Data as a Tool to Combat Crime

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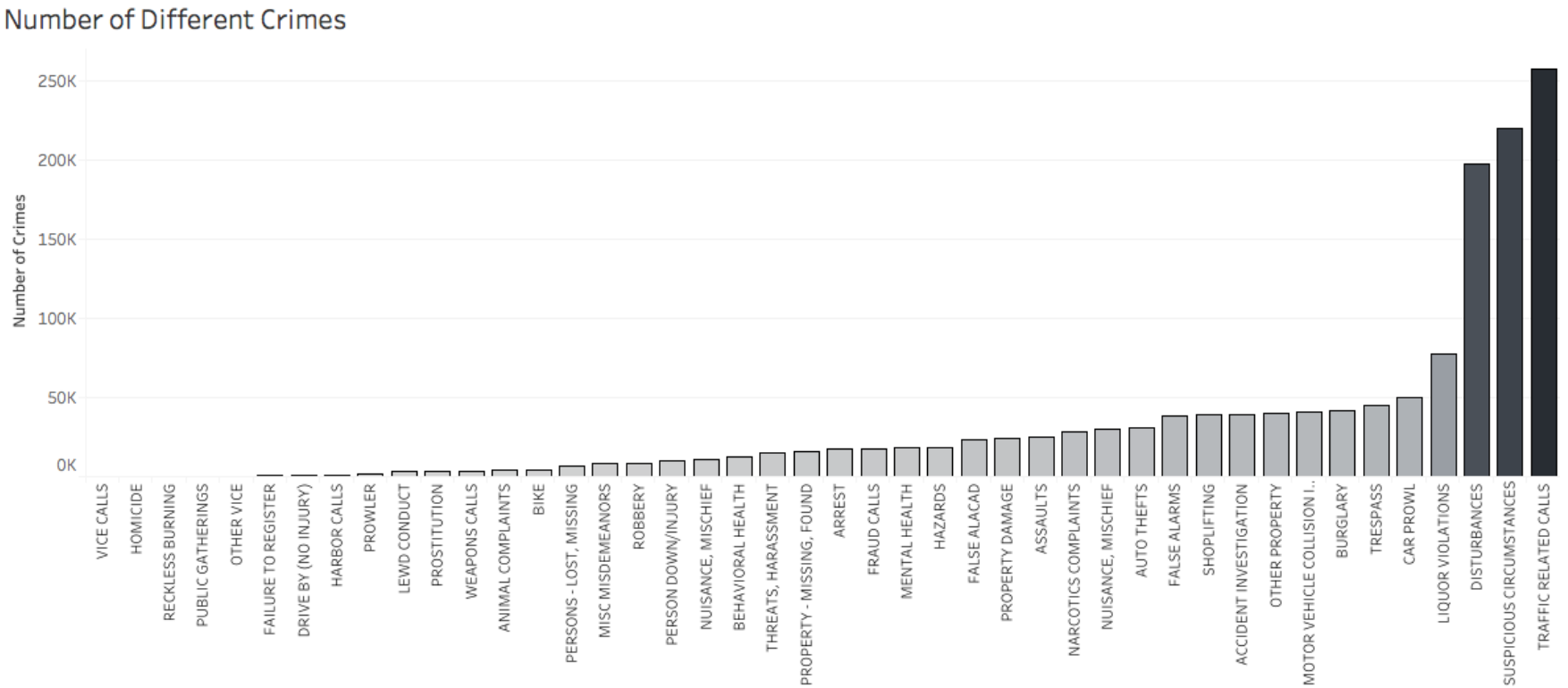
About the Data

We used data from the Seattle Police Department. We had a variety of variables to work with including the location of calls and the type of crime each reported.

A quick glance at types of crimes:

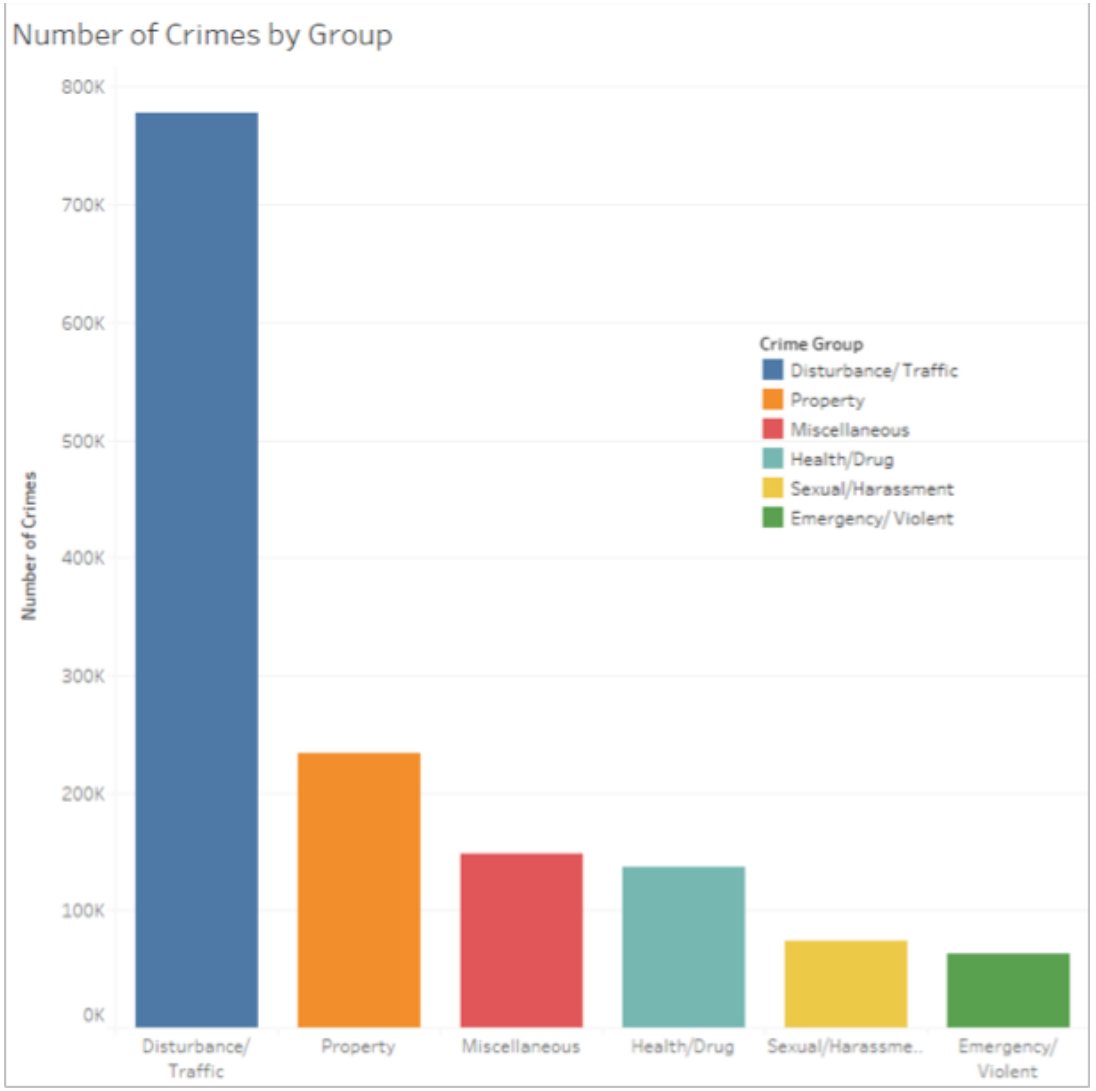


Our Approach

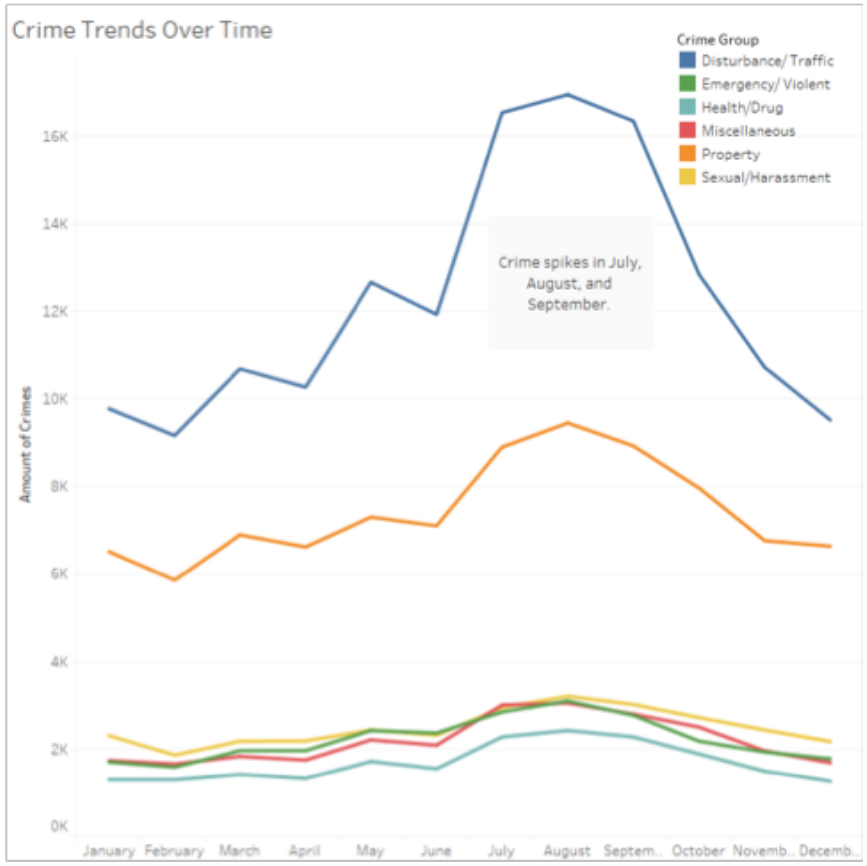
Our first inclination was to distill the crimes into smaller, more meaningful categories than was provided in the data set.

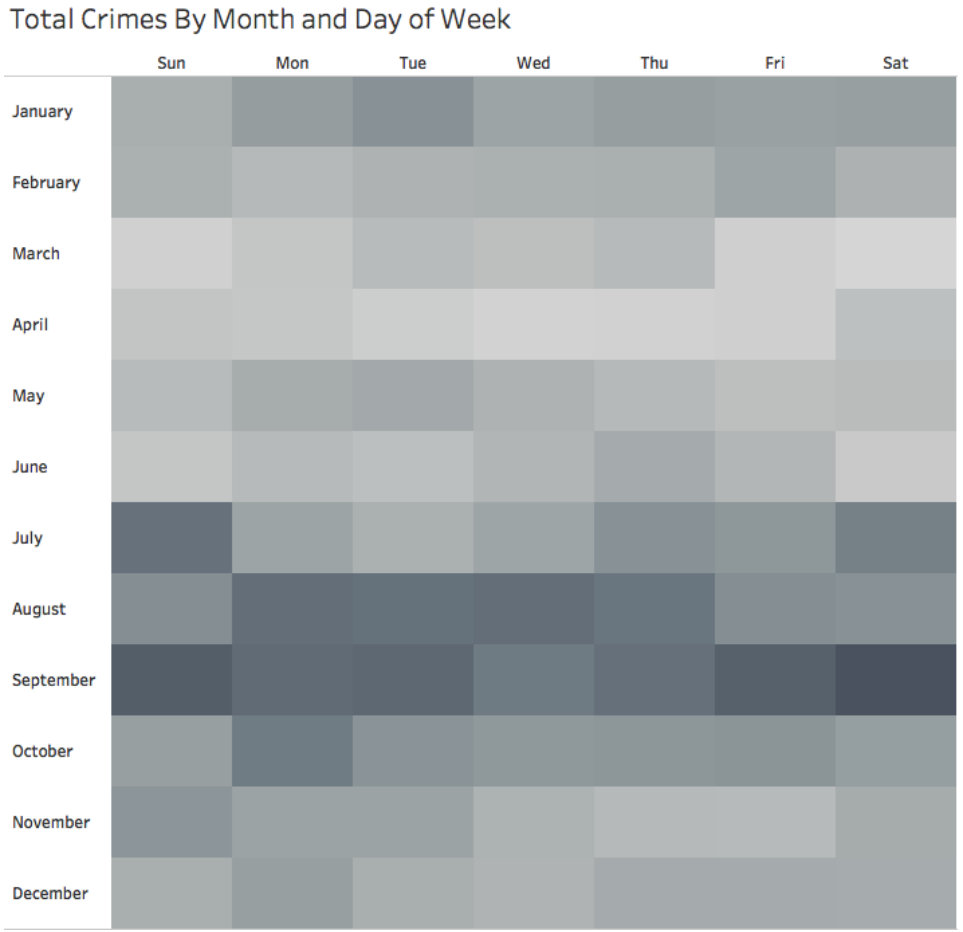
These categories are:

- Disturbance/Traffic
- Property
- Miscellaneous
- Health/Drug
- Sexual/Harassment
- Emergency/Violent



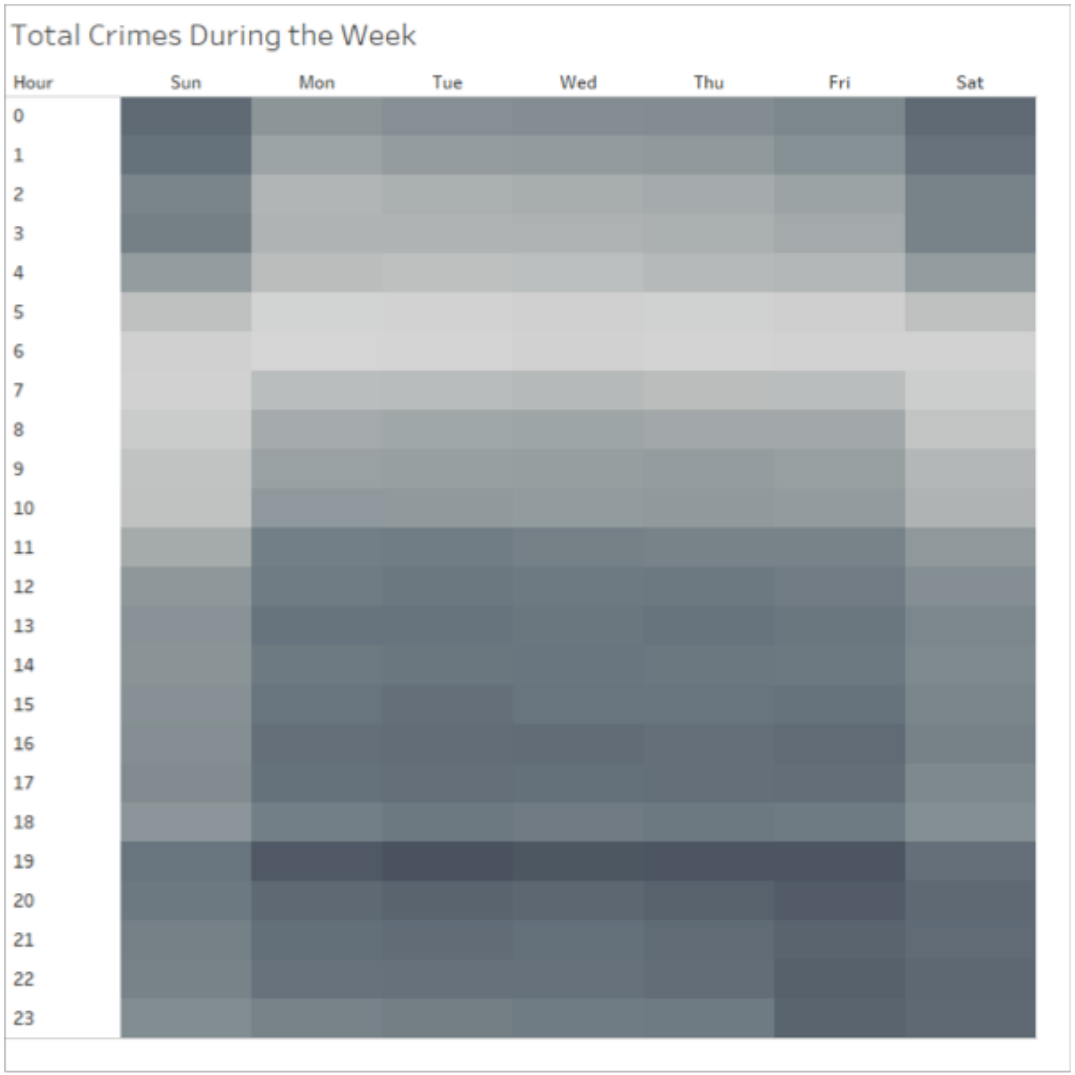
Crimes Committed by Month





There is a noticeable fluctuation in crime late summer months.

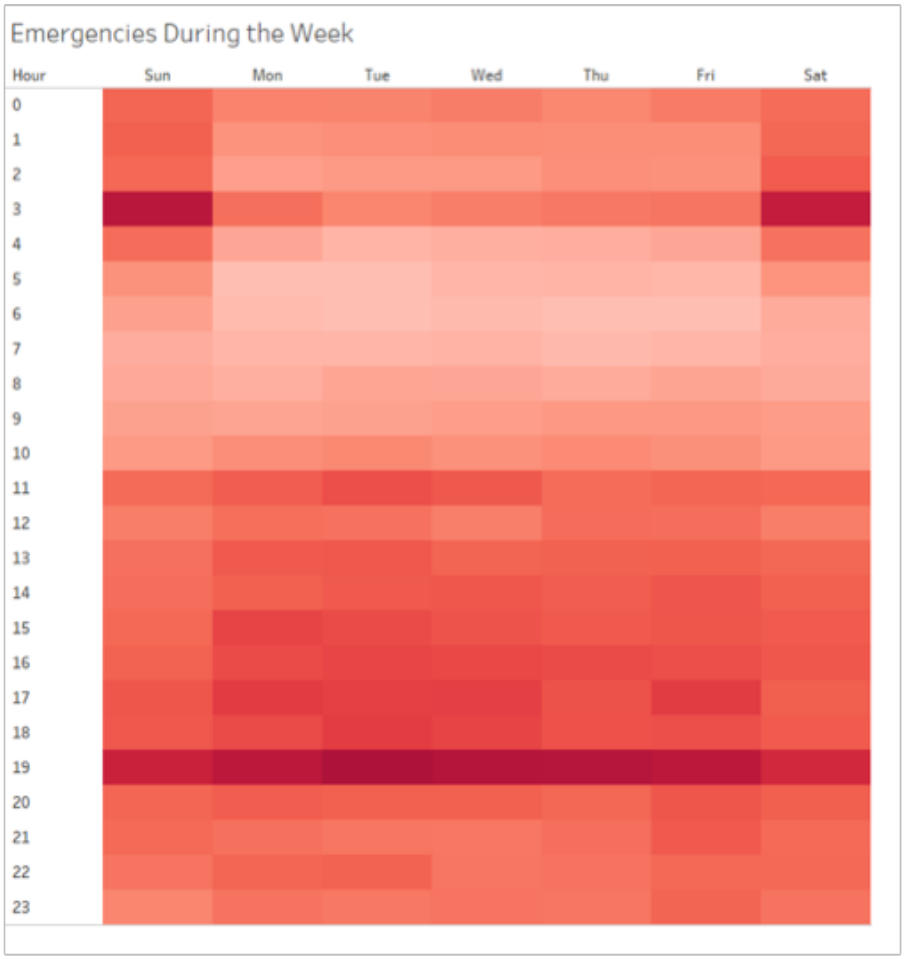
Total Crimes by Time of Day

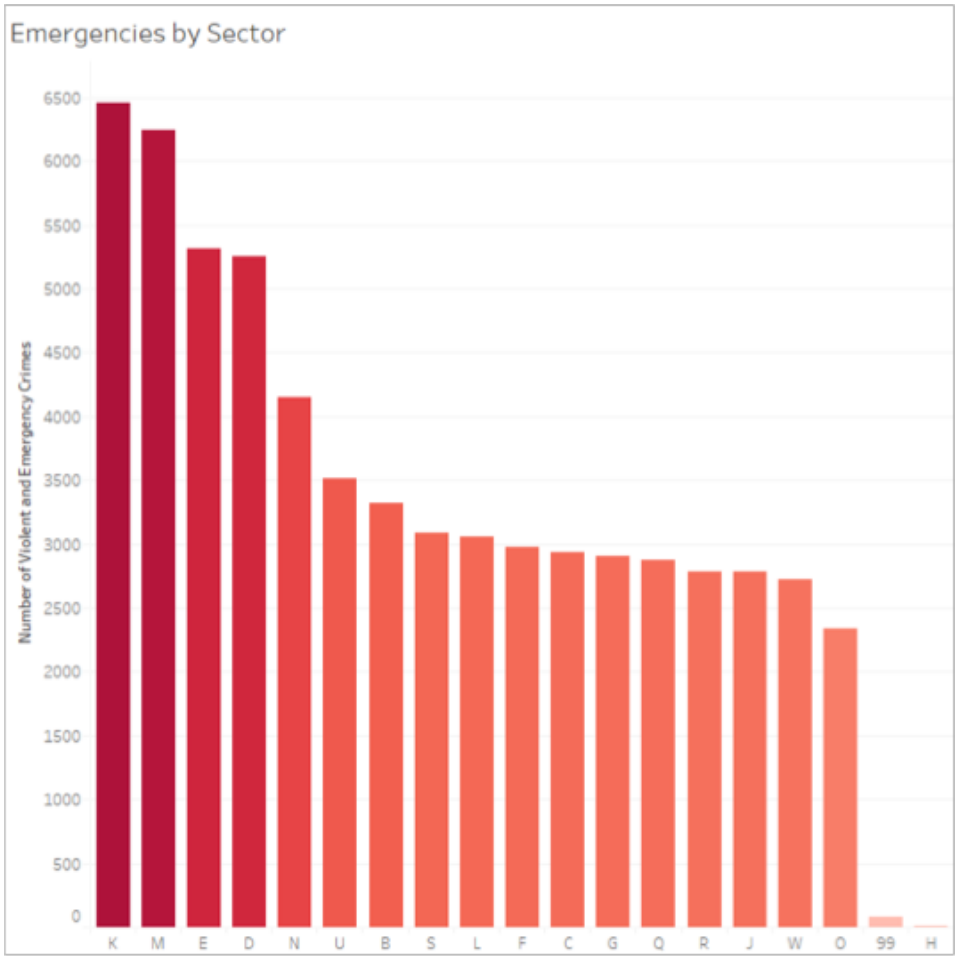


The darker cells indicate a distinct pattern.

- There are increased calls around 7pm as well as early on weekend mornings.
- There are fewer crimes around 6am throughout the week.

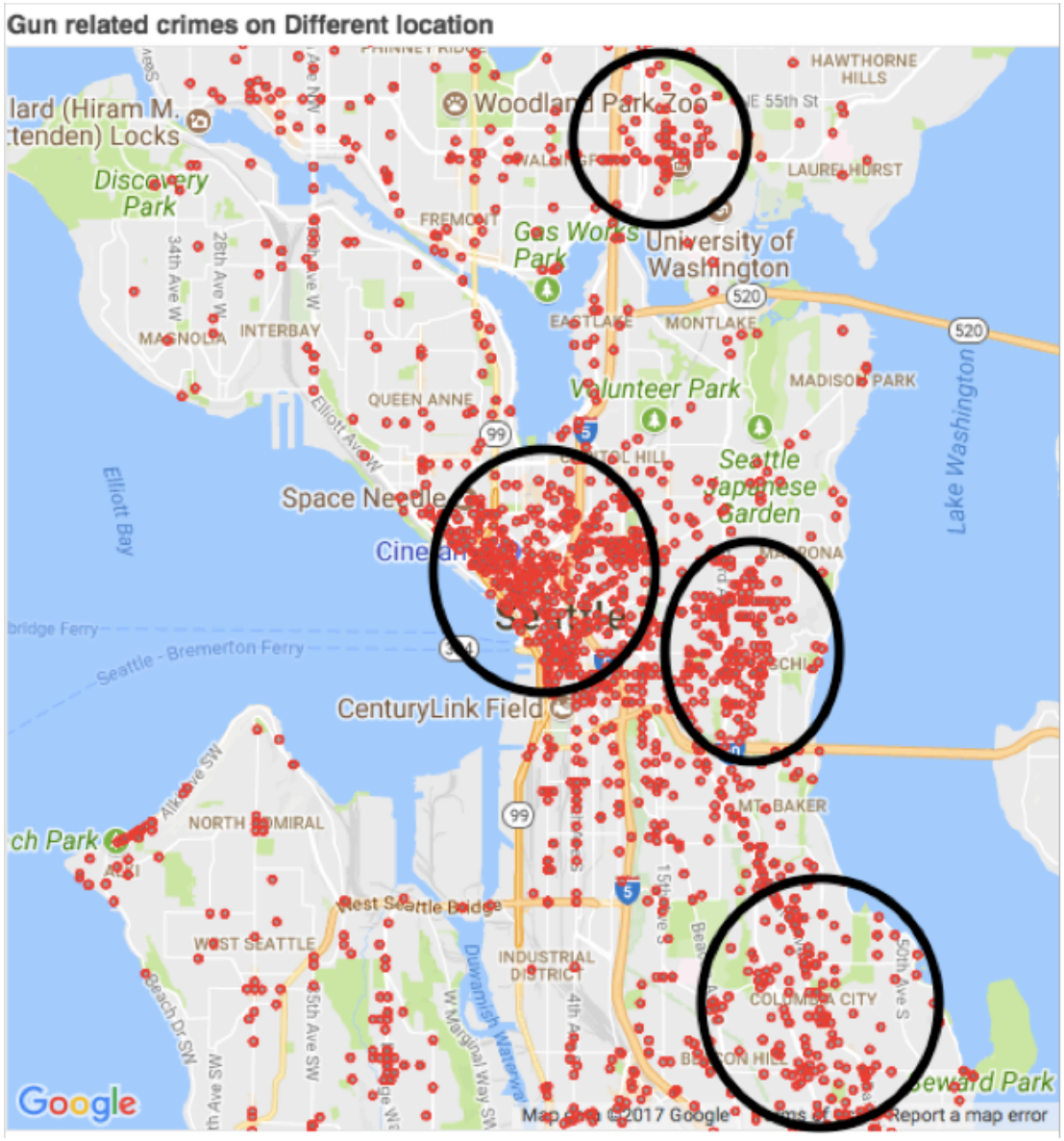
Emergency Calls





- Similar time patterns hold for emergencies.
- Emergencies are more prevalent in certain sectors.

Geospatial Visualization



Gun related crimes tend to be concentrated in certain areas.

There are four distinct clusters.

- Columbia City
- Downtown
- Squire Park
- University District

Our Proposal for the City

Insight
Emergencies are highest in sector K around 7 P.M. during the late summer.

Gun related crimes tend to be clustered in certain areas.

Recommendations
The public should be made aware of the increased danger during these times and in these locations. A PSA campaign could disseminate this information effectively.

The Seattle Police Department should increase patrols in these hotspots during the most active times.

References

- Crime Data: https://data.seattle.gov/Public-Safety/Seattle-Police-Department-911-Incident-Response/3k2p-39jp
- Slide show design (Lisa Rutzick): https://www.seattle.gov/Documents/Departments/HALA/Policy/DesignReview.pptx
- Poverty Map: http://knaaptime.com/about/index.html
- Google Maps package: https://github.com/vgm64/gmplot
- General Reference: https://github.com/RandomFractals/ChicagoCrimes/blob/master/notebooks/all-chicago-crime-charts.ipynb