Locations of Accidents in Seattle During Different Weather Conditions and Accident Severity

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Business Problem

How can accident response teams be best deployed?
How can response times be optimized?
Every City has a limited amount of accident response resources including police, paramedics, and fire departments can easy changes to infrastructure to prevent these accidents?

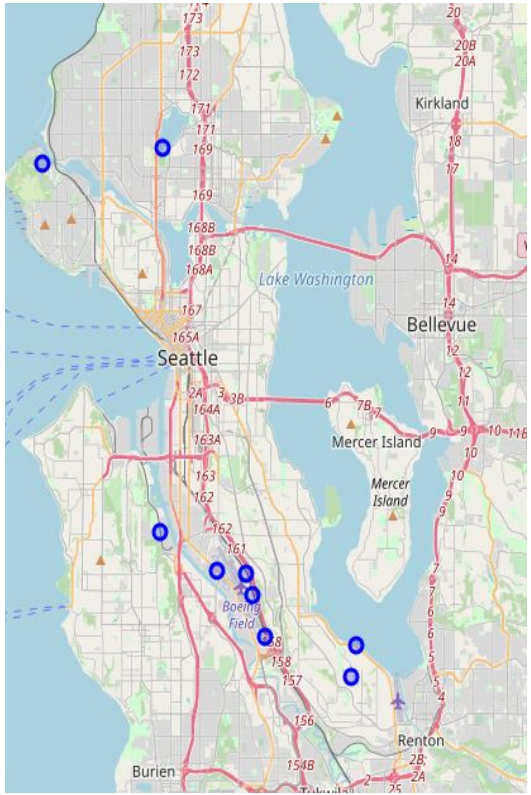
Data Gathering and Cleaning

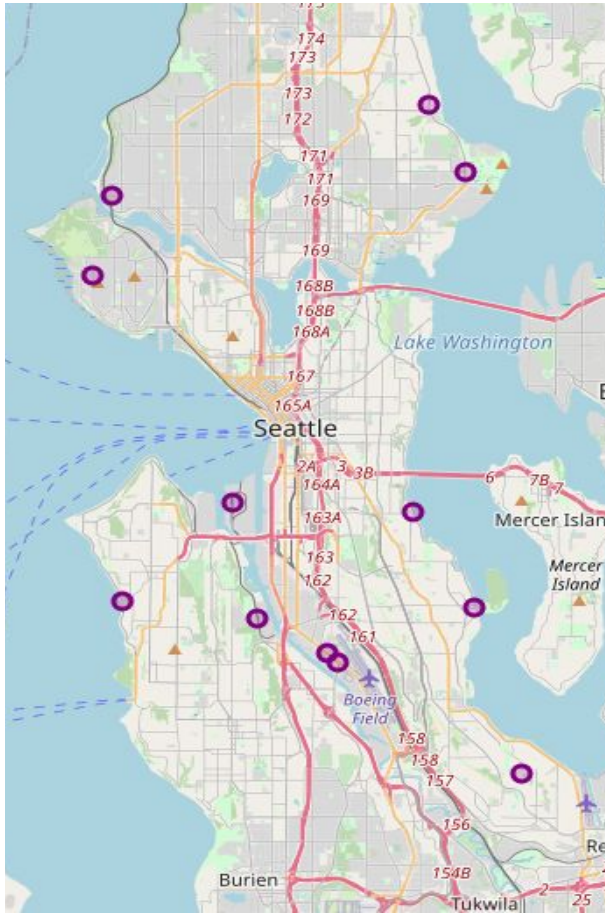
All of the data gathered for this presentation was collected by the SPD and recorded by Traffic Records department.

The data was cleaned by removing all null fields in weather and severity fields and grouped by the type of weather or severity of the accident.

Clear Weather

Here we can see during normal weather conditions there are several clusters of accidents located around Boeing Field.



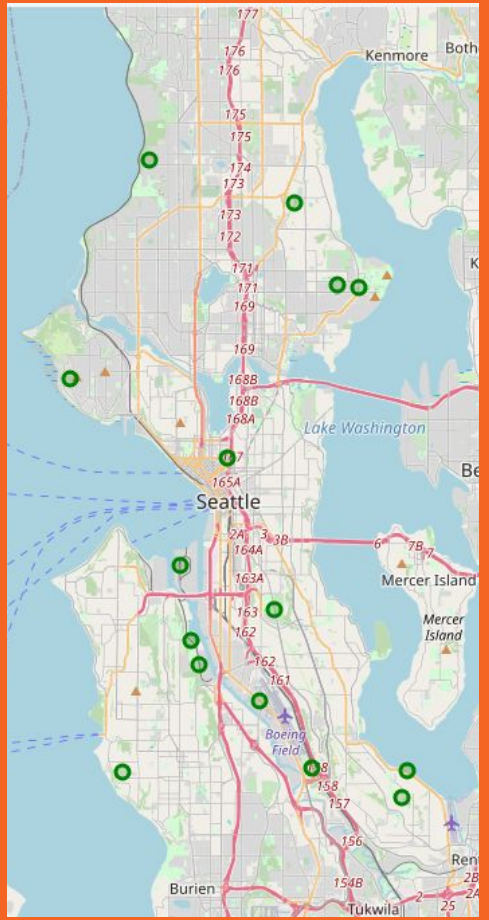


Overcast Weather

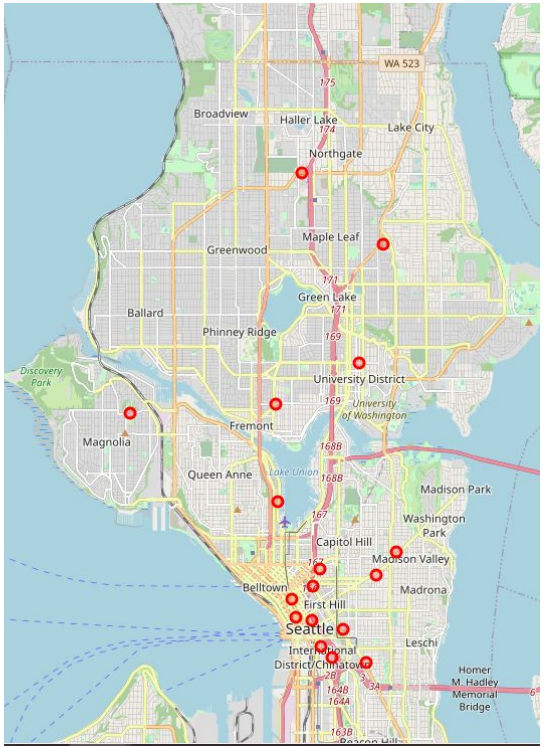
Most of the clusters are occurring near coastlines and on long curved roads

Rainy Weather

Again we see collections of accidents on these same coastal curvy roads.



Story for illustration purposes only

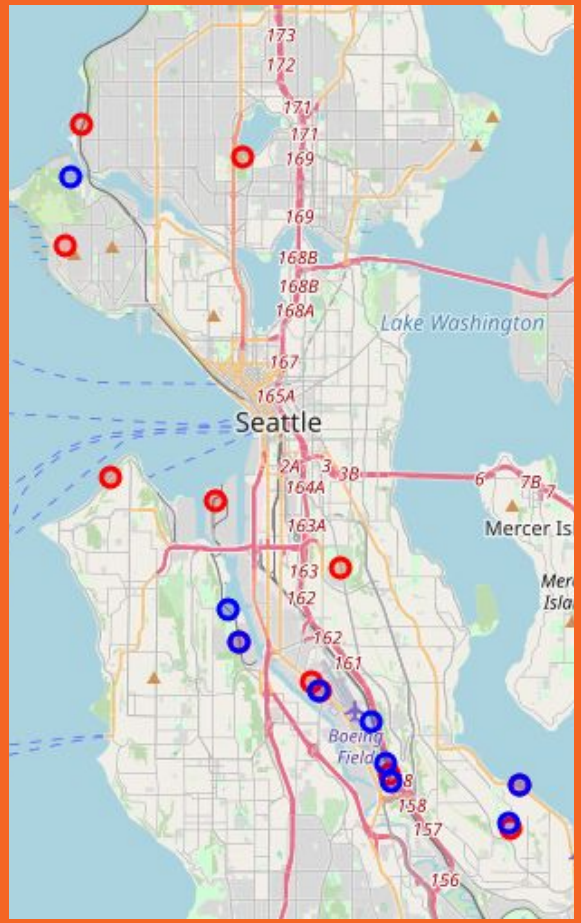


Snowy Weather

Here we can see a large collection of hot spots in the city center on surface streets.

Severity of Accident

It is clear that there are high numbers of similarly located clusters to the south of the downtown area that lead to property damage



Story for illustration purposes only

Conclusions

During clear conditions a high concentration of accidents are around the AirPort.

Snowy weather conditions produce more accidents in the city center on surface streets.

Coastal/curvy roads seem to lead to more accidents is there an easy fix?

Future Directions

More useful insights can be gleaned from the information given the knowledge of the stakeholders, the SPD and SDOT. Additionally more insight may be gained from the inclusion of the road condition data however there were too few data samples left blank to learn much; if this was collected more frequently this metric could provide more insight into infrastructure problems causing accidents.