

Summary

Data Insight

The dataset is well-organized, consisting of 307K rows and 21 columns, with only a few data points having spelling errors.

Key findings from EDA

- We need to **group some of the categories** that make sense all together -
 - Vehicle type - As it containing few bikes of different cc , van with different load capacity, etc.
 - Weather condition - It has categories such as rain and rain with wind , snow and snow with wind , etc. Although wind also has a impact on accidents but it was not that significantly effecting our accidents condition according to data as compare to only rain or snow does.
 - Lighting condition - It containing few different categories of darkness according to lighting.
- **Not using Week days** - While Fridays, Saturdays, and Sundays experience a higher number of casualties compared to other days, all days fall within the 10% to 15% range, and we have many more features that show a stronger correlation with accident conditions.
- **Not using Year as filter** - Year is a crucial filter for analyzing the rise or fall of accidents and casualties. However, since the dataset only includes information from 2021 and 2022, we are not utilizing the year filter as it would be meaningless to compare data from just two years.
- There are certain values that may seem **outliers**, like having 48 casualties or 32 vehicles involved. However, it's crucial not to modify or delete such data without understanding the true nature of the incident, as these numbers could be true.

Analysis

- Cars are considered the least safe vehicles with 333K accidents in two years, primarily because they are the most commonly used vehicles on the road. Followed by bike and van with 33k which is big difference.
- Apart from typical dry road and fine weather conditions, accidents are significantly more likely to occur on wet and slippery roads during rainy weather due to the obvious hazards involved.
- Private drive or entrance are top junction contributing to accidents followed by slip road and other junctions.
- Comparing year wise surprisingly 2022 has less number of accidents number than 2021 .