# Motor Vehicle Collisions in New York City

**FINDINGS FROM THE NYC MOTOR VEHICHE ACCIDENTS STUDY**

## SUMMARY

**Keep Safe as Drivers, Passengers and Pedestrians**

New York City is home to 8.5 million residents, and more than 50 million people visit this vibrant and dynamic city each year. This study analyzes how dangerous and safe intersections are in NYC, based on each motor vehicle collision.

Travel safety is the priority. To conclude, keeping highly attention while driving and avoiding those dangerous streets area is highly recommended.
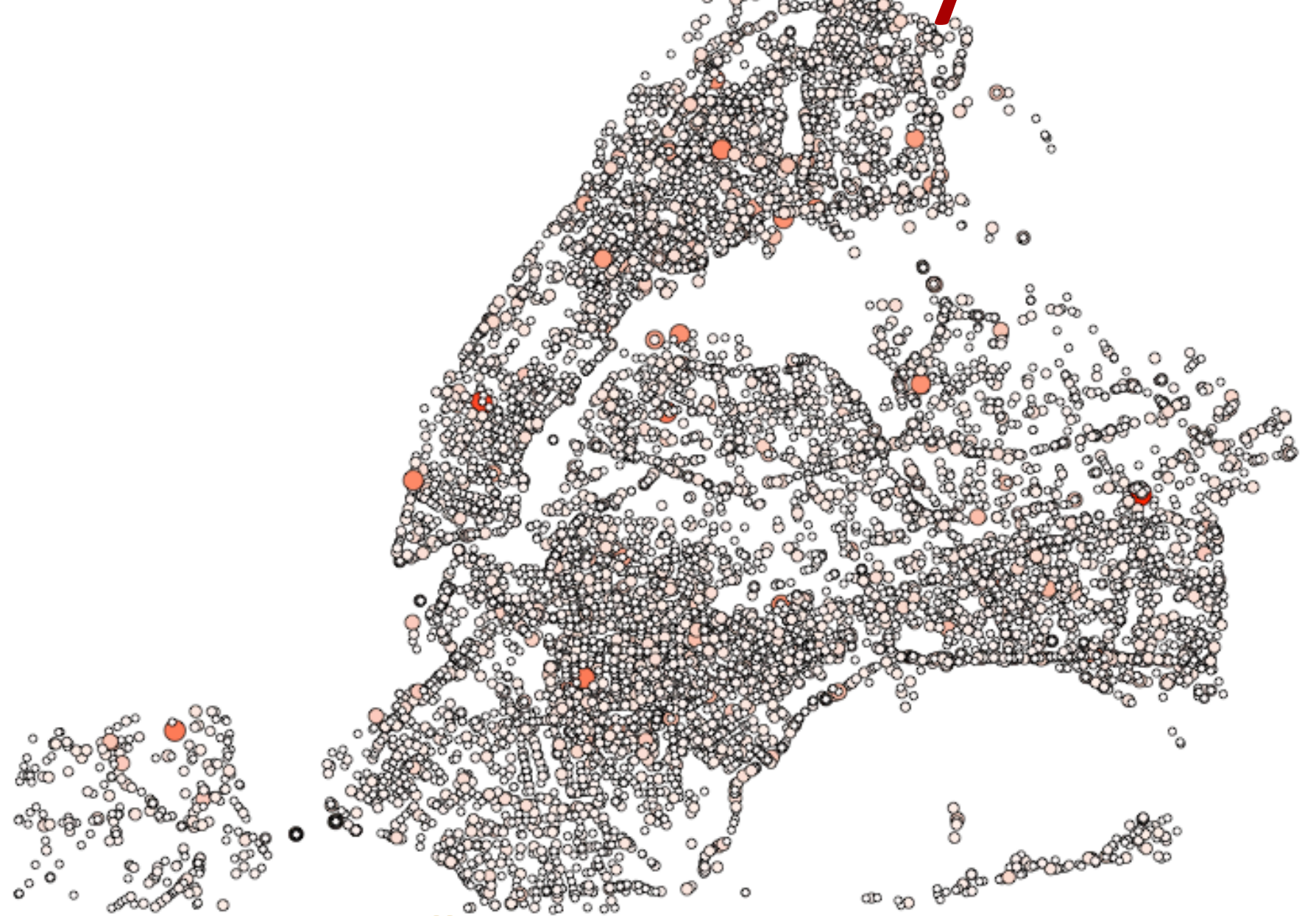
**Collision Injuries in NYC**

Collision Frequency by Location

## DATA INTRODUCTION

The data is a breakdown of every collision in NYC by location and injury from 2015 to 2018, provided by Police Department (NYPD).

> Each record represents a collision in NYC by city, borough, precinct and cross street. This data can be used by the public to see how dangerous/safe intersections are in NYC.

> Each year, more than 200 thousand motor collisions happened, that is 600+ traffic accidents per day. Most collision accidents may be considered not extremely serious. However, a number of collisions cause not only vehicle damage or property losses, but also threaten human safety.
According to the analysis, around 33% of collision records per year cause human hurts. More seriously, 400+ people lose their lives in the accidents. In other word, more than one victim died per day because of car accident.

### Accidents Happened In More Crowded Area

> The collision records imply that collision accidents are related to the population of the area. That's the reason why Manhattan and Brooklyn hold greater number of collision than other boroughs. The more crowded the streets are, the more risks of traffic accidents.

> Besides, the roads conditions may affect the collisions as well. In Manhattan, roads tend to narrower while roads are wider in Staten Island.

> On the other hand, busy traffic such as shared drive may be one of the reasons.
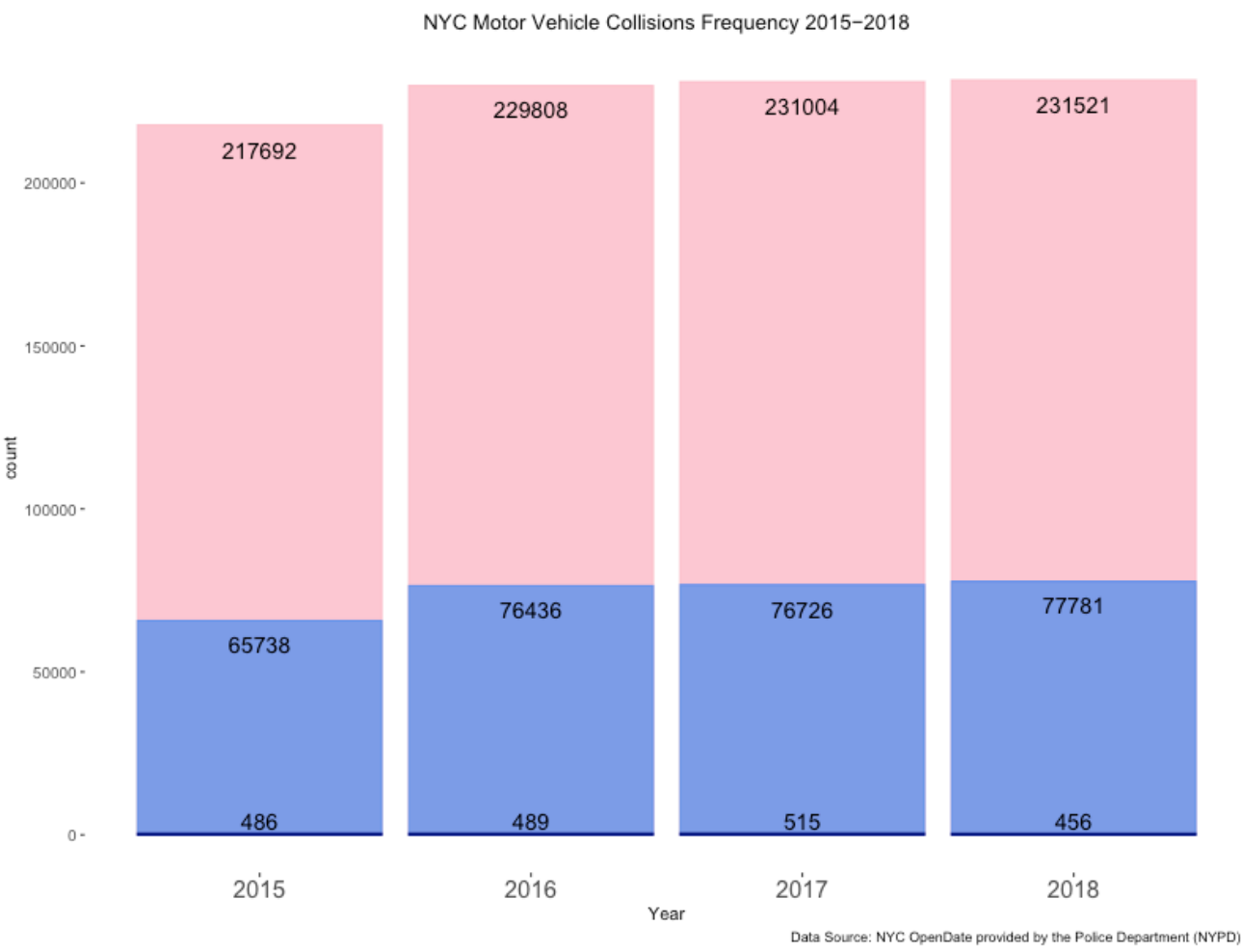
## Geographical Distribution

The above bubble chart demonstrates the frequency of injury of collision by location. Each point represents a particular location with latitude and longitude information provided by the record.

Both size and color refer to the frequency. In general, larger and more vivid color bubbles means there are higher frequencies of injury collisions happened.

Particularly, in Manhattan, motor vehicle collisions are more likely to happen in time square restrict of middle town and ferry station of downtown. Similarly, in central Brooklyn as well as north area of Queen are considered as high risks area.

> In order to avoid those dangerous areas, further analysis of streets statistics is taken. The below group of bar charts list top risk streets and crosses.

### Annual Collisions

NYC Motor Vehicle Collisions Frequency 2015-2018



Data Source: NYC OpenDate provided by the Police Department (NYPD).

## BOROUGH DITRIBUTION

NYC Collision Map by Borough 2015-2018



Collision count per year
30000
20000
10000

**Collision Frequency Per Year of Boroughs**

### Top Risk Streets

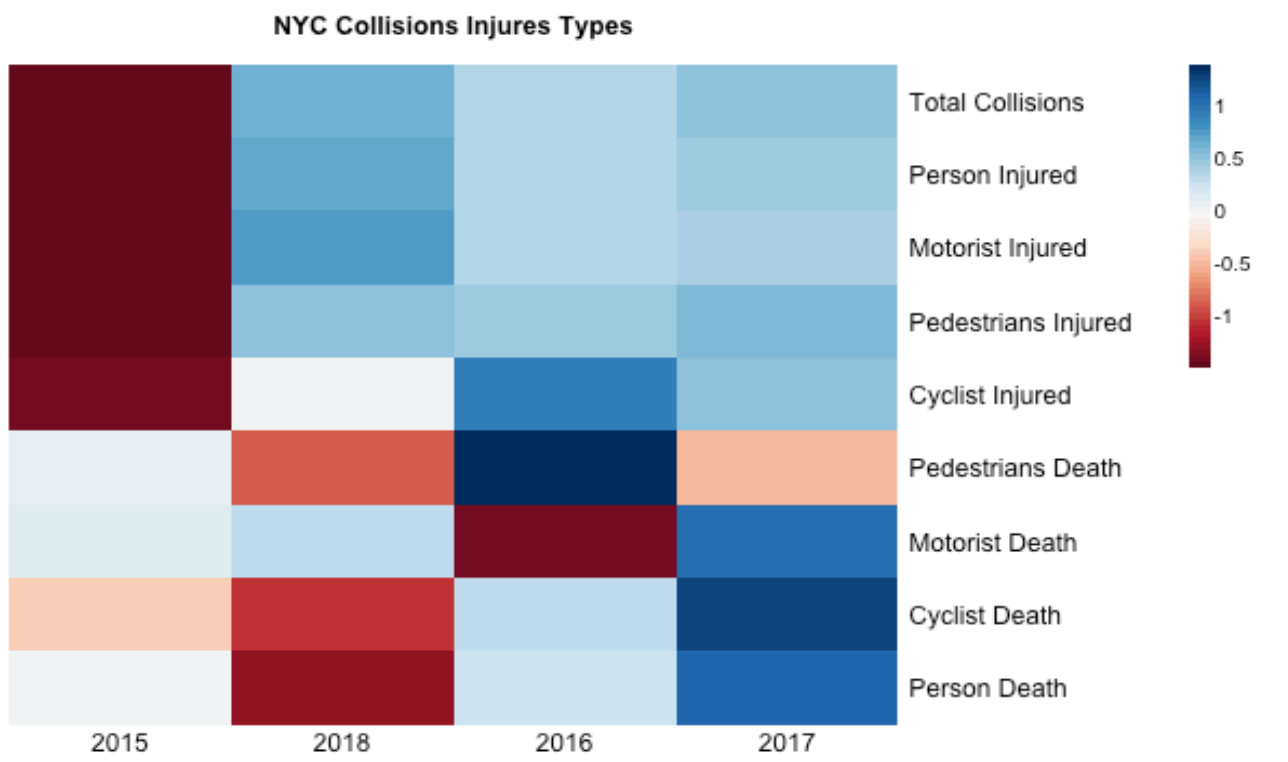Most 10 Dangerous Streets



Most 20 Dangerous Street Cross



### Injury Types

Motor vehicle accidents may happen everywhere. Everybody faces the risk of collision.
> Either car drivers, passengers, motorists, pedestrians and cyclists, causing injury or death.
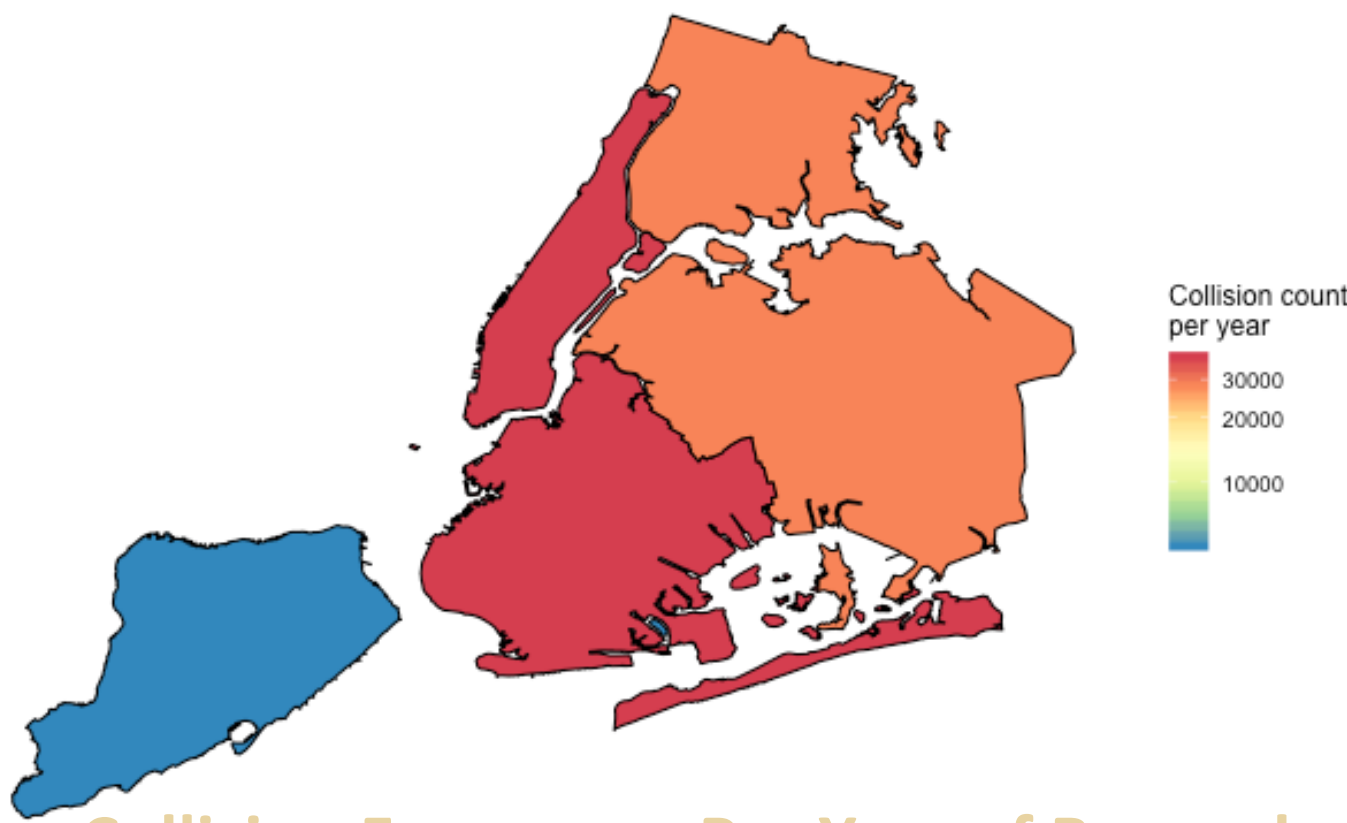> The below heap map shows a matrix of the correlations between each injure type and calendar year. It is shown that there is a trend that in most recent years, particularly in 2017 and 2018, motorists, cyclists and unspecified individuals who are unfortunately involved in the accidents tend to more correlated.

## Driving Distraction is A Top Cause

The following bar chart lists top collision cause facts. The facts are arranged by percentage of total collisions in decreasing order.
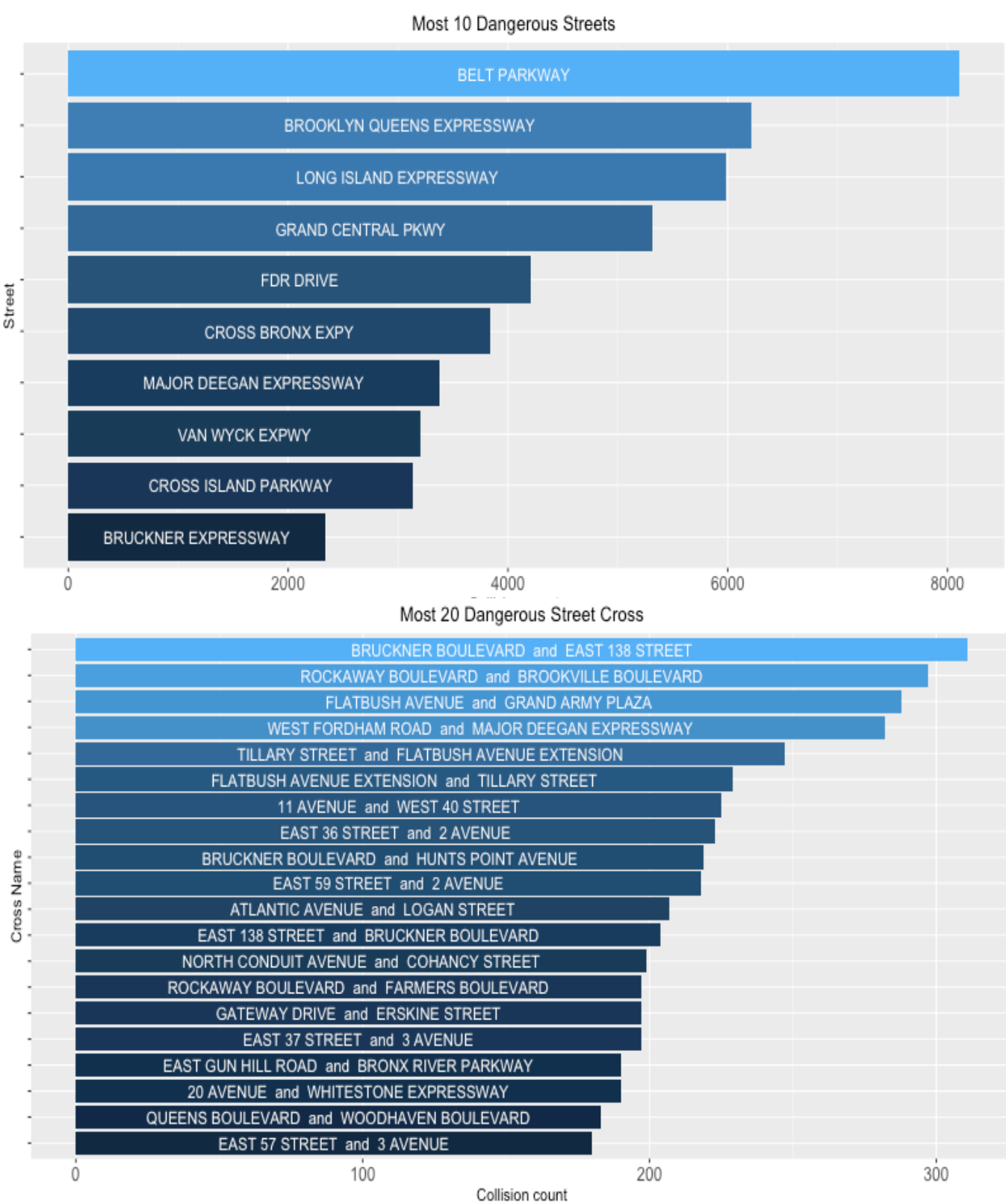> Around 1/3 collisions caused by Driver inattention or distraction, so careless driving, no matter awareness in purpose cause serious consequence.
> Clearly, most of causes are made by drivers, according to the analysis.

### NYC Collision Injury Types

NYC Collisions Injures Types



### Top Causes of Collisions
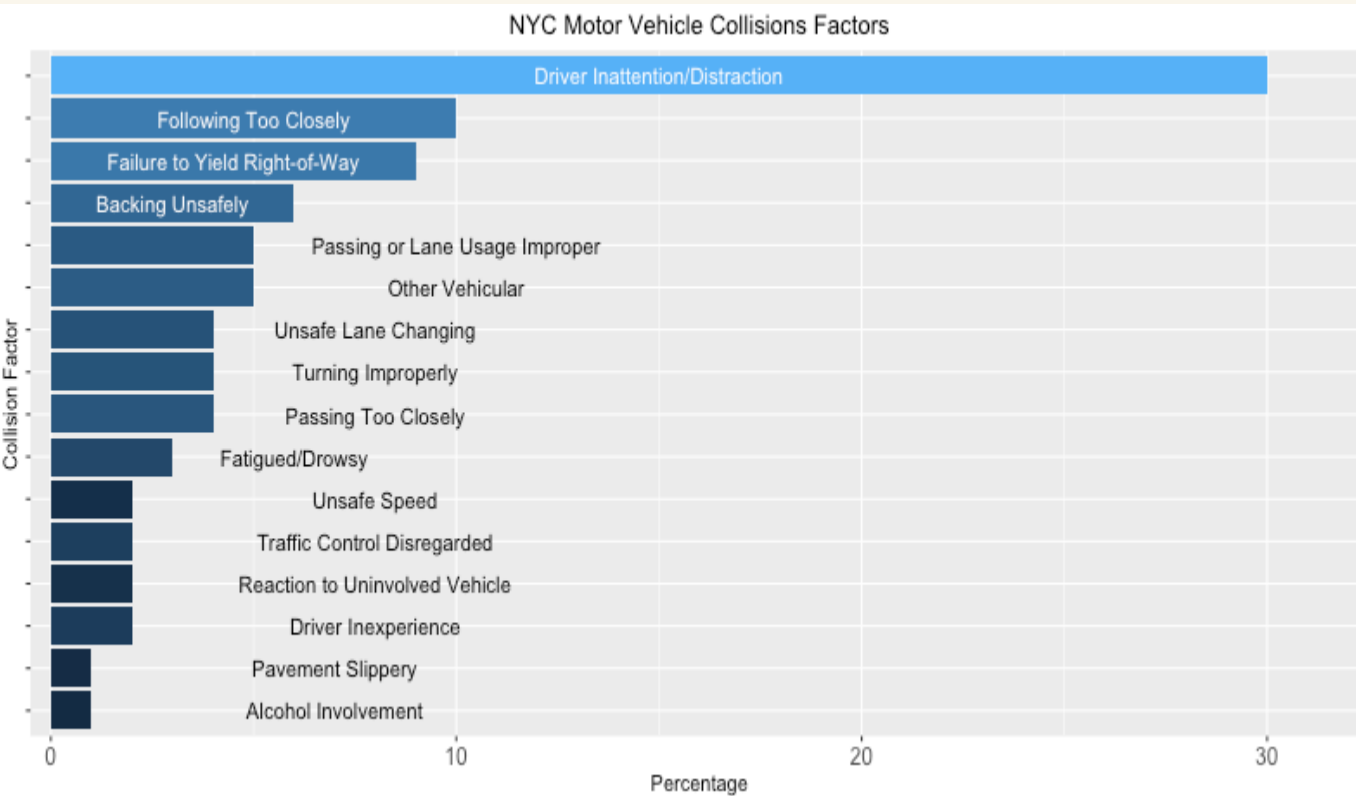
NYC Motor Vehicle Collisions Factors



## CONCLUSION

Notice that the drivers' behaviors are the most common factors of causing collisions. It is highly recommended to keep fully concentrated while driving so that it is easier to aware the road situation and reaction properly. Also, being patient while waiting traffic signals and walk.

Traffic collisions are more likely to happen in particular areas. It is wise to avoid those risky streets and crosses in order to prevent yourself from collision risks.

Last but not least, safety is the priority for everyone.