Tejas Hosangadi Data 512A Fall 2018

Analysis of Reported Crime in New York City



Overview

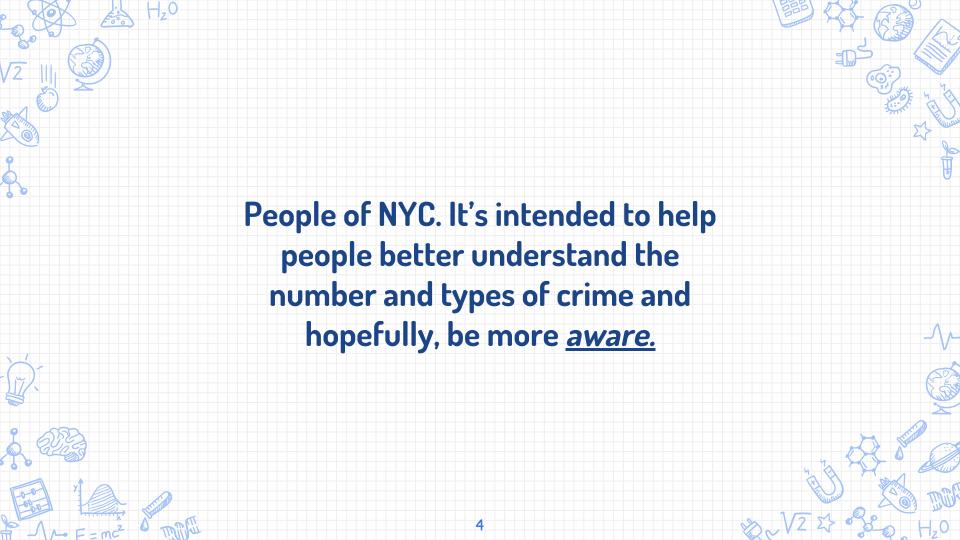
- Literature online states crime rates have fallen in NYC.
- Wanted to determine the magnitude of this fall and perform a detailed analysis.
- Develop a research analysis that is reproducible and clearly tells a story understood by everyone.



Use Case

Who is my intended user?





Data

"It's difficult to imagine the power that you're going to have when so many different sorts of data are available."

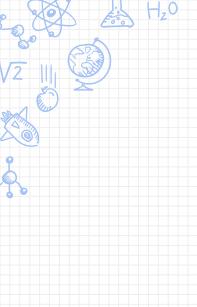
- Tim Berners-Lee

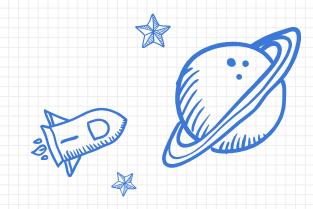


Data

- Retrieved from the New York City Open Data Project.
- Reported crimes from 2006 through 2017.
- ★ LARGE!! (6 gigabytes).
- X Quite clean.
- Minimal processing. Did rebucket though.







Research

"If we have data, let's look at data. If all we have are opinions, let's go with mine."

- Jim Barksdale, Former Netscape CEO



How clean is the data? Are there any obvious problems or issues with the numbers?



- * The data is quite clean.
- Certain columns have missing values, but they do not impede my analysis.
- I removed rows which didn't contain type of crime (that's important for my analysis).
- × Performed rebucketing (time consuming).

Conclusion: Data is quite clean, no obvious issues.

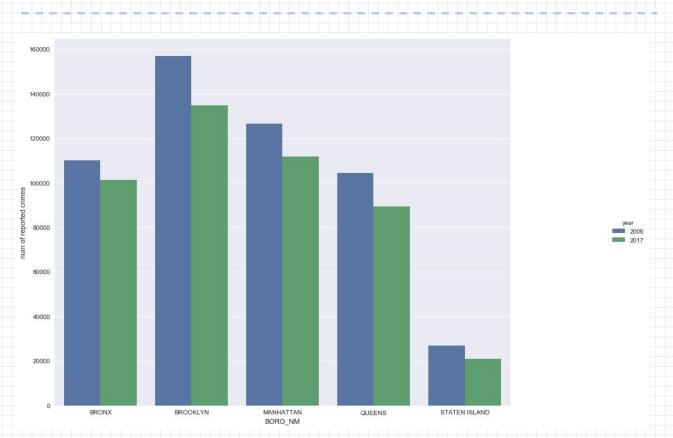


What's the overall trend in the number of reported incidents in 2006 as compared to 2017 in NYC? How about the trend in crimes reported on a borough basis?



- Reported crime declined ~13% between 2006 and 2017.
- ★ All boroughs witnessed a decrease in crime, with Staten Island witnessing the largest decrease 22.6%.







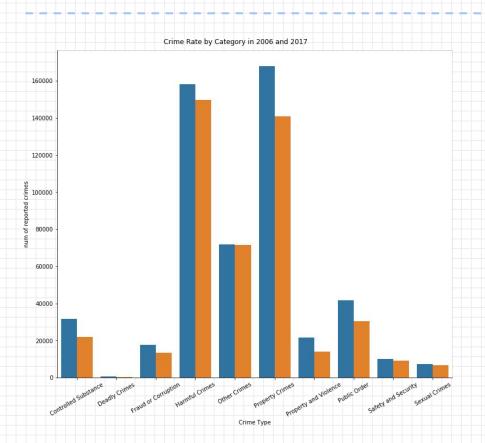
Conclusion

Overall decrease in number of crimes reported from 2006 to 2017. Staten Island witnessed the largest percentage fall in crime.

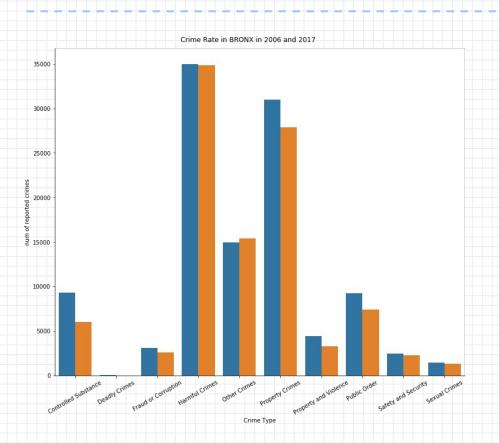


Taking into consideration the actual offense, how does the number look like when 2006 and 2017 are compared? How are the numbers when they are compared for the overall city and when they are split up according to the boroughs?

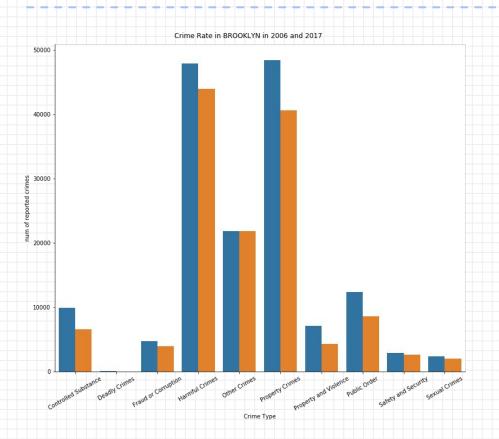




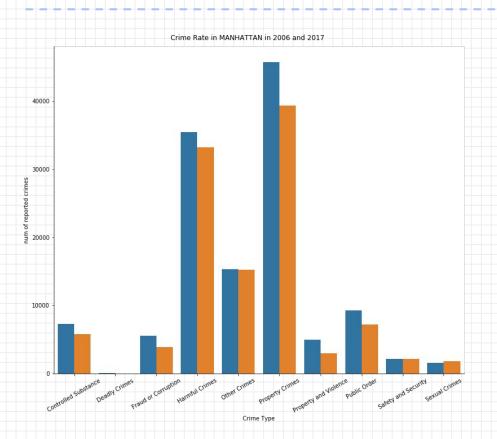




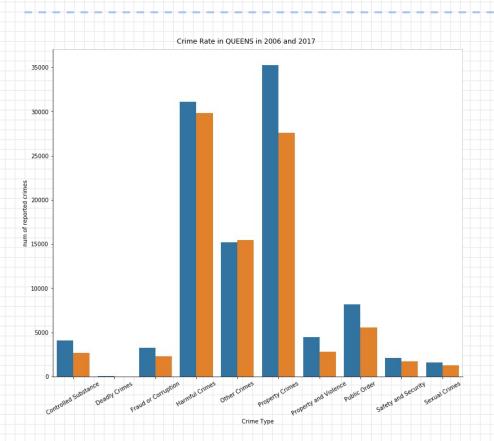




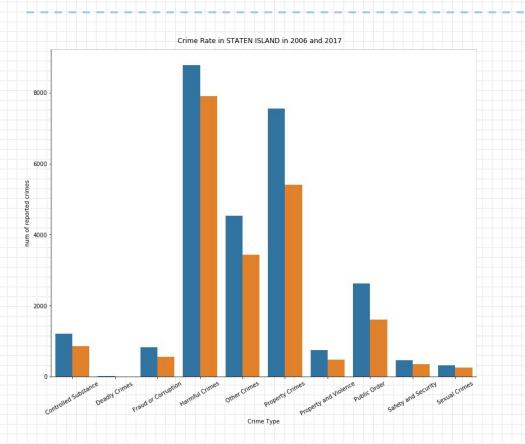














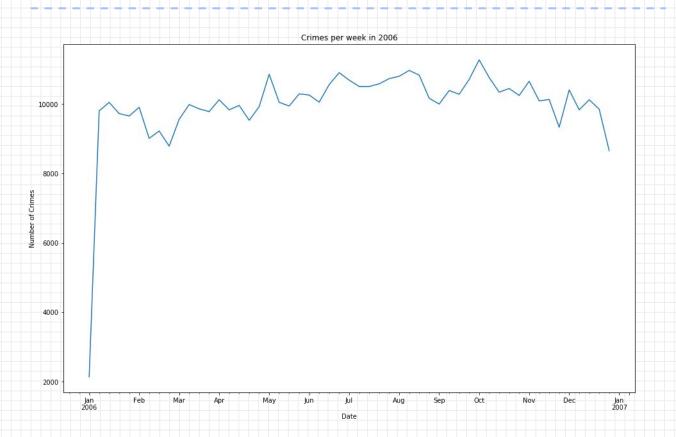
Conclusion

- The city and boroughs witnessed decreases in most types of crime.
- All boroughs with the exception of Staten Island witnessed marginal increases in other crimes.
- Bronx witnessed a small increase in harmful crimes (0.43%).
- ➤ Sexual crimes in Manhattan increased by 17%.

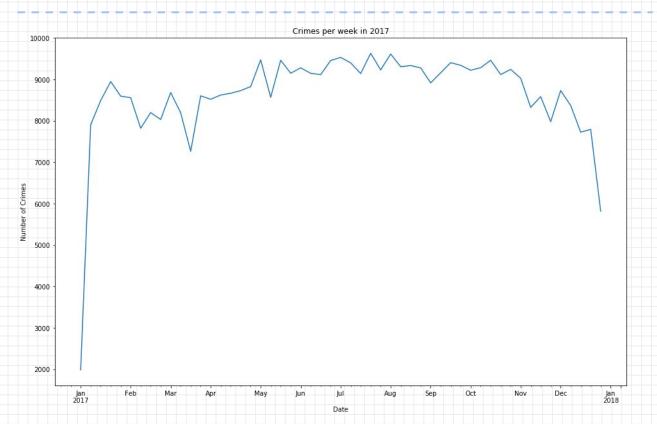


Is there any element of seasonality with regards to the number of crimes committed?











Conclusion

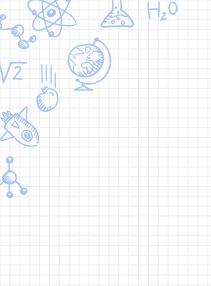
- When you look at the raw data and the graphs, there doesn't appear to be any seasonality.
- Fairly constant throughout the year. However, it does appear to increase after Q1 (approx).
- Reported crime appears to slightly fall during the holiday period.



Final Thoughts

- In agreement with numerous articles, crime appears to have fallen in NYC as a whole and in its boroughs.
- NYC is pretty safe despite being one of the largest cities in the world.
- Crime can never be fully controlled.





THANKS! Any questions?



