

2019-2023

PORTLAND CRIME STATISTICS

CONTENTS



OUR TEAM



INTRODUCTION



PROBLEM
STATEMENT



DATA SOURCES
& CLEANING



SOLUTION
ARCHITECTURE



DASHBOARD
DEMONSTRATIONS



LIMITATIONS



CONCLUSION

INTRODUCTION

[REDACTED]

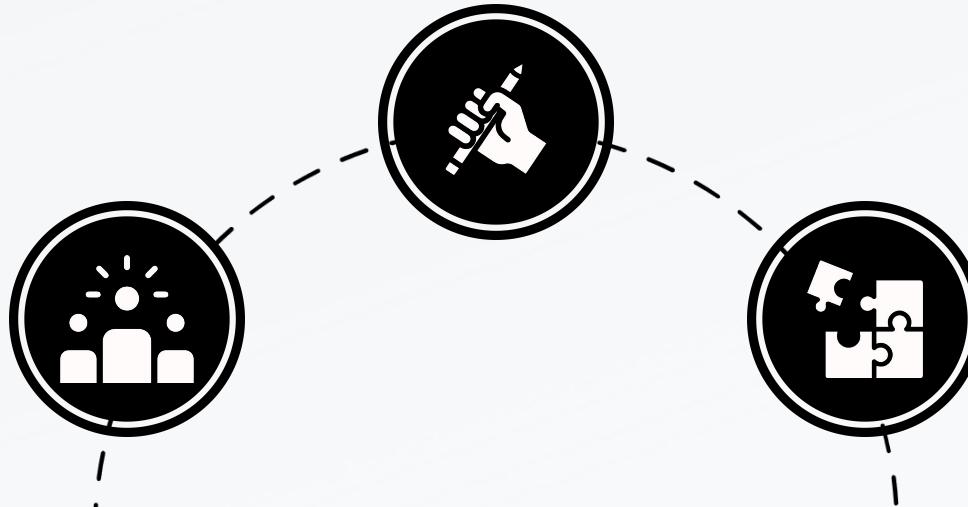
In this project we scrutinize crime trends in Portland, Oregon, from 2019 to 2023.

[REDACTED]

Our objective is to empower law enforcement with data-driven insights, identifying areas requiring increased vigilance and safety funding.

[REDACTED]

Additionally, our findings will heighten public awareness, fostering a safer environment for all.



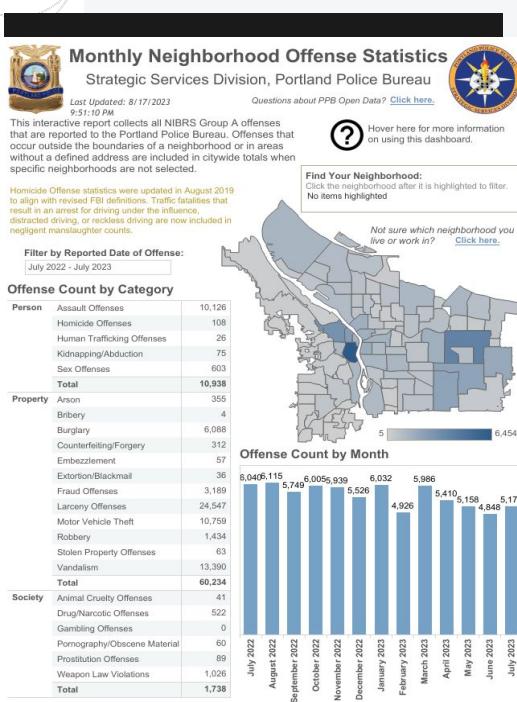
WHY PORTLAND?

British Columbia

Oregon decriminalized drugs 2 years ago. What can B.C. learn from its rocky start?



DATA SOURCE



Monthly Portland Neighborhood Offense Statistics by [Portland Police Bureau](#)

DATA PROCESSING

Five Year Data
2019-2023



Cleaning



Transformation



Integration



Final Export

Final database had **9 columns** namely, Neighborhood, Crime Against, Occur Date, Offence Category, Latitude, Longitude, Offence Count, Year and Time period.

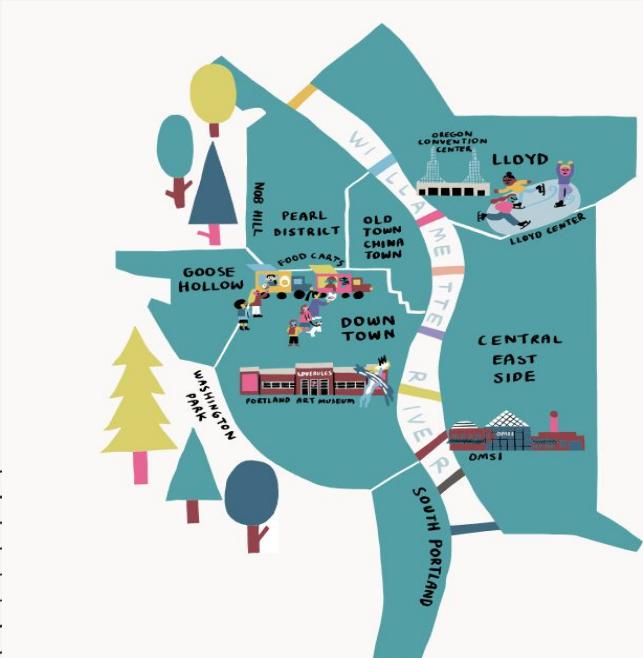
232025 rows for crime cases to analyze.

SOLUTION ARCHITECTURE



- | Data Source | API | Visualizations |
|---|--|---|
| <ul style="list-style-type: none">• Portland Dataset from 2019-2023 CSV file.• Python and Pandas• SQL to query the data | <ul style="list-style-type: none">• SQLite + SQLAlchemy Studio to query the data for the specific charts we want to create. (Map, Pie, Line, Bar)• SQLAlchemy | <ul style="list-style-type: none">• Python Flask• http://127.0.0.1:5000/
Available Routes:
/api/v1.0/pie
/api/v1.0/map
/api/v1.0/line
/api/v1.0/bar
/api/v1.0/total
/api/v1.0/neighborhood• HTML/CSS• Javascript: D3.js, Leaflet.js, Plotly.js, Chart.js |

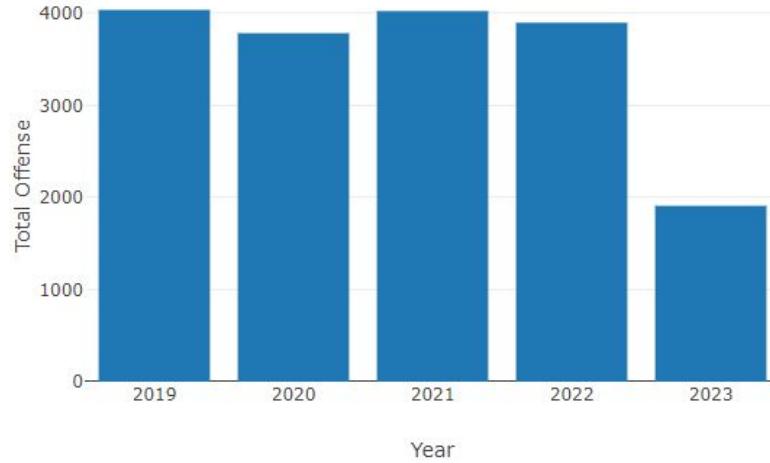
Location-Based Crime Patterns with GeoJSON and Layered Maps



TOP 5 CRIMES OVER THE LAST 5 YEARS

Select Crime:

Bar Chart of Total Offenses by Year for Assault Offenses

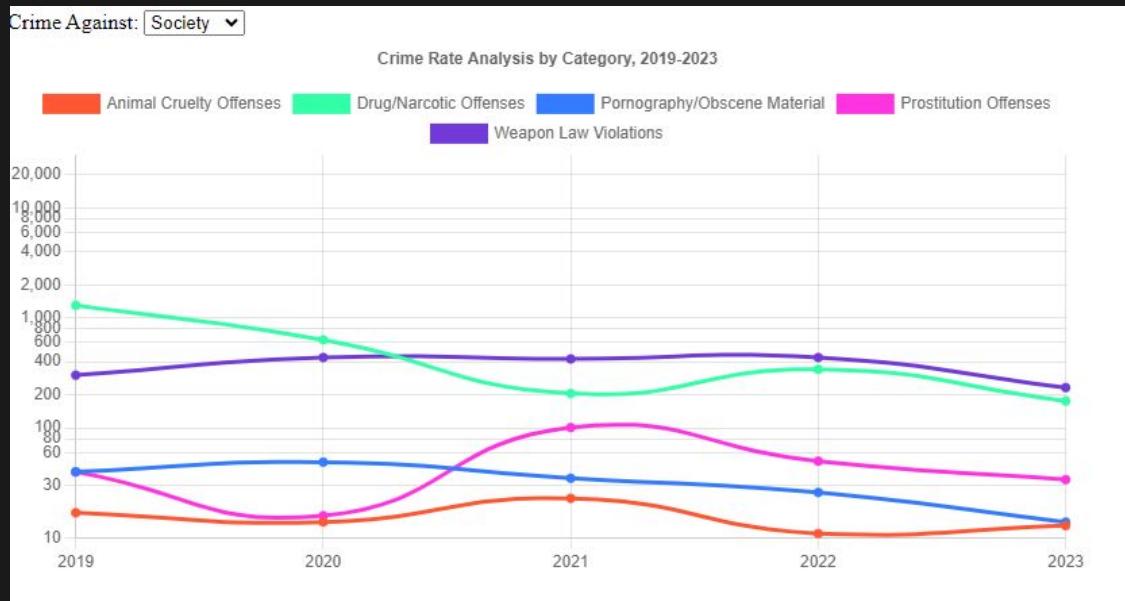


SUMMARIZED TRENDS

2019-2023

Categories based on who the Crimes have been committed against:

- Person
- Property
- Society



EXPLORING TOP 8 OFFENSES AGAINST NEIGHBOURHOODS & TIME

Against **Time**:

- Morning (0500-1200)
- Afternoon(1200-1700)
- Evening(1700-2100)
- Night (2100-0500)

Top 3 Neighborhoods:

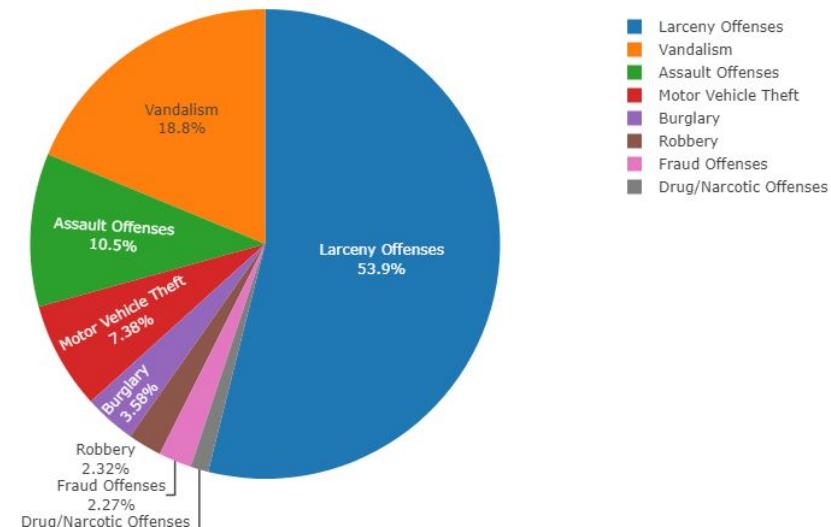
Time Period	Total Offenses	Percentage
Morning (0500-1200)	2897	22.81%
Afternoon (1200-1700)	3552	27.97%
Evening (1700-2100)	2988	23.53%
Night (2100-0500)	3263	25.69%

Top 3 Neighborhoods with the most crime against time and **top 8 offenses**

- Downtown
- Hazelwood
- Northwest



Pie Chart of Top 8 Offense Categories with Top 3 Neighborhoods with Crime and Time Period of Offense



ASSUMPTIONS



LIMITATIONS

Geographical Bias

External Factors

Missing Demographic Info

Unreported Crimes

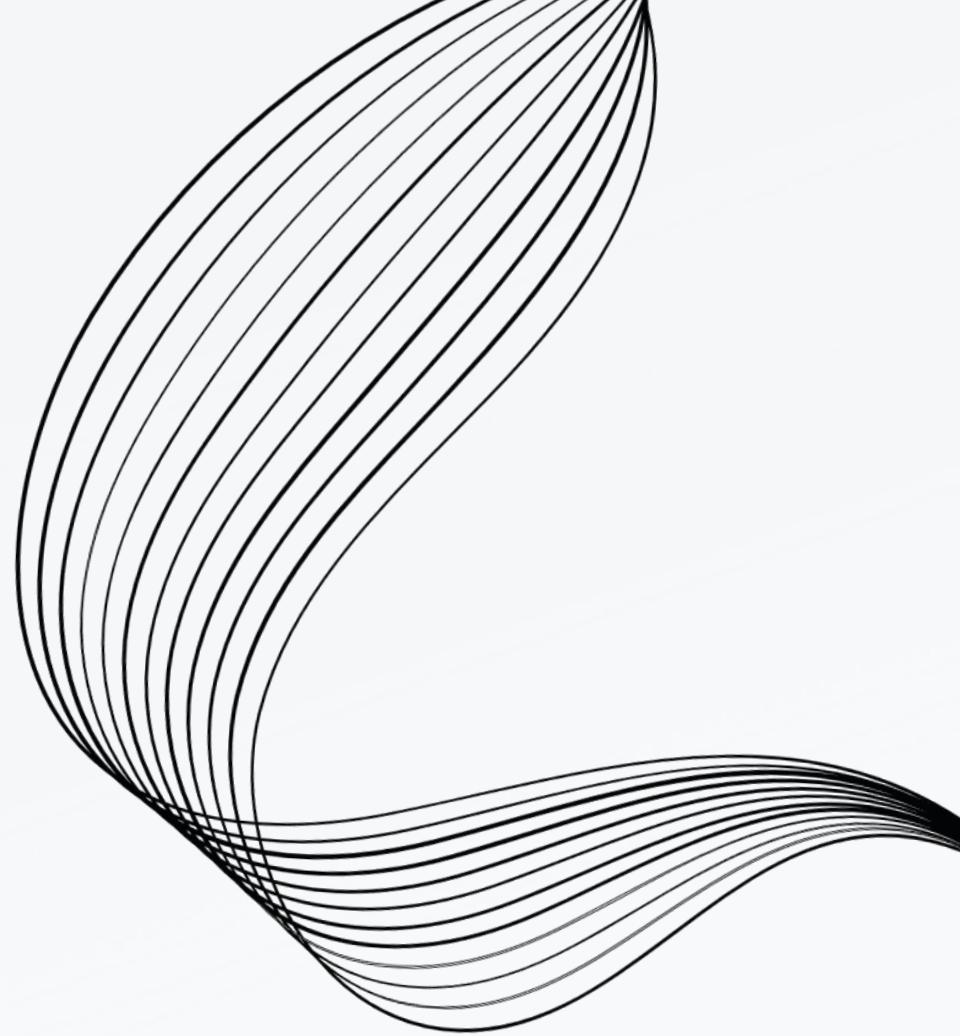
Population Changes

Data Privacy

CONCLUSION

- **Larceny Offense:**
 - **Time Period:** Based on the top 3 neighborhoods with the most crime, larceny is most likely to occur during the afternoon and evenings
 - Over the last 5 years, larceny has been the most consistently reported crime
- **Impact of Decriminalization:** There was a significant decrease in narcotic offenses for a short time after the decriminalization in 2020
- **Crime Escalation:** There is an **overall increase** of about **24%** in crime from 2019 (*46960 reports*) to **2022** (*58164 reports*)
- **Downtown Crime Epicenter:** Highest reported crimes **17964** within the last 5 years

QUESTIONS?



THANK YOU!

The data & codes for this project can be found at:

HTTPS: <https://github.com/jnliou/project3.git>

SSH: <git@github.com:jnliou/project3.git>

GitHub CLI: gh repo clone jnliou/project3

ReadME: [project3/README.md at main · jnliou/project3 \(github.com\)](project3/README.md at main · jnliou/project3 (github.com))



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