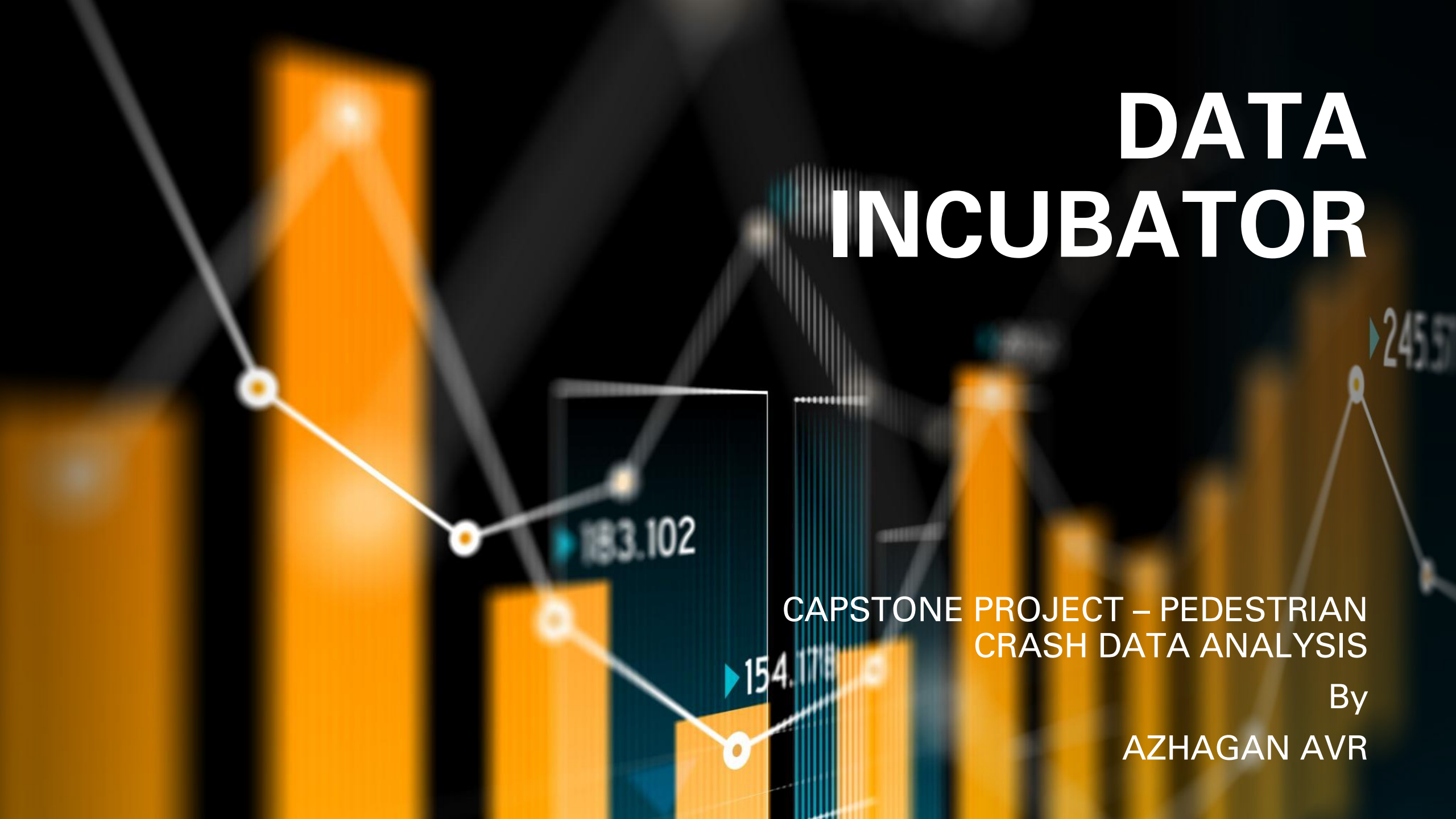


DATA INCUBATOR

CAPSTONE PROJECT – PEDESTRIAN CRASH DATA ANALYSIS

By

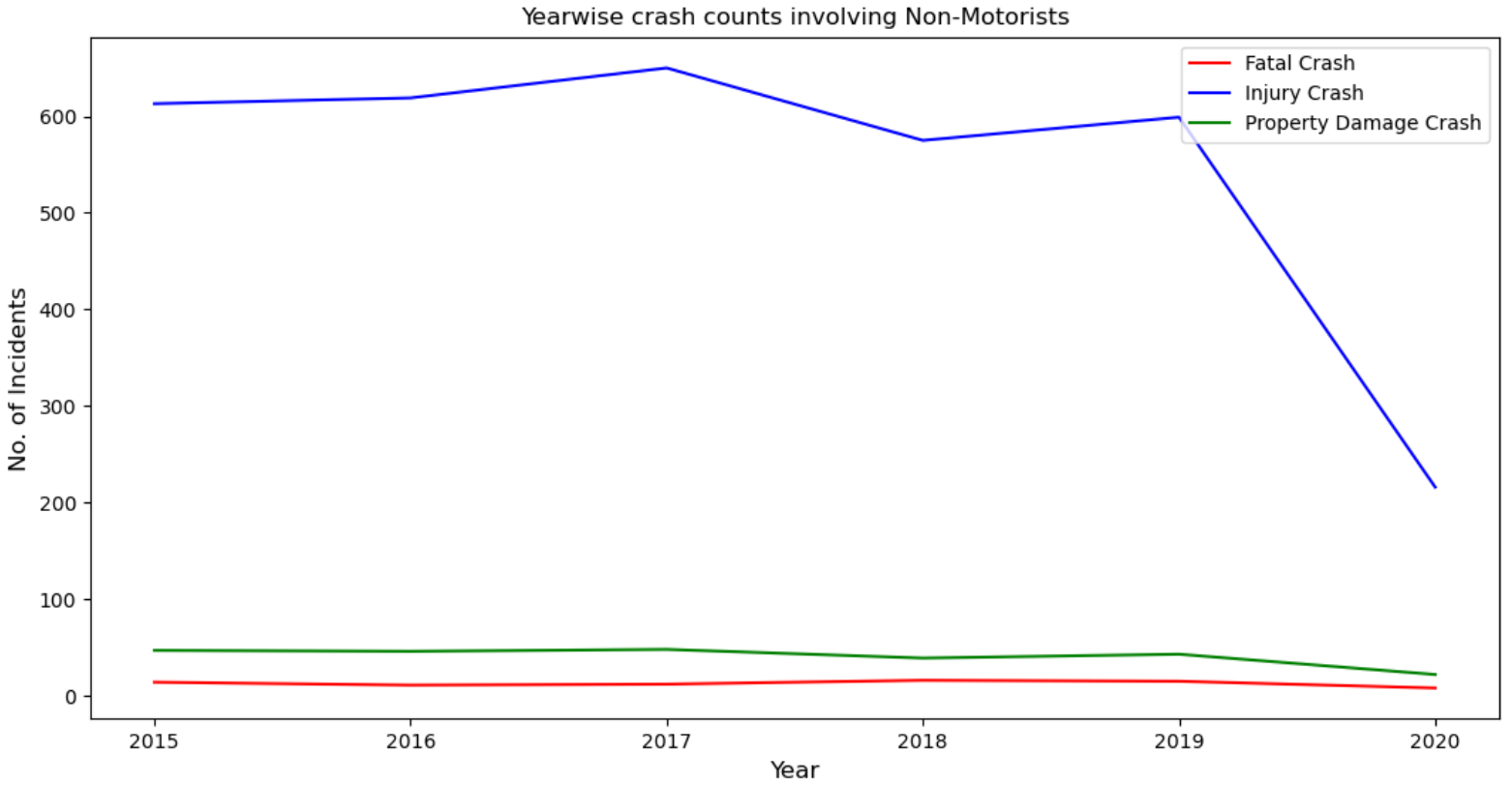
AZHAGAN AVR

Motivation

- In the US Non-motorist are given the right-of-way (ROW) at all instances, even if the motorist is in the ROW.
- It is an undeniable fact that the non-motorist are more susceptible to injuries than a motorist, hence the ROW rule.
- But with such a rule in place ignorance can also play a part while being a non-motorist and undue advantage can be taken by non-motorist.
- Hence, I am using this pedestrian related crash database to analyze the incidents involving non-motorists involve such behavior.

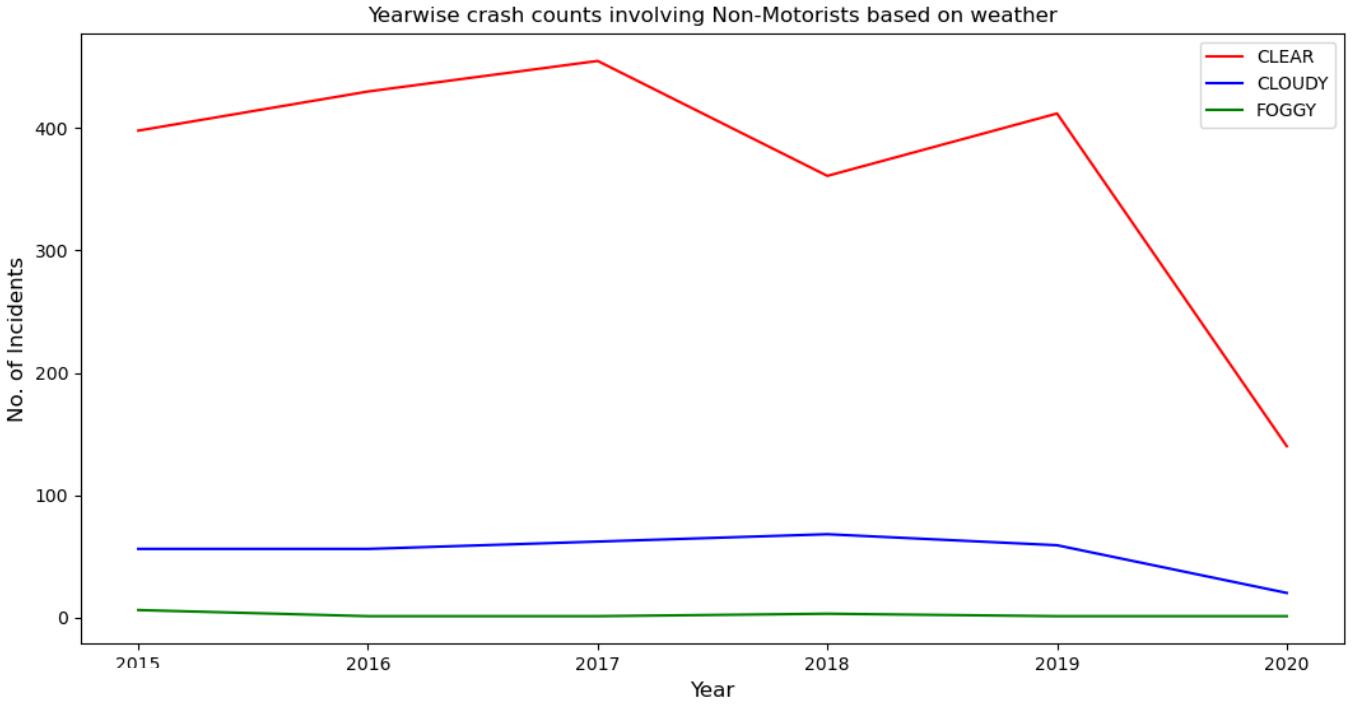
Crash Incidents

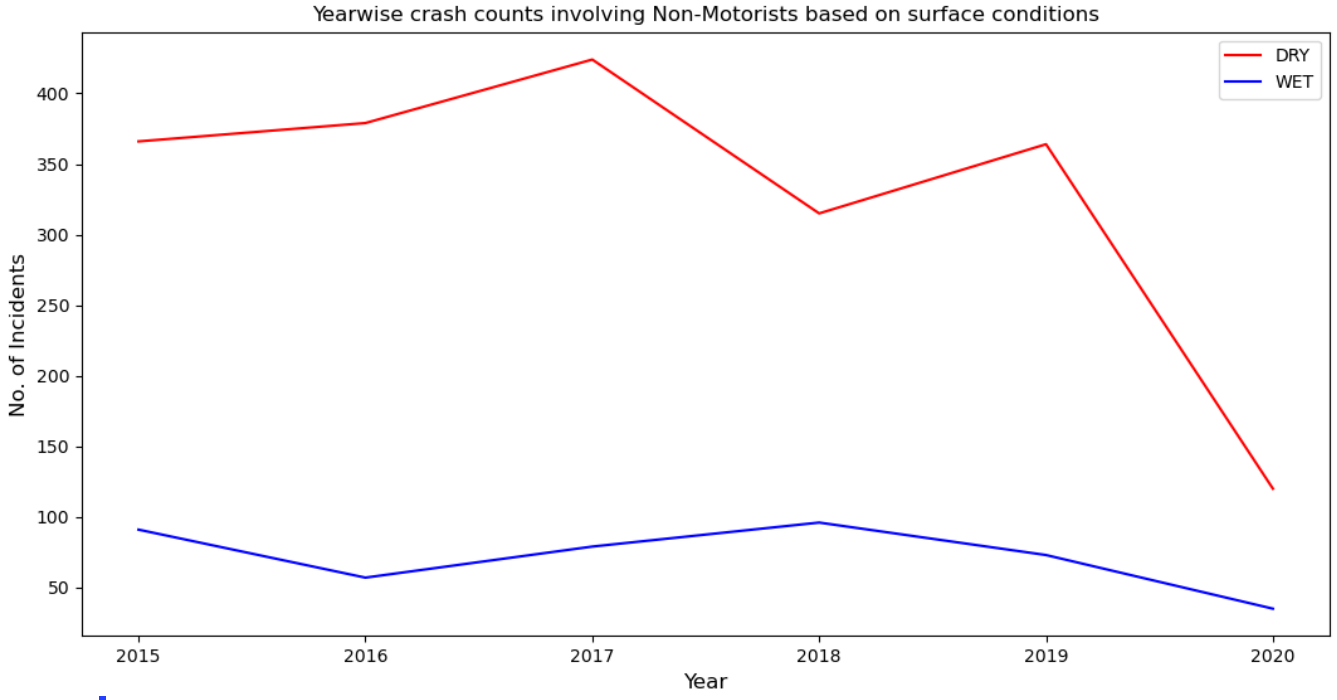
- The dataset consists of data from 2015 to 2020.
- Considering the 3 main crash types, fatal crashes and property damage crashes are more or less the same.
- Injury crashes are very high.
- All these crashes involve pedestrians.



Weather & Surface

- It might be common assumption that foggy conditions, reduce visibility and crashes tend to increase.
- But in case of pedestrian crashes, a greater number of crashes take place in clear skies.

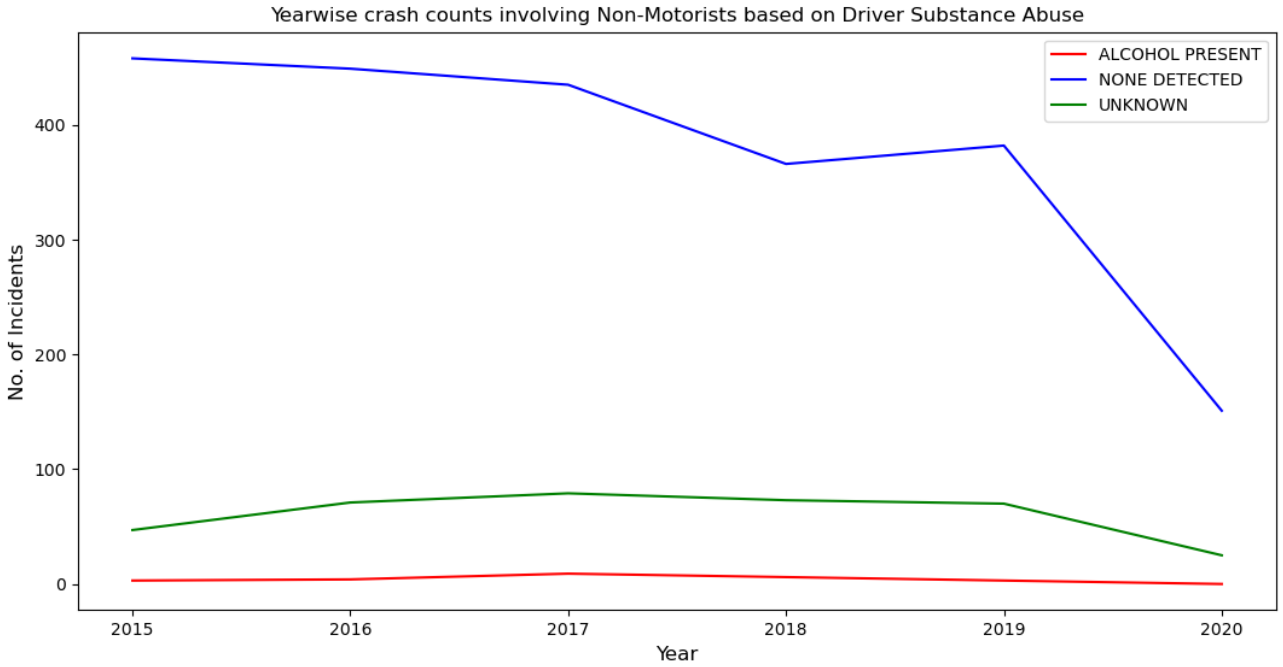


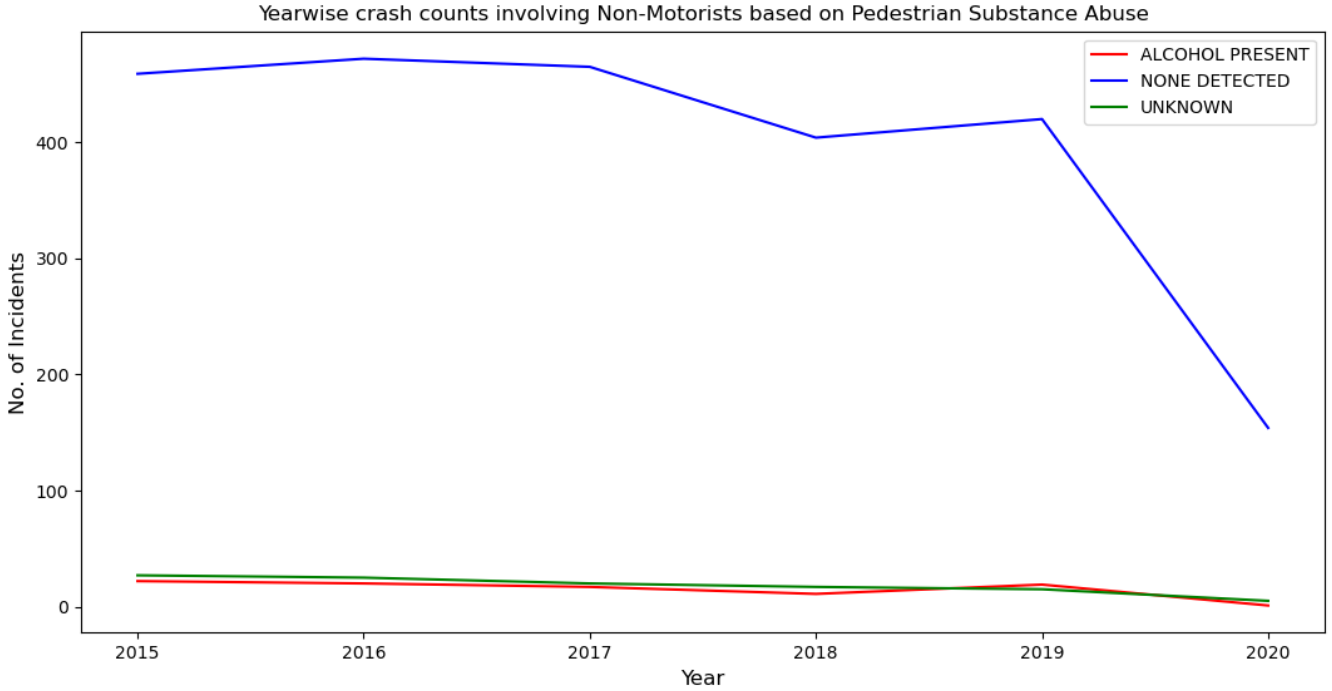


- Like the weather conditions, dry roads cause more accidents than wet roads.
- Hence this leads to a conclusion that external weather or surface conditions do not have a significant impact on pedestrian related crashes.

Substance Abuse

- Also another common assumption is that, alcohol consumption might result in high number of crashes.
- But the data says otherwise.





- Both pedestrian and driver substance abuse has very less impact, when compared to cases without substance abuse.

Summary

- Data is like a mirror that projects the reality without any bias.
- Which is the same in this case, where external factors like wet roads or foggy weather have least impact on crashes and also internal factors like substance abuse have the same effect.
- So, more in-depth research is needed to identify the causes of the pedestrian related crashes.

Future Scope

- Location based analysis can be analyzed like pedestrian at signal or sidewalk or cross walk, etc.
- Geospatial information is also available in the dataset, which can be used to identify hotspots.
- Correlation between various internal and external factor can also be analyzed.

Link

https://data.montgomerycountymd.gov/api/views/n7fk-dce5/rows.csv?accessType=DOWNLOAD