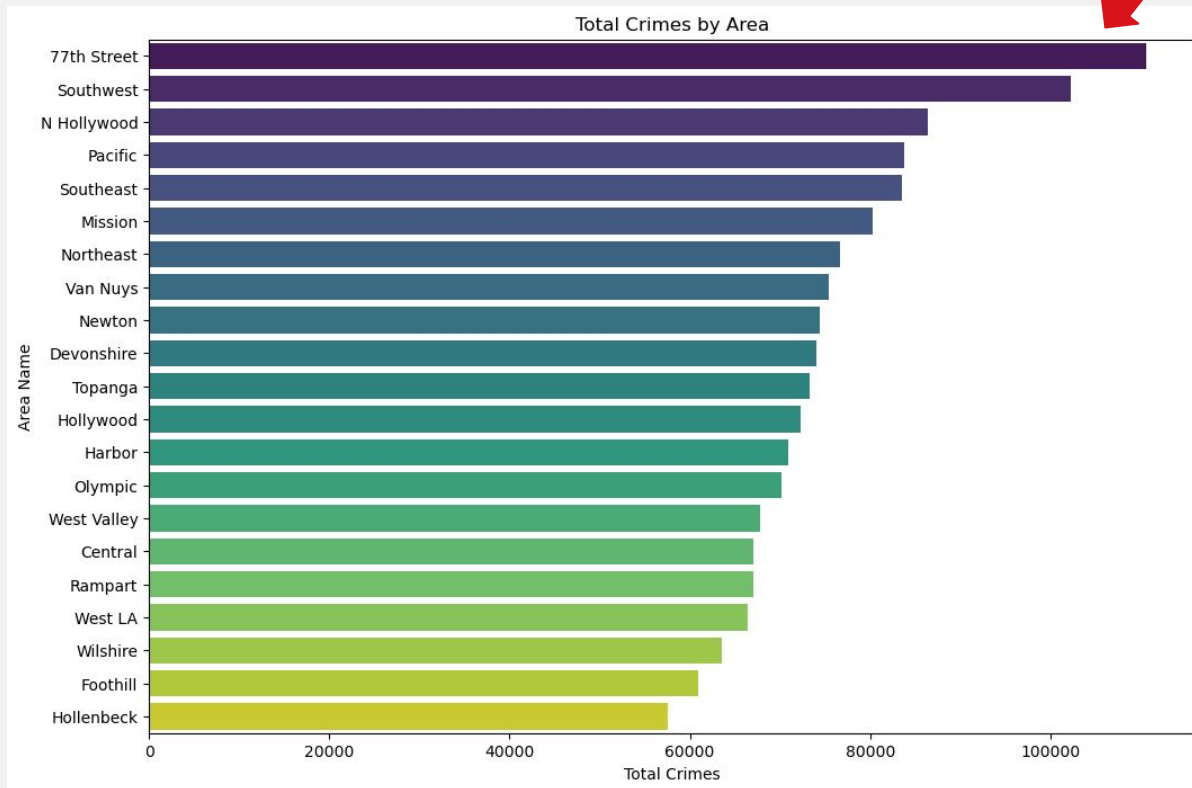Heatmap of Crime Codes and Counts for Top 20 Crimes by Area Code
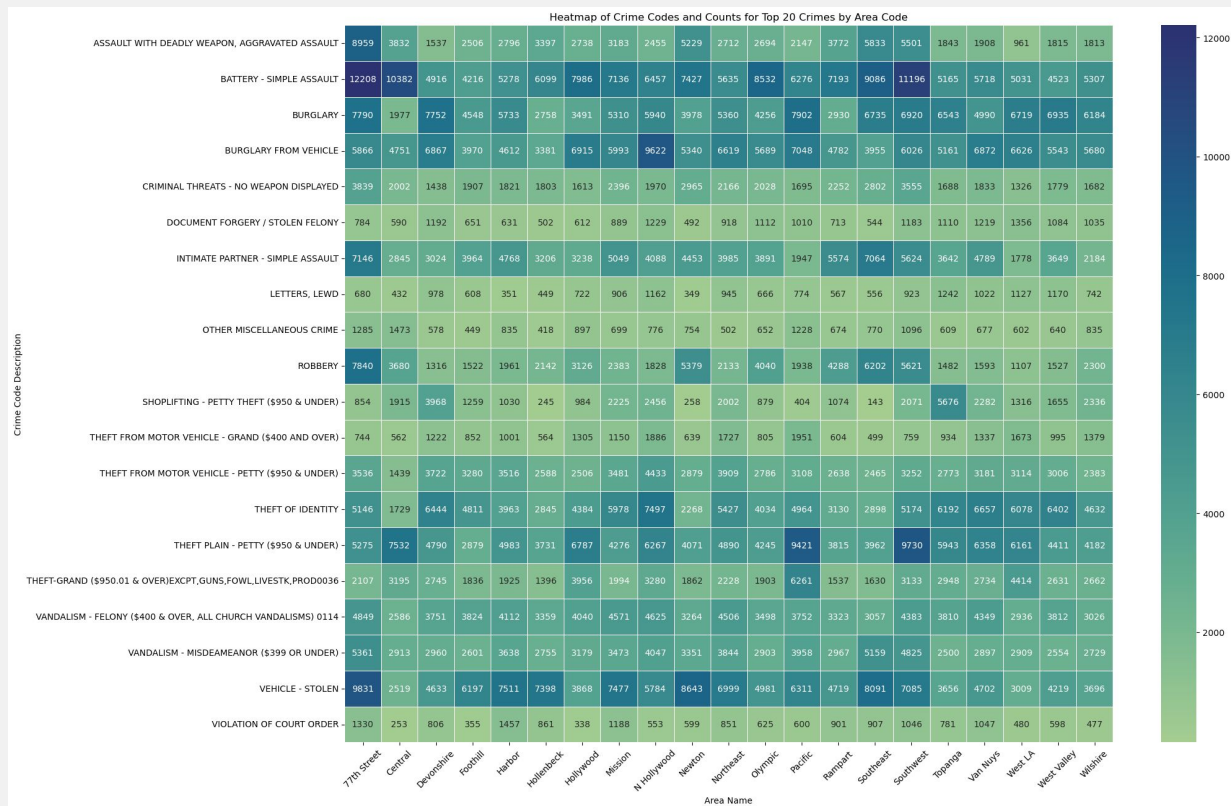
1D

WHICH AREAS IN LOS ANGELES EXPERIENCE THE HIGHEST INCIDENCE OF CRIMES?

TOP 5 AREAS WITH HIGHEST INCIDENCE OF CRIMES

1. 77TH STREET
2. SOUTHWEST
3. N HOLLYWOOD
4. PACIFIC
5. SOUTHEAST

Total Crimes by Area

Area Name

Total Crimes

At what times are crimes most frequently occurring?

Q2

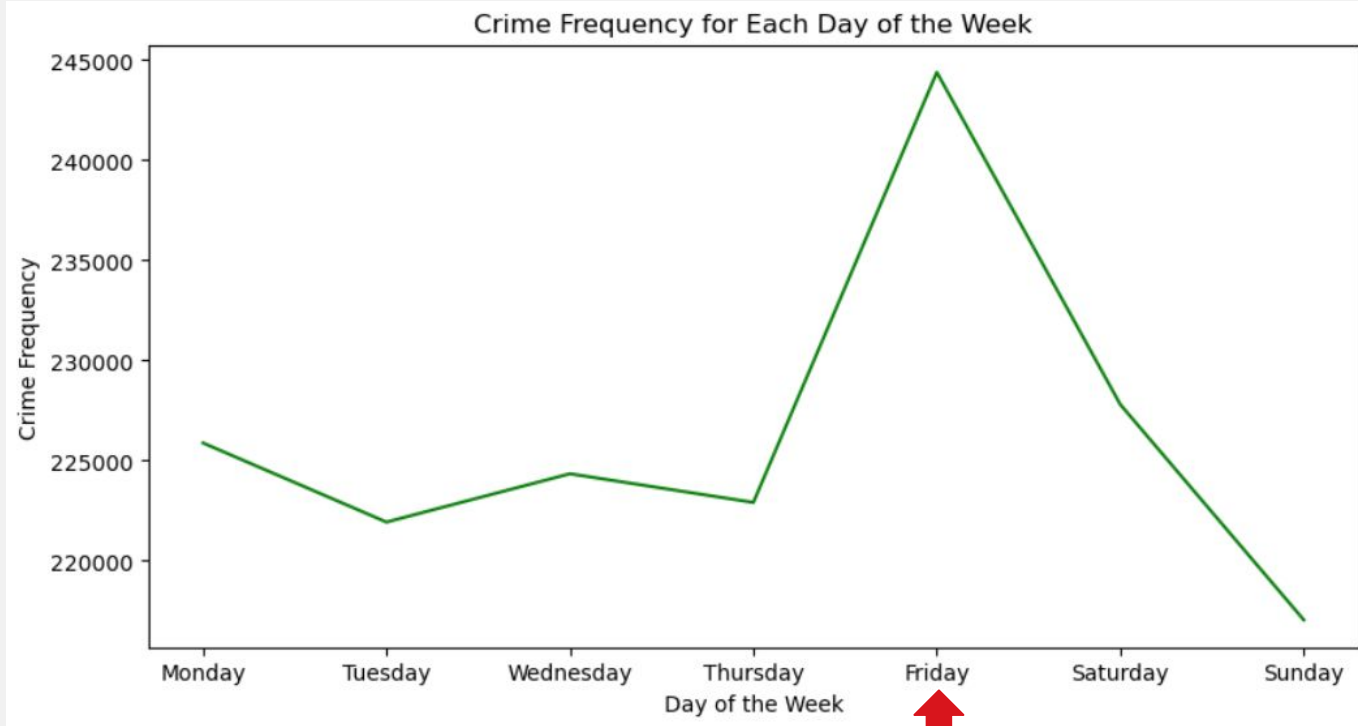# DURING WHICH MONTH OR YEAR DID THE HIGHEST NUMBER OF CRIMES OCCUR?

Counts of Crimes by Year and Month

DO SPECIFIC DAYS OF THE WEEK EXHIBIT HIGHER RATES OF CRIMINAL ACTIVITY?

Crime Frequency for Each Day of the Week

DO CRIMES SHOW A HIGHER FREQUENCY DURING PARTICULAR TIMES OF THE DAY?

2C

Crime Frequency by Time of Day
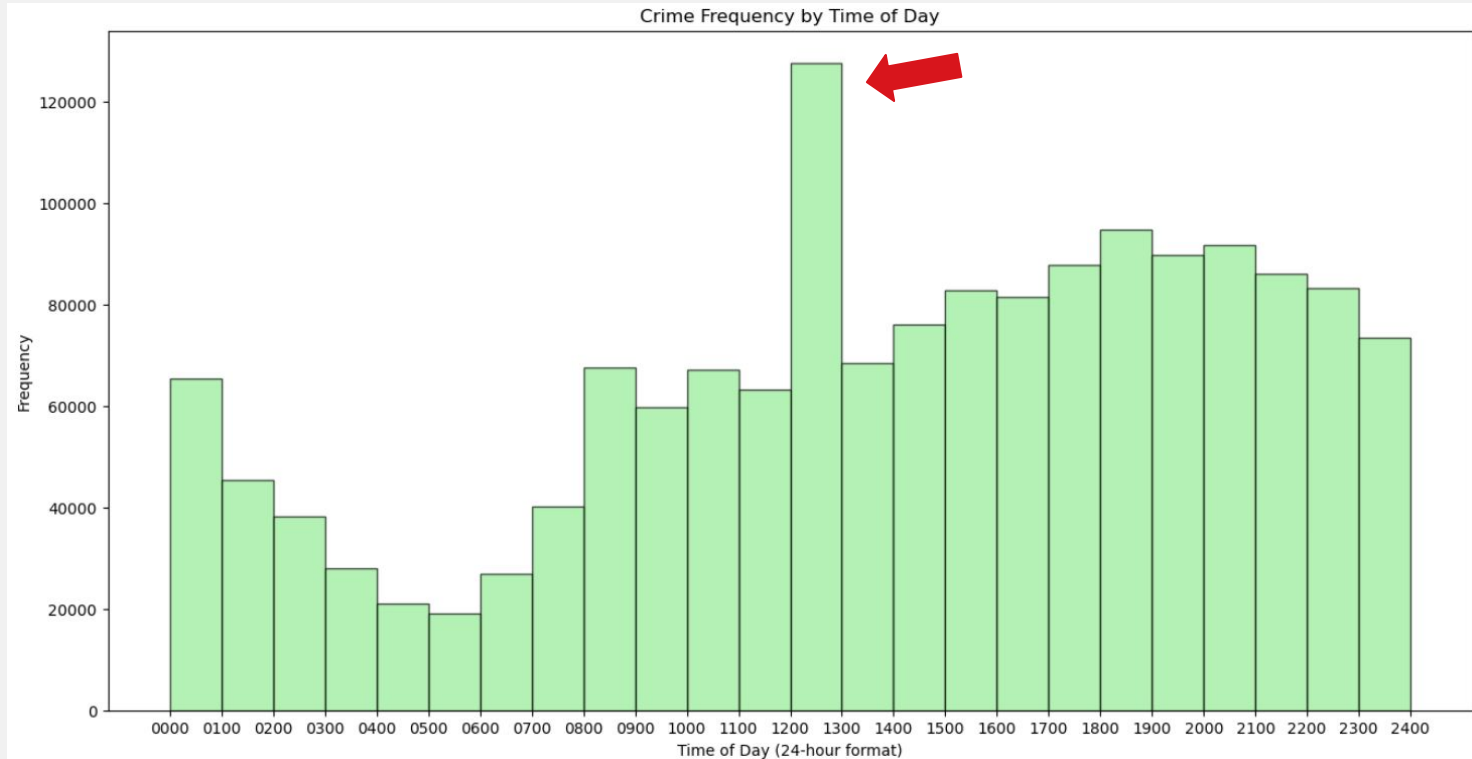
DO CERTAIN TYPES OF CRIMES TEND TO HAVE A HIGHER LIKELIHOOD OF BEING ONGOING?

**2D**

Top 10 Types of Crimes with Ongoing Investigations
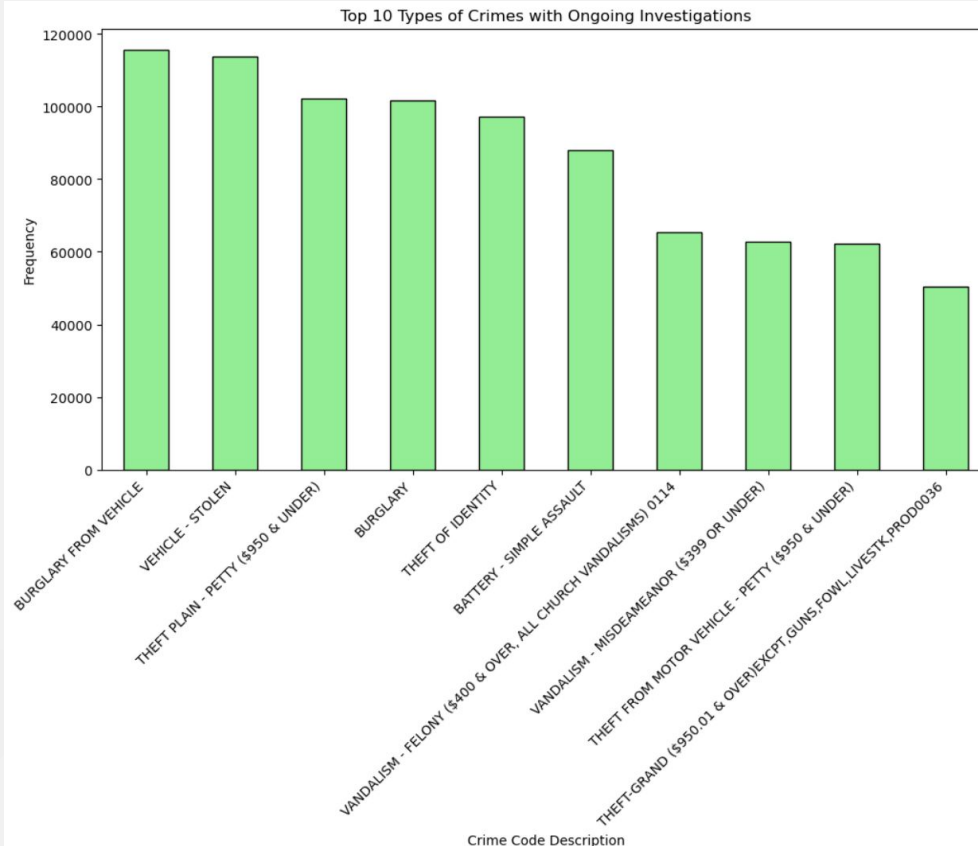
1. BURGLARY FROM VEHICLE
2. VEHICLE - STOLEN
3. THEFT PLAIN - PETTY ($950 & UNDER)
4. BURGLARY
5. THEFT OF IDENTITY
6. BATTERY - SIMPLE ASSAULT
7. VANDALISM - FELONY ($400 & OVER)
8. VANDALISM - MISDEMEANOR ($399 OR UNDER)
9. THEFT FROM MOTOR VEHICLE - PETTY ($950 & UNDER)
10. THEFT - GRAND (&$950.01 & OVER)

Q3

Who are the most frequently identified victims or perpetrators?

3A

IS THERE A PARTICULAR AGE GROUP OR GENDER THAT IS MORE FREQUENTLY TARGETED IN INCIDENTS?

3A
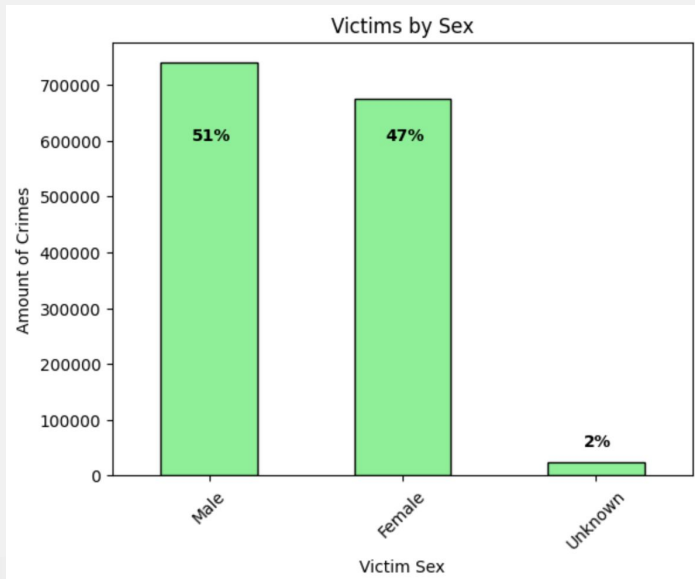
IS THERE A PARTICULAR AGE GROUP OR GENDER THAT IS MORE FREQUENTLY TARGETED IN INCIDENTS?

|	Victim Age	Victim Gender	Count
0	25.0	Female	20402
1	24.0	Female	20231
2	23.0	Female	19823
3	26.0	Female	19433
4	27.0	Female	18905
5	22.0	Female	18597
6	28.0	Female	18288
7	29.0	Female	17954
8	30.0	Female	17572
9	21.0	Female	17158

Victim Age Distribution by Gender
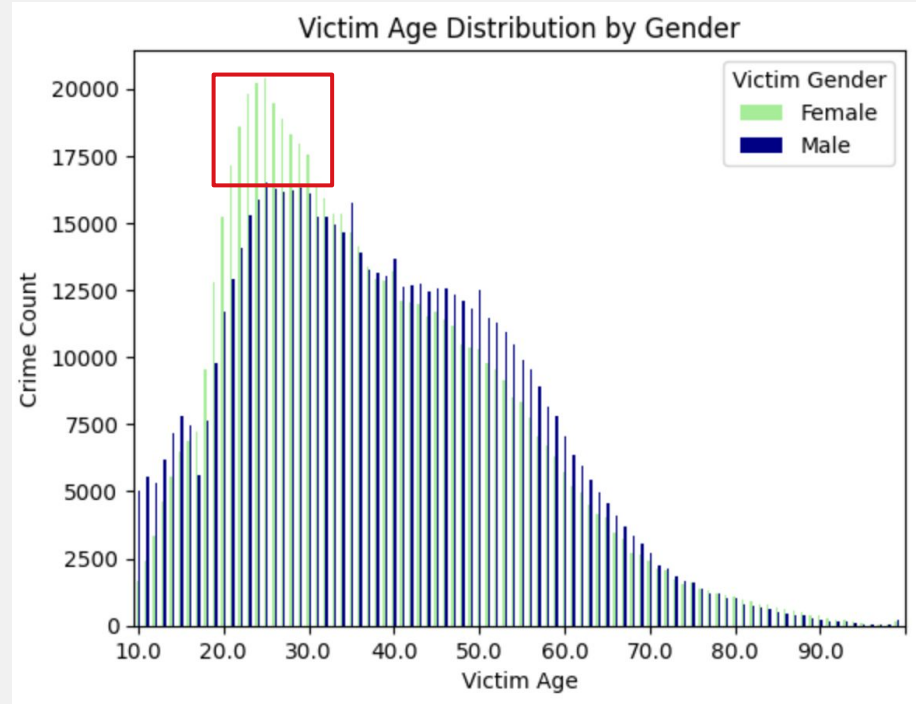
3B

DO SPECIFIC AREAS SHOW A HIGHER INCIDENCE OF TARGETING A PARTICULAR ETHNIC GROUP COMPARED TO THE DEMOGRAPHIC DISTRIBUTION OF THOSE AREAS?
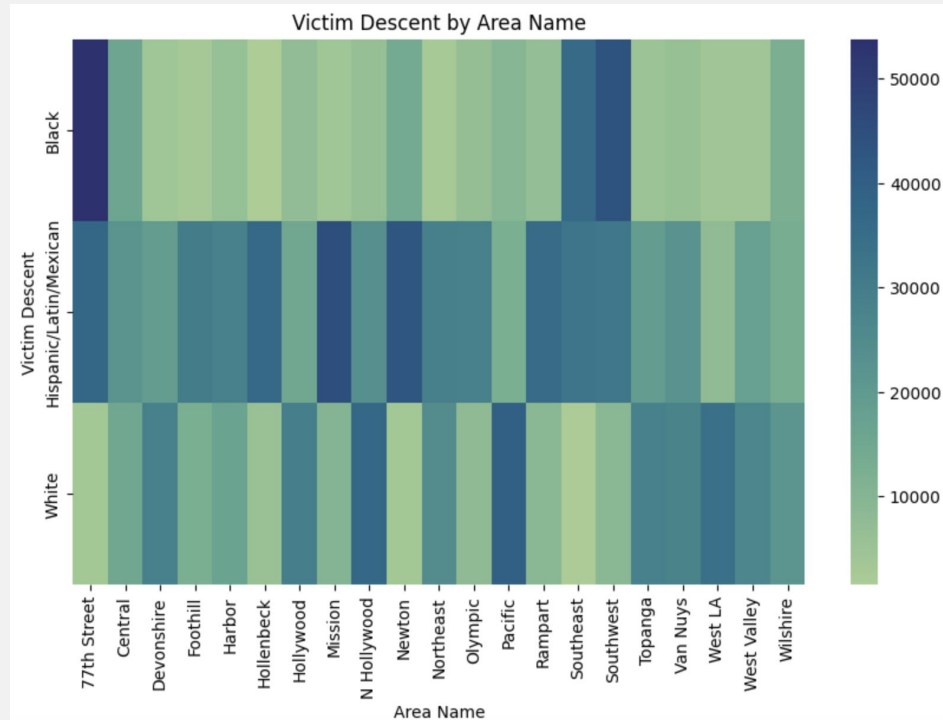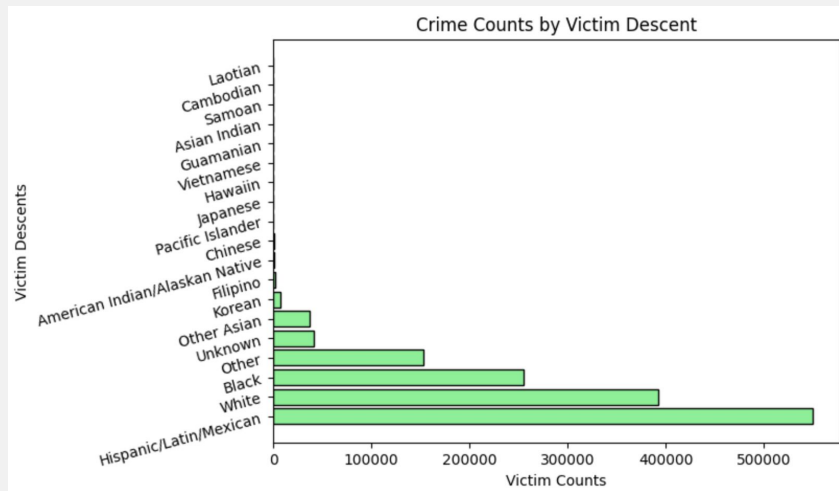
3C

WHAT IS THE DISTRIBUTION OF CRIMES COMMITTED BY ADULTS VERSUS JUVENILES IN VARIOUS LOCATIONS, CONSIDERING CLOSED CASES?
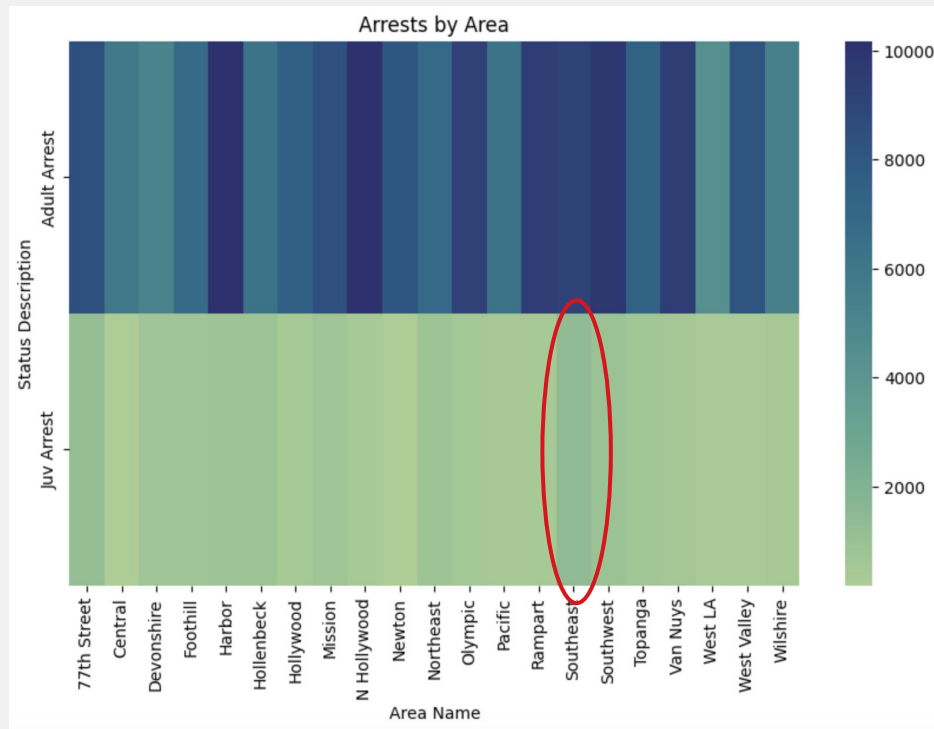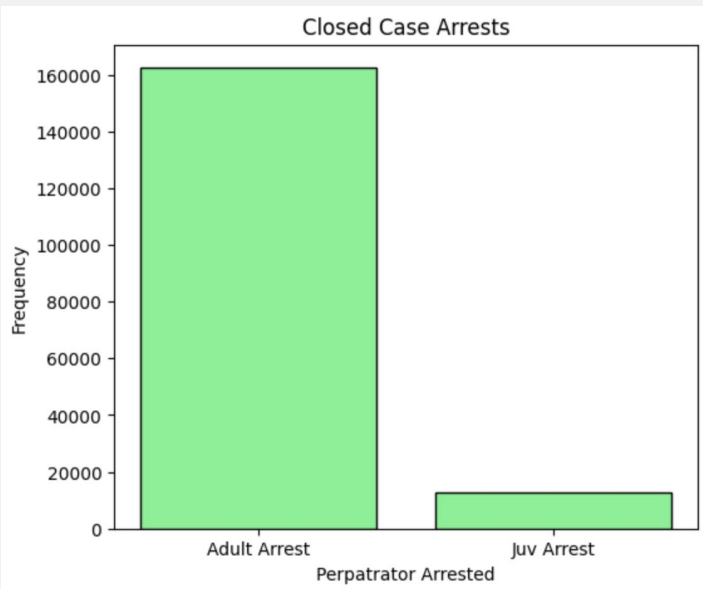
CONCLUSION

Crime Type

- Strong-arm (hands, fist, feet or bodily force) is the most common weapon
- Battery-Simple Assault is the top crime
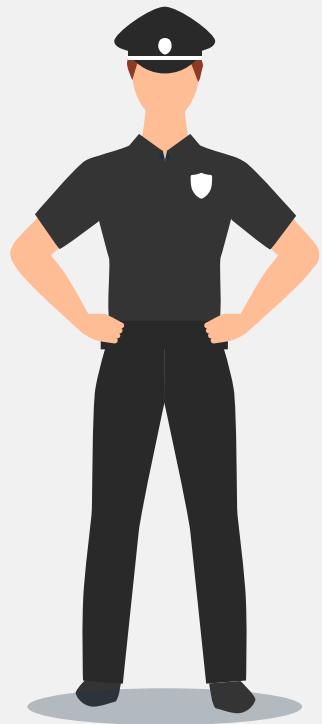- 77th St has the most crime incidents

Timing

Crime incidence increases in:

- January or October
- Friday's
- between 12pm-1pm

Victims

- Women ages 21-29 year old
- Hispanic/Latin/Mexican and Black Individuals

THANK YOU!