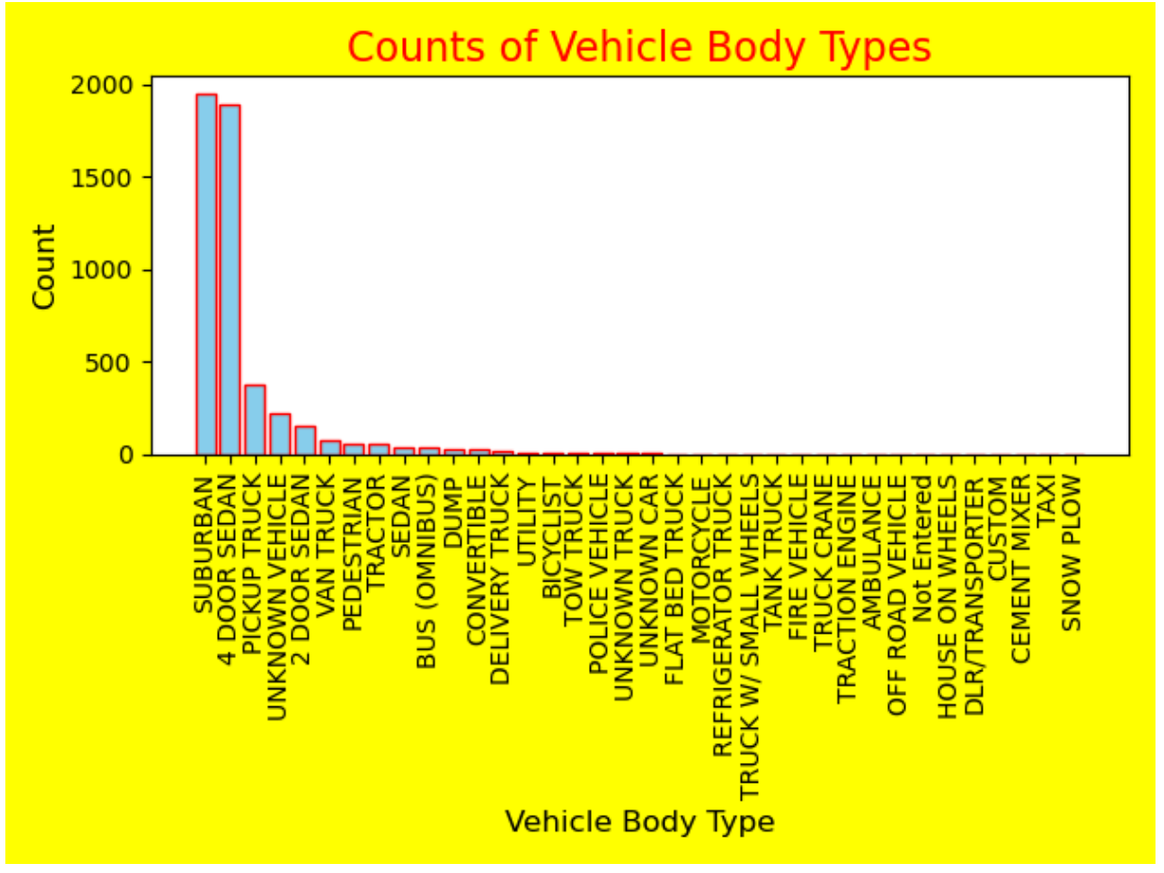
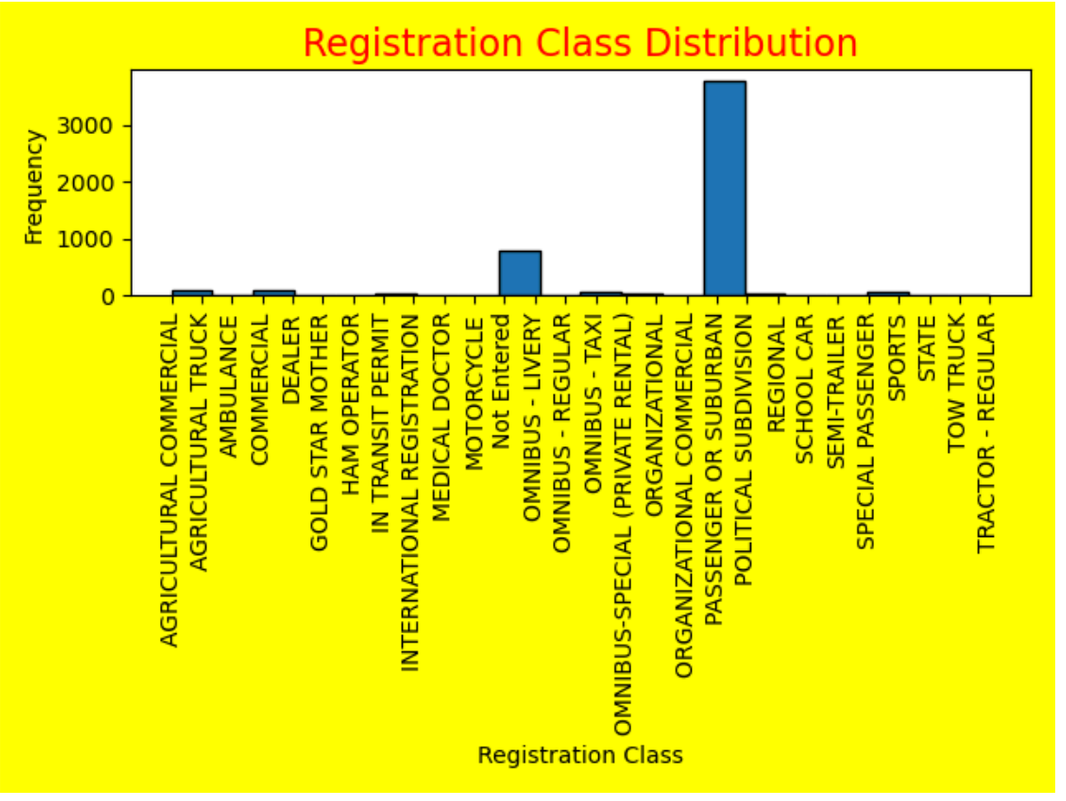
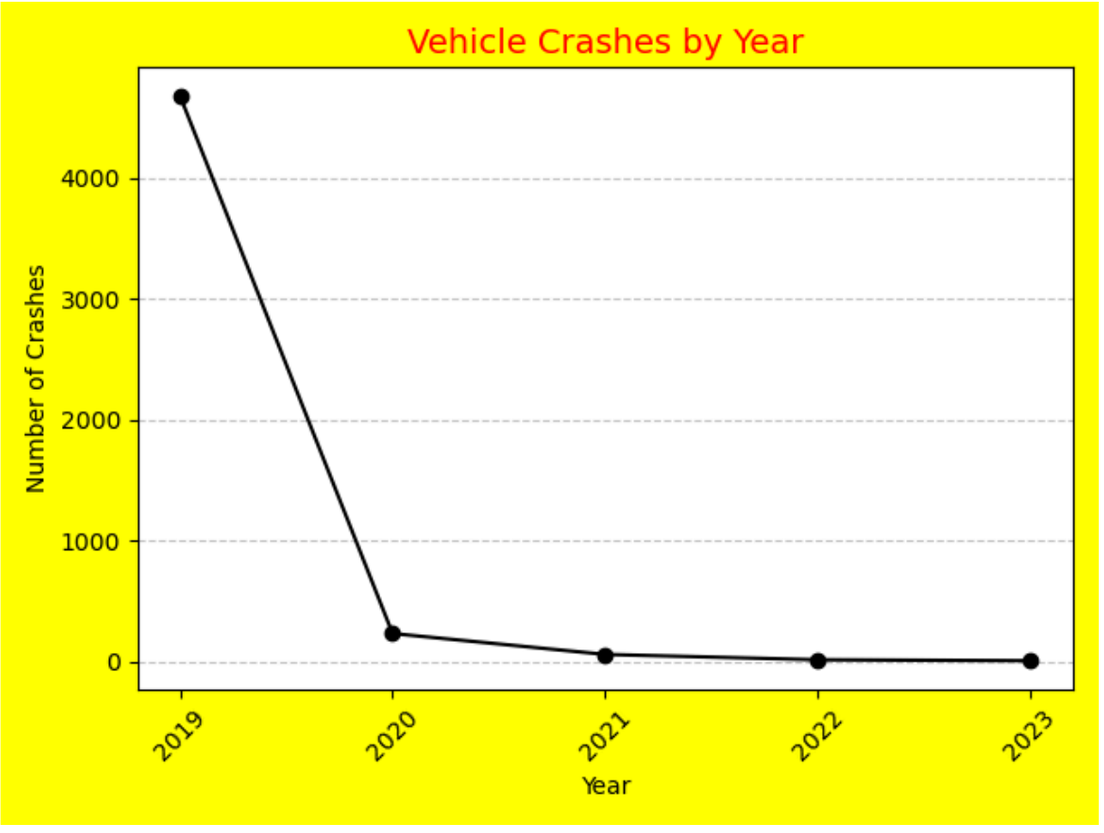
US_Vehicle_Motor_collision_Report-2019-2023

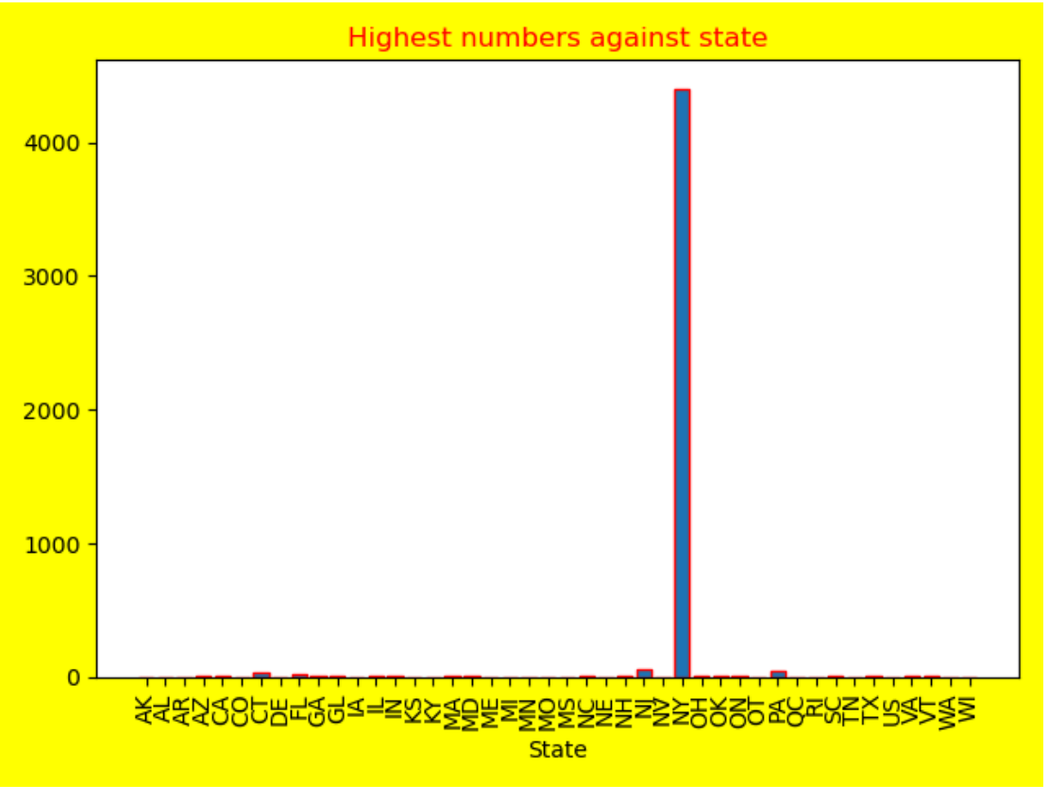




'PASSENGER OR SUBURBAN' and '4 DOOR SEDAN' appear to be the most common vehicle body types involved in crashes, with significantly higher counts compared to other categories.

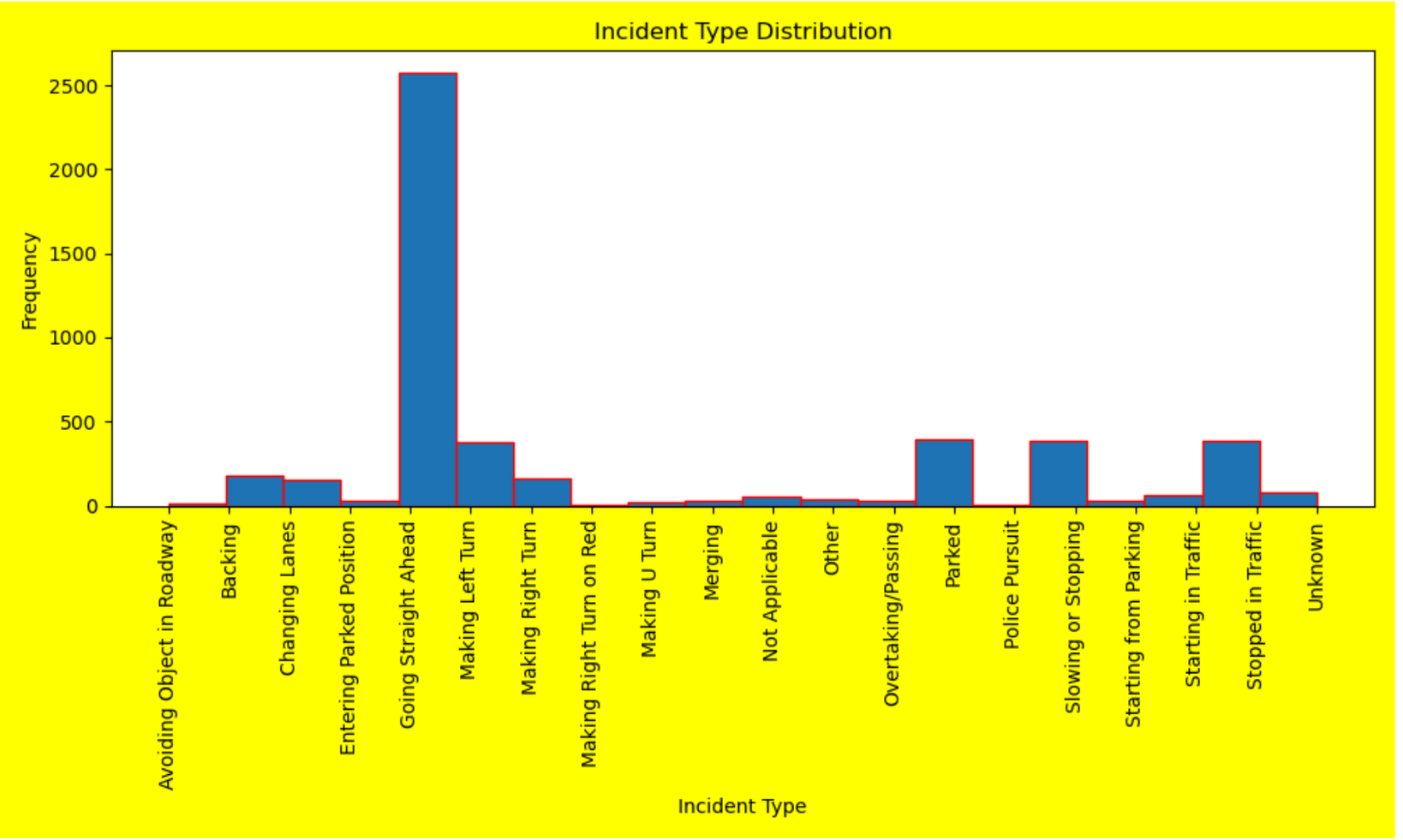
The 'Registration Class Distribution' histogram clearly indicates that 'PASSENGER OR SUBURBAN' vehicles are by far the most frequently involved in crashes, accounting for the vast majority of incidents in this dataset. The next most common category is 'COMMERCIAL', followed by 'OMNIBUSES' vehicles. Other registration classes show significantly lower frequencies of involvement in crashes.



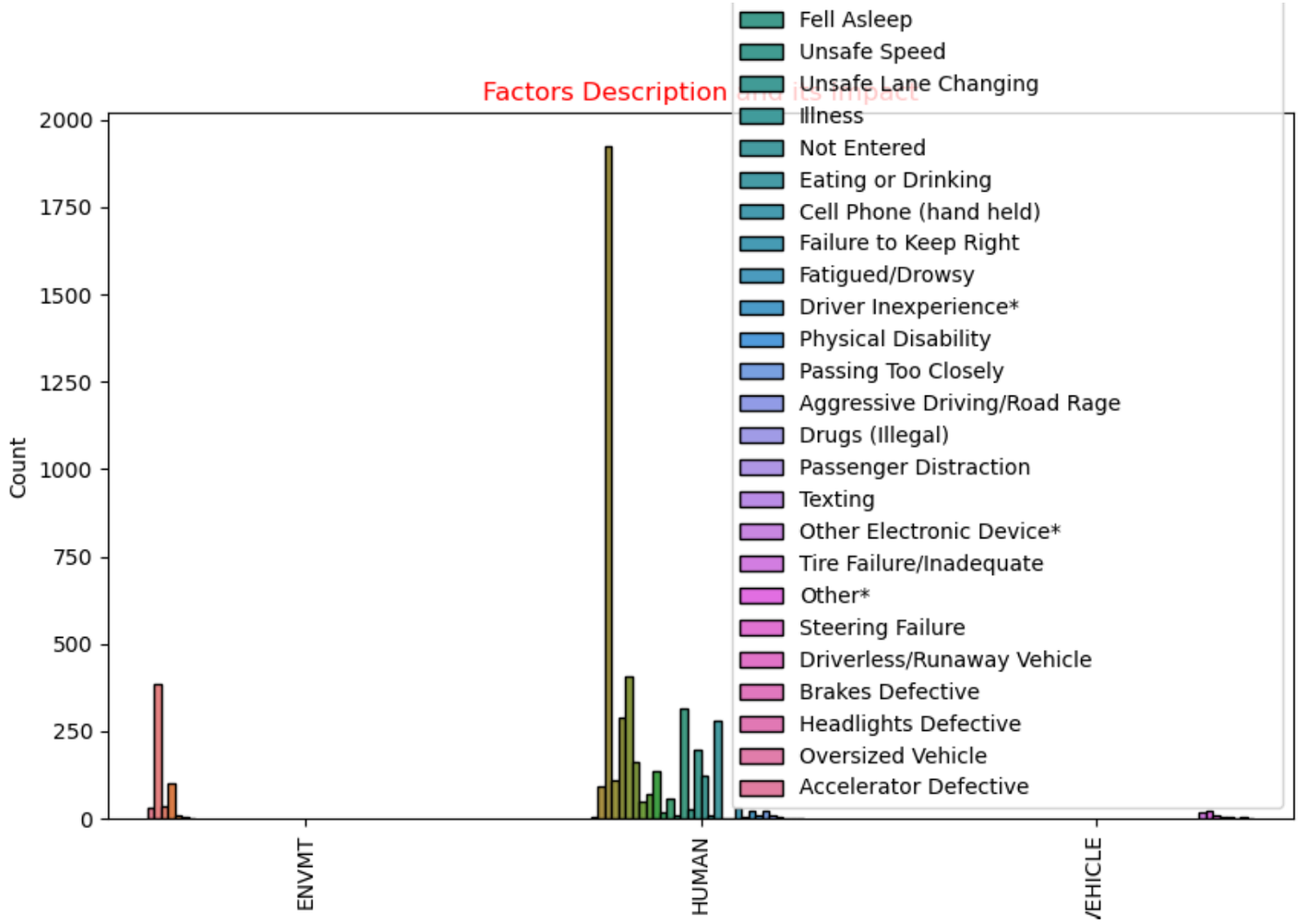


In summary, while 2019 has the highest number of recorded crashes, the decreasing trend for subsequent years in this specific dataset should be interpreted with caution, as it might be due to data sampling or completeness rather than an actual reduction in accidents.

Here, the bar graphs shows clearly that NewYork in USA having huge number of vehicles registered among three years compared to other states.



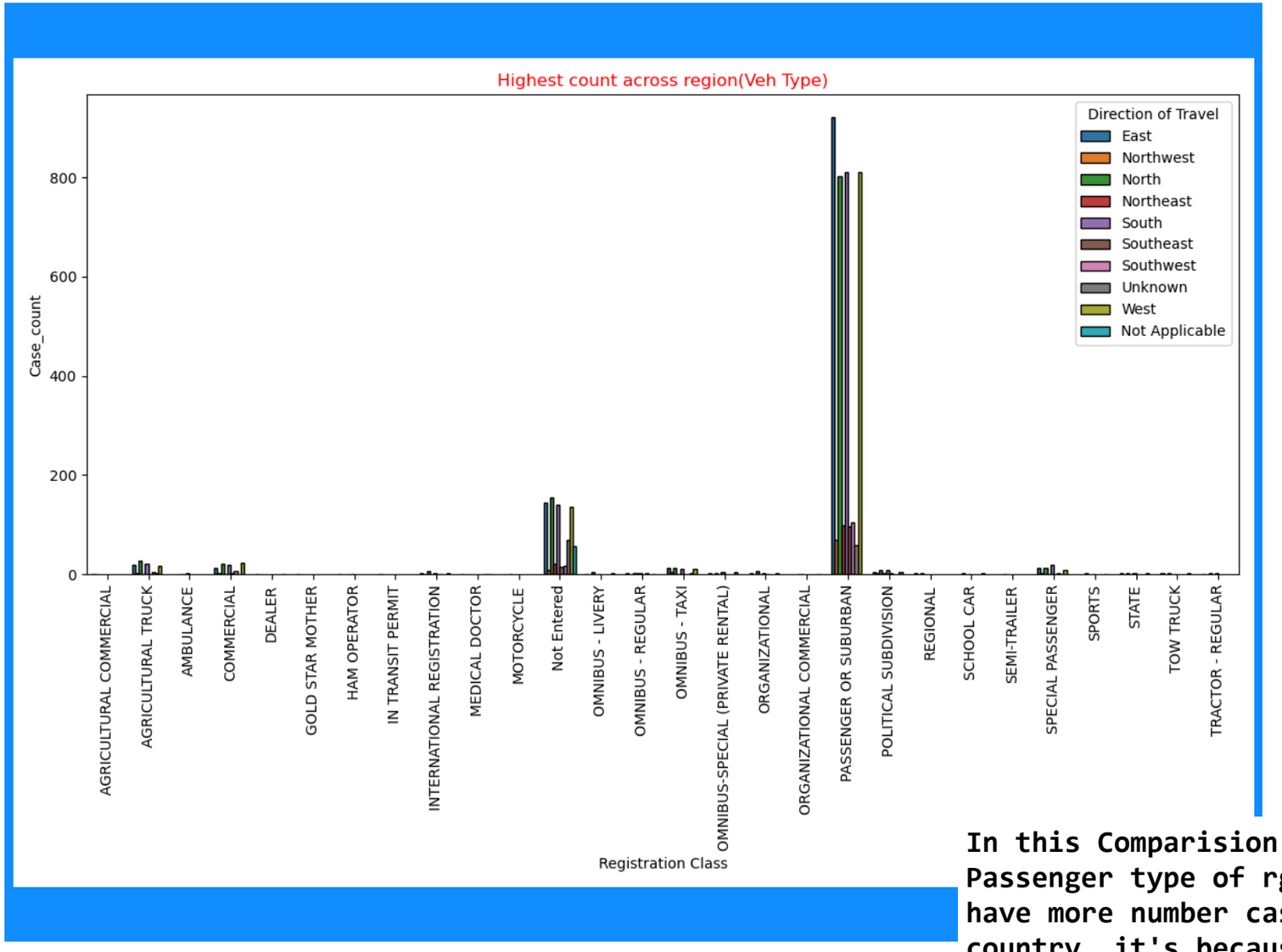
The most common action prior to an accident is 'Going Straight Ahead', which accounts for a significant majority of incidents (2000 and above crashes). This suggests that many accidents occur while vehicles are simply proceeding forward, possibly due to other factors like inattention or external circumstances.



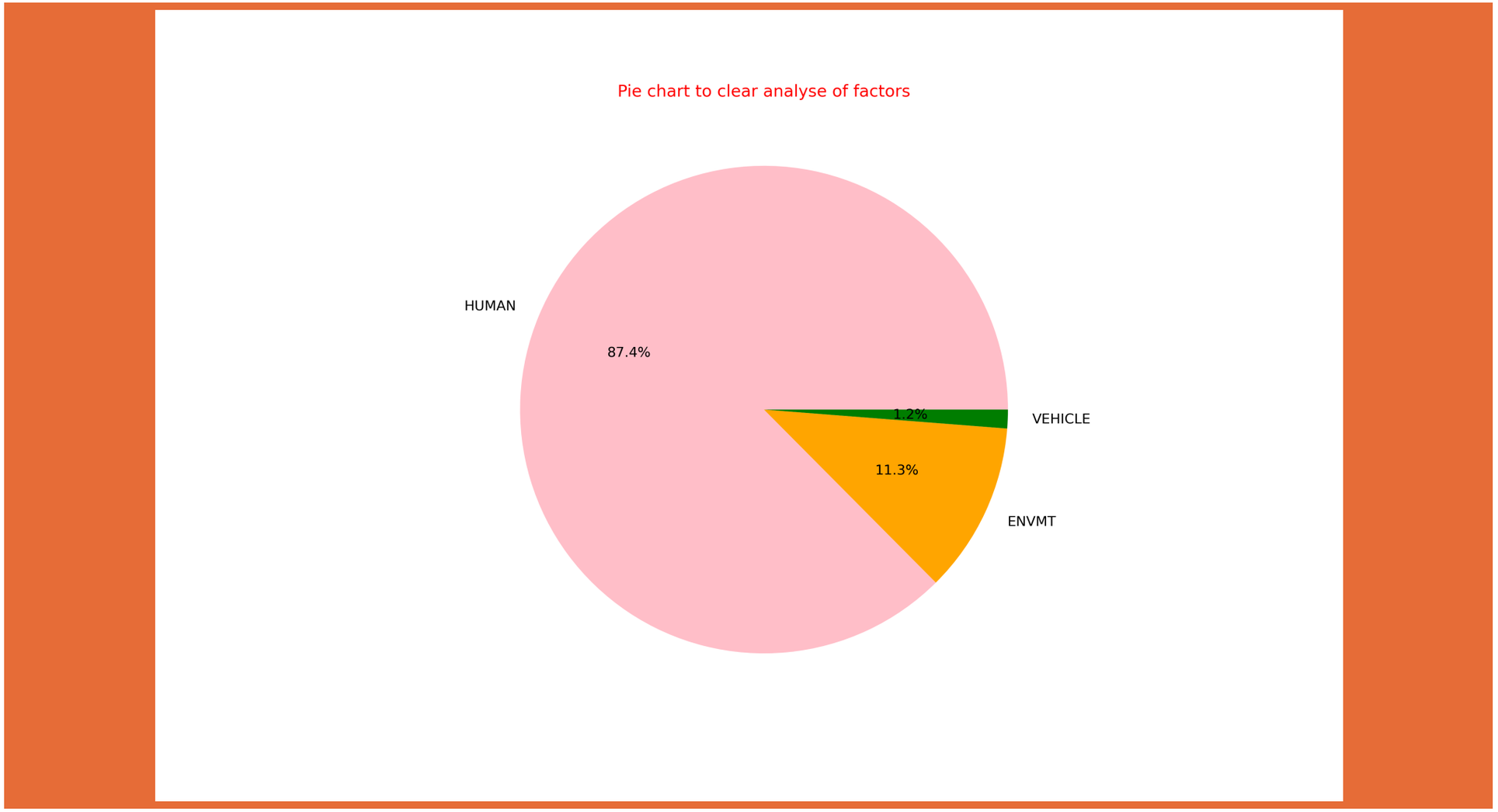
Human Contribution is more and further reason below:

Animal's Action' is the single most frequently cited contributing factor, with 367 incidents. This suggests that wildlife encounters on roadways are a significant and common cause of crashes within this dataset.

Driver Behavior is Critically Important: A cluster of human-related factors follows closely, indicating that driver actions are primary contributors to accidents:



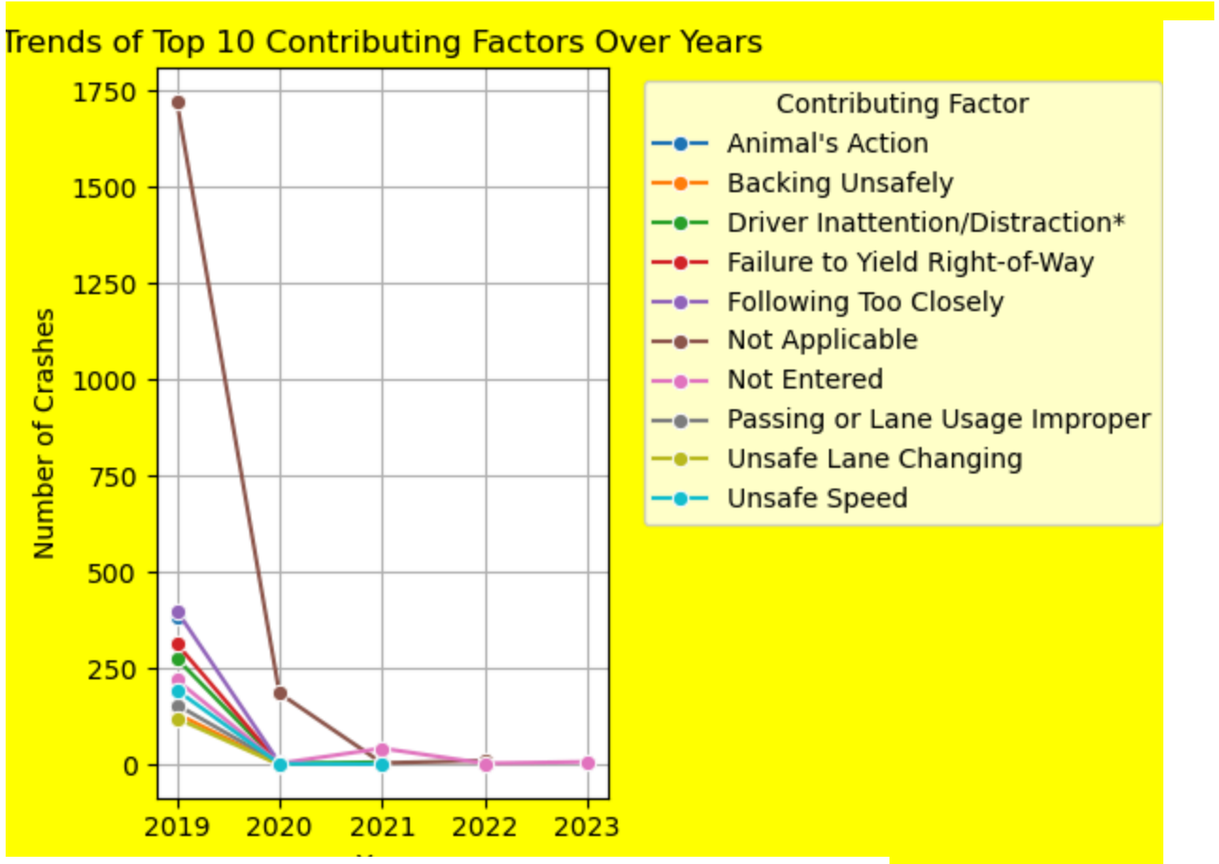
In this Comparision we clearly conclude that Passenger type of rgistration vehicles will have more number cases across all regions in country, it's because of those are the one which commonly used among people's.



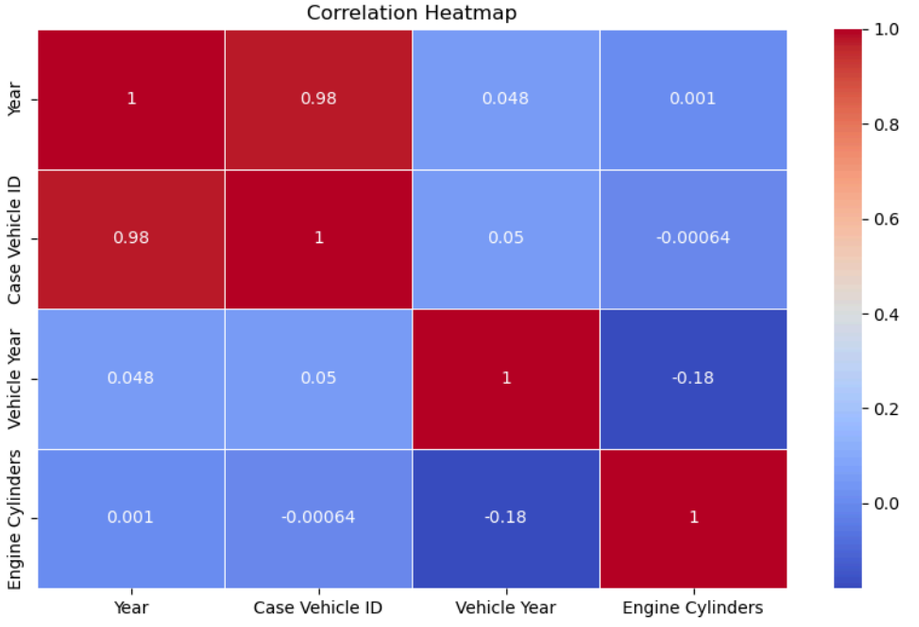
Here Pie chart clearly indicates that Human contributions is the highest among others for accident reasons

second factors includes of due to environmental issues

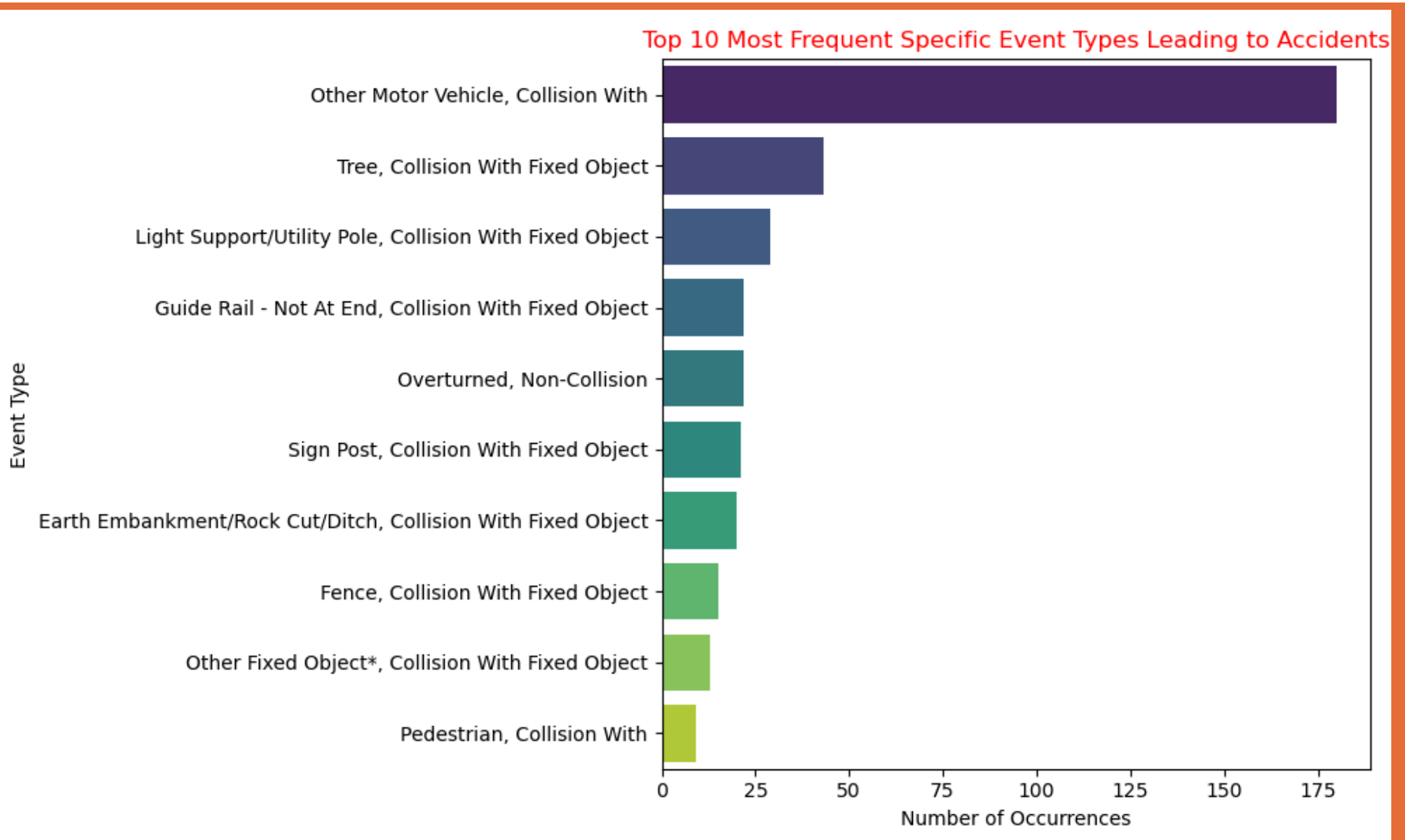
Multivariate -Vis 7-8



Trends shows that yesr 2019 having majority of crashes among analyse of all type of events



Year vs. Vehicle Year: here there is a positive correlation between Year (the year the crash occurred) and Vehicle Year (the manufacturing year of the vehicle). This is quite intuitive: newer vehicles



The Major reason for accidents happened with **"other motor collision" from graph, it can be happened possible of Human and Environmental**

Final Summary

Identification of Key Factors Behind Vehicle Crashes:

Human Factor is Dominant: The analysis of 'Contributing Factor 1' revealed that HUMAN factors are overwhelmingly the primary contributor to crashes. This was evident from the pie chart showing 'HUMAN' as the largest slice. Specific Human Factors: Digging deeper into 'Contributing Factor 1 Description', factors like "Animal's Action" (surprisingly the single most frequent specific factor)

Detecting High-Risk Regions & Vehicle Types:

Vehicle Body Types: **'PASSENGER OR SUBURBAN' and '4 DOOR SEDAN'** are the most common vehicle body types involved in crashes. Registration Class: 'PASSENGER OR SUBURBAN' vehicles accounted for the vast majority of incidents

The dataset indicates a very strong concentration of registered vehicles and, consequently, crash incidents in New York state, suggesting the data might be primarily focused on this region.

Analyzing Contribution Factors for Accidents (Incident Types):

Actions Prior to Accident: The most common action prior to an accident is 'Going Straight Ahead'. This suggests that many accidents occur during routine driving, implying that factors like inattention, road conditions, or sudden external influences play a crucial role. Event Types: The most frequent specific event types leading to accidents are: 'Other Motor Vehicle, Collision With' 'Tree, Collision With Fixed Object' 'Light Support/Utility Pole, Collision With Fixed Object' This indicates that collisions with other vehicles and fixed objects are prevalent.

Visualizing Crash Trends:

Crashes by Year: The data showed a peak in crashes in **2019**, with a decreasing trend in subsequent years (2020-2023). However, this trend needs cautious interpretation as it might be due to data sampling rather than an actual reduction in accidents.

Correlation Analysis:

A positive correlation was observed between the **Year of the crash and the Vehicle Year**, indicating that newer vehicles are more likely to be involved in more recent crashes. Other numerical features like Engine Cylinders showed very weak or no significant linear correlation with Year