AT THE CORNER OF SPEEDING AND DISTRACTED

AN ANALYSIS OF INTERSECTION COLLISIONS IN SEATTLE CAUSED BY SPEEDING AND DISTRACTED DRIVERS

MAPPING THE MOST SEVERE COLLISIONS AT INTERSECTIONS THROUGHOUT THE CITY HAS VALUE FOR MULTIPLE STAKEHOLDERS.

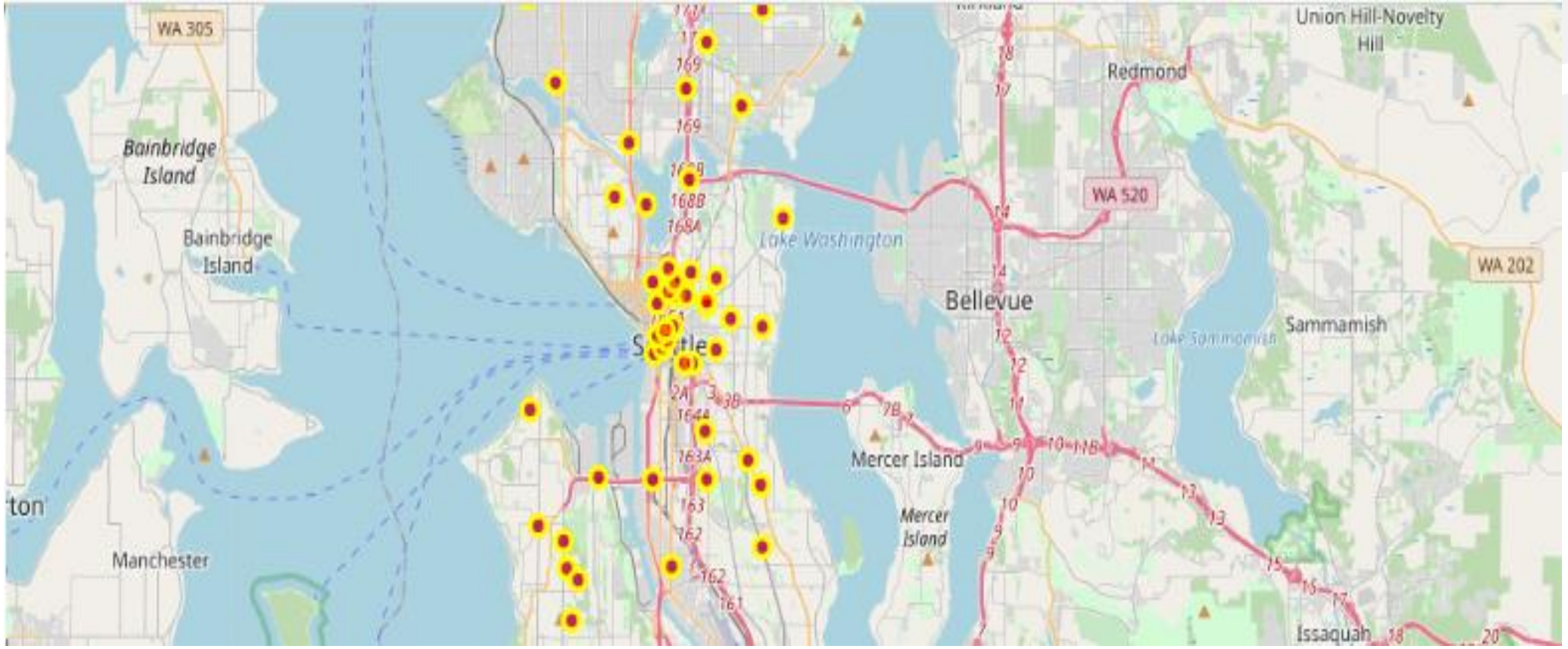
1. City officials can use the data to focus resources in those areas where the most collisions occur.
2. Budgets can be targeted to those areas to increase resources needed to increase safer driving habits.
3. Drivers would be informed about which areas of the city are most prone to such collisions and can adjust accordingly.

DATA SOURCE AND CLEANING

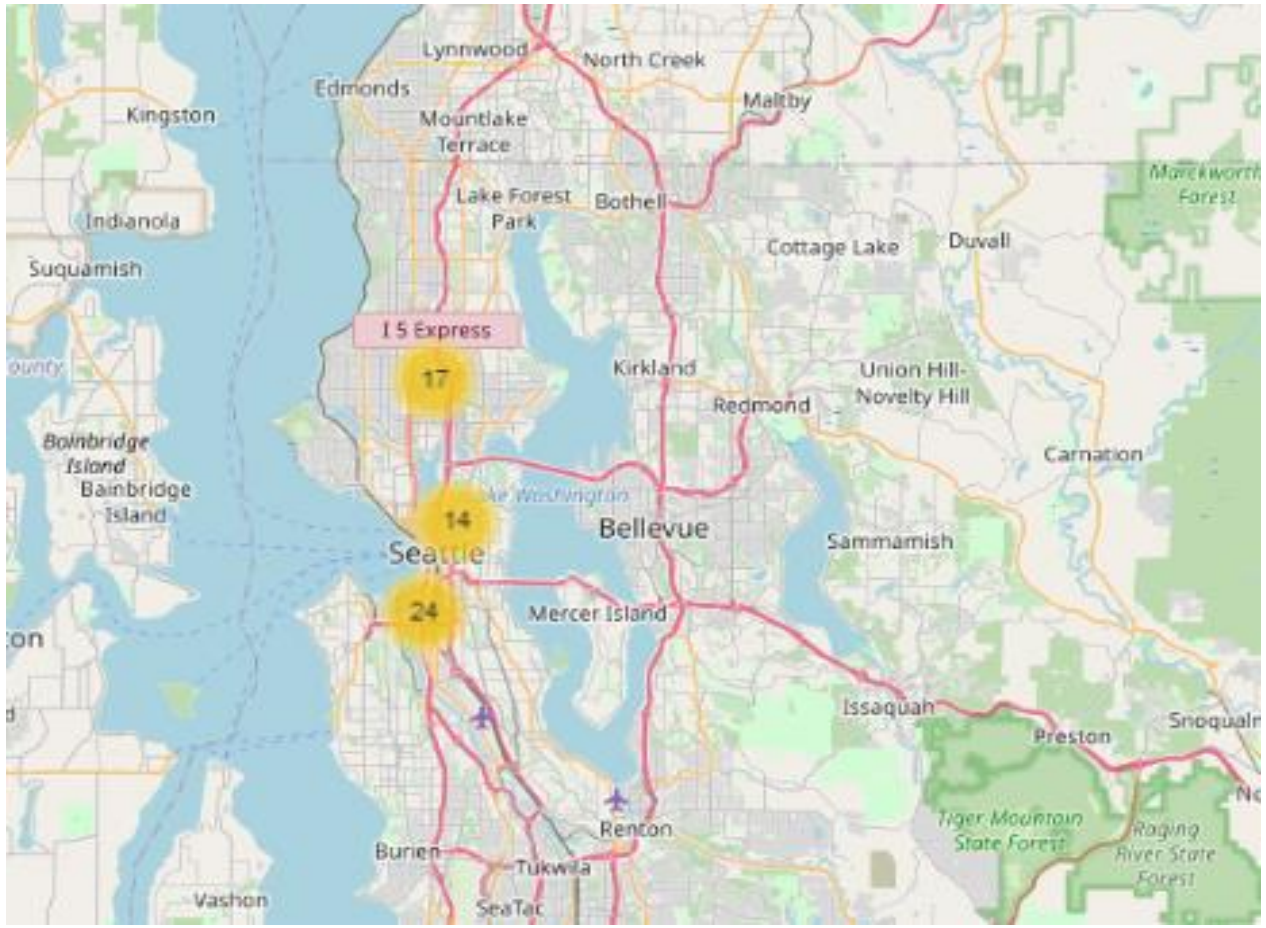
The dataset used was created by SDOT Traffic Management Division, Traffic Records Group and contained collision data from Seattle PD from dates 2004 to present. Data points used in this analysis are targeted to include only collisions occurring at intersections that were coded as ‘severe’ and were caused by drivers who were both speeding and distracted. Collisions with other possible contributing factors, such as adverse road conditions, weather, or light conditions were removed.

INITIAL MAP OF COLLISION LOCATIONS

The initial map of the data showed an obvious concentration area of these collisions. However, the individual points were not as actionable as clusters would be as to allow police to focus resources in general areas or neighborhoods.

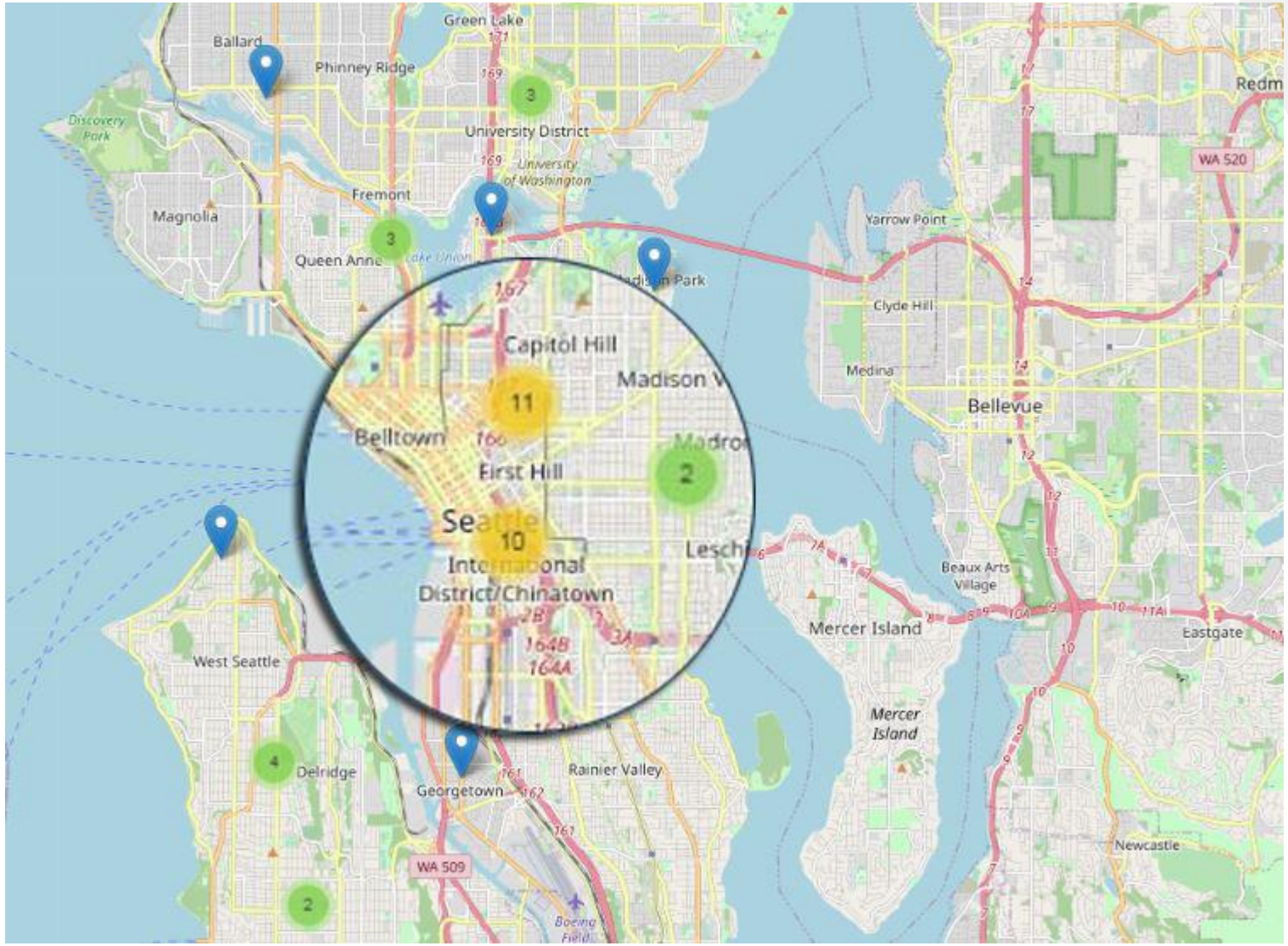


CLUSTER MAP OF COLLISION LOCATIONS



Clustering the data revealed more usable information, but still didn't provide detailed enough information as to which areas or neighborhoods needed the most attention.

CLUSTER MAP OF COLLISION LOCATIONS



Further analysis of the collision clusters reveals that outside the downtown area, they are quite scattered. The exceptions are the First Hill and International District/Chinatown areas.

CONCLUSION

Approximately 34% of severe collisions involving a speeding and distracted driver with no other causes happen in the First Hill and International District/Chinatown areas of Seattle. A focus on reducing the number of these types of car accidents should focus most heavily on those 2 sections of the city.

Drivers traveling to or through those areas should be especially alert in these neighborhoods.

RECOMMENDATIONS FOR FURTHER ANANLYSES

- A REPEAT OF THIS STUDY AT 6 MONTHS AND 1 YEAR AFTER OFFICIAL MEASURES ARE IN PLACE TO TRY AND MITIGATE THESE TYPES OF CRASHES.
- A SEPARATE ANALYSIS STUDYING ONLY DISTRACTED DRIVERS REGARDLESS OF SPEEDING
- A SEPARATE ANALYSIS STUDYING ONLY SPEEDING DRIVERS REGARDLESS OF DISTRACTION
- A STUDY COMPARING THE RELATIONSHIP BETWEEN VARIOUS CONDITIONS (ROAD, WEATHER, LIGHT) AND ACCIDENT SEVERITY