PROJECT: ANALYZING CRIME IN LOS ANGELES

Los Angeles, California 😎. The City of Angels. Tinseltown. The Entertainment Capital of the World!

Known for its warm weather, palm trees, sprawling coastline, and Hollywood, along with producing some of the most iconic films and songs. However, as with any highly populated city, it isn't always glamorous and there can be a large volume of crime. That's where you can help!

You have been asked to support the Los Angeles Police Department (LAPD) by analyzing crime data to identify patterns in criminal behavior. They plan to use your insights to allocate resources effectively to tackle various crimes in different areas.

The Data

They have provided you with a single dataset to use. A summary and preview are provided below.

It is a modified version of the original data, which is publicly available from Los Angeles Open Data.

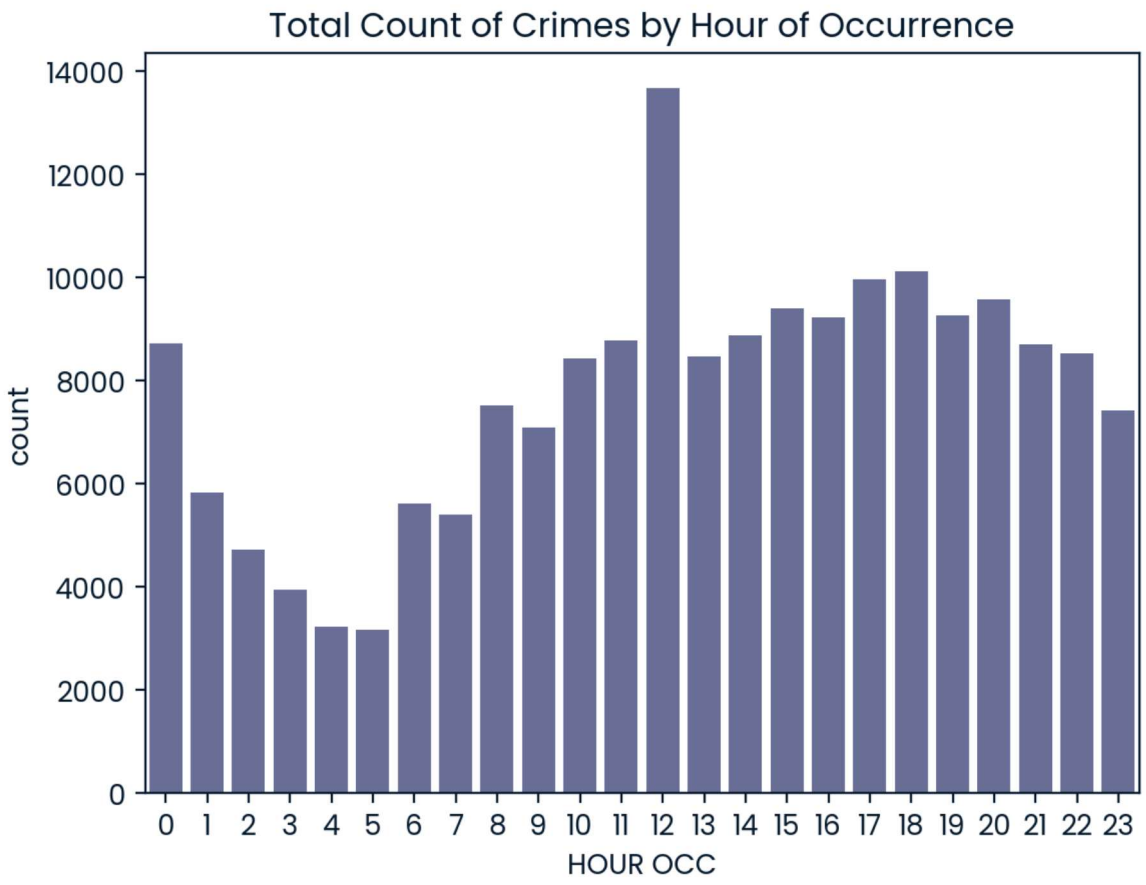
crimes.csv

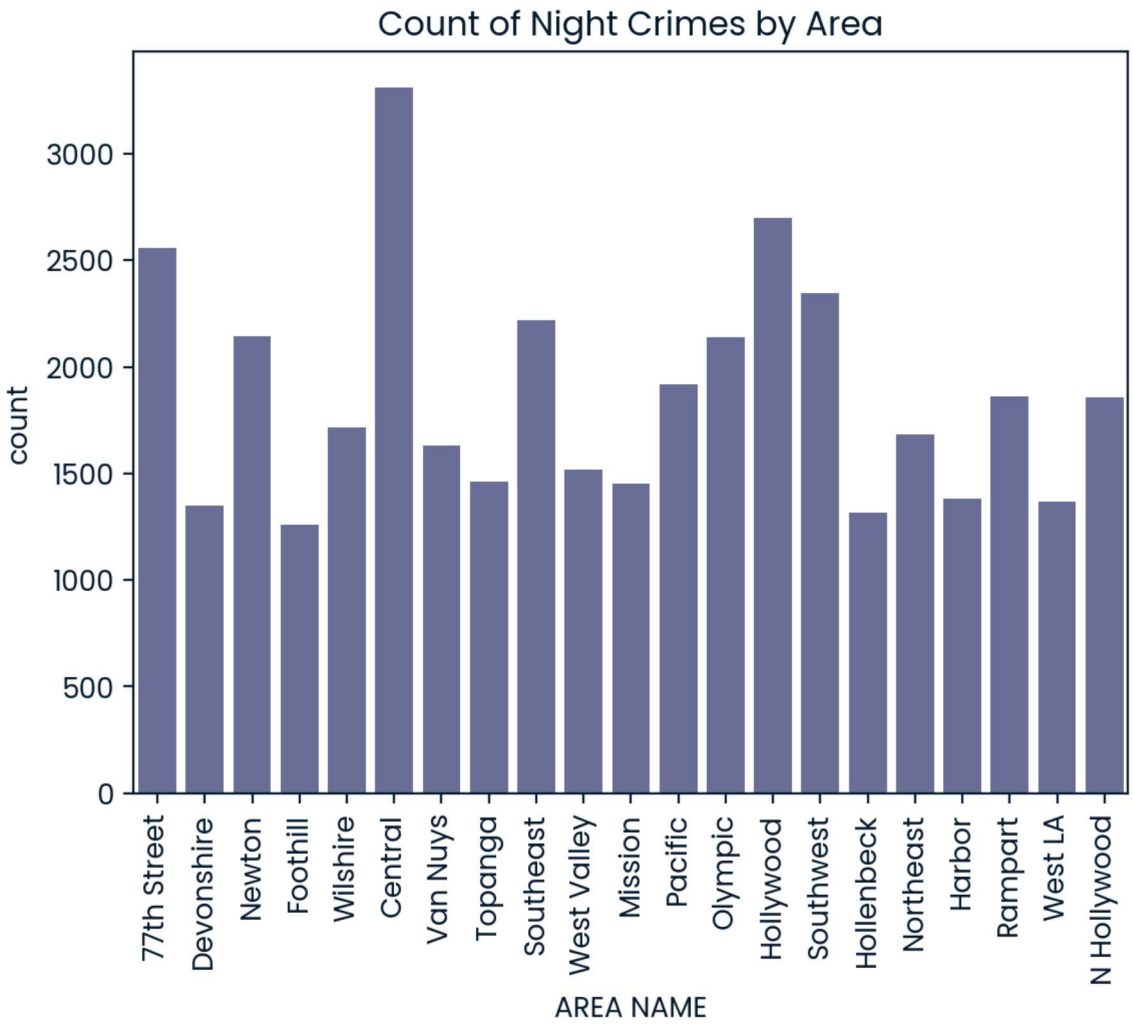
Column	Description
`'DR_NO'`	Division of Records Number: Official file number made up of a 2-digit year, area ID, and 5 digits.
`'Date Rptd'`	Date reported - MM/DD/YYYY.
`'DATE OCC'`	Date of occurrence - MM/DD/YYYY.
`'TIME OCC'`	In 24-hour military time.
`'AREA NAME'`	The 21 Geographic Areas or Patrol Divisions are also given a name designation that references a landmark or the surrounding community that it is responsible for. For example, the 77th Street Division is located at the intersection of South Broadway and 77th Street, serving neighborhoods in South Los Angeles.

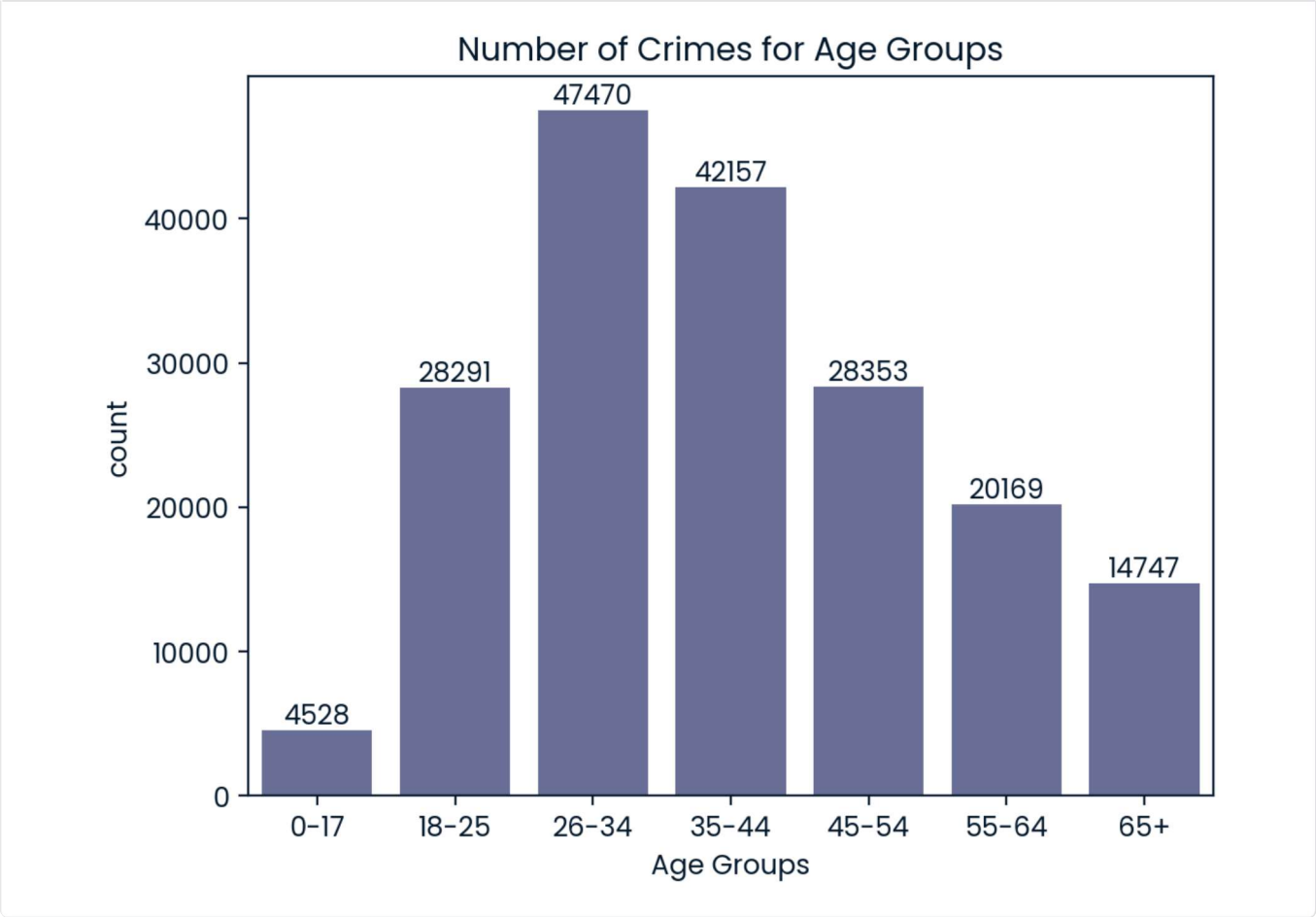
Column	Description
`'Crm Cd Desc'`	Indicates the crime committed.
`'Vict Age'`	Victim's age in years.
`'Vict Sex'`	Victim's sex: `F`: Female, `M`: Male, `X`: Unknown.
`'Vict Descent'`	Victim's descent: • `A` - Other Asian • `B` - Black • `C` - Chinese • `D` - Cambodian • `F` - Filipino • `G` - Guamanian • `H` - Hispanic/Latin/Mexican • `I` - American Indian/Alaskan Native • `J` - Japanese • `K` - Korean • `L` - Laotian • `O` - Other • `P` - Pacific Islander • `S` - Samoan • `U` - Hawaiian • `V` - Vietnamese • `W` - White • `X` - Unknown • `Z` - Asian Indian
`'Weapon Desc'`	Description of the weapon used (if applicable).
`'Status Desc'`	Crime status.
`'LOCATION'`	Street address of the crime.

```
# Re-run this cell
# Import required libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
crimes = pd.read_csv("crimes.csv")

# Which hour has the highest frequency of crimes?

# Changing applicable data types
crimes["Date Rptd"] = pd.to_datetime(crimes["Date Rptd"])
crimes["DATE OCC"] = pd.to_datetime(crimes["DATE OCC"])

crimes["HOUR OCC"] = (np.floor(crimes["TIME OCC"]/100)).astype(int)
plt.figure(1)
sns.countplot(x="HOUR OCC", data=crimes)
plt.title("Total Count of Crimes by Hour of Occurrence")
peak_crime_hour = crimes.value_counts("HOUR OCC", ascending=False).index[0]
peak_crime_hour_count = crimes.value_counts("HOUR OCC").max()
print("peak_crime_hour: " + str(peak_crime_hour))
print("peak_crime_hour_count: " + str(peak_crime_hour_count))

# Which area has the largest frequency of night crimes (committed between 10:00pm
and 3:59am)?

night_crimes = crimes[crimes["HOUR OCC"].isin([22, 23, 0, 1, 2, 3])]
plt.figure(2)
sns.countplot(x="AREA NAME", data=night_crimes)
plt.xticks(rotation=90)
plt.title("Count of Night Crimes by Area")
peak_night_crime_location = night_crimes["AREA NAME"].value_counts().idxmax()
peak_night_crime_location_count = night_crimes["AREA NAME"].value_counts().max()
print("peak_night_crime_location: " + peak_night_crime_location)
print("peak_night_crime_location_count: " + str(peak_night_crime_location_count))

# Identify the number of crimes committed against victims of different age groups

crimes["Age Groups"] = pd.cut(crimes["Vict Age"], labels=["0-17", "18-25", "26-34",
"35-44", "45-54", "55-64", "65+"], bins=[0, 17, 25, 34, 44, 54, 64, np.inf])
plt.figure(3)
ag = sns.countplot(x="Age Groups", data=crimes)
ag.bar_label(ag.containers[0])
plt.title("Number of Crimes for Age Groups")
victim_ages = crimes["Age Groups"].value_counts()
print(victim_ages)
```

```
peak_crime_hour: 12
peak_crime_hour_count: 13663
peak_night_crime_location: Central
peak_night_crime_location_count: 3312
26-34    47470
35-44    42157
45-54    28353
18-25    28291
55-64    20169
65+      14747
0-17      4528
Name: Age Groups, dtype: int64
```




Count of Night Crimes by Area
count
0
500
1000
1500
2000
2500
3000
77th Street
Devonshire
Newton
Foothill
Wilshire
Central
Van Nuys
Topanga
Southeast
West Valley
Mission
Pacific
Olympic
Hollywood
Southwest
Hollenbeck
Northeast
Harbor
Rampart
West LA
N Hollywood
AREA NAME


Number of Crimes for Age Groups
count
0
10000
20000
30000
40000
4528
28291
47470
42157
28353
20169
14747
0-17
18-25
26-34
35-44
45-54
55-64
65+
Age Groups