



New York City: Motor Vehicle  
Collision (2012-2019)  
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## Summary : Statistics of Collisions,Injuries & Deaths in NYC from yr 2012-2019

Collisions

843,850



Injuries

224,847



Deaths

915



Avg Collisions/day

312

Avg Injuries/month

2,555

Avg deaths /year

131

???

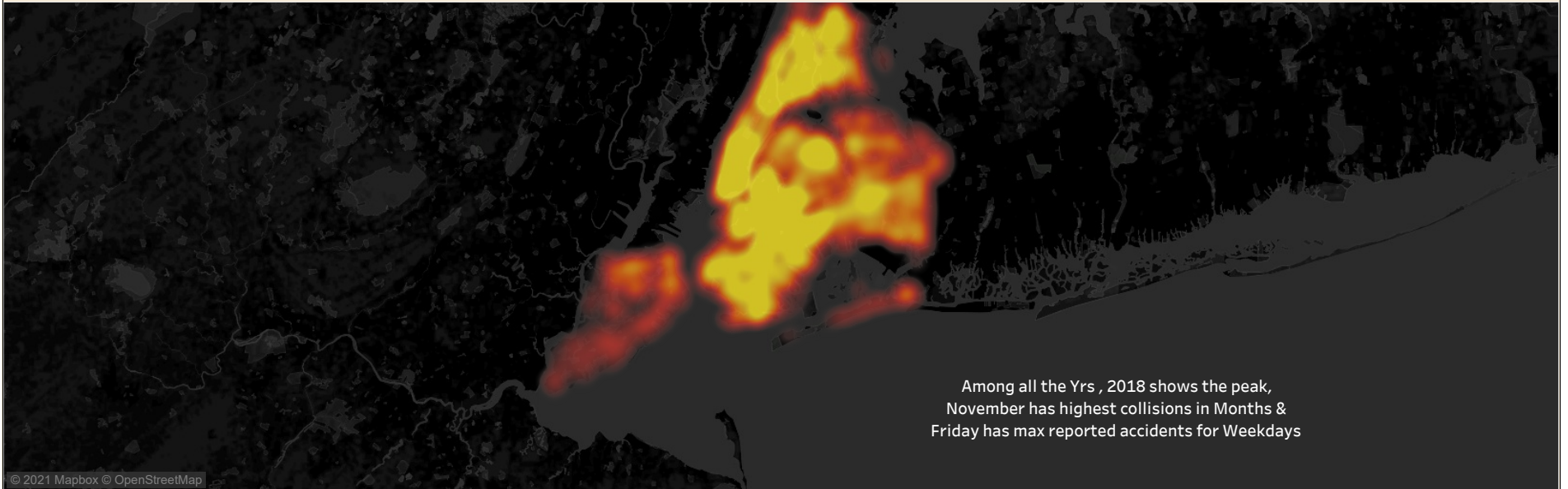
When & where did  
these Collisions occur  
Year/month/weekday/  
hours?

Which areas were  
hotspots?



## Heatmap of NYC Collision

(Choose year, month, weekday & hour to explore details)



YEAR

All

MONTH

All

WEEKDAY

All

HOURS

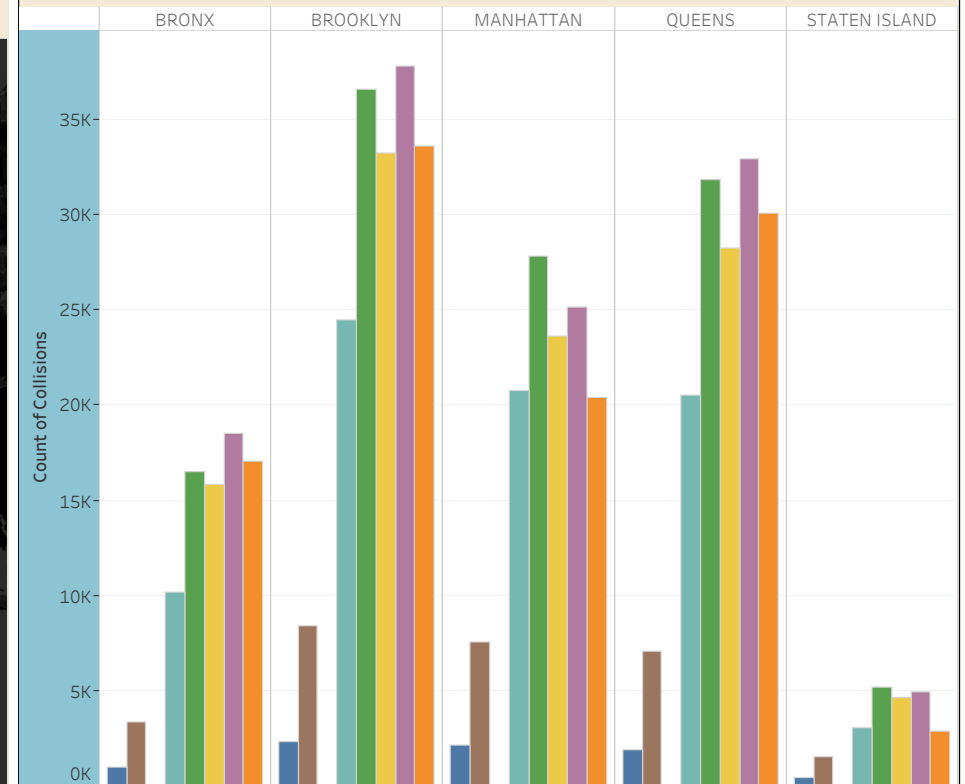
All

## Collision trend (%) by Boroughs

(Select a **Borough** as action filter to view details of YoY Collision counts)



## Collisions by Borough YoY (2012-2019)

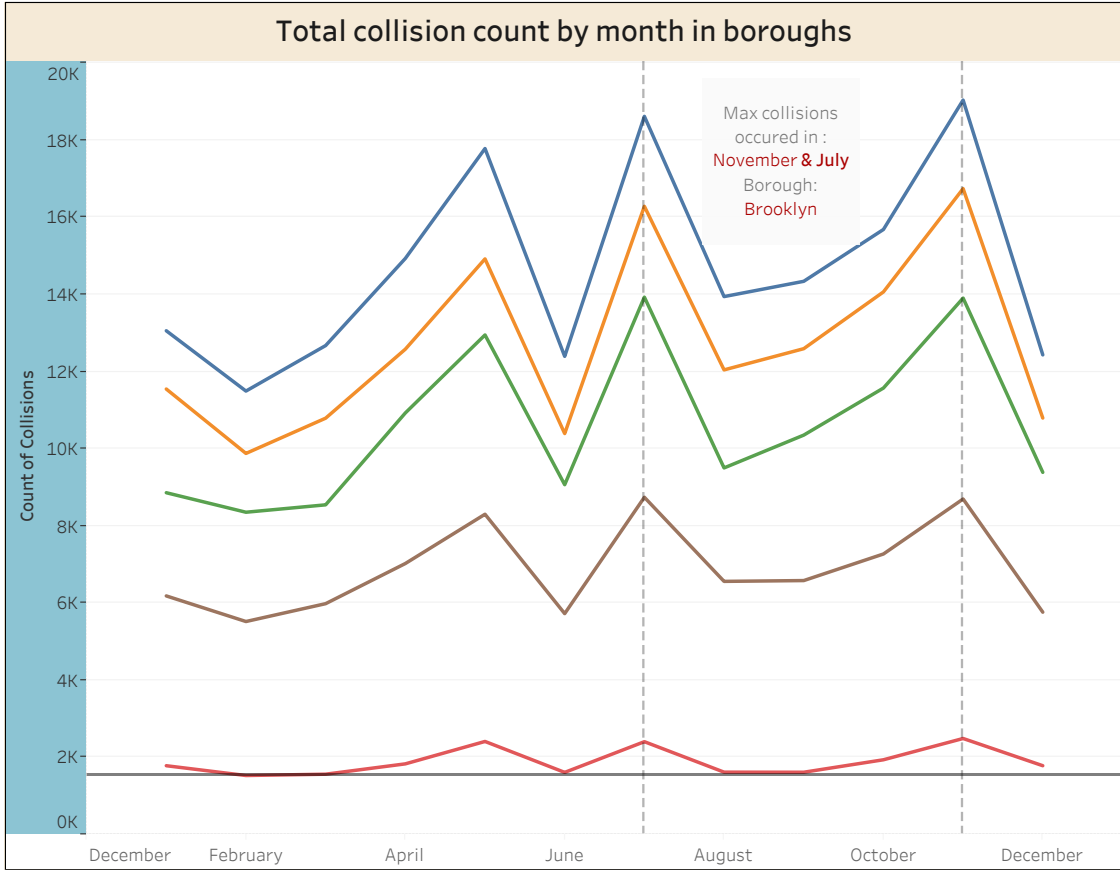


Select Year of Collision

All

Years    2012    2013    2014    2015    2016    2017    2018    2019

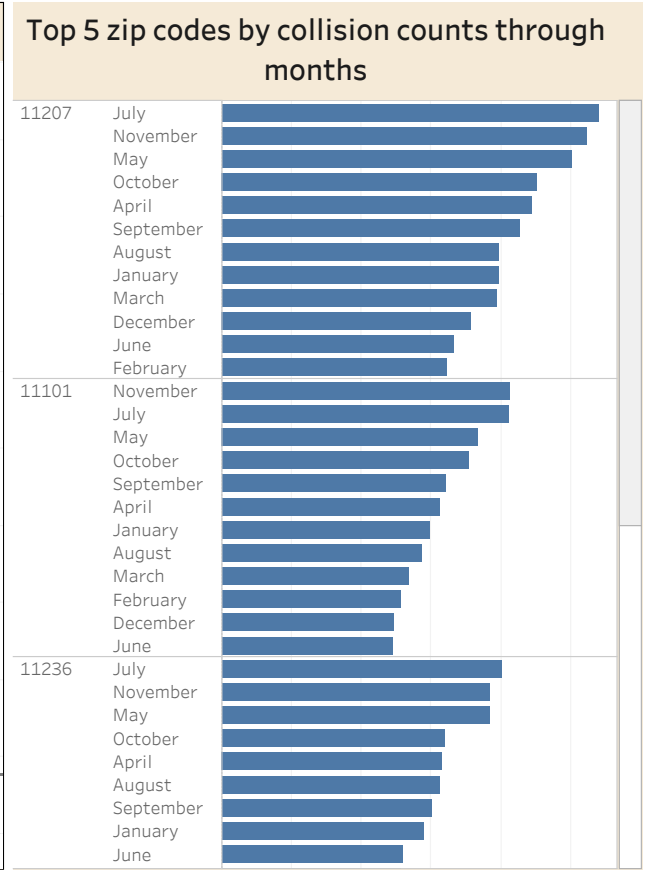
\* Source- <https://www1.nyc.gov/content/visionzero/pages/>



Select a Borough

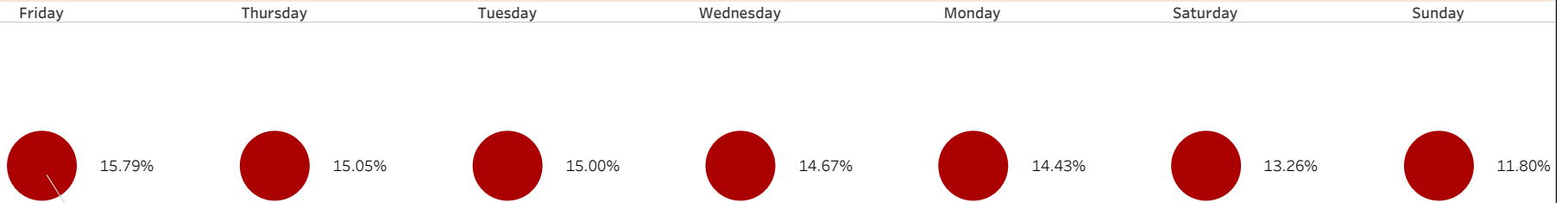
All

Borough ■ BROOKLYN ■ QUEENS ■ MANHATTAN ■ BRONX ■ STATEN ISLAND



## Total % of Collisions by day of the week

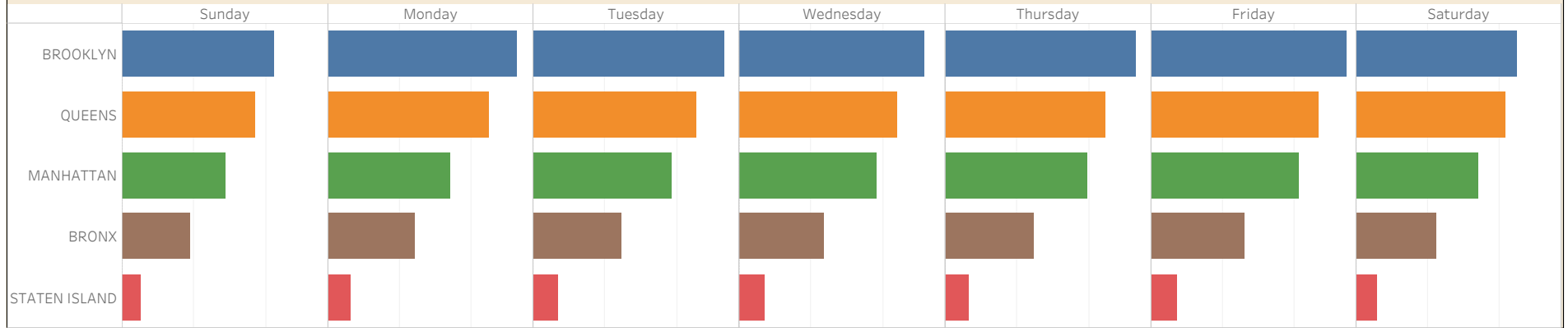
(Select a **Day** as action filter to get detailed collisions counts by Boroughs)



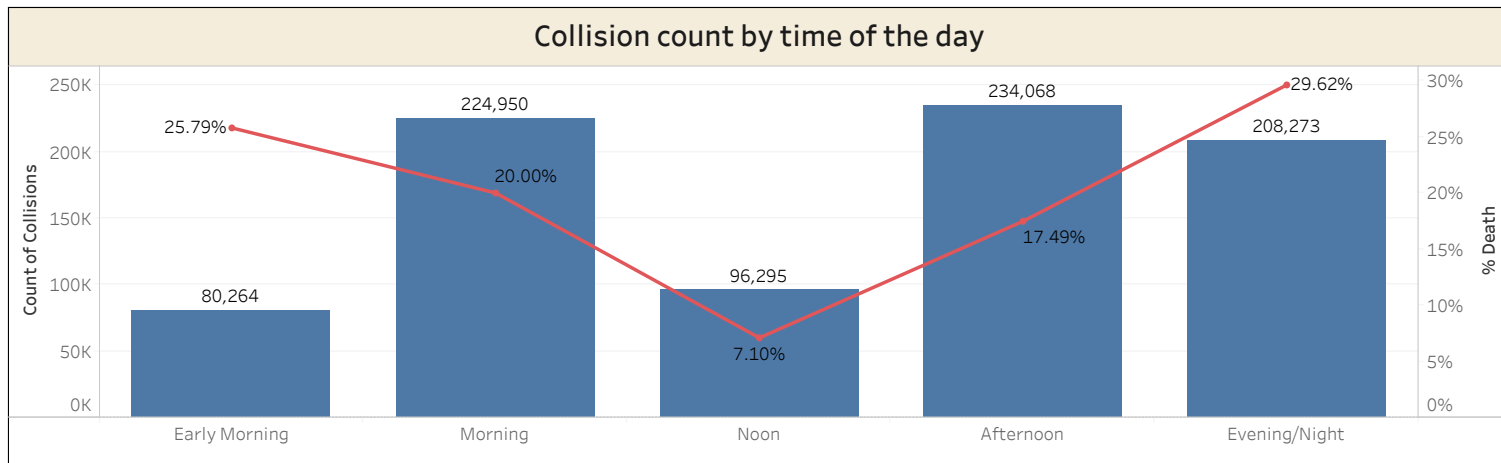
Weekday : **Friday**  
Highest % of Collisions: **None**

**Key Observations:**  
Max accidents occur on **Friday** (More Rush due to weekend starting) Among all the Boroughs, **Brooklyn** reported max collisions overall

## Collision count by day of the week by Boroughs



Borough ■ BROOKLYN ■ QUEENS ■ MANHATTAN ■ BRONX ■ STATEN ISLAND



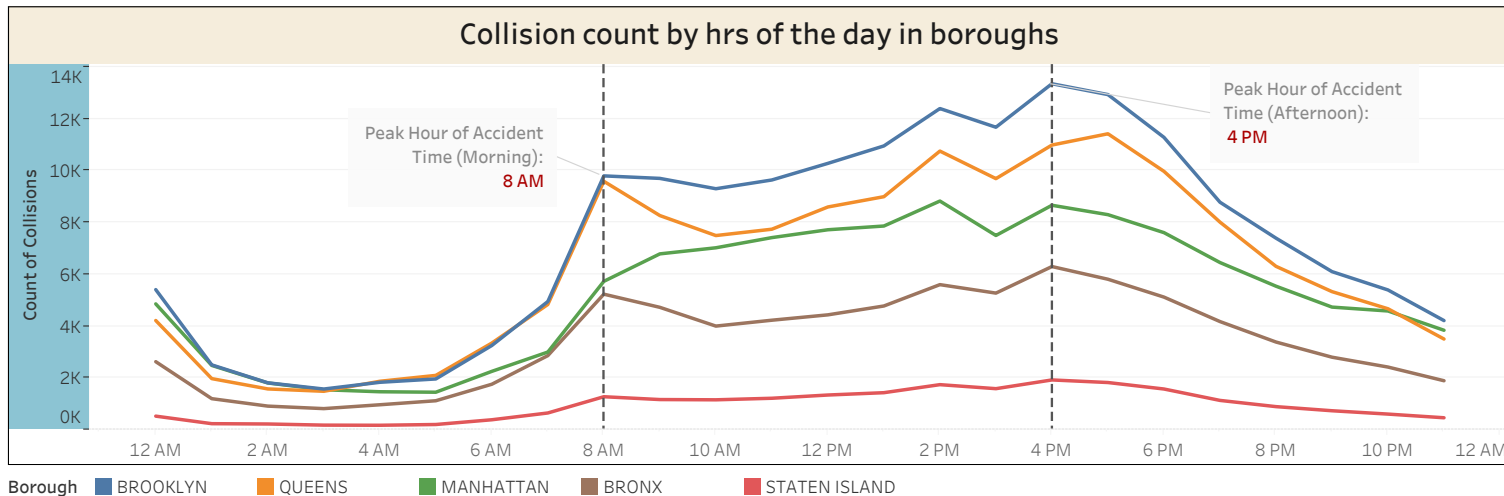
Key

#### Observations:

Max collisions occurred in **Afternoon** but **Evening** recorded more deaths.

**Early morning** had least collisions, but it was highly fatal.

Peak time for max accidents was Morning at **8 am** & Afternoon at **4 pm**.



\*\* Time for the day was divided into 5 time groups.  
 Early morning- 12am to 5:59am  
 Morning- 6am to 11:59am  
 Noon- 12pm to 1:59pm  
 Afternoon- 2pm to 5:59pm  
 Evening/night- 6pm to 11:59pm

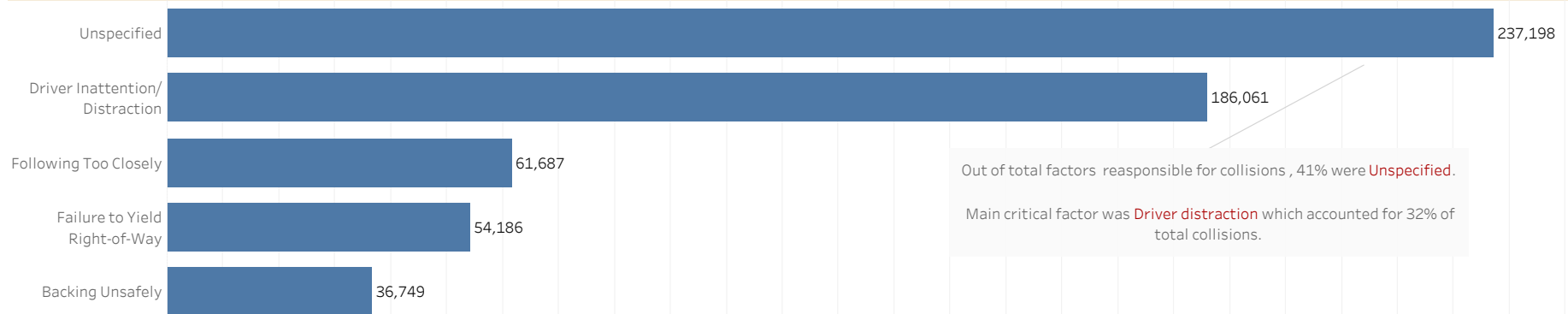




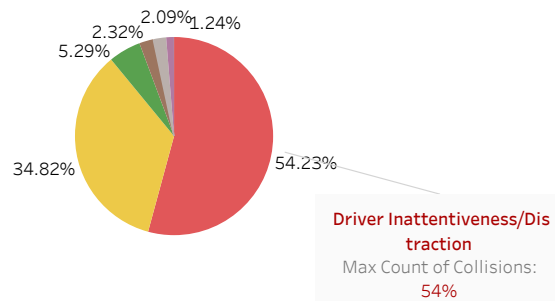
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What are the main  
contributing  
factors responsible  
for these accidents

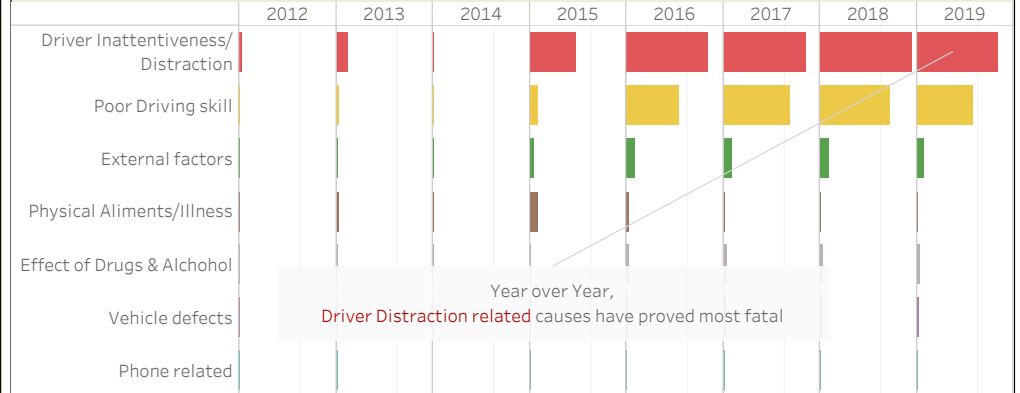
## Top 5 contributing factors responsible for collision



## Collisions % by contributing factors \*\*(grouped)



## Collisions by contributing factors \*\*(grouped) YoY



### Contributing Factors

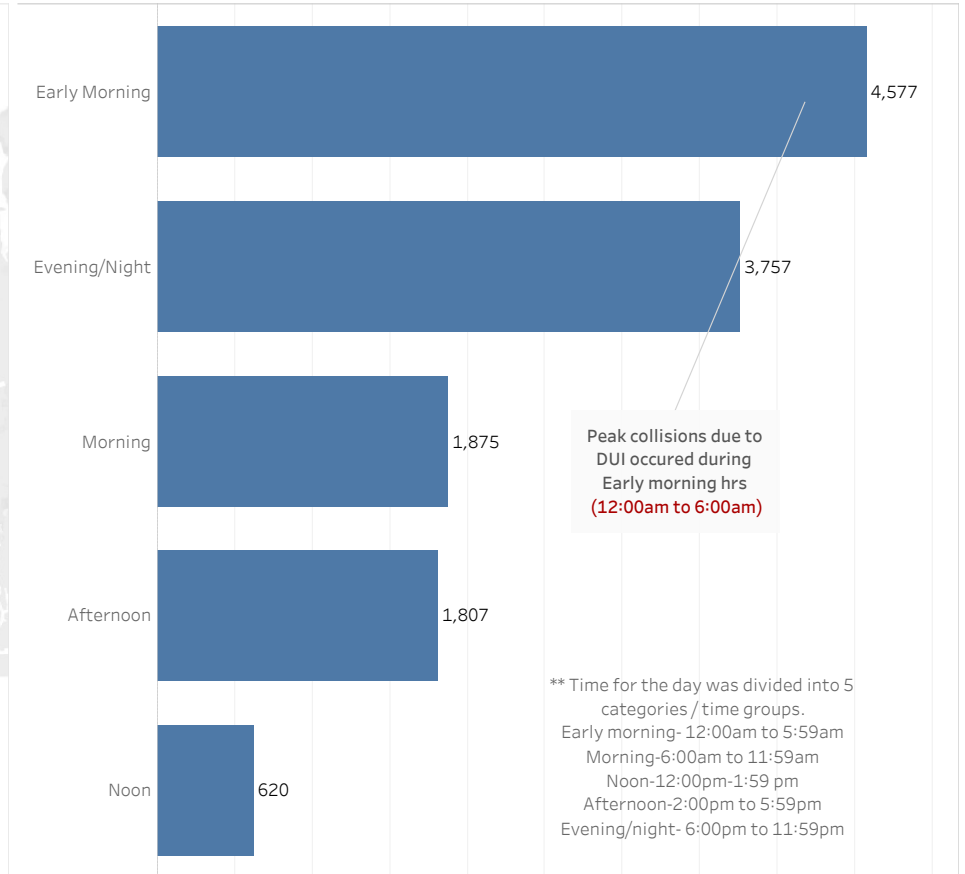
■ Driver Inatt.. 
 ■ Poor Driving.. 
 ■ External fac.. 
 ■ Physical Ali.. 
 ■ Effect of Dr.. 
 ■ Vehicle defe.. 
 ■ Phone relat..

\*\* Out of total 56 unique factors, common factors were joined to form 7 main groups of Contributing factors

Driver distraction related collisions by locations

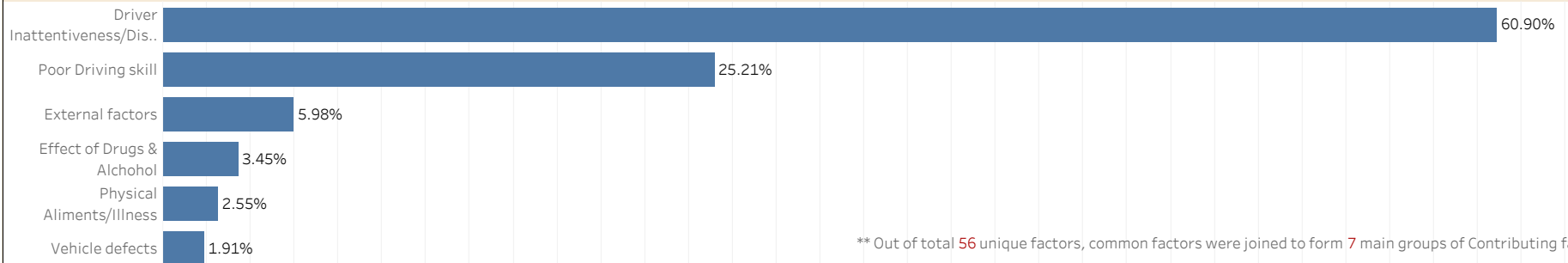


DUI related collisions by time of the day

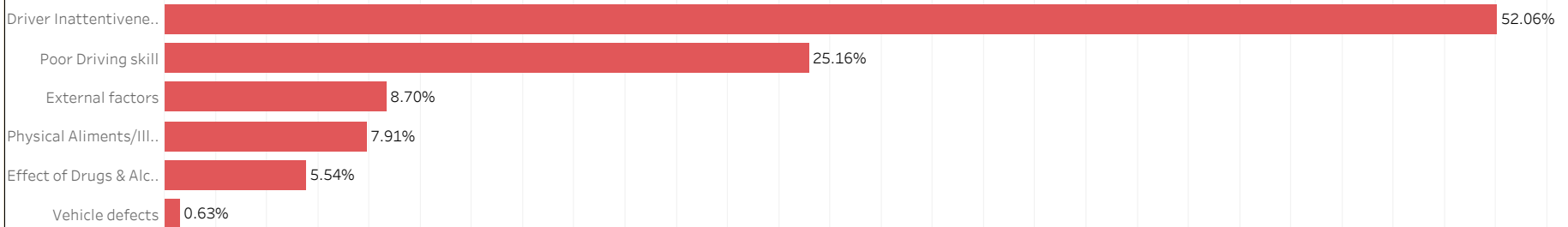


9,261 64,296

### Injury % by top 5 contributing factors \*\*(grouped)



### Death % by top 5 contributing factors\*\*(grouped)



#### Key Observations:



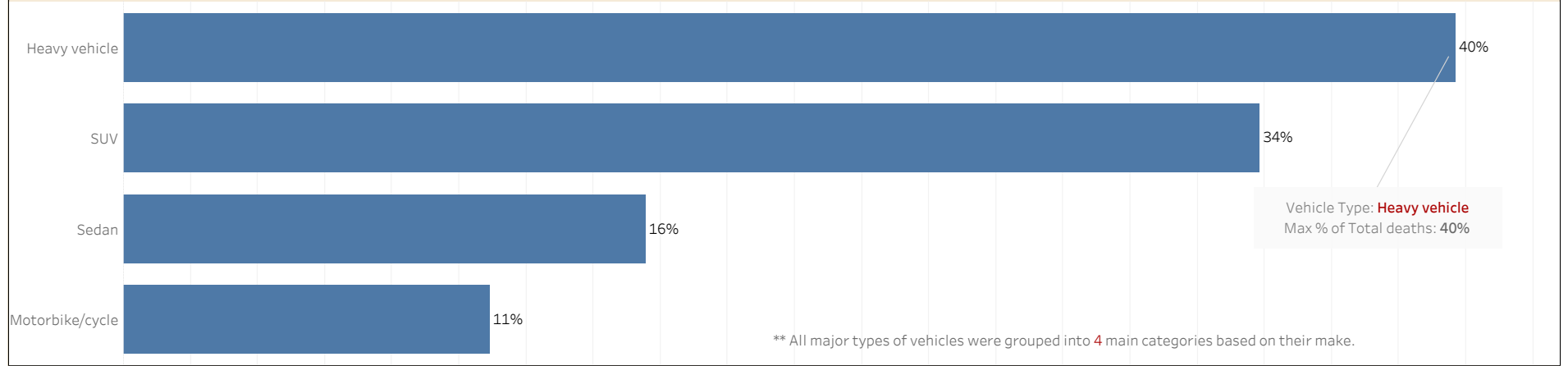
1. **Driver Inattentiveness/Distracted Driving** was the common cause of maximum injury & deaths reported.
2. It was followed by **Poor driving & External factors**.
3. Although **Alcohol** proved critical for injuries, **Physical ailments** had major role as cause of deaths.



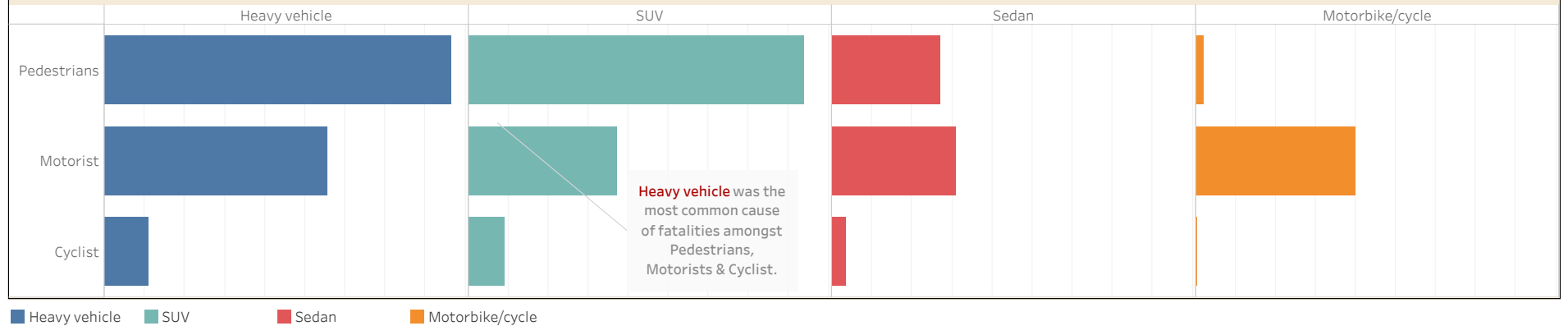
## Do Vehicle types impact the total collision counts?



## Total Death % by type of vehicles \*\* (grouped)



## Death of commuter group by type of vehicles \*\* (grouped)





Which Commuter group was most effected?  
Pedestrains/Cyclists/Motorists ?



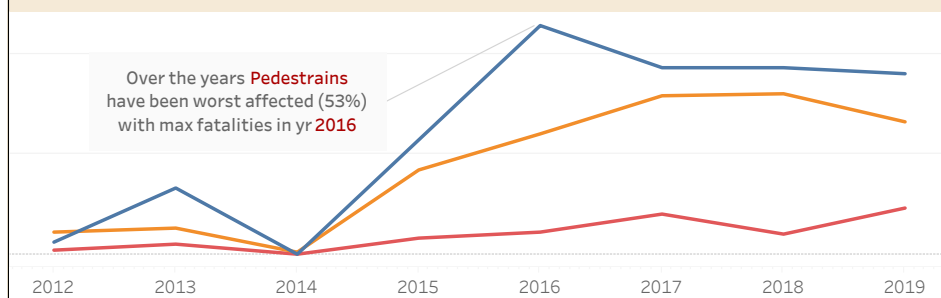
## Highest Commuter deaths (Pedestrians)

53.11%

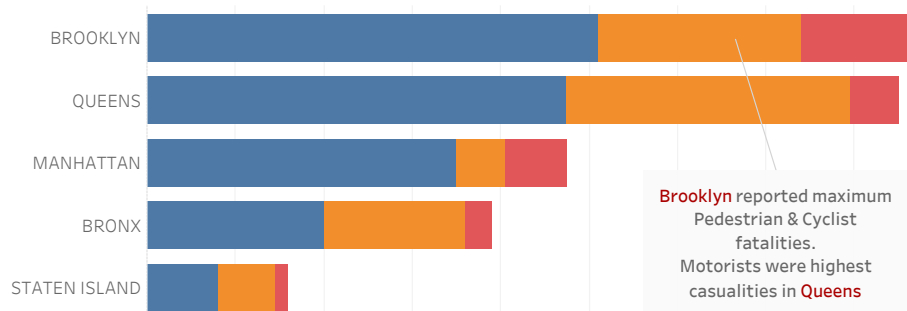
■ Pedestrians ■ Motorist ■ Cyclist

### Death amongst different commuter grs YoY

Over the years **Pedestrains** have been worst affected (53%) with max fatalities in yr **2016**



### Death amongst commuter grs by boroughs

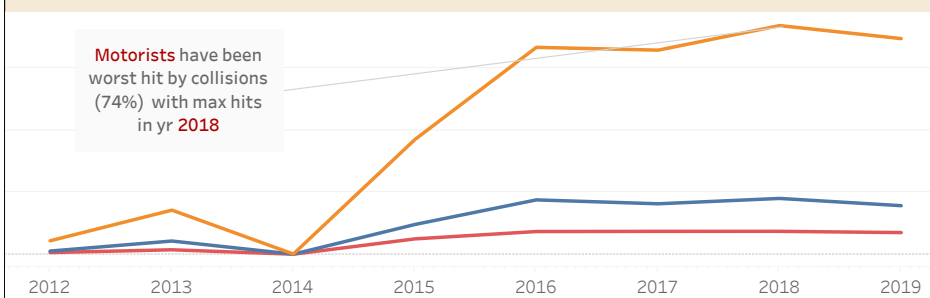


## Highest Commuter Injuries (Motorists)

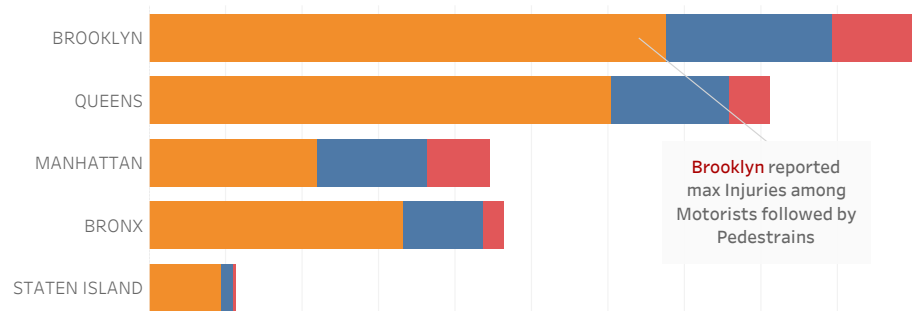
73.79%

### Injury amongst different commuter grs YoY

**Motorists** have been worst hit by collisions (74%) with max hits in yr **2018**



### Injury amongst commuter grs by boroughs





## CONCLUSIONS & RECOMENDATIONS:



### KEY INSIGHTS:

1. Majority of accidents occurred on Fridays (16%) with peak hrs being 8am & 4pm (Rush hours)
2. November & July were the 2 most critical months in total collisions reported. (Holiday season could be a cause)
3. Amongst all locations, Brooklyn reported max collisions (21%) overall.
4. Of the major causes of accidents, Driver distraction was the highest (32%)
5. Pedestrians were worst affected with 53% of total deaths followed closely by Motorists.
6. Heavy vehicles were responsible for majority of deaths and injuries overall (40%)



### RECOMMENDATIONS:

1. More focus on accidental hotspots at peak hours and holiday seasons.
2. Design policies and incentives to reduce vehicles plying during rush hours at busy areas.
3. Introducing strict penalties and legal ramifications for driver related mistakes.
4. Designing special strategies for safety of Pedestrians & deploying more traffic personnel.