Recommendations Based on Insights from Data

Considering our EDA and engineering of data done through primarily frequent pattern mining, we divide our suggestions in terms of boroughs as we think it is more applicable that way. We suggest the following:

- → **Brooklyn**

    - ◆ Strict surveillance, strict traffic rules, speed limit reduction, to be done in Areas **11236** and **11207** and their neighbours, as these are where most accidents take place.

    - ◆ Alcohol consumption should be monitored on the roads.

    - ◆ Greater surveillance on bikes throughout the day

- → **Bronx**

    - ◆ Strict surveillance, strict traffic rules, speed limit reduction, to be done in Areas **10465** and **10467** and their neighbours, as these are where most accidents take place and are severe.

    - ◆ Drivers seem to fall into 'aggressive driving/road rage' quite often. Therefore, it is imperative that they be educated to control such emotions while driving.

    - ◆ Alcohol consumption should be monitored on the roads.

    - ◆ Traffic due to ambulances needs to be monitored as these are one of the most common vehicles to be involved in accidents.

    - ◆ Illness is a common contributing factor for more severe accidents. Drivers who have some medical history should be advised to get check ups and driver's licenses should be renewed/terminated based on results.

    - ◆ Unsafe speed is a factor in many accidents, speed limits to be revised and enforced.

- → **Manhattan**

    - ◆ Strict surveillance, strict traffic rules, speed limit reduction, to be done in Areas around **10002**, as this is where most accidents take place.

◆ Have strict surveillance continuously from **9 AM** to **3 PM** as the frequency of accidents was found to consistently increase.

◆ A very common problem drivers face here is the confusion of pedestrians. Perhaps a few interventions need to be designed to help them.

◆ Traffic due to ambulances needs to be monitored as these are one of the most common vehicles to be involved in accidents. Perhaps a dedicated lane can be made for them, as it must be a busy city.

◆ Driver Inexperience is very common, more strict testing for Driver License issuing should be ensured

◆ Strict surveillance on motorcycles in night hours i.e **5pm** to **11pm**

➔ **Queens**

◆ Strict surveillance, strict traffic rules, speed limit reduction, to be done in Areas around **10354** and **10434**, as this is where most accidents take place and are severe

◆ Alcohol consumption should be monitored on the roads.

◆ Traffic disregard and unsafe lane changing is common throughout the day, traffic rules to be enforced to avoid accidents.

◆ Higher fines for unsafe lane changes

➔ **Staten Island**

◆ Strict surveillance, strict traffic rules, speed limit reduction, to be done in Areas around **10312**, as this is where most accidents take place.

◆ While the absence of confusion of pedestrians or oversized vehicles should be applauded, there seems to be a recurrent problem with defective brakes and glare. Therefore, cars should be checked and drivers be warned to increase following distance to help with the glare

◆ Pavements are found to be slippery, due to which pedestrians can slip and maybe cause distraction. Therefore, pavements for pedestrians to be repaired.

However, there were a few findings which remained consistent throughout the boroughs and so we cater to them together (and so these are applicable to the whole of NYC):

- It was found that the frequency of accidents tended to increase during rush hours, and towards the end of the year, in the wake of celebratory events. Therefore:
    - Implement stricter traffic control during rush hours: 8-9 AM and 3-7 PM
    - Be aware of celebratory events at the end of the year and raise awareness of the importance in following safety precautions despite the want to party.

- Driver inattention seems to remain the most popular contributing factor. Therefore, plan interventions to make drivers more aware and have stricter bans placed on violation of rules
    - Failure to yield-right-of-way, improper lane usage, following/passing too closely are also some contributing factors that come up very often. This calls for stricter testing of drivers to ensure they know how to drive safely.

- Apart from sedan and sports utility cars, pick up trucks and passenger vehicles seem to also be dangerous. When these cars are being bought, perhaps a note of warning or an education regarding traffic rules should be provided.

- Most severe accidents that involve casualties are due to unsafe speeds. Therefore, traffic police can be prompted to have a stricter check over vehicle speeds and should actively issue speeding tickets where necessary.

- Traffic disregard at night is common at night, strict surveillance to be done and traffic regulations to be enforced.