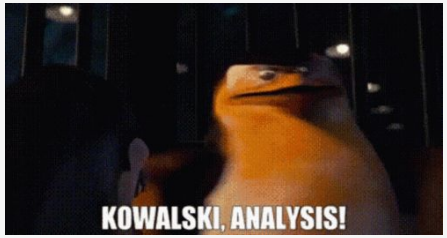

TRAFFIC COLLISION ANALYSIS

Group #8: Ishan Bansal
Rishigesh Jayananth
Surya Prakash
Jiayi Cui
Abhi Sachdeva

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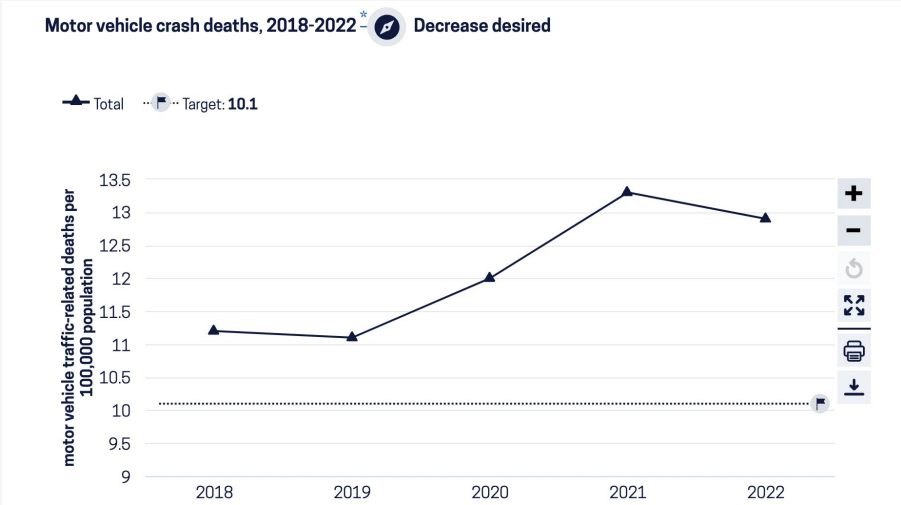
01

MOTIVATION

RISE IN VEHICULAR ACCIDENTS

- Road crashes are one of the leading causes of death in the U.S.
  - Perception
  - Precaution
  - Prevention
- We analyze the US Accidents (2016 - 2023) dataset from Kaggle
  - https://www.kaggle.com/datasets/sobhanmoosavi/us-accidents/data[1]

Population Size: U.S. Residents

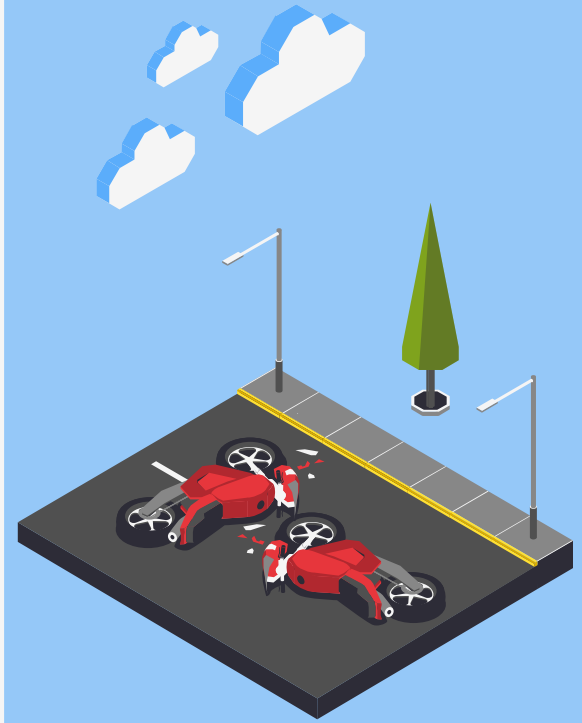


https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/injury-prevention/reduce-deaths-motor-vehicle-crashes-ivp-06/data?group=None&from=2018&to=2022&state=United%20States&populations=#edit-submit

[1] Sobhan Moosavi. (2023). US Accidents (2016 - 2023) [Data set]. Kaggle. https://doi.org/10.34740/KAGGLE/DS/199387

7,728,394

Number of accidents between 2016 and 2023
That’s over 22 accidents for every 1,000 people



LET’S START WITH PERCEPTION

PERCEPTION 1

Accidents are evenly distributed across the country

PERCEPTION 2

Most accidents occur at night due to poor visibility

PERCEPTION 3

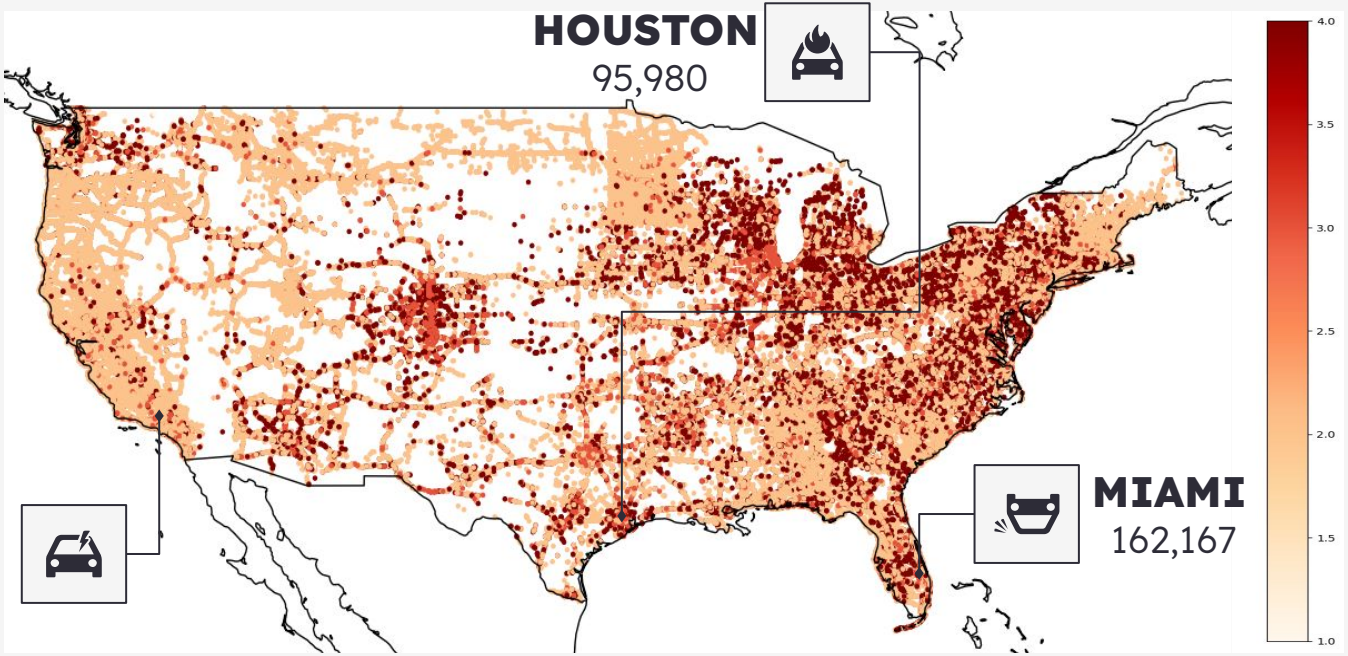
Poor weather conditions lead to more number of accidents

02 Data Insights

“Standing in the middle of the road is very dangerous; you get knocked down by the traffic from both sides.”

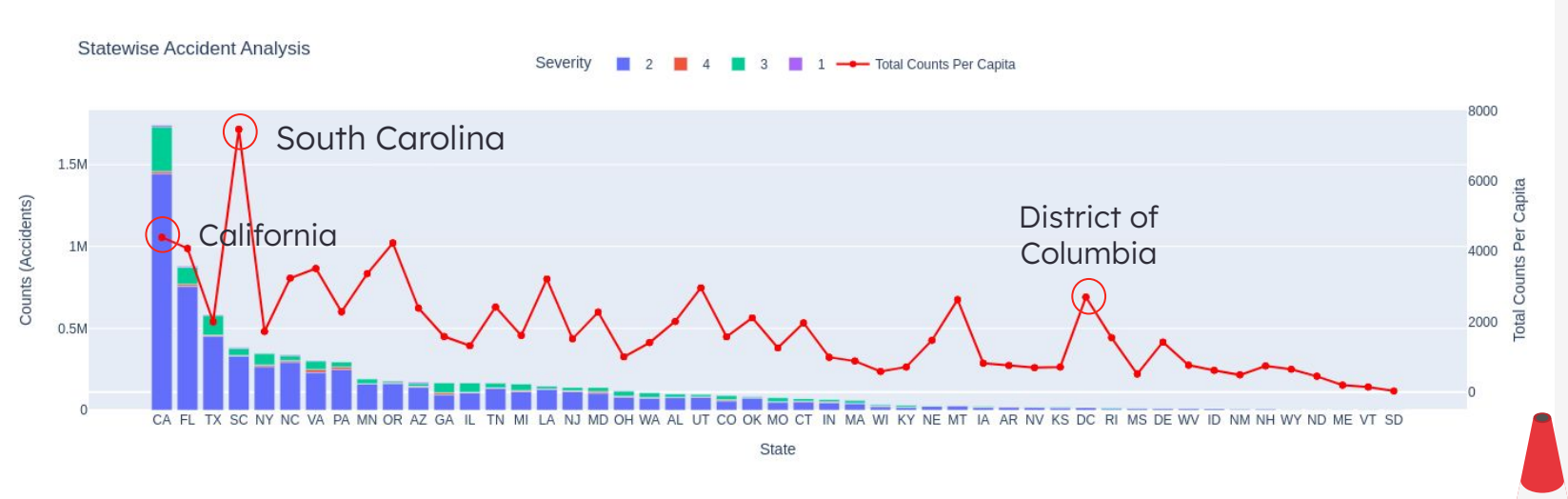
- MARGARET THATCHER

GEO-SPATIAL ANALYSIS

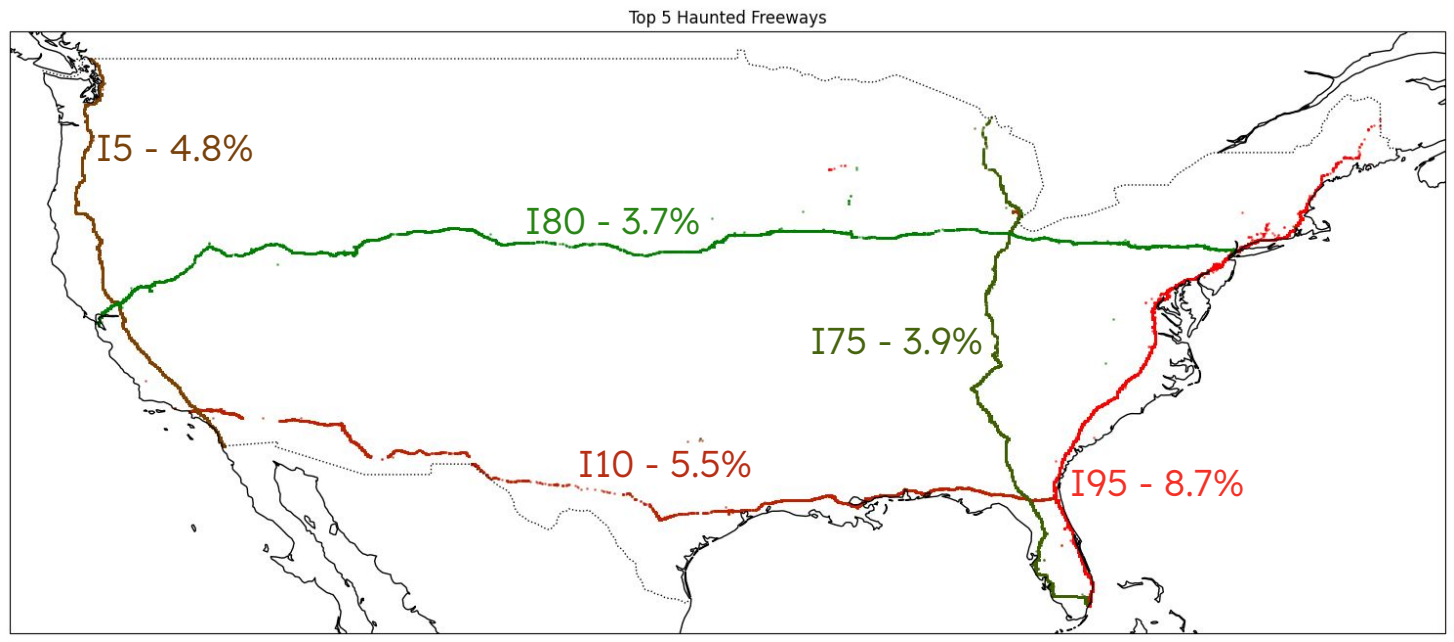


HEAT-MAP OF SEVERITY OF ACCIDENTS

Trendline Normalized against Population

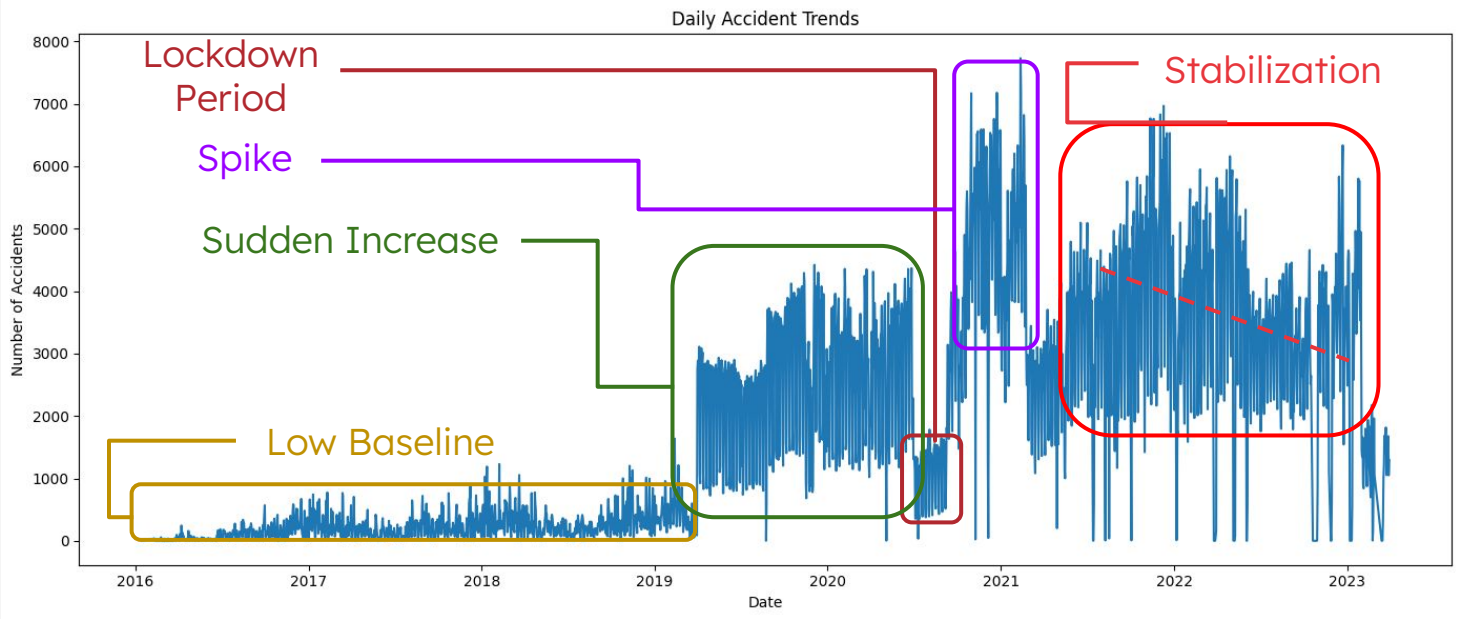


STATE-WISE HISTOGRAM OF ACCIDENTS

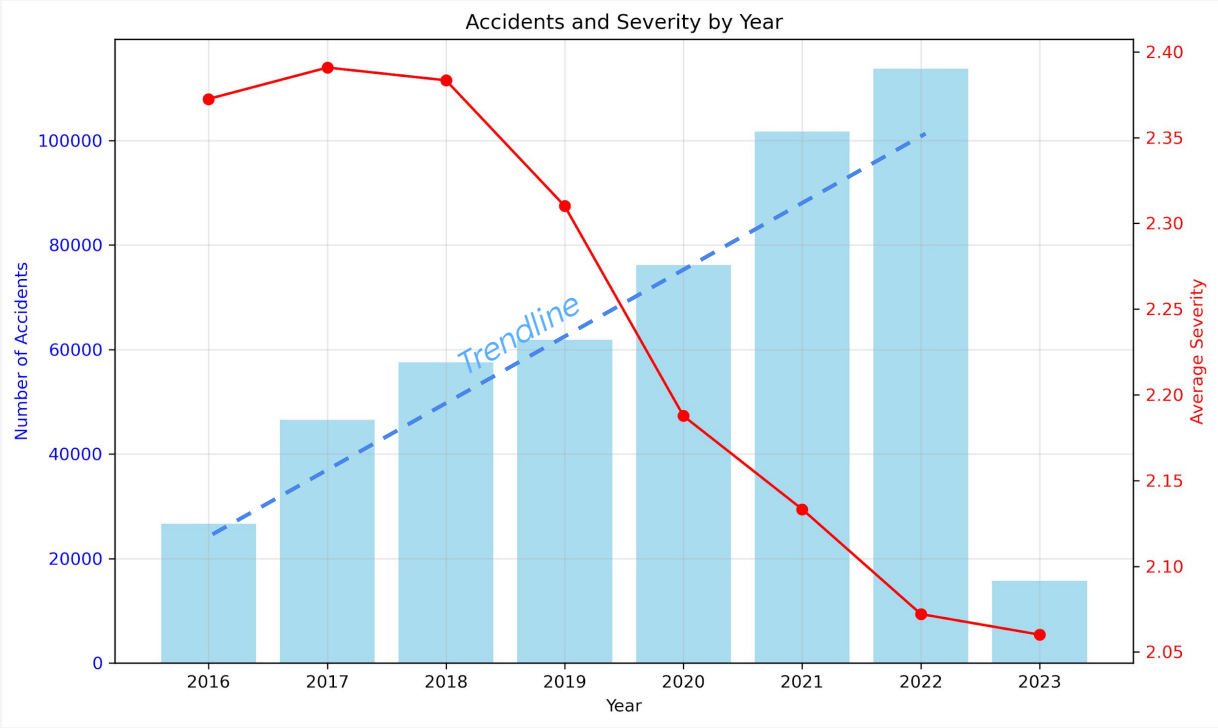


HIGHWAYS TO HELL

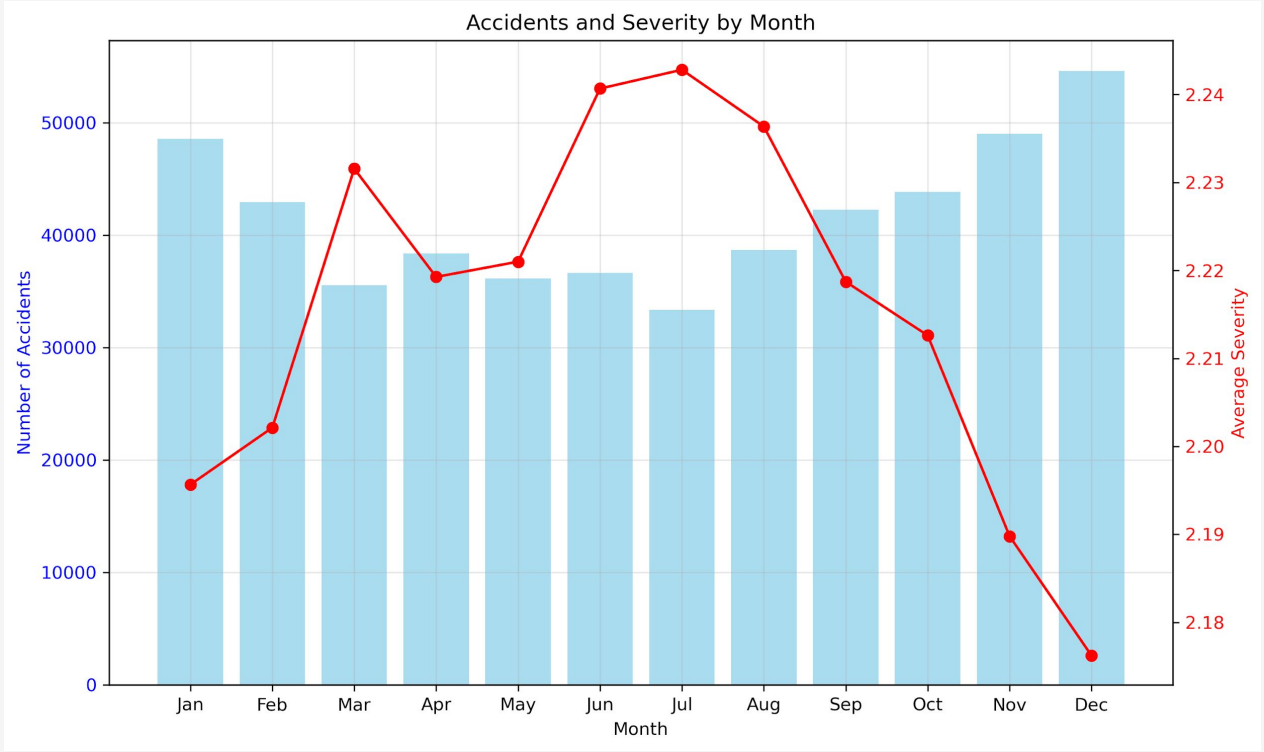
TEMPORAL ANALYSIS



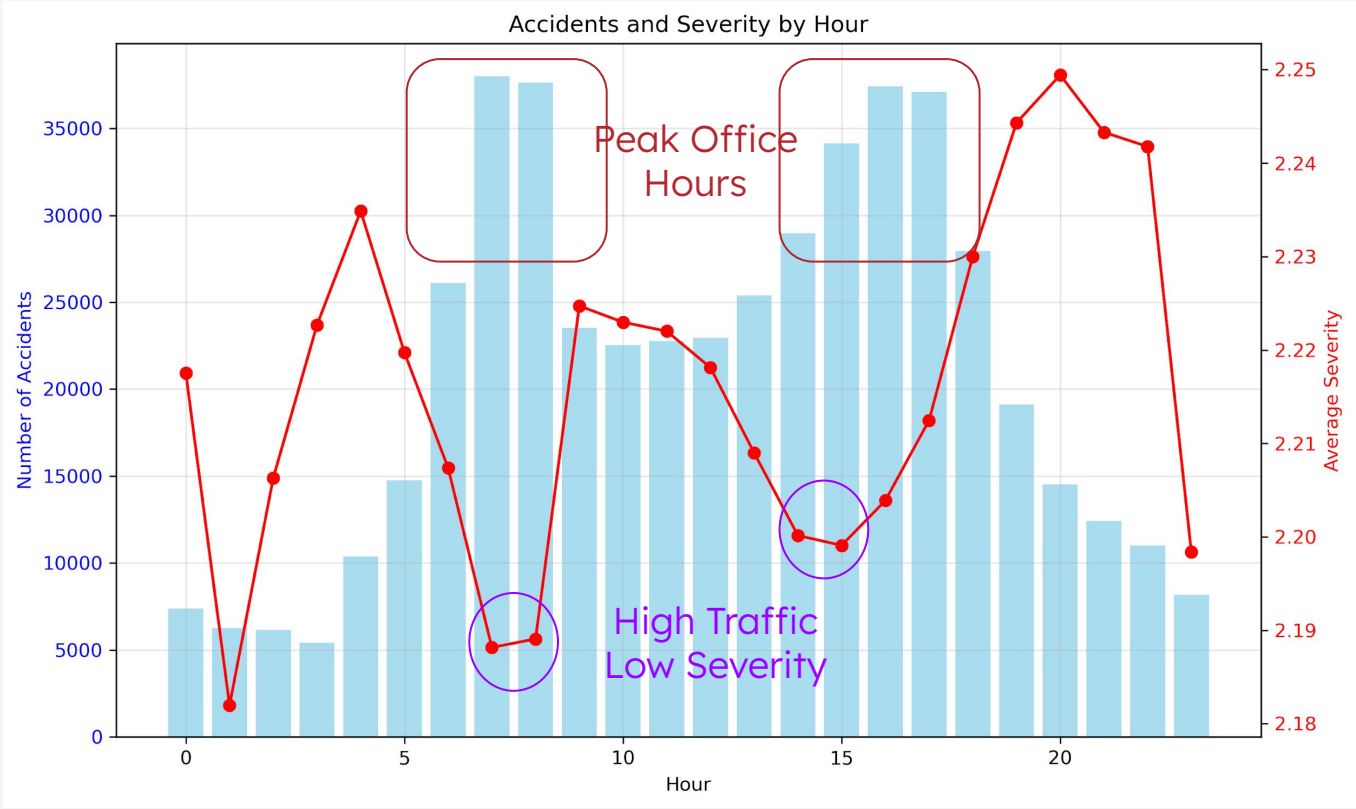
DAILY OCCURRENCES OF ACCIDENTS



NUMBER OF ACCIDENTS [YEAR]

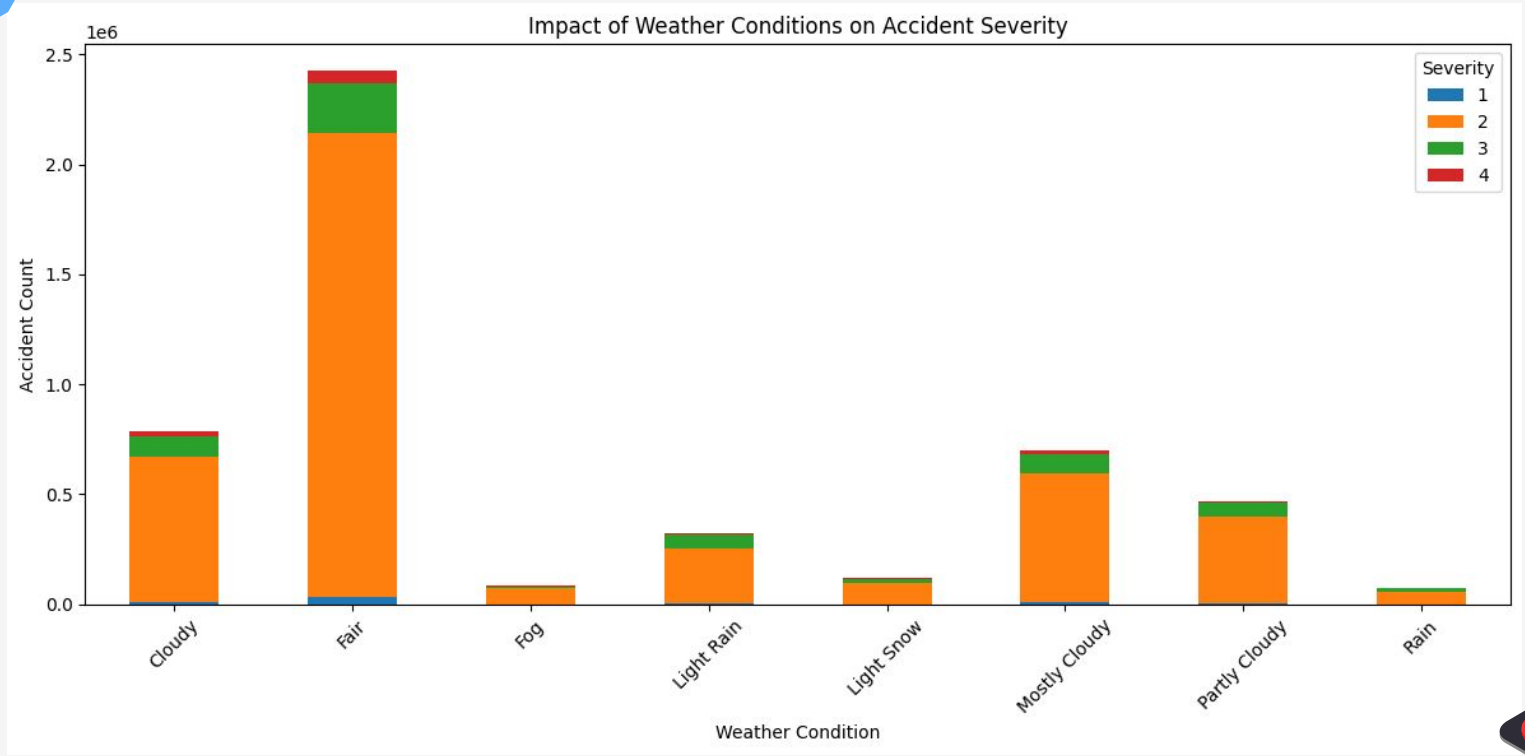


NUMBER OF ACCIDENTS [MONTH]

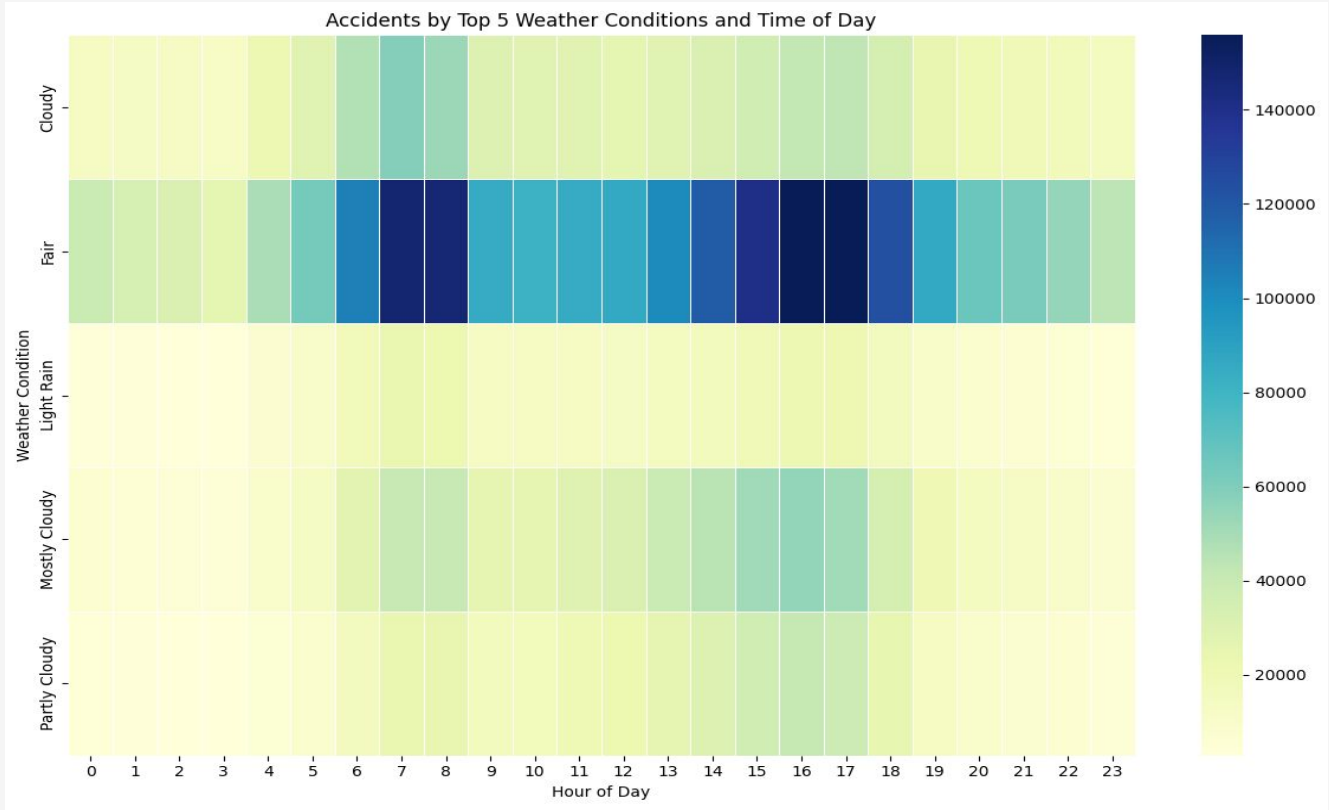


NUMBER OF ACCIDENTS [INTRA-DAY]

WEATHER ANALYSIS



WEATHER VS SEVERITY

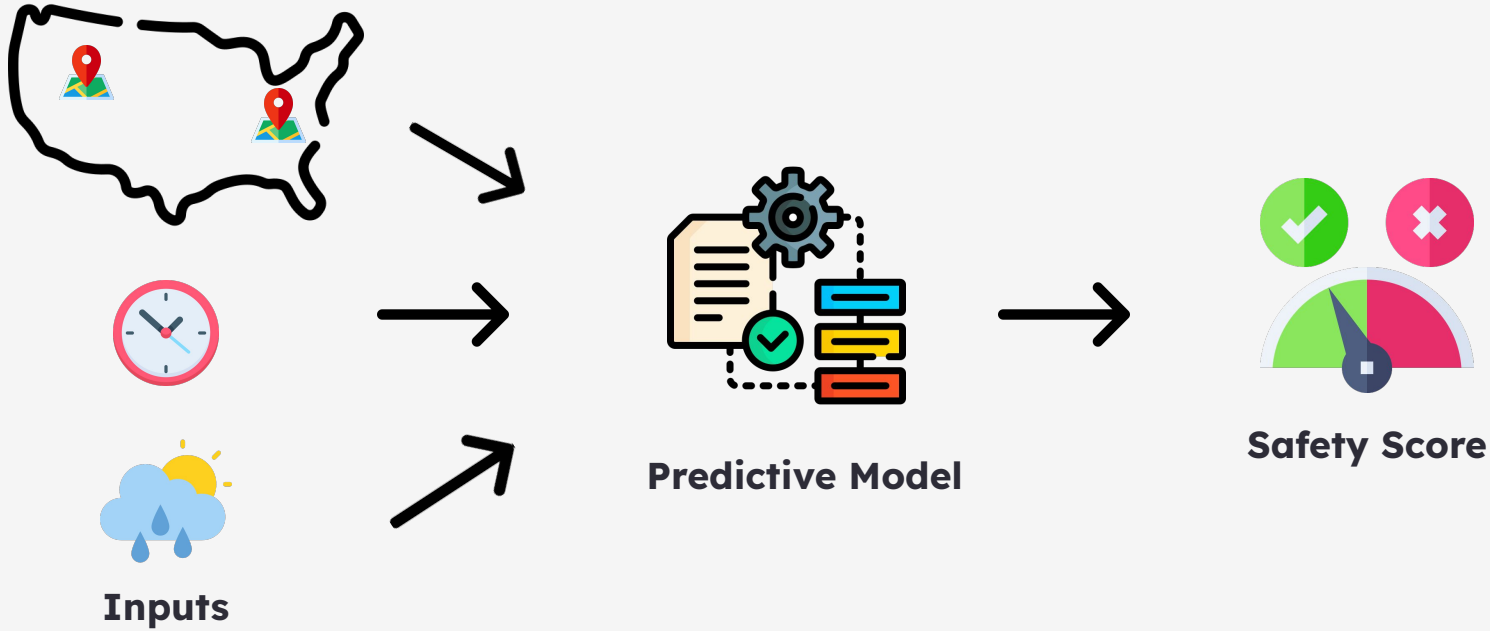


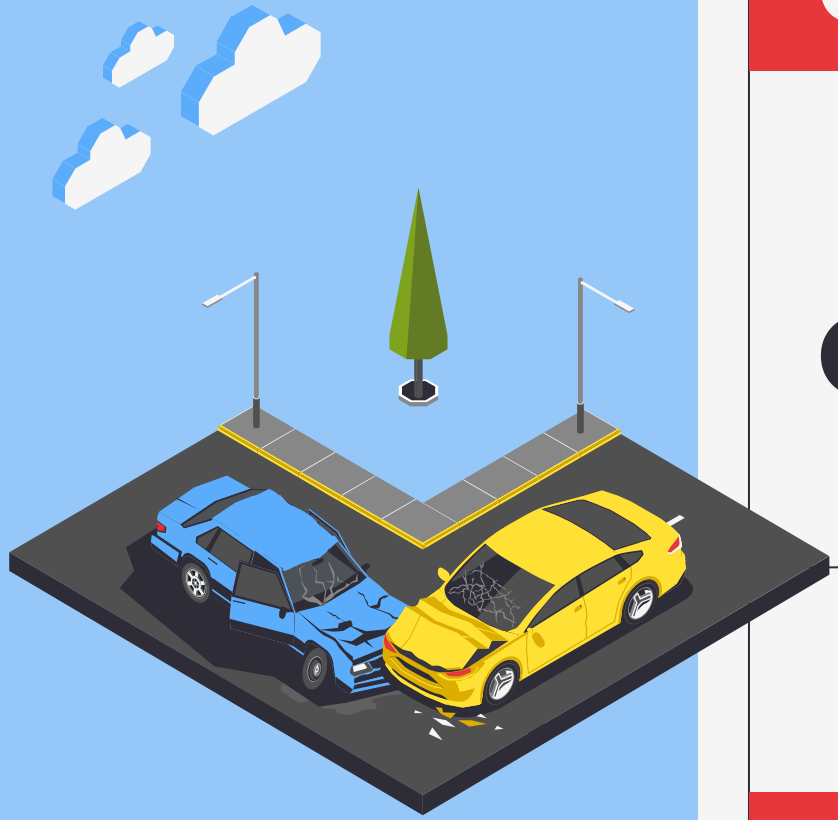
WEATHER & TIME OF DAY

03

FUTURE WORK

RECOMMENDER FOR PRECAUTION

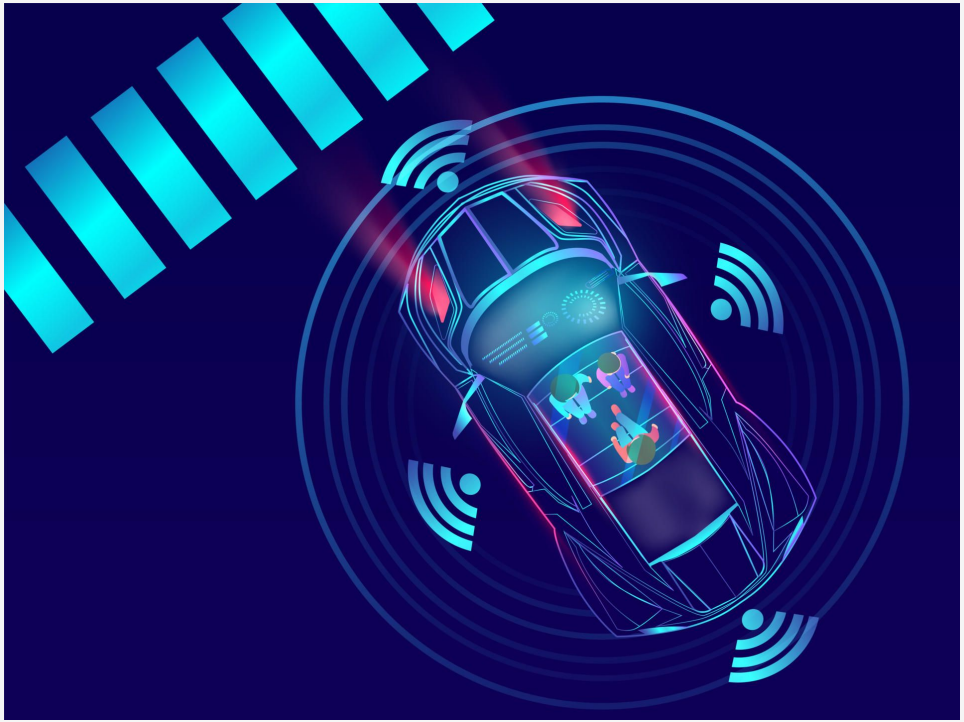




04

CONCLUSION

FINALLY, PREVENTION?



Automotive Sensing &
Autonomous Vehicular Movement