Seattle Traffic Accidents Study

- Observations & Recommendations

Coursera Capstone Project

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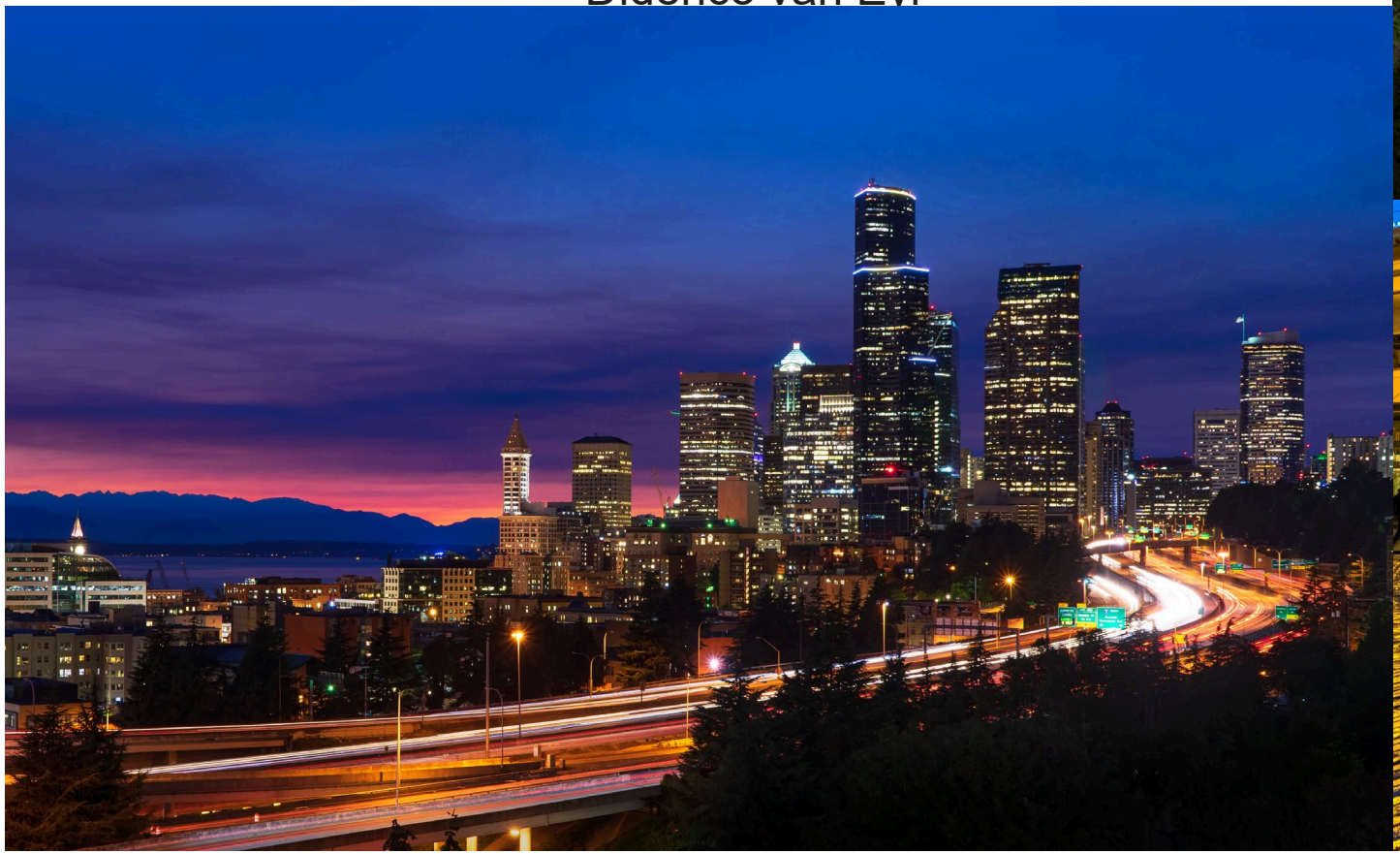


Agenda

- Introduction
- Data
- Methodology
- Results
- Discussion
- Conclusions

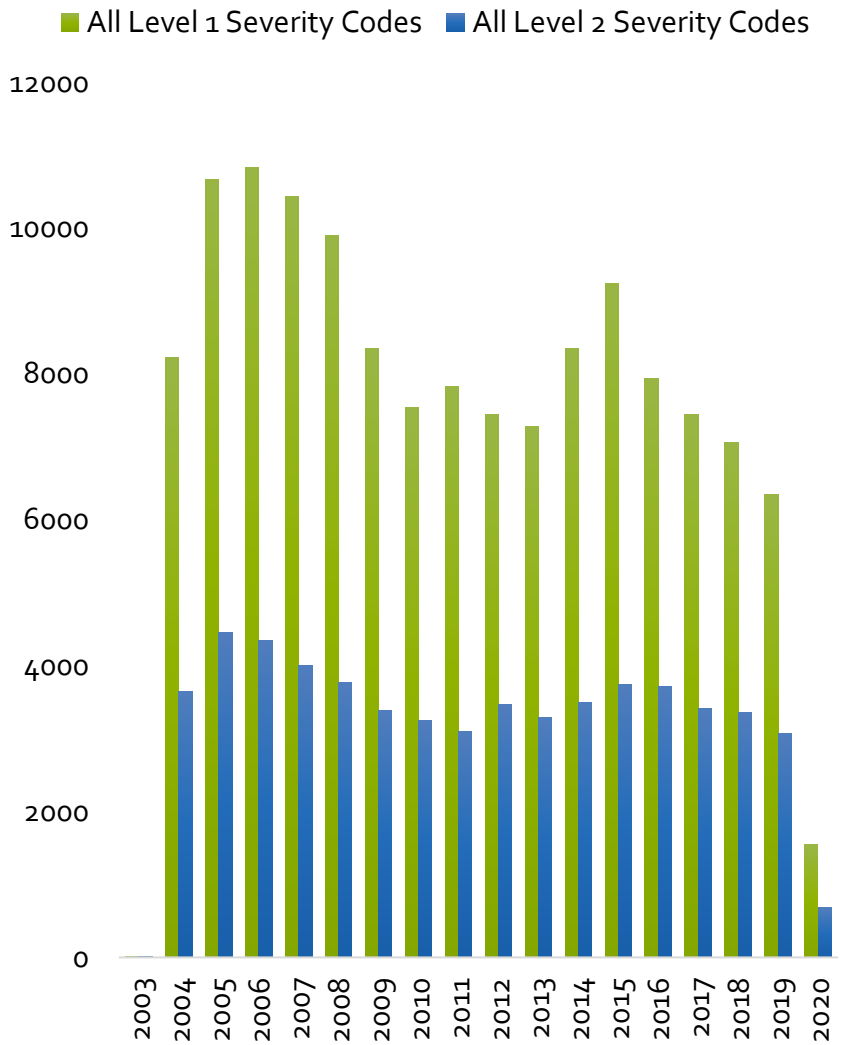
Introduction

- Seattle has experienced many traffic accidents
- Data is now available to evaluate features of accidents
- By studying available data, potential opportunities for reducing accidents may be found

DATA

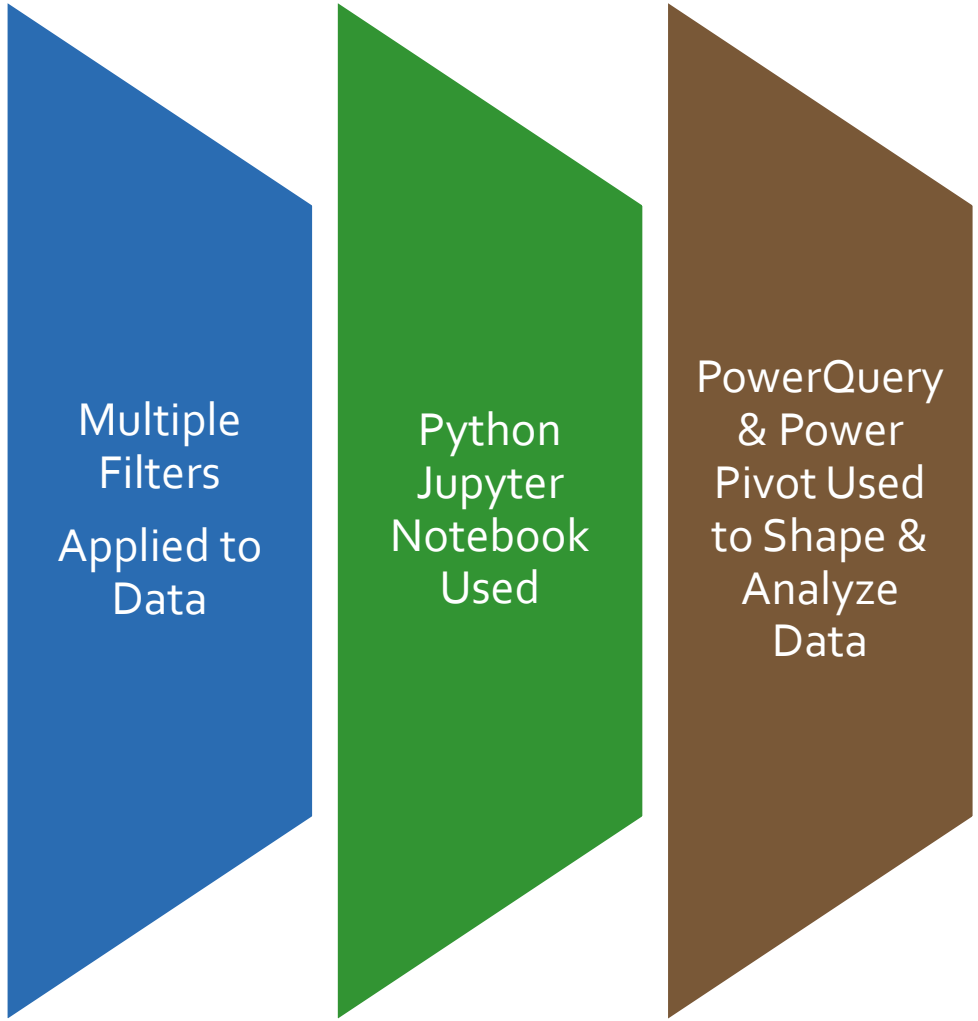
- Accident data includes data from 2003-2020
- Accidents categorized as "Level 1" and "Level 2" Severity level
- "Level 1" accidents involve property damage, no personal injury
- "Level 2" accidents involve personal injury

Collision Type	Level 2 Severity Accidents	Level 1 Severity Accidents	Total
Rear Ended	14,671	19,419	34,090
Angles	13,624	21,050	34,674
Other	6,112	17,591	23,703
Pedestrian	5,936	672	6,608
Left Turn	5,411	8,292	13,703
Cycles	4,744	671	5,415
Parked Car	2,662	45,325	47,987
Sideswipe	2,506	16,103	18,609
(blank)	1,041	3,863	4,904
Head On	872	1,152	2,024
Right Turn	609	2,347	2,956
Total	58,188	136,485	194,673



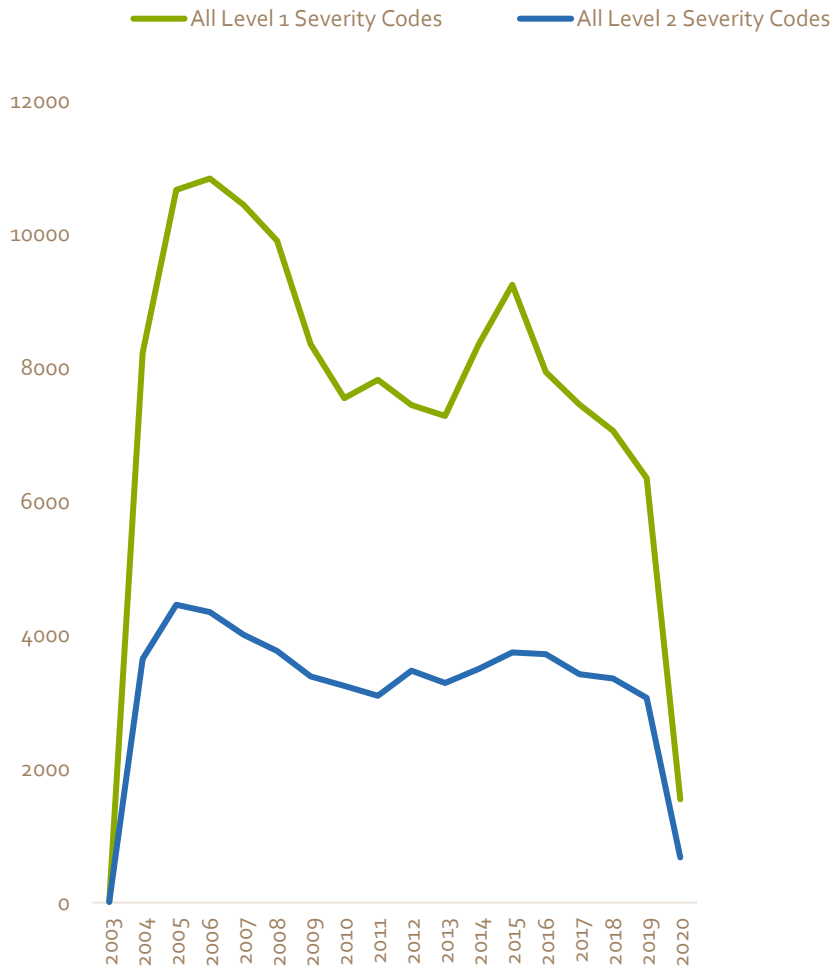
Methodology

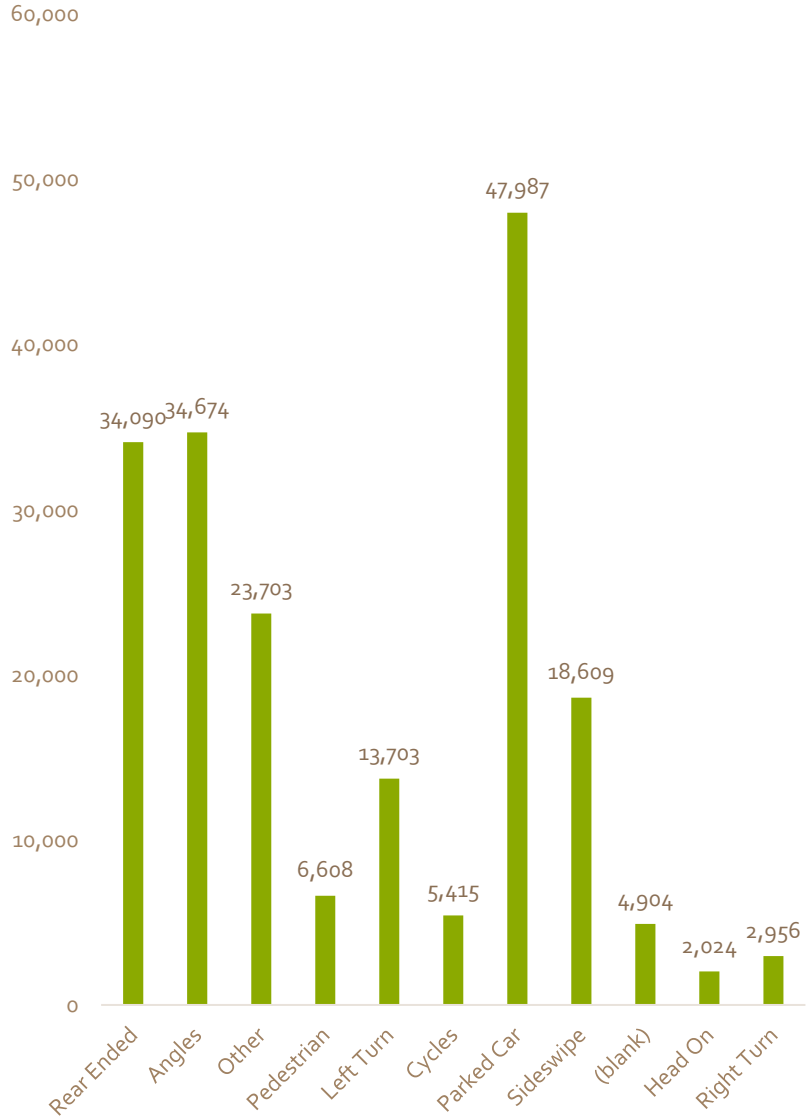
- Dataset was analyzed by various filters to better understand how different variables corresponded to accidents using different severity codes.
- Dataset was uploaded to Excel's PowerQuery, PowerPivot and using pivot table analysis,
- Data was uploaded to a Jupyter notebook using Python code and various aspects of the dataset were evaluated.



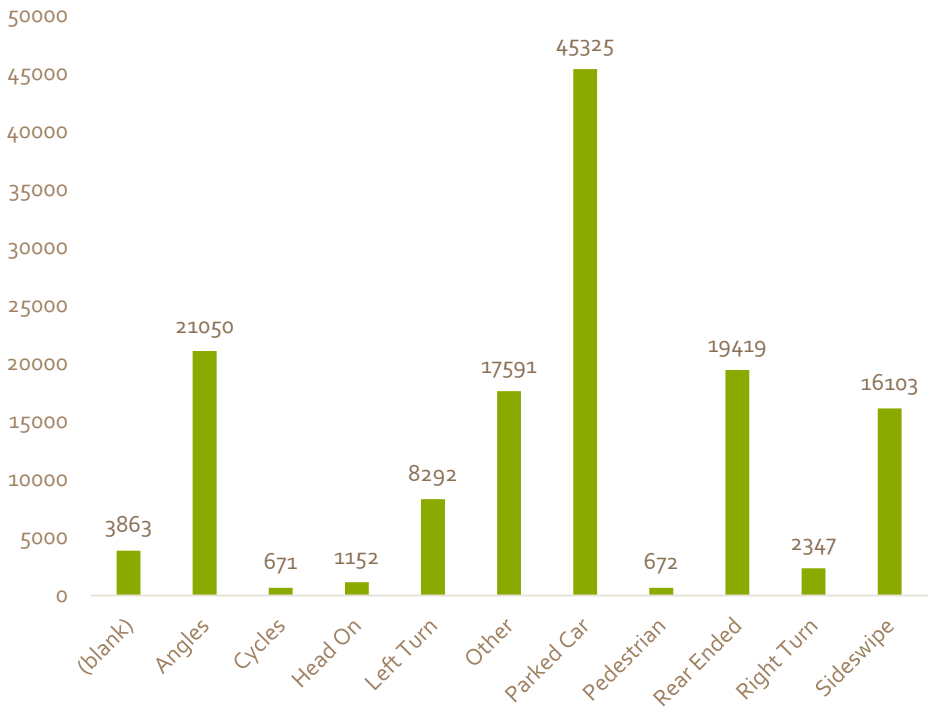
Results

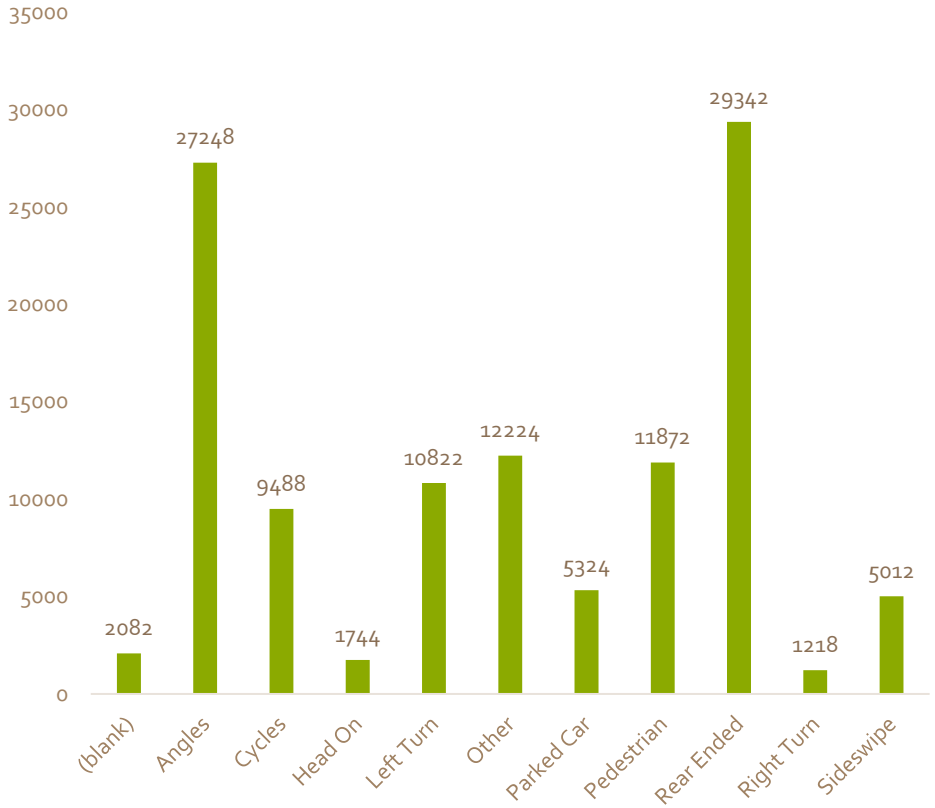
- 194,673 total accidents were recorded
- Data Tracked by Different Types of Accident Situation
- Data includes accidents from 2003 to 2020





Level 1 & Level 2 Accidents Compared



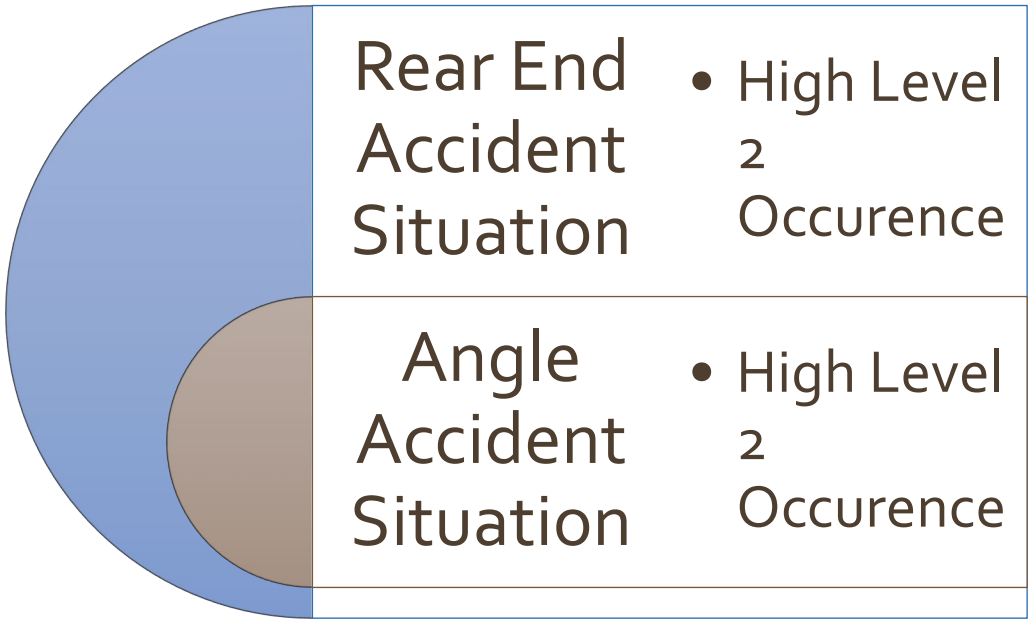


Discussion

- 194,673 total accidents were recorded
  - 58,188 Level 2 Severity Accidents
  - 136,485 Level 1 Severity Accidents
- Most accidents occurred when a car was parked in general and for Level 1 Severity accidents

- **Rear-ended** and **angled** accident situations were the next most common situations in general **and for Level 2 Severity accidents**

- A general trend from 2003 to 2019 has been a **reduction** in Level 1 and Level 2 severity accidents



Conclusion

- Rear-Ended & Angle Accident situations are the most prevalent Level 2 severity accidents

- From a policy perspective, measures to reduce the number of rear-end and angle crashes should be explored

- Automakers should be informed of the results and challenged to develop safety features that reduce the likelihood of rear-end and angle collisions