

Austin Crime Reports 2022



Iliana McArdle
Erin Gorishek
Lillian Ibarra

The Data for Austin Crime Reports in 2022

For this project we are looking at the crime reports for 2022 in Austin, Texas. For the scope of this analysis we had to scale down the data set to only look at specific columns. You can find the full data set in the link below and our scaled down data set in the resource file in the Github link below.

The topics we are focusing in on are:

1. Seeing if there is a trend of when crimes are being reported during the day, and then throughout the year.
2. Looking at the time frame of how long it takes Austin PD to close a case (from when the report was created to when the report is closed), and the types of crimes that are associated.
3. Locating where these crimes are located, and what APD district is assigned to that area.

[Crime Reports 2022 | Open Data | City of Austin Texas](#)

[Project 1-Github](#)

Cleaning the Data

We started off with a large data set. We had to clean up this data so we could effectively graph and draw an analysis. Having such a large data set was our main limitation with this project.

Bellow are the columns we are using for this analysis, out of 33 different columns.

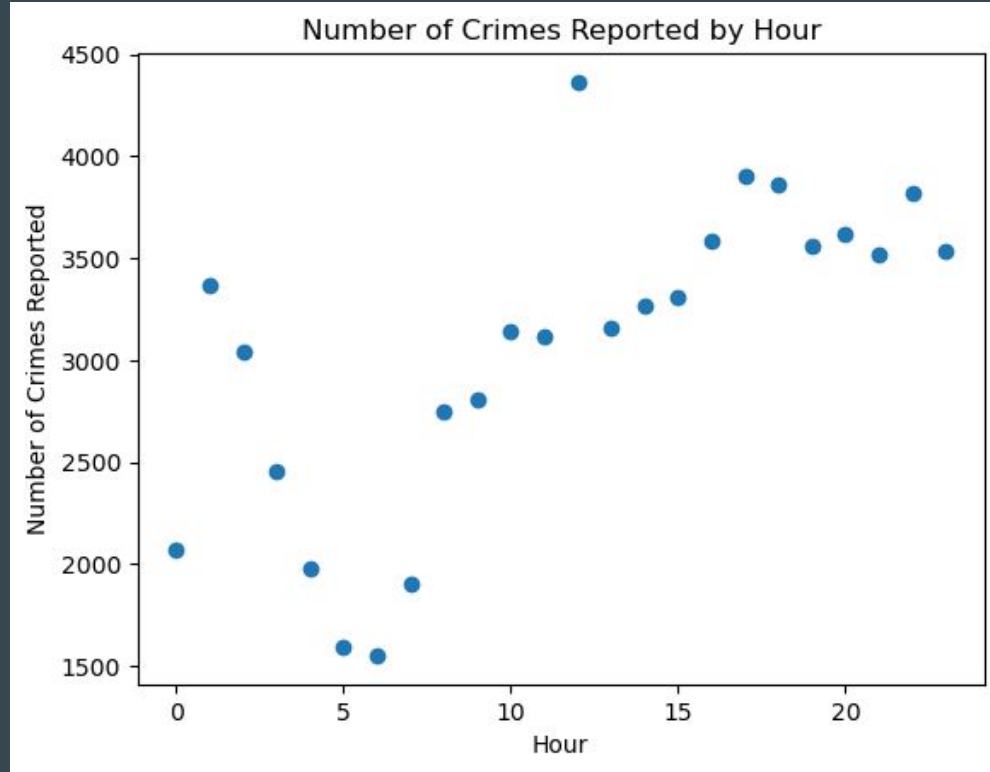
	Incident Number	Highest Offense Description	Occurred Date	Occurred Time	Address	Zip Code	APD District	Clearance Date
0	202221104	DEPENDENT AND NEGLECTED CHILD	01/02/2022	1956	00 BLOCK IH 35 SVRD NB / E BRAKER LN	78753.0	7	01/03/2022
1	202221365	FAMILY DISTURBANCE	01/02/2022	2228	10500 S IH 35 SVRD SB	78748.0	2	01/03/2023
2	20228000169	BURGLARY OF VEH-NO SUSPECT/FU	12/26/2021	100	7312 VIA CORRETO DR	78749.0	6	01/11/2022
3	202221283	THEFT CATALYTIC CONVERTER	12/29/2021	537	3600 PRESIDENTIAL BLVD	78719.0	5	03/28/2022
4	20225000099	BURGLARY OF VEHICLE	12/25/2021	545	11608 SPICEWOOD PKWY	78750.0	8	01/03/2022

The other 25 columns were variations of this data, for example the latitude/longitude of the address of the crime. By making this file smaller we were able to effectively code and create graphs that were readable and easier to understand.

Identify the peak times of when crimes are reported throughout the day.

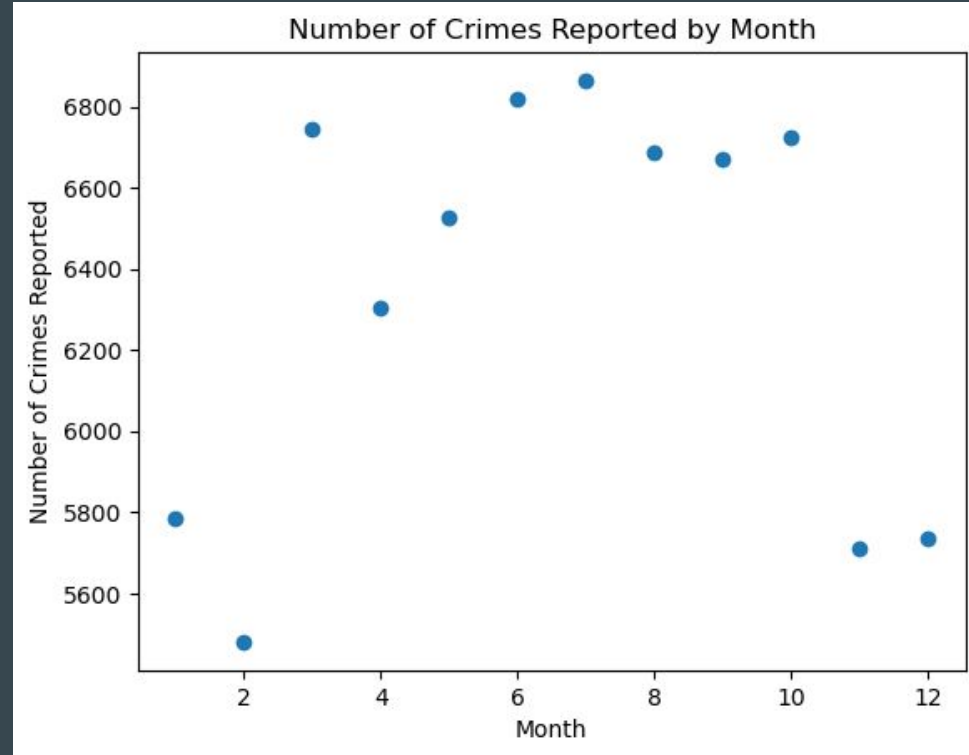
We can see a trend of when crime reports are being made. The number of reports peaks early in the day, 1:00-3:00 am and then again late in the afternoon, 5:00-6:00 pm.

Which if we think about human patterns. It makes sense that crimes are happening in the middle of the night. Then maybe happening in the middle of the day, but being reported once people get off of work. When they come home to realize a crime has been reported.



Identify the peak times of when crimes are officially reported throughout the year.

It is a common assumption that crime peaks during the holiday season. Based off of this data we can conclude, that the exact opposite happens. We can see that crime actually peaks in the middle of the year.



How many days (on average) did it take for each type of crime to be cleared?

```
from datetime import datetime
```

Incident Number	Highest Offense Description	Occurred Date	Occurred Time	Address	Zip Code	APD District	Clearance Date
202221104	DEPENDENT AND NEGLECTED CHILD	2022-01-02	1956	00 BLOCK IH 35 SVRD NB / E BRAKER LN	78753.0	7	2022-01-03
202221365	FAMILY DISTURBANCE	2022-01-02	2228	10500 S IH 35 SVRD SB	78748.0	2	2023-01-03
20228000169	BURGLARY OF VEH- NO SUSPECT/FU	2021-12-26	100	7312 VIA CORRETO DR	78749.0	6	2022-01-11

- # of days to clear crime = Clearance Date - Occurred Date
- Grouped by highest offense description then calculated mean number of days per offense

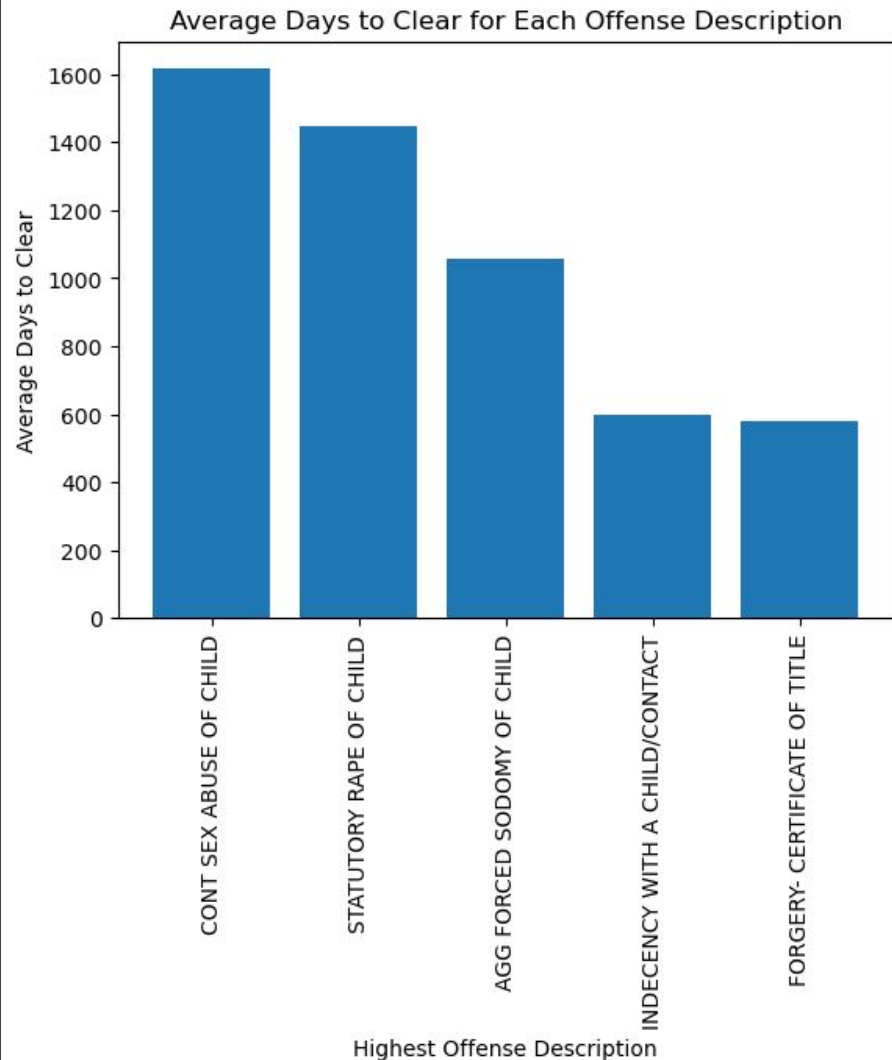
Max: 1615.66 days

Min: 0 days

Top 5 Longest Clearance Times

Max - 1615.66 days

Crimes that take a longer time to resolve often involve complex investigations, extensive evidence collection, or multiple parties involved, leading to longer resolution processes.

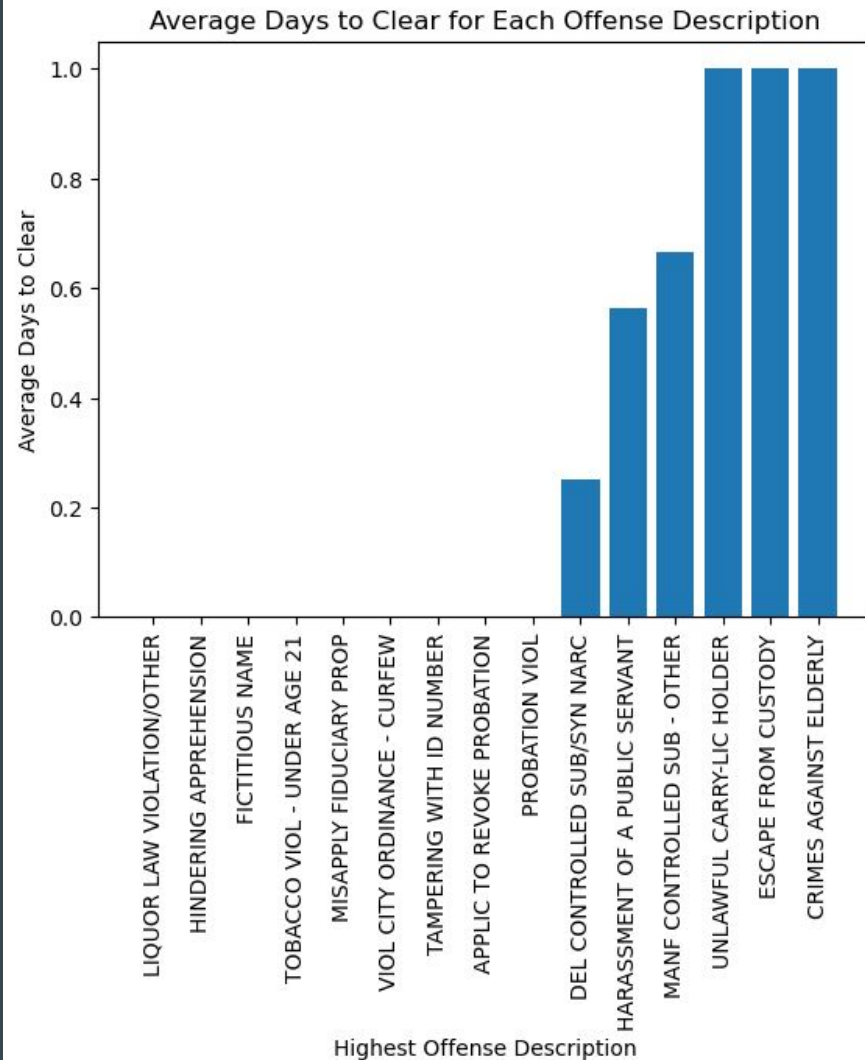


Top 15 Shortest Clearance Times

Min - 0 Days

Min (excluding bottom 9) - 0.25 days

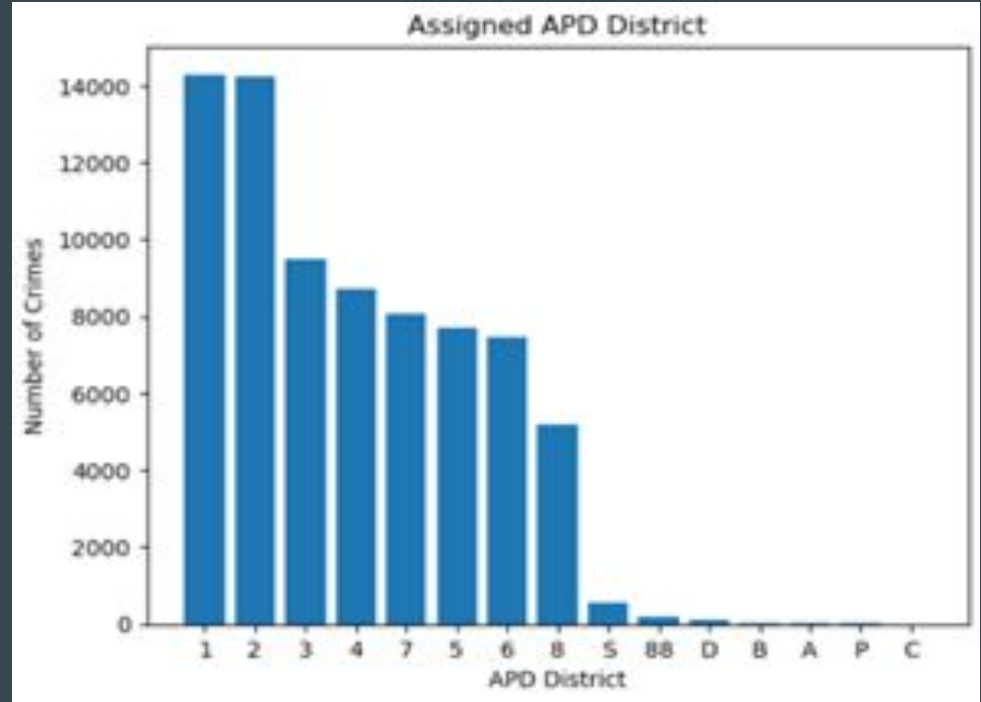
Crimes that are resolved within a day or less indicate situations where little to no investigation is required. They include minor offenses or crimes where the perpetrator is easily identified or apprehended, resulting in a swift resolution.



Number of crimes per APD District

15 APD Districts

The graph shows the annual number of reported crimes in each APD District with District 1 having the most crime reported at about 14,000 crimes per year and District C with below 500 crimes reported per year.

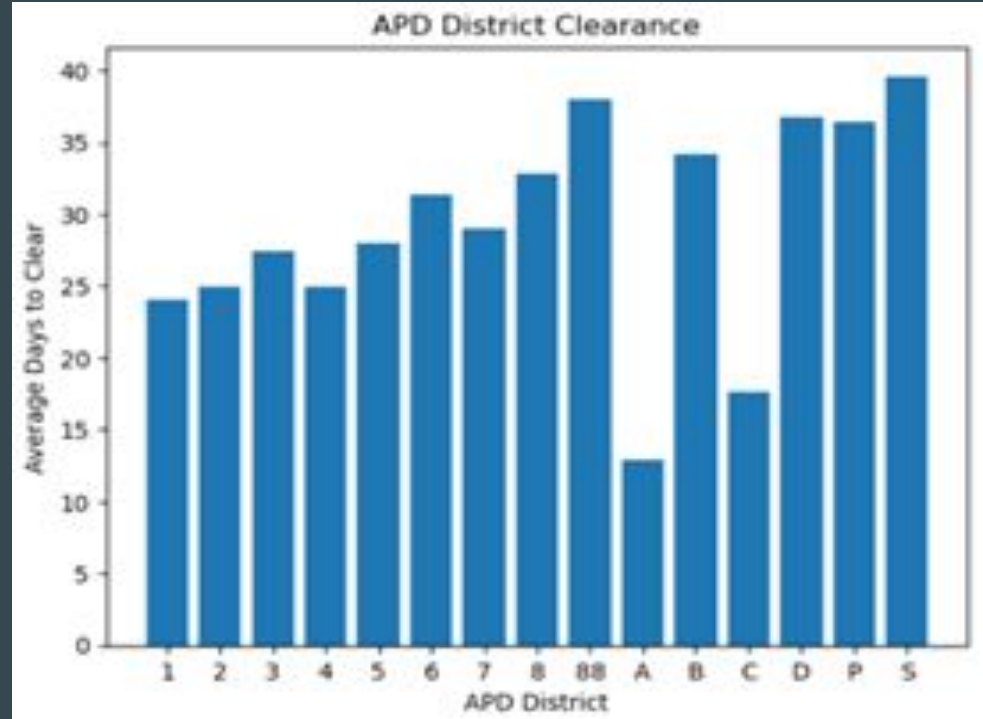


Average Clearance Time per APD District

Lowest Average Days: District A

Highest Average Days: District S

The graph illustrates the average time it takes to clear crimes in each APD District. We can see that most of the smaller districts that have a lower number of crimes reported per year are still taking just as long to clear as the districts with the most crime reported.



Conclusions

- Crime reports peak during 1-3am and 3-6pm and in the middle of the year from March - October.
- Felonies took longer to solve than misdemeanors on average.
- APD Districts with fewer crimes do not have shorter resolution times.

Limitations

- Bittersweet: Extra large data set
 - We weren't scraping for data but it made things pretty messy at the start.
- The time a crime is reported does not represent the time that the crime occurred and many crimes are not accounted for as not all are reported.