

CRIME STATISTICS ON THE TOP 100 MOST POPULOUS CITIES IN THE UNITED STATES FOR BUSINESS DECISION MAKING

INTRODUCTION

Starting a new business is a daunting task. The business leadership has to be focused on many criteria when determining a new location. Financial incentives, workforce issues, access to transportation, and infrastructure are important considerations. Locating to the most populous areas often allows for many of these considerations to be handled. However, with the increase in population, there may be the factor of crime, especially violent crime, introduced into the location decision. This data review will evaluate crime data and provide perspective on the 100 most populous cities in the United States. Along with the other factors the potential business reviews in their decision-making, this crime data will be helpful in their review.

DATA ACQUISITION AND CLEANING

The Federal Bureau of Investigations (FBI) compiles crime data in the United States. The data to be reviewed in this will be the Federal Bureau of Investigations Uniform Crime Reports. The statistics are from the year 2017 for the 100 most populous cities in America. The statistics were calculated as a rate per 100,000 people. They were tabulated and published in a Wikipedia table.

Data was scraped from this table and a pandas data frame was created. The crimes, as noted, are reported at a rate of 100,000 people per year. The table provided information for Violent and Property crimes with four subgroups under each heading.

For purposes of presentation, total violent crime as well its subgroups along with the total for property crimes were the most important for evaluation. Thus, the subgroups under property crimes were deleted. The column names for Violent Crime 1, Violent Crime 2, Violent Crime 3, Violent Crime 4, and Violent Crime were renamed Murder, Rape, Robbery, and Violent Crime Total, respectively.

Many of the City names from the Wikipedia table had footnote numbers or precinct designations attached. Each of these was replaced with the proper City name. Washington, DC was a special issue since it is not a City, State combination and had to be addressed separately.

All of the datatypes in the Wikipedia table were objects. Population was changed to datatype integer. Violent Crime Total, Murder, Rape, Robbery, Assault, and Property Crime were changed to datatype floats.

The States were changed to their respective two letter postal code abbreviations. These were then concatenated with the city and placed under a new column Location. The City and State Columns were deleted.

There were eight missing values listed as NaN. Averages were calculated for the values under specific crime columns and NaN replaced. The missing values in the Total Violent Crime column were calculated and NaN replaced. A spurious last line without any valuable information was deleted leaving 100 cities with all of there values in a Pandas dataframe.

Several manipulations of this final dataframe were accomplished for cross checking the changes made to this point.

To prepare for the actual data analysis, two final dataframes, df8 and df9, were created and sorted with the index reset at 1. Df8 was based on the Violent Crime Total and Df9 was based on Murder.

In [1]:

```
#Pandas dataframe from Wikipedia Table
import pandas as pd
import numpy as np
url='https://en.wikipedia.org/wiki/List_of_United_States_cities_by_crime_rate'

df=pd.read_html(url, header=0)[0]

df.head(5)
```

Out[1]:

	State	City	Population	Violent crime	Violent crime.1	Violent crime.2	Violent crime.3	Violent crime.4	Prope cri
0	State	City	Population	Total	Murder and Nonnegligent manslaughter	Rape1	Robbery	Aggravated assault	Ti
1	Alabama	Mobile3	248431	740.25	20.13	57.16	177.11	485.85	5453
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385

In [2]:

```
df.shape
```

Out[2]:

(101, 13)

In [3]:

```
#Focus on Violent Crime and Total Property Crimes
df2 = df.drop(['Property crime.1', 'Property crime.2', 'Property crime.3', 'Arson2'], axis = 1)
df2.head()
```

Out[3]:

	State	City	Population	Violent crime	Violent crime.1	Violent crime.2	Violent crime.3	Violent crime.4	Property crime
0	State	City	Population	Total	Murder and Nonnegligent manslaughter	Rape1	Robbery	Aggravated assault	Total
1	Alabama	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385

In [4]:

```
#Make the Columns Clear
df2.rename(columns={"Violent crime.1": "Murder", "Violent crime.2": "Rape", "Violent crime.3": "Robbery", "Violent crime.4": "Assault", "Violent crime": "Violent Crime Total"}, inplace=True)
df2.head()
```

Out[4]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime
0	State	City	Population	Total	Murder and Nonnegligent manslaughter	Rape1	Robbery	Aggravated assault	Total
1	Alabama	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385

In [5]:

```
#Make the City names consistent

df2.replace({"Mobile3":"Mobile","Stockton4":"Stockton","Savannah-Chatham Metropo
litan":"Savannah","Louisville Metro6":"Louisville",
            "Las Vegas Metropolitan Police Department":"Las Vegas","Charlott
e-Mecklenburg":"Charlotte","Toledo4,5,7":"Toledo",
            "Nashville Metropolitan":"Nashville","Arlington4":"Arlington","N
orth Carolina8":"North Carolina"}, inplace=True)
df2.head()
```

Out[5]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Prope crii
0	State	City	Population	Total	Murder and Nonnegligent manslaughter	Rape1	Robbery	Aggravated assault	Tc
1	Alabama	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453.
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415.
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329.
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385.

In [6]:

```
#Fix Washington DC
df2.replace({'City':{'Washington':"WashingtonDC"}}, inplace=True)
df2.head(5)
```

Out[6]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Prope crii
0	State	City	Population	Total	Murder and Nonnegligent manslaughter	Rape1	Robbery	Aggravated assault	Tc
1	Alabama	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453.
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415.
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329.
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385.

In [8]:

```
#Remove index row 0
df3=df2.drop(0)
df3.head(5)
```

Out[8]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime
1	Alabama	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453.83
2	Alaska	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415.82
3	Arizona	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329.61
4	Arizona	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385.85
5	Arizona	Glendale	249273	488.22	4.81	38.91	192.96	251.53	4530.37

In [9]:

```
#Check datatypes
df3.dtypes
```

Out[9]:

```
State          object
City           object
Population     object
Violent Crime Total  object
Murder         object
Rape           object
Robbery        object
Assault        object
Property crime  object
dtype: object
```

In [10]:

```
#Change datatypes
df3["Population"] = df3['Population'].astype('int')
df3["Violent Crime Total"] = df3['Violent Crime Total'].astype(float)
df3["Murder"] = df3['Murder'].astype(float)
df3["Rape"] = df3['Rape'].astype(float)
df3["Robbery"] = df3['Robbery'].astype(float)
df3["Assault"] = df3['Assault'].astype(float)
df3["Property crime"] = df3['Property crime'].astype(float)
print(df3.dtypes)
```

```
State                object
City                 object
Population            int64
Violent Crime Total   float64
Murder                float64
Rape                  float64
Robbery               float64
Assault               float64
Property crime        float64
dtype: object
```

In [11]:

```
#Two letter postal code abbreviations for states
df3.replace({"California":"CA","Colorado":"CO","District of Columbia":"DC","Florida":"FL","Georgia":"GA","Hawaii":"HI",
            "Idaho":"ID","Illinois":"IL","Indiana":"IN","Iowa":"IA","Kansas":"KS",
            "Kentucky":"KY",
            "Louisiana":"LA","Maryland":"MD","Massachusetts":"MA","Michigan":"MI",
            "Minnesota":"MN","Missouri":"MO",
            "Nebraska":"NE","Nevada":"NV","New Jersey":"NJ","New Mexico":"NM",
            "New York":"NY","North Carolina":"NC",
            "Ohio":"OH","Oklahoma":"OK","Oregon":"OR","Pennsylvania":"PA","Tennessee":"TN",
            "Texas":"TX","Virginia":"VA",
            "Washington":"WA","Wisconsin":"WI","Arizona":"AZ","Alaska":"AK",
            "Alabama":"AL"}, inplace=True)
df3.head()
```

Out[11]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime
1	AL	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453.83
2	AK	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415.82
3	AZ	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329.61
4	AZ	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385.85
5	AZ	Glendale	249273	488.22	4.81	38.91	192.96	251.53	4530.37

In [13]:

```
#Combine City and State Strings and create Location column
```

```
df3['Location']=df3['City'].str.cat(df3['State'],sep=", ")
df3.head()
```

Out[13]:

	State	City	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	AL	Mobile	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
2	AK	Anchorage	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
3	AZ	Chandler	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
4	AZ	Gilbert	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
5	AZ	Glendale	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ

In [14]:

```
#Drop City and State Columns
```

```
df3=df3.drop(['State','City'], axis=1)
df3.head()
```

Out[14]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
2	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
3	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
4	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
5	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ

In [15]:

```
#Replace NaN with average values
```

```
df3.at[68,'Rape'] = 47.64
```


In [16]:

```
df3.at[68, 'Violent Crime Total'] = 711.09
```

In [17]:

```
df3.at[69, 'Rape'] = 51.33
df3.at[69, 'Violent Crime Total'] = 843.64
df3.at[70, 'Rape'] = 52.81
df3.at[70, 'Violent Crime Total'] = 778.21
df3.at[74, 'Rape'] = 72.73
df3.at[74, 'Violent Crime Total'] = 1028.65
```

In [53]:

```
#Drop the last line
df3.dropna(inplace=True)
df3.tail(5)
```

Out[53]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
96	454353	137.56	3.08	22.45	59.87	52.16	1934.62	Virginia Beach, VA
97	721365	632.69	3.74	36.87	210.02	382.05	5258.64	Seattle, WA
98	217066	626.54	2.76	109.64	105.50	408.63	7231.44	Spokane, WA
99	255850	374.44	4.30	37.13	82.86	250.15	2662.11	Madison, WI
100	595168	1597.36	19.83	72.92	490.45	1014.17	3792.04	Milwaukee, WI

In [19]:

```
#Correct Washington EC and show first 50 Cities
df3.replace({'Location':{'WashingtonDC, DC':"Washington, DC"}} , inplace=True)
df3.head(50)
```

Out[19]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
2	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
3	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
4	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
5	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ

6	492268	415.83	4.67	51.19	92.23	267.74	2171.99	Mesa, AZ
7	1644177	760.93	9.55	69.46	200.28	481.64	3670.71	Phoenix, AZ
8	251840	157.24	1.99	40.90	39.71	74.65	2172.01	Scottsdale, AZ
9	532323	801.77	8.64	93.55	268.82	430.75	5251.70	Tucson, AZ
10	353400	354.56	2.83	32.54	135.82	183.36	2630.45	Anaheim, CA
11	381154	479.33	10.76	24.14	197.56	246.88	4068.43	Bakersfield, CA
12	271109	298.04	0.74	22.87	112.13	162.30	1432.27	Chula Vista, CA
13	236368	182.34	0.85	28.77	79.11	73.61	2150.46	Fremont, CA
14	526371	565.00	10.64	33.06	182.00	339.30	3841.40	Fresno, CA
15	276115	61.21	0.72	16.66	19.92	23.90	1316.48	Irvine, CA
16	471397	657.83	4.67	43.06	262.41	347.69	2672.48	Long Beach, CA
17	4007147	761.31	7.01	61.27	269.87	423.17	2535.92	Los Angeles, CA
18	424915	1299.32	16.24	94.14	629.77	559.17	5982.84	Oakland, CA
19	328023	508.81	3.66	50.61	165.84	288.70	3058.32	Riverside, CA
20	499997	675.60	7.80	19.80	220.00	428.00	2936.62	Sacramento, CA
21	217259	1291.09	15.65	72.72	403.67	799.05	3867.73	San Bernardino, CA
22	1424116	366.61	2.46	39.25	99.01	225.89	1842.97	San Diego, CA
23	881255	715.00	6.35	41.65	365.39	301.62	6168.02	San Francisco, CA
24	1037529	403.65	3.08	55.03	132.62	212.91	2440.70	San Jose, CA
25	335699	488.53	6.26	56.00	180.22	246.05	2090.27	Santa Ana, CA
26	216350	162.70	1.85	18.49	56.39	85.97	1424.08	Santa Clarita, CA
27	309566	1414.56	17.77	49.75	390.22	956.82	3627.34	Stockton, CA
28	368018	608.39	8.15	86.68	184.50	329.06	3003.66	Aurora, CO
29	472958	524.15	6.13	103.39	101.91	312.71	3216.78	Colorado Springs, CO
30	706616	675.61	8.35	98.92	174.35	393.99	3667.06	Denver, CO
31	693972	948.74	16.72	63.84	338.77	529.42	4156.22	Washington, DC
32	238260	198.52	2.52	13.85	64.64	117.52	2213.55	Hialeah, FL
33	894638	631.32	12.18	60.14	153.81	405.19	3526.68	Jacksonville,

33	331833	331.92	12.13	33.14	133.31	133.13	3323.33	FL
34	463009	720.94	11.23	22.68	211.23	475.80	4014.18	Miami, FL
35	283982	744.06	8.10	64.44	213.04	458.48	5454.57	Orlando, FL
36	263712	698.49	7.58	51.57	189.22	450.11	4312.66	St. Petersburg, FL
37	384360	464.41	10.15	31.48	105.63	317.15	1743.68	Tampa, FL
38	481343	935.72	16.41	58.59	293.55	567.16	4776.43	Atlanta, GA
39	242941	462.66	14.41	41.16	156.83	250.27	3431.29	Savannah, GA
40	990384	246.37	3.23	28.78	91.68	122.68	2774.38	Honolulu, HI
41	225677	279.16	0.89	63.81	22.60	191.87	2444.64	Boise, ID
42	2706171	1098.86	24.13	65.11	439.26	570.36	3263.80	Chicago, IL
43	266259	357.55	13.90	51.08	112.30	180.28	3179.61	Fort Wayne, IN
44	870788	1333.96	17.91	76.71	400.21	839.13	4411.87	Indianapolis, IN
45	217277	670.11	12.89	33.60	167.53	456.10	4413.26	Des Moines, IA
46	391084	1022.29	8.95	97.68	153.16	762.50	5535.64	Wichita, KS
47	322332	350.88	9.00	62.05	169.70	110.13	3782.13	Lexington, KY
48	684362	647.03	15.93	25.57	193.76	411.77	4122.23	Louisville, KY
49	227403	1026.81	38.26	43.97	381.70	562.88	5594.03	Baton Rouge, LA
50	397447	1121.41	39.50	144.67	329.10	608.13	4243.84	New Orleans, LA

In [20]:

```
#Show Last 50 Cities
df3.tail(50)
```

Out[20]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
51	613217	2027.01	55.77	62.29	958.71	950.23	4928.11	Baltimore, MD
52	682903	669.20	8.35	42.47	205.59	412.80	2089.02	Boston, MA
53	670792	2056.67	39.80	103.91	393.42	1519.55	4540.60	Detroit, MI
54	418971	1101.27	10.02	122.68	434.16	534.40	4641.37	Minneapolis, MN
55	306696	650.81	7.17	70.75	227.26	345.62	3565.42	St. Paul, MN
56	484948	1724.31	30.93	91.76	383.13	1218.48	4543.79	Kansas City, MO

								MO
57	310284	2082.29	66.07	93.14	626.52	1296.55	6041.24	St. Louis, MO
58	449388	647.32	6.90	91.24	139.08	410.11	3880.17	Omaha, NE
59	299285	185.11	3.34	28.74	80.19	72.84	1833.04	Henderson, NV
60	1627244	618.90	12.60	79.64	211.15	315.50	2943.38	Las Vegas, NV
61	242537	1014.69	9.07	47.83	232.95	724.84	2386.03	North Las Vegas, NV
62	248531	673.56	7.64	57.14	153.70	455.07	3085.73	Reno, NV
63	267906	509.51	7.84	45.91	199.32	256.43	1806.98	Jersey City, NJ
64	283673	896.45	27.14	40.89	377.19	451.22	2395.01	Newark, NJ
65	561375	1369.14	12.47	84.26	521.93	750.48	7365.84	Albuquerque, NM
66	256169	1019.25	15.61	55.43	334.54	613.66	3836.14	Buffalo, NY
67	8616333	538.90	3.39	27.56	162.42	345.52	1448.59	NY, NY
68	914609	711.09	9.40	47.64	220.53	433.52	3815.18	Charlotte, NC
69	269088	843.64	8.55	51.33	316.63	467.13	3826.26	Durham, NC
70	290051	778.21	15.86	52.81	228.93	480.61	3562.13	Greensboro, NC
71	299116	947.12	23.40	97.62	399.84	426.26	5049.88	Cincinnati, OH
72	385351	1556.76	27.77	128.97	699.88	700.14	4916.04	Cleveland, OH
73	872205	513.41	16.28	105.37	225.06	166.70	3944.94	Columbus, OH
74	277116	1028.65	12.63	72.73	281.47	661.82	4003.74	Toledo, OH
75	648260	787.34	12.49	73.12	172.77	528.95	3752.51	Oklahoma City, OK
76	404868	1040.83	17.29	104.48	238.10	680.96	5455.61	Tulsa, OK
77	649408	515.70	3.70	67.45	160.92	283.64	5677.02	Portland, OR
78	1575595	947.58	20.06	75.02	382.46	470.04	3063.48	Philadelphia, PA
79	305932	656.36	17.98	29.42	262.15	346.81	3114.42	Pittsburgh, PA
80	652765	2003.32	27.73	90.38	529.59	1355.62	6297.83	Memphis, TN
81	674942	1138.17	16.30	72.90	303.14	745.84	3817.96	Nashville, TN
82	397377	516.89	4.78	63.92	144.95	303.24	3197.72	Arlington, TX
83	971949	414.84	2.57	85.81	101.55	224.91	3189.57	Austin, TX

84	329256	702.49	6.38	70.46	142.75	482.91	3565.31	Corpus Christi, TX
85	1338551	774.64	12.48	62.08	327.00	373.09	3185.09	Dallas, TX
86	688667	378.85	2.76	53.87	58.08	264.13	1818.88	El Paso, TX
87	873069	560.21	8.02	65.17	147.30	339.72	3215.32	Fort Worth, TX
88	236243	316.62	3.39	54.60	135.03	123.60	3032.47	Garland, TX
89	2338235	1095.23	11.50	58.42	417.96	607.34	4128.41	Houston, TX
90	242062	226.80	3.30	22.31	94.19	107.00	2539.43	Irving, TX
91	260669	321.86	3.84	43.73	59.08	215.22	2483.61	Laredo, TX
92	290413	149.79	5.17	27.89	40.98	75.75	1733.74	Plano, TX
93	1520712	707.50	8.15	83.51	151.11	464.72	4844.84	San Antonio, TX
94	240119	418.96	4.58	36.23	82.46	295.69	2272.21	Chesapeake, VA
95	245190	555.90	14.68	55.06	151.31	334.84	3748.93	Norfolk, VA
96	454353	137.56	3.08	22.45	59.87	52.16	1934.62	Virginia Beach, VA
97	721365	632.69	3.74	36.87	210.02	382.05	5258.64	Seattle, WA
98	217066	626.54	2.76	109.64	105.50	408.63	7231.44	Spokane, WA
99	255850	374.44	4.30	37.13	82.86	250.15	2662.11	Madison, WI
100	595168	1597.36	19.83	72.92	490.45	1014.17	3792.04	Milwaukee, WI

In [22]:

```
#Adjust dataframe for Information
df6=df3.head(6)
df6
```

Out[22]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
2	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
3	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
4	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
5	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ
6	492268	415.83	4.67	51.19	92.23	267.74	2171.99	Mesa, AZ

In [23]:

```
#Create a simple dataframe with just murder and location as columns
df7=df6.drop(['Population','Violent Crime Total','Rape','Robbery','Assault','Property crime'], axis=1)
df7.head(6)
```

Out[23]:

	Murder	Location
1	20.13	Mobile, AL
2	9.12	Anchorage, AK
3	2.01	Chandler, AZ
4	2.07	Gilbert, AZ
5	4.81	Glendale, AZ
6	4.67	Mesa, AZ

In [25]:

```
#Create a dataframe in ascending order based on Violent Crime Total; Reset Index and Start at 1
df8=df3.sort_values(by=["Violent Crime Total"],ascending=False)
df8 = df8.reset_index(drop=True)
df8.index = df8.index + 1
df8.head(50)
```

Out[25] :

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	310284	2082.29	66.07	93.14	626.52	1296.55	6041.24	St. Louis, MO
2	670792	2056.67	39.80	103.91	393.42	1519.55	4540.60	Detroit, MI
3	613217	2027.01	55.77	62.29	958.71	950.23	4928.11	Baltimore, MD
4	652765	2003.32	27.73	90.38	529.59	1355.62	6297.83	Memphis, TN
5	484948	1724.31	30.93	91.76	383.13	1218.48	4543.79	Kansas City, MO
6	595168	1597.36	19.83	72.92	490.45	1014.17	3792.04	Milwaukee, WI
7	385351	1556.76	27.77	128.97	699.88	700.14	4916.04	Cleveland, OH
8	309566	1414.56	17.77	49.75	390.22	956.82	3627.34	Stockton, CA
9	561375	1369.14	12.47	84.26	521.93	750.48	7365.84	Albuquerque, NM
10	870788	1333.96	17.91	76.71	400.21	839.13	4411.87	Indianapolis, IN
11	424915	1299.32	16.24	94.14	629.77	559.17	5982.84	Oakland, CA
12	217259	1291.09	15.65	72.72	403.67	799.05	3867.73	San Bernardino, CA
13	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
14	674942	1138.17	16.30	72.90	303.14	745.84	3817.96	Nashville, TN
15	397447	1121.41	39.50	144.67	329.10	608.13	4243.84	New Orleans, LA
16	418971	1101.27	10.02	122.68	434.16	534.40	4641.37	Minneapolis, MN
17	2706171	1098.86	24.13	65.11	439.26	570.36	3263.80	Chicago, IL
18	2338235	1095.23	11.50	58.42	417.96	607.34	4128.41	Houston, TX
19	404868	1040.83	17.29	104.48	238.10	680.96	5455.61	Tulsa, OK
20	277116	1028.65	12.63	72.73	281.47	661.82	4003.74	Toledo, OH
21	227403	1026.81	38.26	43.97	381.70	562.88	5594.03	Baton Rouge, LA
22	391084	1022.29	8.95	97.68	153.16	762.50	5535.64	Wichita, KS
23	256169	1019.25	15.61	55.43	334.54	613.66	3836.14	Buffalo, NY
24	242537	1014.69	9.07	47.83	232.95	724.84	2386.03	North Las Vegas, NV
25	693972	948.74	16.72	63.84	338.77	529.42	4156.22	Washington, DC

								DC
26	1575595	947.58	20.06	75.02	382.46	470.04	3063.48	Philadelphia, PA
27	299116	947.12	23.40	97.62	399.84	426.26	5049.88	Cincinnati, OH
28	481343	935.72	16.41	58.59	293.55	567.16	4776.43	Atlanta, GA
29	283673	896.45	27.14	40.89	377.19	451.22	2395.01	Newark, NJ
30	269088	843.64	8.55	51.33	316.63	467.13	3826.26	Durham, NC
31	532323	801.77	8.64	93.55	268.82	430.75	5251.70	Tucson, AZ
32	648260	787.34	12.49	73.12	172.77	528.95	3752.51	Oklahoma City, OK
33	290051	778.21	15.86	52.81	228.93	480.61	3562.13	Greensboro, NC
34	1338551	774.64	12.48	62.08	327.00	373.09	3185.09	Dallas, TX
35	4007147	761.31	7.01	61.27	269.87	423.17	2535.92	Los Angeles, CA
36	1644177	760.93	9.55	69.46	200.28	481.64	3670.71	Phoenix, AZ
37	283982	744.06	8.10	64.44	213.04	458.48	5454.57	Orlando, FL
38	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
39	463009	720.94	11.23	22.68	211.23	475.80	4014.18	Miami, FL
40	881255	715.00	6.35	41.65	365.39	301.62	6168.02	San Francisco, CA
41	914609	711.09	9.40	47.64	220.53	433.52	3815.18	Charlotte, NC
42	1520712	707.50	8.15	83.51	151.11	464.72	4844.84	San Antonio, TX
43	329256	702.49	6.38	70.46	142.75	482.91	3565.31	Corpus Christi, TX
44	263712	698.49	7.58	51.57	189.22	450.11	4312.66	St. Petersburg, FL
45	706616	675.61	8.35	98.92	174.35	393.99	3667.06	Denver, CO
46	499997	675.60	7.80	19.80	220.00	428.00	2936.62	Sacramento, CA
47	248531	673.56	7.64	57.14	153.70	455.07	3085.73	Reno, NV
48	217277	670.11	12.89	33.60	167.53	456.10	4413.26	Des Moines, IA
49	682903	669.20	8.35	42.47	205.59	412.80	2089.02	Boston, MA
50	471397	657.83	4.67	43.06	262.41	347.69	2672.48	Long Beach, CA

In [26]:

```
df8.tail(50)
```

Out[26]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
51	305932	656.36	17.98	29.42	262.15	346.81	3114.42	Pittsburgh, PA
52	306696	650.81	7.17	70.75	227.26	345.62	3565.42	St. Paul, MN
53	449388	647.32	6.90	91.24	139.08	410.11	3880.17	Omaha, NE
54	684362	647.03	15.93	25.57	193.76	411.77	4122.23	Louisville, KY
55	721365	632.69	3.74	36.87	210.02	382.05	5258.64	Seattle, WA
56	894638	631.32	12.18	60.14	153.81	405.19	3526.68	Jacksonville, FL
57	217066	626.54	2.76	109.64	105.50	408.63	7231.44	Spokane, WA
58	1627244	618.90	12.60	79.64	211.15	315.50	2943.38	Las Vegas, NV
59	368018	608.39	8.15	86.68	184.50	329.06	3003.66	Aurora, CO
60	526371	565.00	10.64	33.06	182.00	339.30	3841.40	Fresno, CA
61	873069	560.21	8.02	65.17	147.30	339.72	3215.32	Fort Worth, TX
62	245190	555.90	14.68	55.06	151.31	334.84	3748.93	Norfolk, VA
63	8616333	538.90	3.39	27.56	162.42	345.52	1448.59	NY, NY
64	472958	524.15	6.13	103.39	101.91	312.71	3216.78	Colorado Springs, CO
65	397377	516.89	4.78	63.92	144.95	303.24	3197.72	Arlington, TX
66	649408	515.70	3.70	67.45	160.92	283.64	5677.02	Portland, OR
67	872205	513.41	16.28	105.37	225.06	166.70	3944.94	Columbus, OH
68	267906	509.51	7.84	45.91	199.32	256.43	1806.98	Jersey City, NJ
69	328023	508.81	3.66	50.61	165.84	288.70	3058.32	Riverside, CA
70	335699	488.53	6.26	56.00	180.22	246.05	2090.27	Santa Ana, CA
71	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ
72	381154	479.33	10.76	24.14	197.56	246.88	4068.43	Bakersfield, CA
73	384360	464.41	10.15	31.48	105.63	317.15	1743.68	Tampa, FL
74	242941	462.66	14.41	41.16	156.83	250.27	3431.29	Savannah, GA
75	240119	418.96	4.58	36.23	82.46	295.69	2272.21	Chesapeake, VA

76	492268	415.83	4.67	51.19	92.23	267.74	2171.99	Mesa, AZ
77	971949	414.84	2.57	85.81	101.55	224.91	3189.57	Austin, TX
78	1037529	403.65	3.08	55.03	132.62	212.91	2440.70	San Jose, CA
79	688667	378.85	2.76	53.87	58.08	264.13	1818.88	El Paso, TX
80	255850	374.44	4.30	37.13	82.86	250.15	2662.11	Madison, WI
81	1424116	366.61	2.46	39.25	99.01	225.89	1842.97	San Diego, CA
82	266259	357.55	13.90	51.08	112.30	180.28	3179.61	Fort Wayne, IN
83	353400	354.56	2.83	32.54	135.82	183.36	2630.45	Anaheim, CA
84	322332	350.88	9.00	62.05	169.70	110.13	3782.13	Lexington, KY
85	260669	321.86	3.84	43.73	59.08	215.22	2483.61	Laredo, TX
86	236243	316.62	3.39	54.60	135.03	123.60	3032.47	Garland, TX
87	271109	298.04	0.74	22.87	112.13	162.30	1432.27	Chula Vista, CA
88	225677	279.16	0.89	63.81	22.60	191.87	2444.64	Boise, ID
89	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
90	990384	246.37	3.23	28.78	91.68	122.68	2774.38	Honolulu, HI
91	242062	226.80	3.30	22.31	94.19	107.00	2539.43	Irving, TX
92	238260	198.52	2.52	13.85	64.64	117.52	2213.55	Hialeah, FL
93	299285	185.11	3.34	28.74	80.19	72.84	1833.04	Henderson, NV
94	236368	182.34	0.85	28.77	79.11	73.61	2150.46	Fremont, CA
95	216350	162.70	1.85	18.49	56.39	85.97	1424.08	Santa Clarita, CA
96	251840	157.24	1.99	40.90	39.71	74.65	2172.01	Scottsdale, AZ
97	290413	149.79	5.17	27.89	40.98	75.75	1733.74	Plano, TX
98	454353	137.56	3.08	22.45	59.87	52.16	1934.62	Virginia Beach, VA
99	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
100	276115	61.21	0.72	16.66	19.92	23.90	1316.48	Irvine, CA

The Maximum Number of Violent Crimes per 100,000 Population

In [51]:

```
df8['Violent Crime Total'].max()
```

Out[51]:

2082.29

The Minimum Number of Violent Crimes per 100,000 Population

In [52]:

```
df8['Violent Crime Total'].min()
```

Out[52]:

61.21

The Mean for Violent Crimes per 100,000 Population

In [55]:

```
df8["Violent Crime Total"].mean()
```

Out[55]:

731.2718

The Maximum Number of Murders per 100,000 Population

In [49]:

```
df8['Murder'].max()
```

Out[49]:

66.07

The Minimum Number of Murders per 100,000 Population

In [50]:

```
df8['Murder'].min()
```

Out[50]:

0.72

The Mean for Murder per 100,000 Population

In [54]:

```
df8["Murder"].mean()
```

Out[54]:

11.677099999999996

In [31]:

```
#Create Dataframe with sort based on murder and reset index at 1
df9=df3.sort_values(by=["Murder"],ascending=False)
df9 = df9.reset_index(drop=True)
df9.index = df9.index + 1
df9.head(50)
```

Out[31]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
1	310284	2082.29	66.07	93.14	626.52	1296.55	6041.24	St. Louis, MO
2	613217	2027.01	55.77	62.29	958.71	950.23	4928.11	Baltimore, MD
3	670792	2056.67	39.80	103.91	393.42	1519.55	4540.60	Detroit, MI
4	397447	1121.41	39.50	144.67	329.10	608.13	4243.84	New Orleans, LA
5	227403	1026.81	38.26	43.97	381.70	562.88	5594.03	Baton Rouge, LA
6	484948	1724.31	30.93	91.76	383.13	1218.48	4543.79	Kansas City, MO
7	385351	1556.76	27.77	128.97	699.88	700.14	4916.04	Cleveland, OH
8	652765	2003.32	27.73	90.38	529.59	1355.62	6297.83	Memphis, TN
9	283673	896.45	27.14	40.89	377.19	451.22	2395.01	Newark, NJ
10	2706171	1098.86	24.13	65.11	439.26	570.36	3263.80	Chicago, IL
11	299116	947.12	23.40	97.62	399.84	426.26	5049.88	Cincinnati, OH
12	248431	740.25	20.13	57.16	177.11	485.85	5453.83	Mobile, AL
13	1575595	947.58	20.06	75.02	382.46	470.04	3063.48	Philadelphia, PA
14	595168	1597.36	19.83	72.92	490.45	1014.17	3792.04	Milwaukee, WI
15	305932	656.36	17.98	29.42	262.15	346.81	3114.42	Pittsburgh, PA
16	870788	1333.96	17.91	76.71	400.21	839.13	4411.87	Indianapolis, IN
17	309566	1414.56	17.77	49.75	390.22	956.82	3627.34	Stockton, CA

18	404868	1040.83	17.29	104.48	238.10	680.96	5455.61	Tulsa, OK
19	693972	948.74	16.72	63.84	338.77	529.42	4156.22	Washington, DC
20	481343	935.72	16.41	58.59	293.55	567.16	4776.43	Atlanta, GA
21	674942	1138.17	16.30	72.90	303.14	745.84	3817.96	Nashville, TN
22	872205	513.41	16.28	105.37	225.06	166.70	3944.94	Columbus, OH
23	424915	1299.32	16.24	94.14	629.77	559.17	5982.84	Oakland, CA
24	684362	647.03	15.93	25.57	193.76	411.77	4122.23	Louisville, KY
25	290051	778.21	15.86	52.81	228.93	480.61	3562.13	Greensboro, NC
26	217259	1291.09	15.65	72.72	403.67	799.05	3867.73	San Bernardino, CA
27	256169	1019.25	15.61	55.43	334.54	613.66	3836.14	Buffalo, NY
28	245190	555.90	14.68	55.06	151.31	334.84	3748.93	Norfolk, VA
29	242941	462.66	14.41	41.16	156.83	250.27	3431.29	Savannah, GA
30	266259	357.55	13.90	51.08	112.30	180.28	3179.61	Fort Wayne, IN
31	217277	670.11	12.89	33.60	167.53	456.10	4413.26	Des Moines, IA
32	277116	1028.65	12.63	72.73	281.47	661.82	4003.74	Toledo, OH
33	1627244	618.90	12.60	79.64	211.15	315.50	2943.38	Las Vegas, NV
34	648260	787.34	12.49	73.12	172.77	528.95	3752.51	Oklahoma City, OK
35	1338551	774.64	12.48	62.08	327.00	373.09	3185.09	Dallas, TX
36	561375	1369.14	12.47	84.26	521.93	750.48	7365.84	Albuquerque, NM
37	894638	631.32	12.18	60.14	153.81	405.19	3526.68	Jacksonville, FL
38	2338235	1095.23	11.50	58.42	417.96	607.34	4128.41	Houston, TX
39	463009	720.94	11.23	22.68	211.23	475.80	4014.18	Miami, FL
40	381154	479.33	10.76	24.14	197.56	246.88	4068.43	Bakersfield, CA
41	526371	565.00	10.64	33.06	182.00	339.30	3841.40	Fresno, CA
42	384360	464.41	10.15	31.48	105.63	317.15	1743.68	Tampa, FL
43	418971	1101.27	10.02	122.68	434.16	534.40	4641.37	Minneapolis, MN
44	1644177	760.93	9.55	69.46	200.28	481.64	3670.71	Phoenix, AZ
45	914609	711.09	9.40	47.64	220.53	433.52	3815.18	Charlotte, NC

46	296188	1203.29	9.12	132.01	262.67	799.49	5415.82	Anchorage, AK
47	242537	1014.69	9.07	47.83	232.95	724.84	2386.03	North Las Vegas, NV
48	322332	350.88	9.00	62.05	169.70	110.13	3782.13	Lexington, KY
49	391084	1022.29	8.95	97.68	153.16	762.50	5535.64	Wichita, KS
50	532323	801.77	8.64	93.55	268.82	430.75	5251.70	Tucson, AZ

In [32]:

```
df9.tail(50)
```

Out[32]:

	Population	Violent Crime Total	Murder	Rape	Robbery	Assault	Property crime	Location
51	269088	843.64	8.55	51.33	316.63	467.13	3826.26	Durham, NC
52	706616	675.61	8.35	98.92	174.35	393.99	3667.06	Denver, CO
53	682903	669.20	8.35	42.47	205.59	412.80	2089.02	Boston, MA
54	368018	608.39	8.15	86.68	184.50	329.06	3003.66	Aurora, CO
55	1520712	707.50	8.15	83.51	151.11	464.72	4844.84	San Antonio, TX
56	283982	744.06	8.10	64.44	213.04	458.48	5454.57	Orlando, FL
57	873069	560.21	8.02	65.17	147.30	339.72	3215.32	Fort Worth, TX
58	267906	509.51	7.84	45.91	199.32	256.43	1806.98	Jersey City, NJ
59	499997	675.60	7.80	19.80	220.00	428.00	2936.62	Sacramento, CA
60	248531	673.56	7.64	57.14	153.70	455.07	3085.73	Reno, NV
61	263712	698.49	7.58	51.57	189.22	450.11	4312.66	St. Petersburg, FL
62	306696	650.81	7.17	70.75	227.26	345.62	3565.42	St. Paul, MN
63	4007147	761.31	7.01	61.27	269.87	423.17	2535.92	Los Angeles, CA
64	449388	647.32	6.90	91.24	139.08	410.11	3880.17	Omaha, NE
65	329256	702.49	6.38	70.46	142.75	482.91	3565.31	Corpus Christi, TX
66	881255	715.00	6.35	41.65	365.39	301.62	6168.02	San Francisco, CA
67	335699	488.53	6.26	56.00	180.22	246.05	2090.27	Santa Ana, CA

68	472958	524.15	6.13	103.39	101.91	312.71	3216.78	Colorado Springs, CO
69	290413	149.79	5.17	27.89	40.98	75.75	1733.74	Plano, TX
70	249273	488.22	4.81	38.91	192.96	251.53	4530.37	Glendale, AZ
71	397377	516.89	4.78	63.92	144.95	303.24	3197.72	Arlington, TX
72	492268	415.83	4.67	51.19	92.23	267.74	2171.99	Mesa, AZ
73	471397	657.83	4.67	43.06	262.41	347.69	2672.48	Long Beach, CA
74	240119	418.96	4.58	36.23	82.46	295.69	2272.21	Chesapeake, VA
75	255850	374.44	4.30	37.13	82.86	250.15	2662.11	Madison, WI
76	260669	321.86	3.84	43.73	59.08	215.22	2483.61	Laredo, TX
77	721365	632.69	3.74	36.87	210.02	382.05	5258.64	Seattle, WA
78	649408	515.70	3.70	67.45	160.92	283.64	5677.02	Portland, OR
79	328023	508.81	3.66	50.61	165.84	288.70	3058.32	Riverside, CA
80	236243	316.62	3.39	54.60	135.03	123.60	3032.47	Garland, TX
81	8616333	538.90	3.39	27.56	162.42	345.52	1448.59	NY, NY
82	299285	185.11	3.34	28.74	80.19	72.84	1833.04	Henderson, NV
83	242062	226.80	3.30	22.31	94.19	107.00	2539.43	Irving, TX
84	990384	246.37	3.23	28.78	91.68	122.68	2774.38	Honolulu, HI
85	454353	137.56	3.08	22.45	59.87	52.16	1934.62	Virginia Beach, VA
86	1037529	403.65	3.08	55.03	132.62	212.91	2440.70	San Jose, CA
87	353400	354.56	2.83	32.54	135.82	183.36	2630.45	Anaheim, CA
88	217066	626.54	2.76	109.64	105.50	408.63	7231.44	Spokane, WA
89	688667	378.85	2.76	53.87	58.08	264.13	1818.88	El Paso, TX
90	971949	414.84	2.57	85.81	101.55	224.91	3189.57	Austin, TX
91	238260	198.52	2.52	13.85	64.64	117.52	2213.55	Hialeah, FL
92	1424116	366.61	2.46	39.25	99.01	225.89	1842.97	San Diego, CA
93	242090	85.51	2.07	16.11	21.07	46.26	1385.85	Gilbert, AZ
94	249355	259.47	2.01	52.13	56.95	148.38	2329.61	Chandler, AZ
95	251840	157.24	1.99	40.90	39.71	74.65	2172.01	Scottsdale, AZ
96	216350	162.70	1.85	18.49	56.39	85.97	1424.08	Santa Clarita, CA
97	225677	279.16	0.89	63.81	22.60	191.87	2444.64	Boise, ID

98	236368	182.34	0.85	28.77	79.11	73.61	2150.46	Fremont, CA
99	271109	298.04	0.74	22.87	112.13	162.30	1432.27	Chula Vista, CA
100	276115	61.21	0.72	16.66	19.92	23.90	1316.48	Irvine, CA

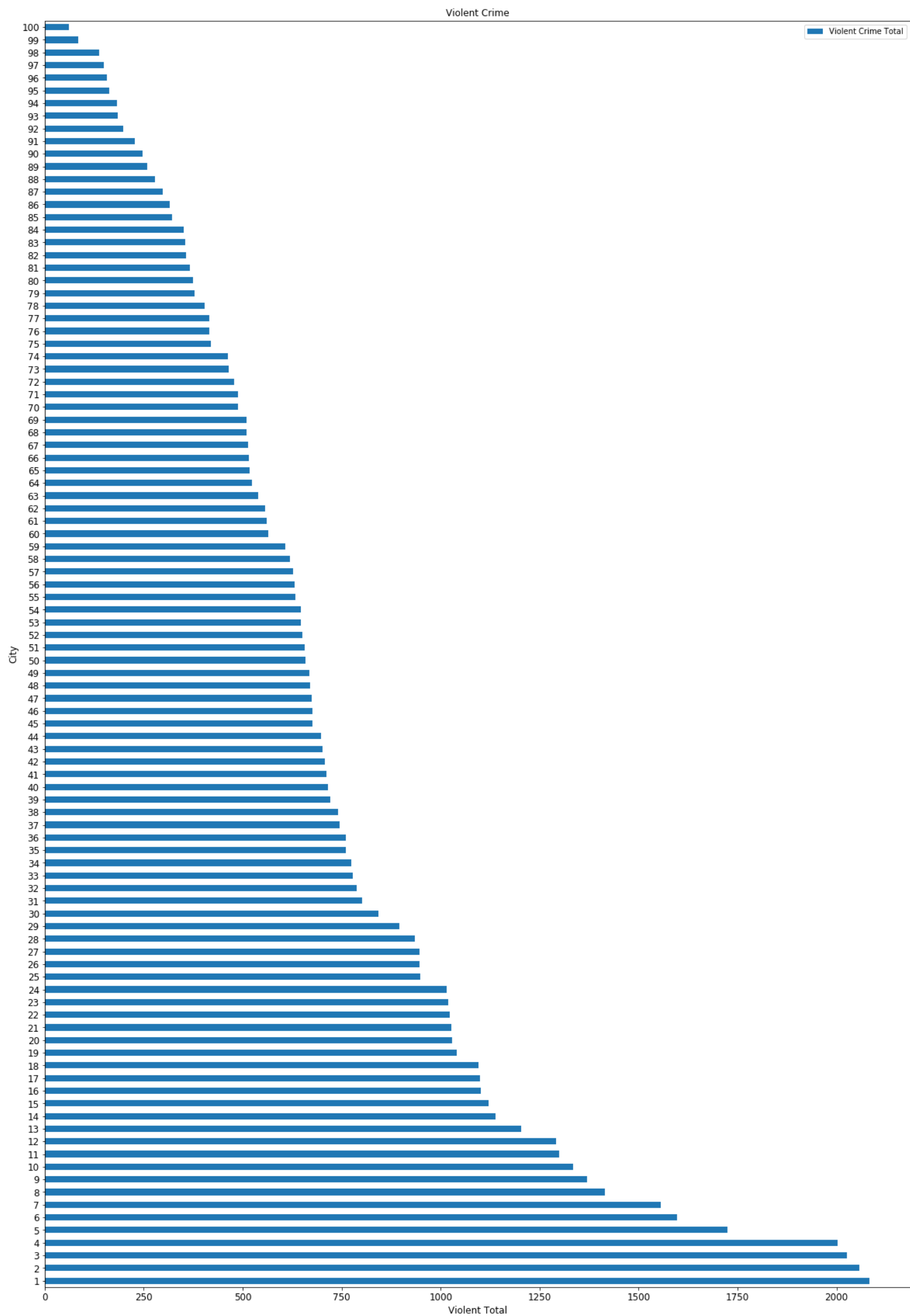
In [59]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

Graph 1: 100 Cities in the United States for Violent Crime Based on Rank

In [67]:

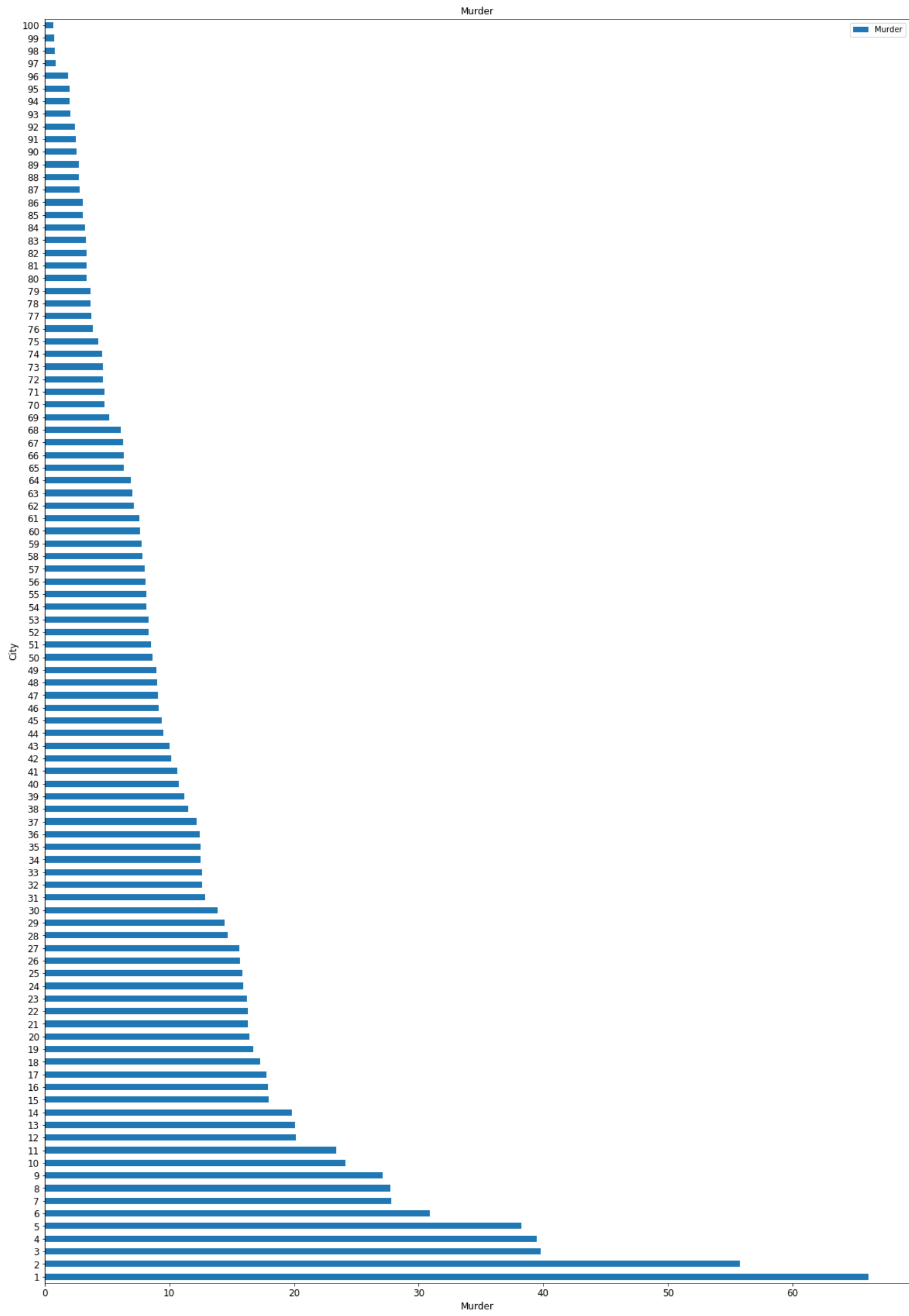
```
ax = df8[['Location', 'Violent Crime Total']].plot(kind='barh', title="Violent Crime",
figsize=(20, 30), legend=True, fontsize=12)
ax.set_xlabel("Violent Total", fontsize=12)
ax.set_ylabel("City", fontsize=12)
plt.show()
```

Graph 2: 100 Cities in the United States for Murder Based on Rank

In [68]:

```
ax = df9[['Location', 'Murder']].plot(kind='barh', title="Murder", figsize=(20, 30), legend=True, fontsize=12)
ax.set_xlabel("Murder", fontsize=12)
ax.set_ylabel("City", fontsize=12)
plt.show()
```

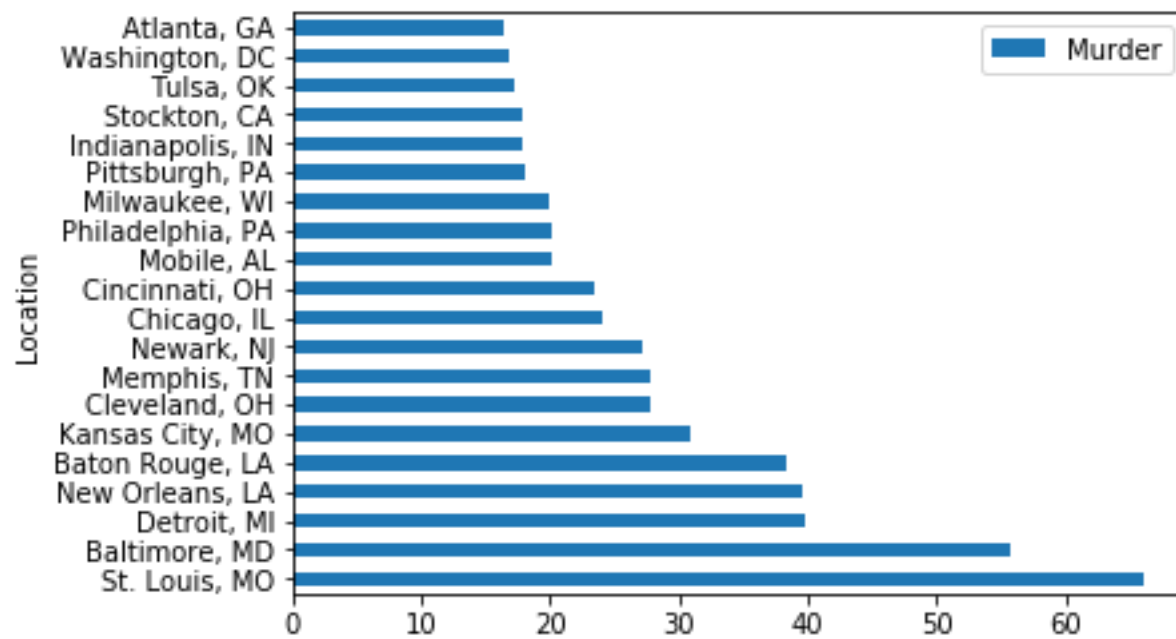


Graph 3: Top 20 Cities for Murder in the United States

In [69]:

```
#Barh of top 20 cities based on Murder Column
```

```
ax = df9.head(20).plot.barh(x='Location', y='Murder')  
plt.show()
```

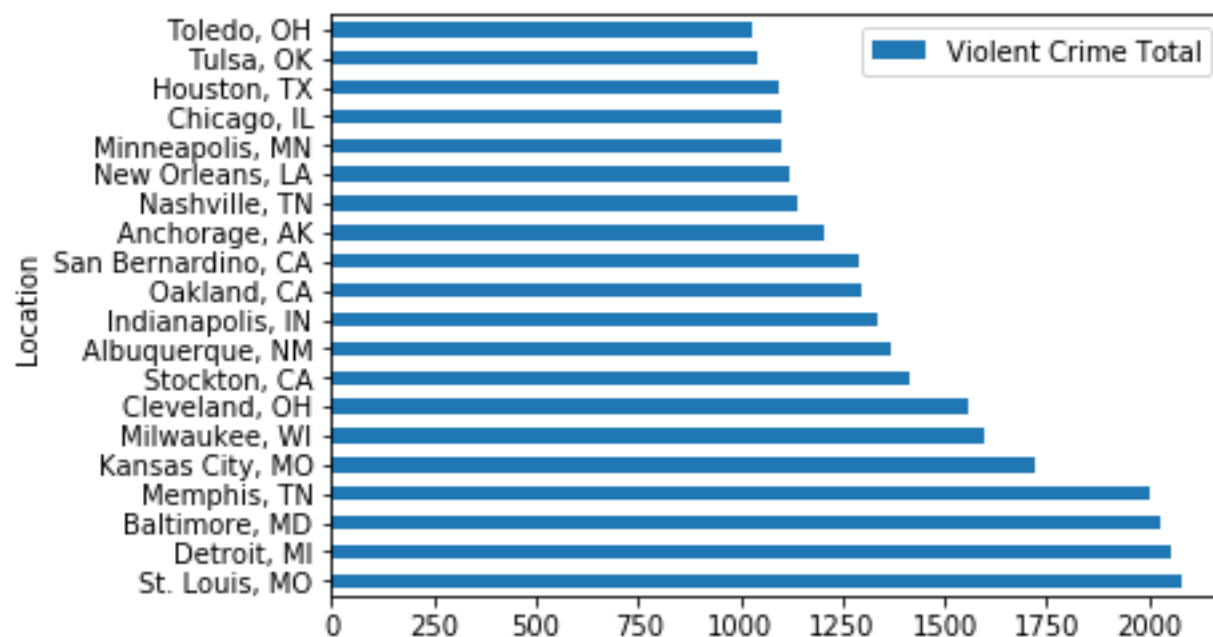


Graph 4: Top 20 Cities for Violent Crime in the United States

In [70]:

```
#Top 20 Cities Based on Violent Crime Total
```

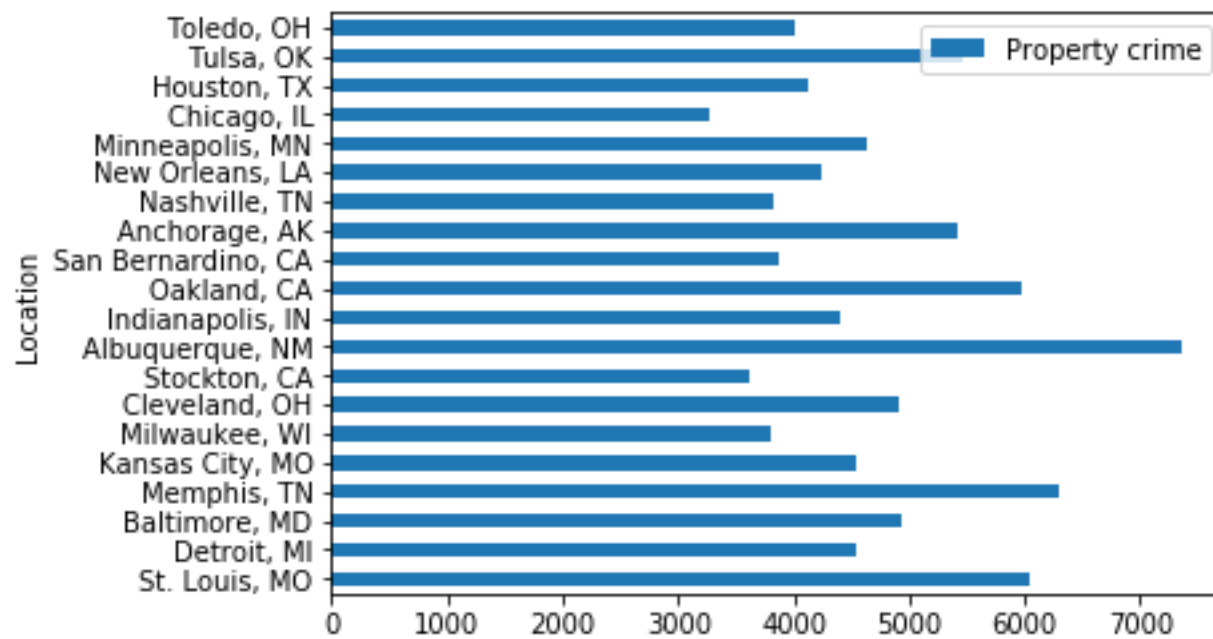
```
ax = df8.head(20).plot.barh(x='Location', y='Violent Crime Total')  
plt.show()
```



Graph 5: Property Crime in the Top 20 Cities for Violent Crime in the United States

In [71]:

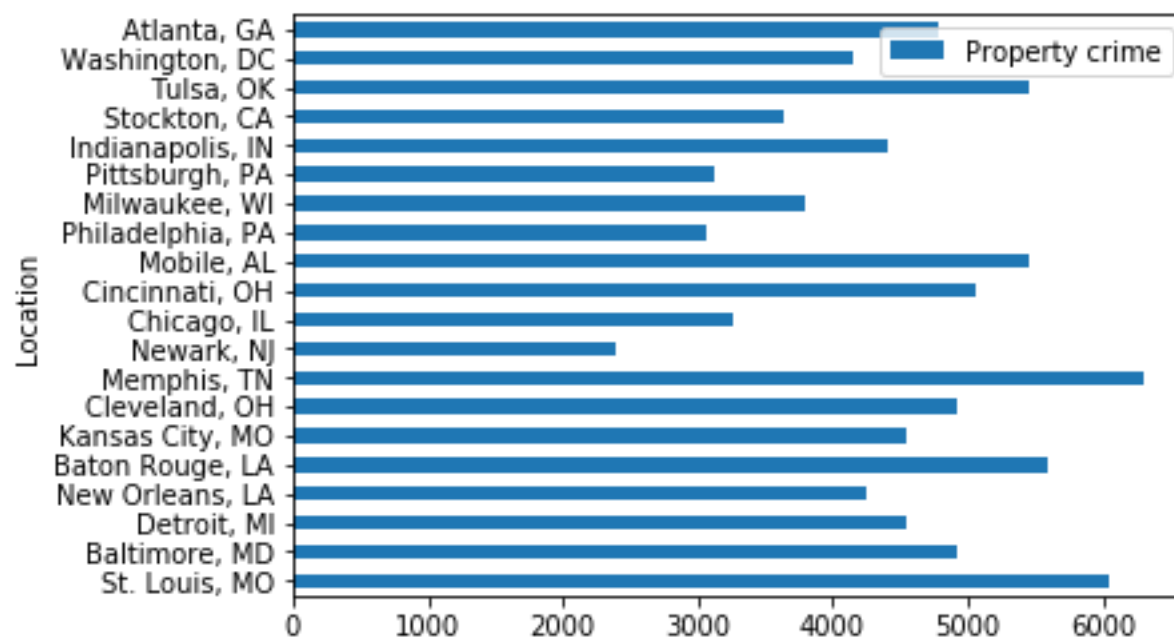
```
#Property Crime in Top 20 Cities based on Violent Crime Totals  
ax = df8.head(20).plot.barh(x='Location', y='Property crime')  
plt.show()
```



Graph 6: Property Crime in the Top Twenty Cities for Murder in the United States

In [72]:

```
#Property Crime in Top Twenty Cities based on Murder  
ax = df9.head(20).plot.barh(x='Location', y='Property crime')  
plt.show()
```

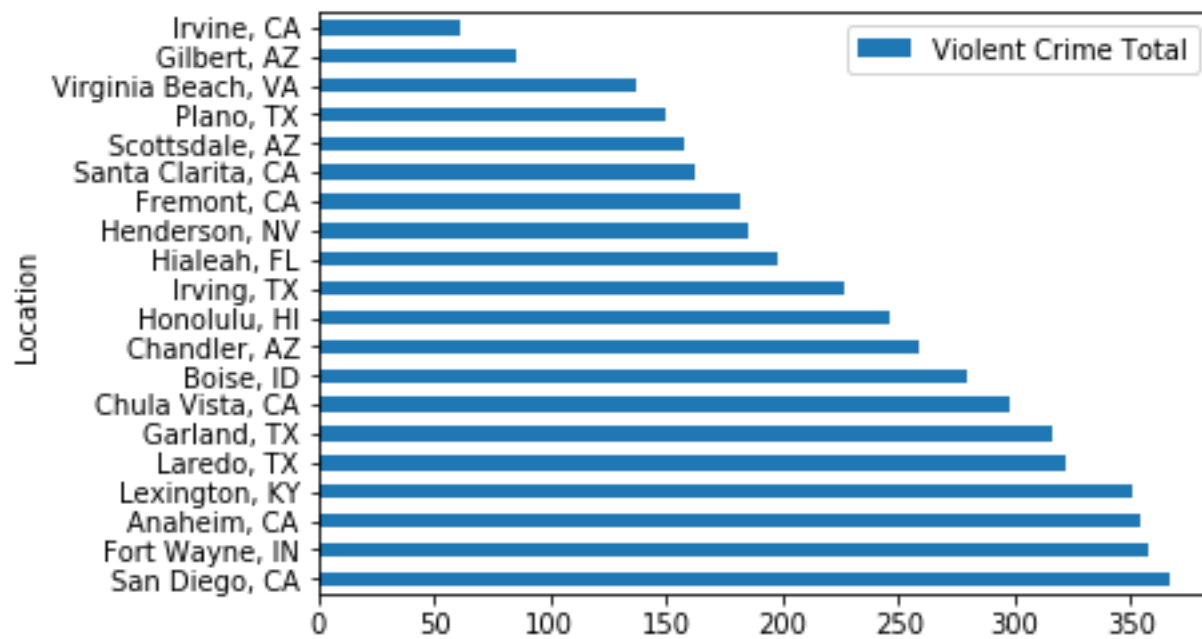


Graph 7: Lowest Twenty Cities for Violent Crime in the United States

In [73]:

```
#Bottom Twenty Cities Based on Violent Crime Total
```

```
ax = df8.tail(20).plot.barh(x='Location', y='Violent Crime Total')  
plt.show()
```

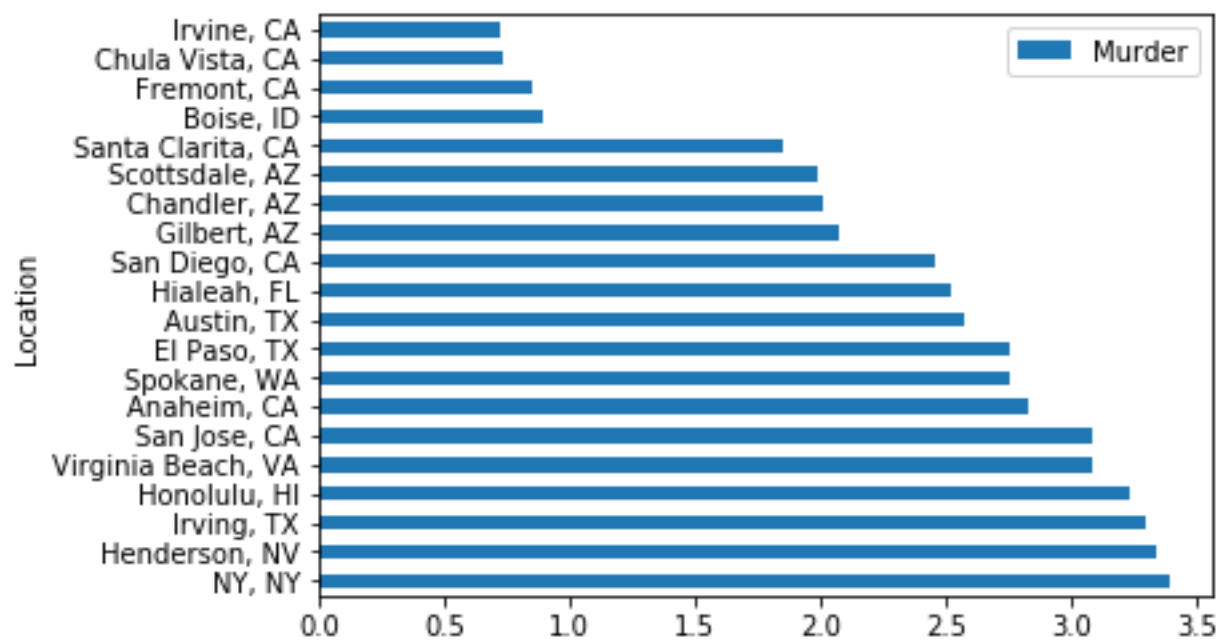


Graph 8: Lowest Twenty Cities for Murder in the United States

In [74]:

```
#Bottom Twenty Cities Based on Murder
```

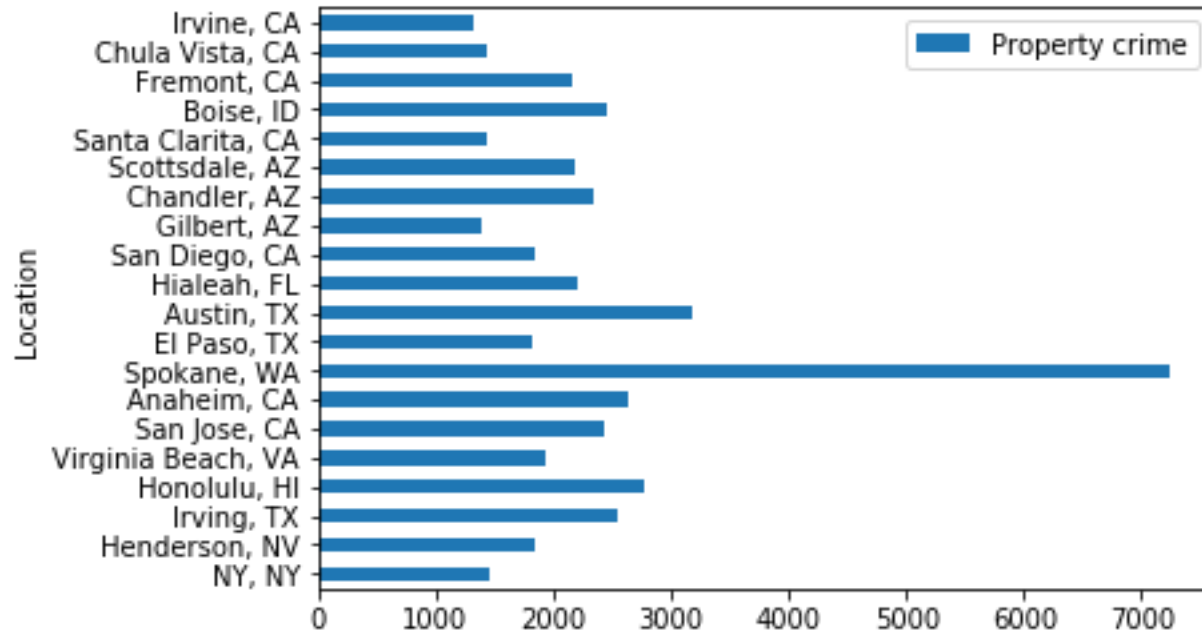
```
ax = df9.tail(20).plot.barh(x='Location', y='Murder')  
plt.show()
```



Graph 9: Property Crime in the Lowest 20 Cities for Murder in the United States

In [76]:

```
#Property Crime in the bottom twenty cities for Murder  
ax = df9.tail(20).plot.barh(x='Location', y='Property crime')  
plt.show()
```



DATA ANALYSIS

Maximum, minimums, and mean were calculated for the columns Violent Crime Total and Murder. For the total Violent Crimes, the maximum was 2082.29/100,000, the minimum was 61.21/100,000 and the mean was 731.27/100,000. For Murder the maximum was 66.07/100,000, the minimum was 0.72/100,000, and the mean was 11.68/100,000.

Comprehensive data is presented in df8 (Graph 1) and df9 (Graph 2) in descending order indexed from 1 for Total Violent Crime and Murder, respectively. The data for these are presented in two horizontal bar graphs. These two bar graphs are dramatic visuals of the range of both Total Violent Crime and Murder over the 100 most populous cities in the United States.

The top twenty cities in the United States for Murder and Total Violent Crime are presented in Graphs 3 and 4. St. Louis, Baltimore, and Detroit take the top three spots for murder in the United States. For Total Violent Crime, it is unfortunately still the same three just switching Detroit for Baltimore in spots 2 and 3.

Graph 5 shows the Total Property Crimes in the top twenty cities for Violent Crime while Graph 6 shows the Total Property Crimes in the top twenty cities for Murder. These graphs confirm that there is a high level of crime in all of these communities.

The twenty United State cities with the lowest Total Violent Crime are shown in Graph 7. Graph 8 shows the twenty United State cities with the lowest murder rate. The safest city for both murder and total violent crime is Irving, CA. Three of the four safest cities for murder and total violent crime are located in California. There is a seven-fold difference in the total violent crime rate from the Number 1 city to Number 20. Interestingly, there is only a 3.5 fold difference from Number 1 to Number 20 in the murder rate.

The final graph, Number 9, represents the Property Crime in the twenty safest cities regarding murder. All of the cities are tightly grouped from approximately 1500 to 3000 property crimes but Spokane, WA is dramatically different at just over 7000 property crimes.

CONCLUSION

This study presents the information for Violent Crime and its subgroups and Total Property Crime for the one hundred most populous cities in the United States. These rates were obtained from an FBI database published in Wikipedia. There was only a small amount of missing data that was corrected via averages. This can enter some error in the calculations. Also with data that has been translated from an original source to a secondary source, some errors in translation can occur. In the end, business developers can utilize this data along with all of their other criteria to make the decision of where the business can be located.

In []: