

Growing Pains in Portland: A Story of Crime, Unemployment, and Population

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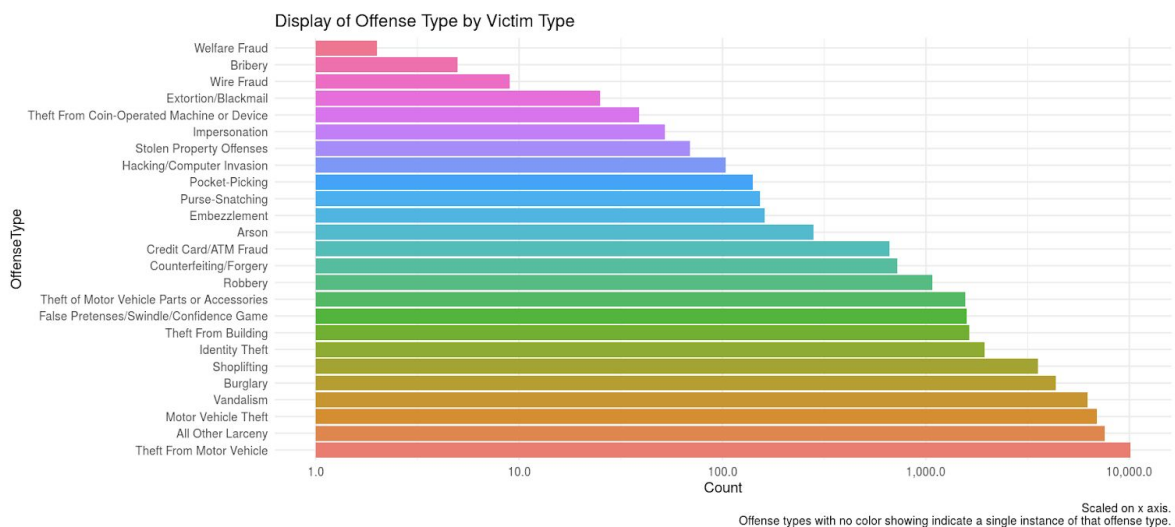
Popularized by pop culture phenomena such as *Portlandia* and the rise of “hipster” culture, Portland, Oregon has become one of the most popular cities to move to in the United States in recent years. Until 2018, it was in the top 20 fastest growing cities in the country. The broader Pacific Northwest has seen prolific change in recent years, with Seattle being the fastest growing city in the country for multiple years in a row.

As a native of Portland, I have seen my city physically, socially, and economically transformed. While these transformations by themselves are certainly fascinating, I took an interest in an additional set of changes: crime. Prior to enrolling in my Master’s program at Harvard University, I worked in criminal defense in Portland. It was interesting to see how trends in crime would change year after year or even month after month. I explore crime data from the city from the last five years in combination with data tracking population growth and unemployment data from the last ten years in this project.

This project is a compilation of data visualizations made in R and rendered in a [Shiny app](#). The [GitHub repository](#) to this app is also publicly available online.

The first visualization I creative was an interactive visualization that allows the user to view different categories of crime displayed by victim type for 2018. The visual below shows all categories of crime for property crimes in that year.

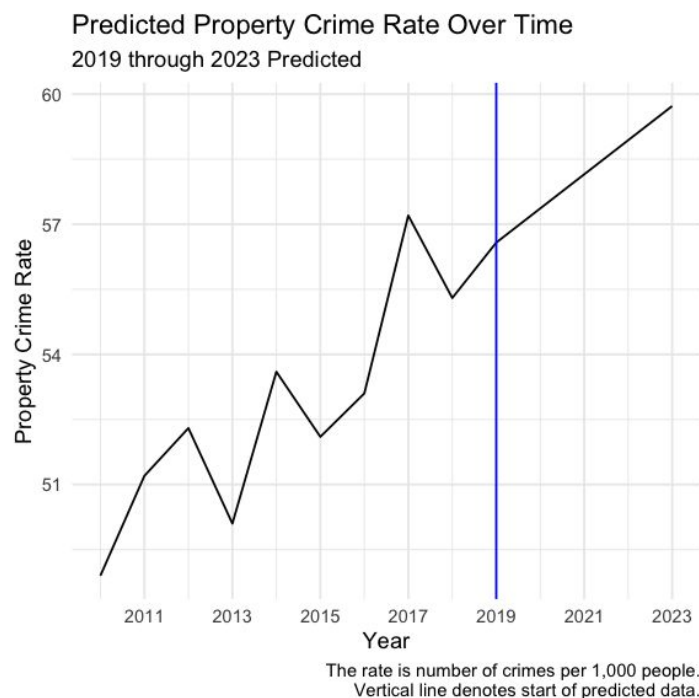
Crime in 2018 by Victim Type - Victim: Property



This allows the user to gain a better understanding of what kinds of crimes and victims there are. The interactive visual allows for a selection of three different victim types: property, person, and society. Property crimes were the most common kind of crime and also the most diverse in terms of crime categories. Person crimes are predominantly violent crimes and society crimes are crimes prosecuted (ideally) to protect society at large.

To show how consistent certain trends are over time, I also included a tab that displayed the count of each crime by victim type for 2015 through 2019. All of my 2019 crime data was year-to-date as of September. I do not include a copy of those visualizations here, but they all showed the same trend: that property crimes far outnumber both person and society crimes and that person crimes were the second most common type of crime year over year.

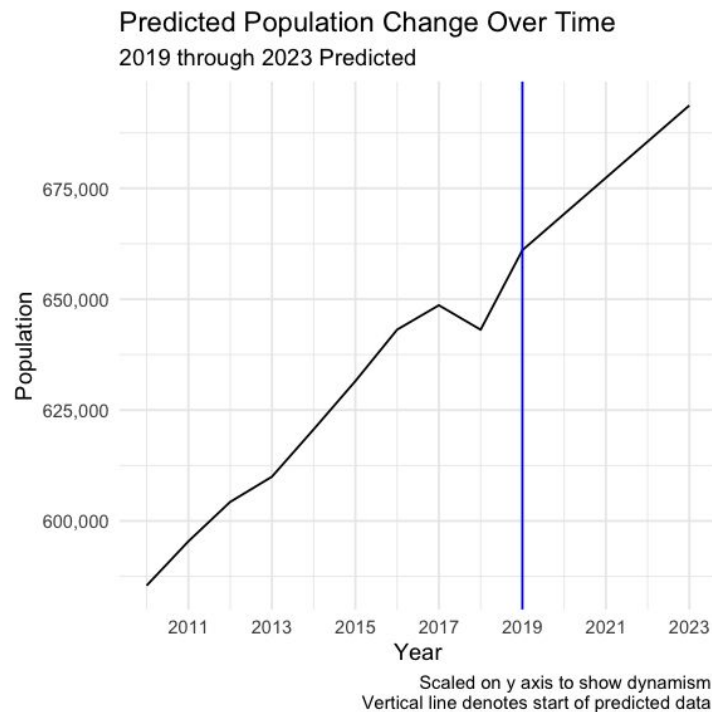
I also included visualizations that displayed person and property crime rates from 2010 through 2018, as well as a prediction for property crime rates for 2019 through 2023.



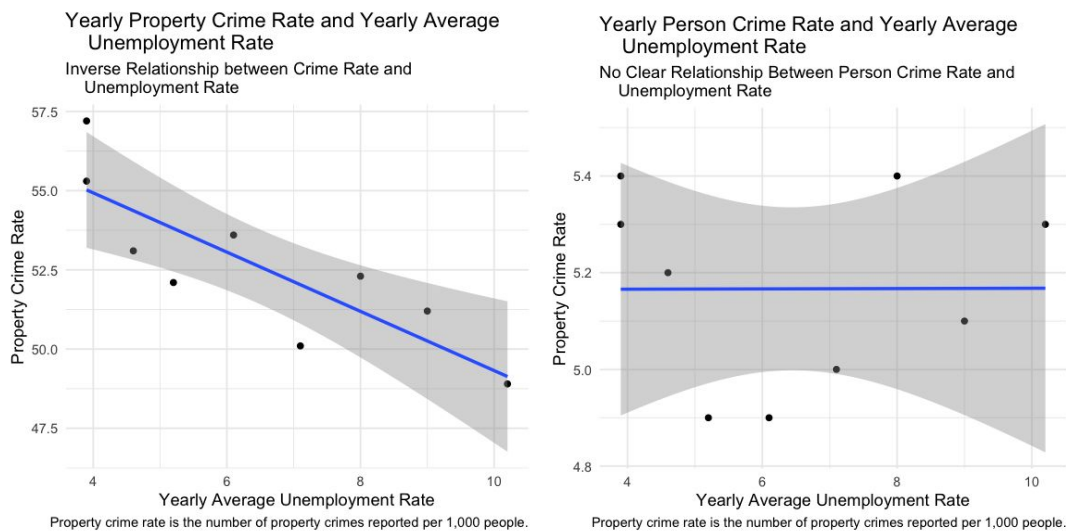
In general, property crime was a very interesting set of data. Not only is it the most common type of crime and the most diverse type in terms of crime categories, but it also showed a clear trend over time. Person crime did not display clear growth--negative or positive--over time in the same way, so I did not make a prediction for it.

While I was working in criminal defense, I noticed that some months were very slow in terms of the number of new cases my firm was being hired for while other months were very busy. While this was purely an anecdotal observation, I was curious to see if broader trends in month-to-month crime rates occurred. I made visualizations that counted the number of crimes reported per month for 2015 through 2019. I do not include these visualizations here, but they are viewable online.

On another tab, I made scaled and unscaled visualizations of population growth from 2010 to 2018. Because there was a clear pattern for this trend, I included predictions for both versions of the visualization. The scaled version with predictions for 2019 through 2023 is below.



Perhaps one of the most interesting findings of my project was the relationship between crime rate and unemployment. Prior to seeing how the property crime rate has increased in recent years, I anticipated seeing a positive relationship between unemployment and crime--in other words, as the economy does worse, I would expect to see more crime overall. The opposite turned out to be true, but only for property crime rates.



I got my data for this project from the U.S. Census, the U.S. Bureau of Labor Statistics, and the Portland Police Bureau.