NYC Motor Accidents Q1 2024

By Giselle, John, Yasser, & Jenifer (C403 Pod B)

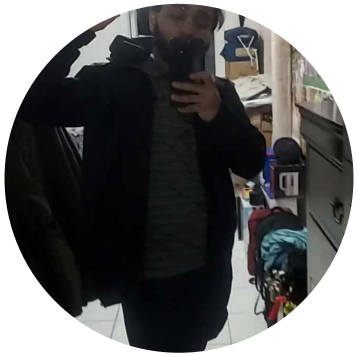
Meet the Pod!

Giselle

Has deep love for rodents...

John

Can debate for hours about whos the GOAT between Jordan & Lebron



Yasser

Enjoys hiking and traveling.

Jenifer

An avid dancer, a coffee feen

AGENDA

- Background & Scenario
- The Process
- Findings
- Conclusion

Background & Scenario

The Scenario

We were asked to present data to NYC Dept. of Transportation (DOT), Local Law Enforcement, and Urban Planners to analyze motor accident data across the 5 boroughs from January to March.

The Big Question

How can identifying and analyzing accident hotspots in NYC lead to targeted interventions and infrastructure improvements to enhance road safety?

Disclaimers

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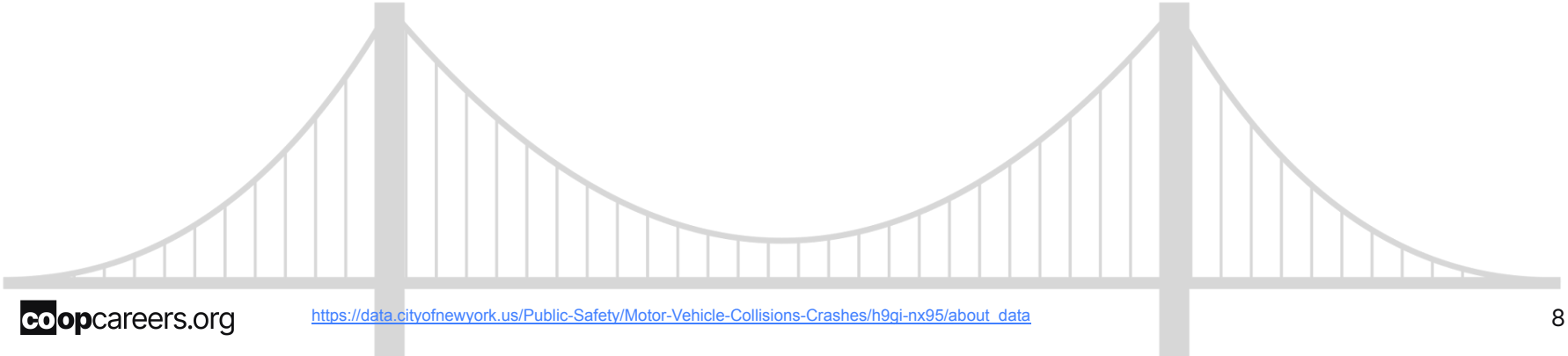
This data was taken from Open Data NYC.
It gathered only police reports, which is required when someone is injured or killed, or where there is at least $1000 worth of damage



https://data.cityofnewyork.us/Public-Safety/Motor-Vehicle-Collisions-Crashes/h9gi-nx95/about_data

The Process

How did we work on our data?

Finding a Dataset

Sourced the dataset from a reliable and government data repository called Open Data NYC: https://data.cityofnewyork.us/Public-Safety/Motor-Vehicle-Collisions-Crashes/h9gi-nx95/about_data

Cleaning the Dataset

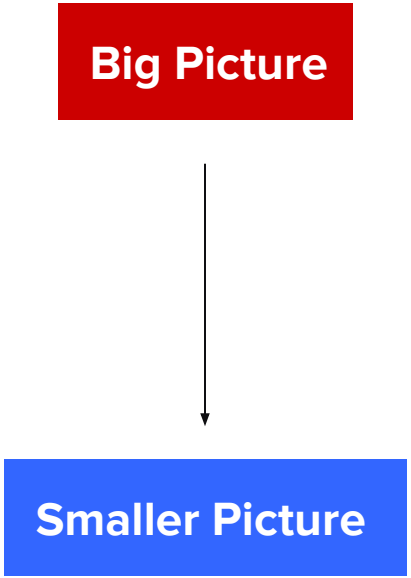
Filtered the dataset to contain all accidents within Q1. Drop rows with significant null columns. Imputed and re-formatted column values to be more suitable for analysis

Analyzing the Data

Used Tableau to visualize and identify significant hotspots of accidents and column features associated with them.

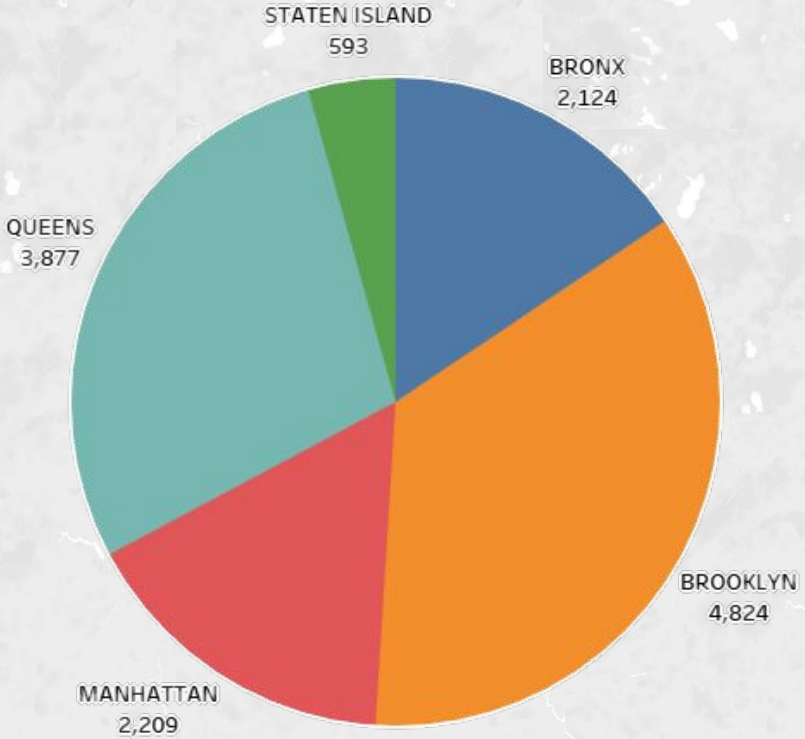
Results

Data driven insights that can potentially increase the standard of road safety and the standard of living in New York City

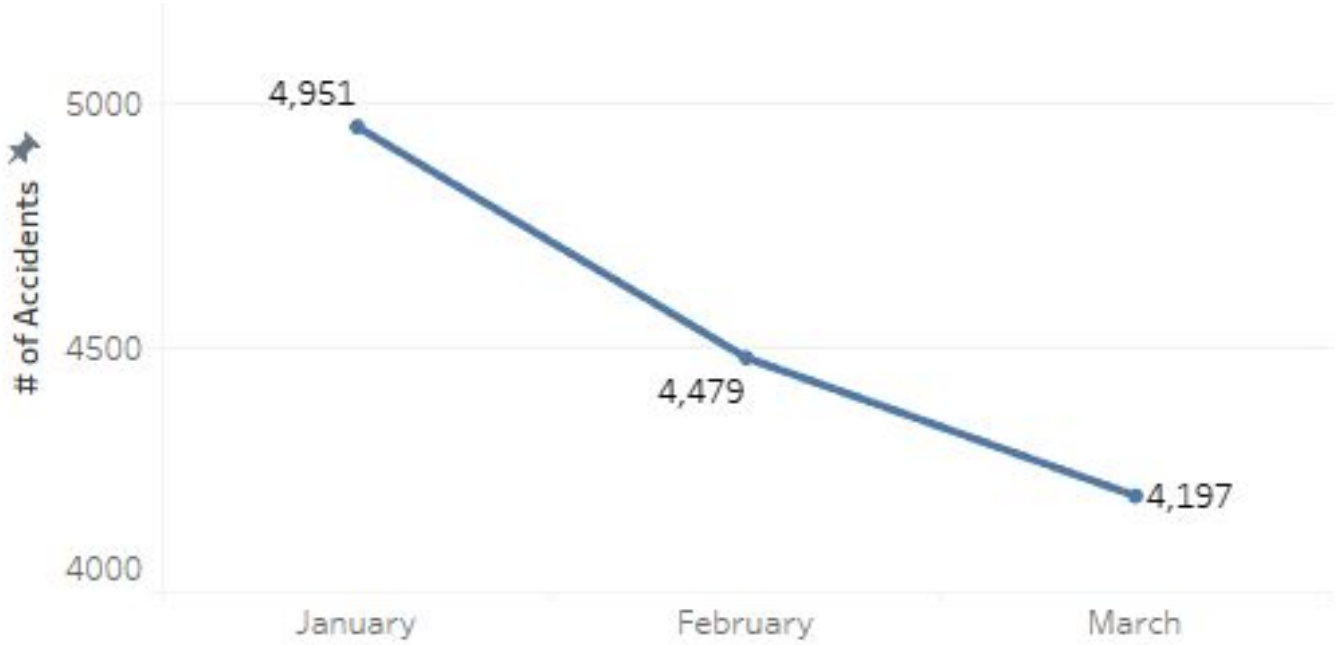

Big Picture
Smaller Picture

Findings

Total Accidents in Each Borough



of Accidents Per Month

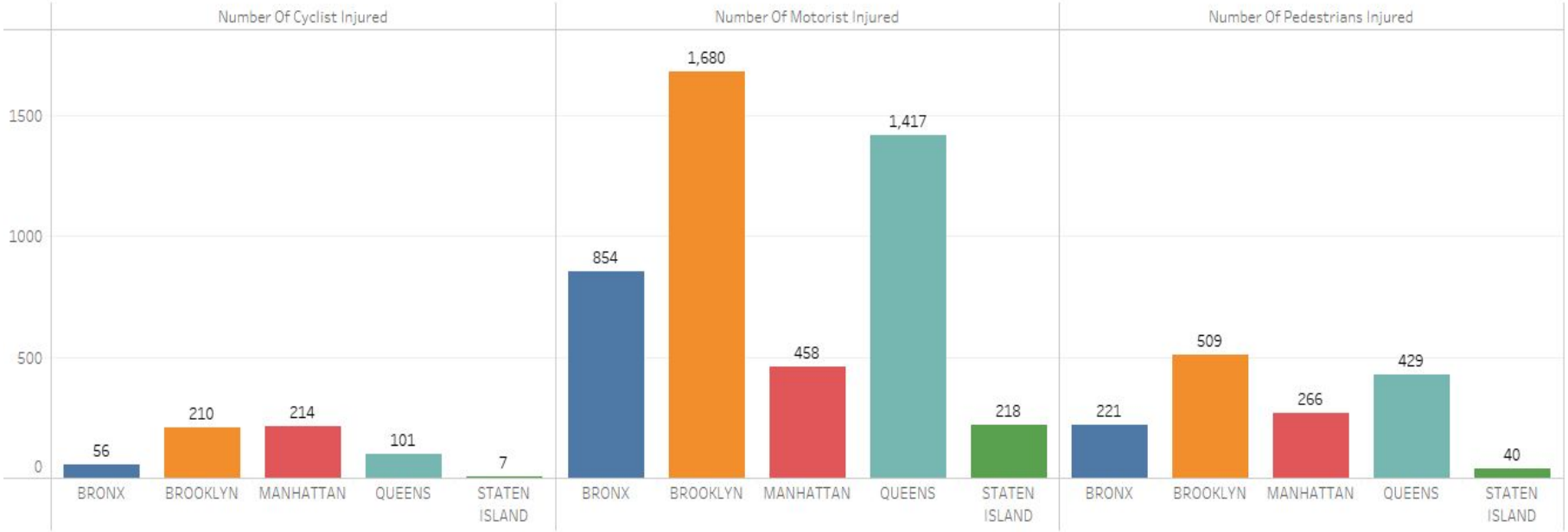


of Accidents Per Month

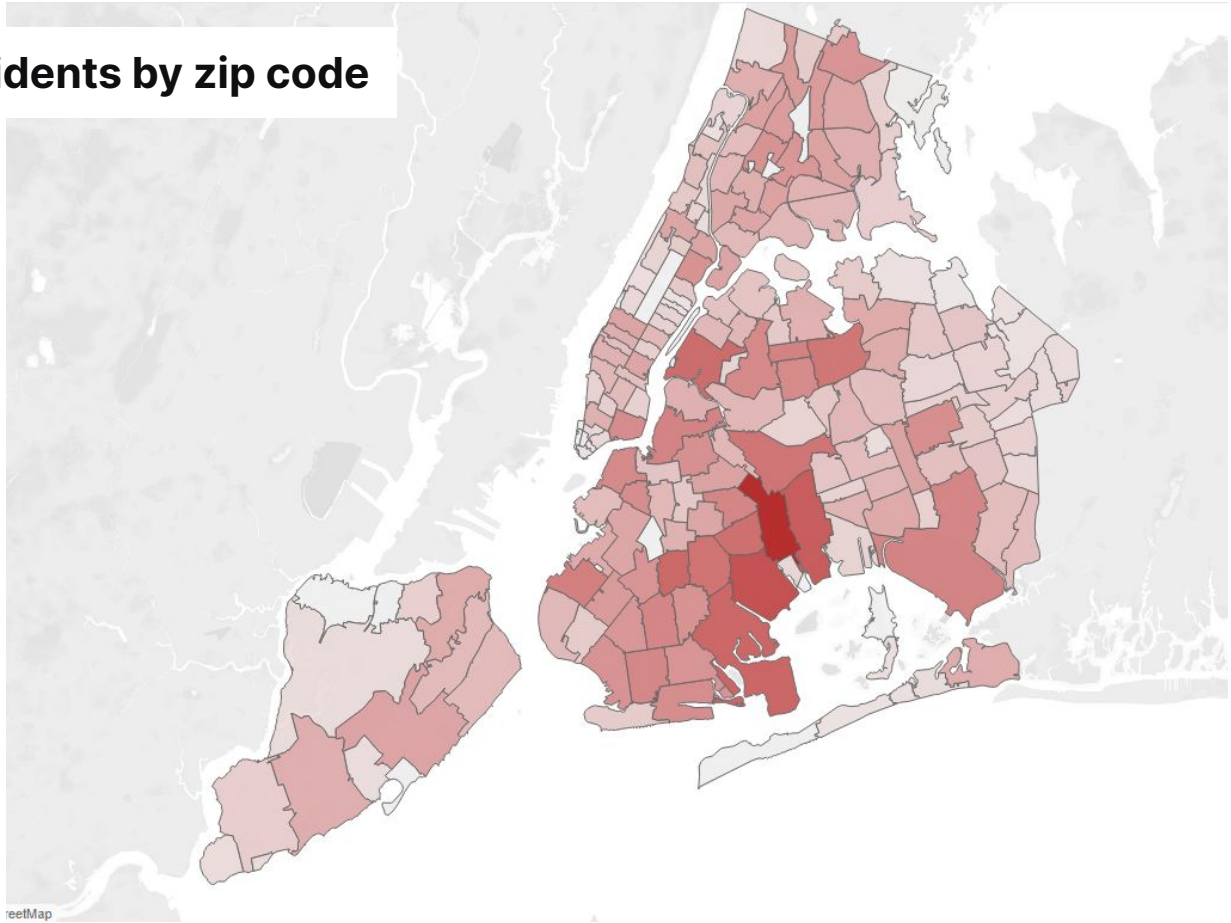
-15%

Decrease from January to March

of Injuries by Borough



Heatmap of accidents by zip code



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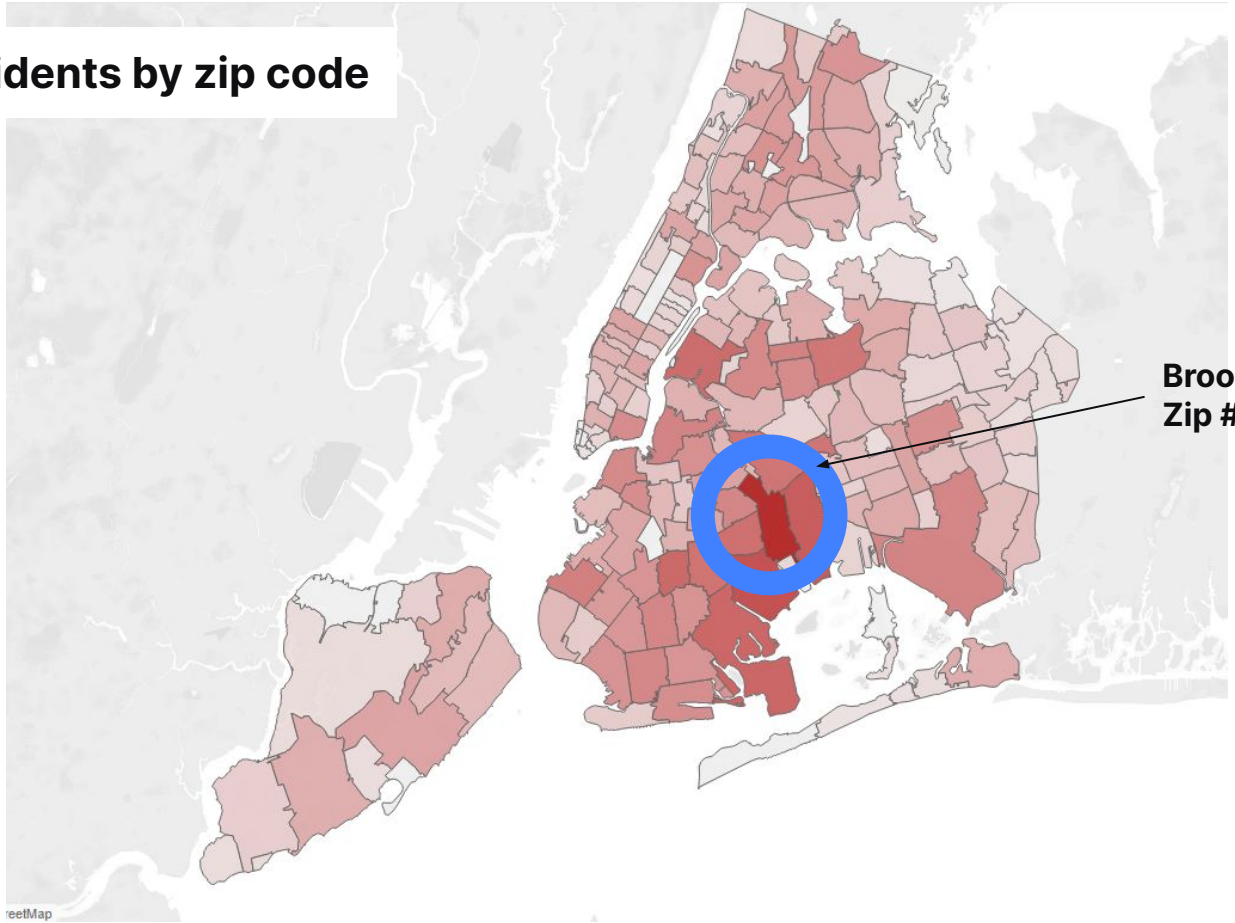

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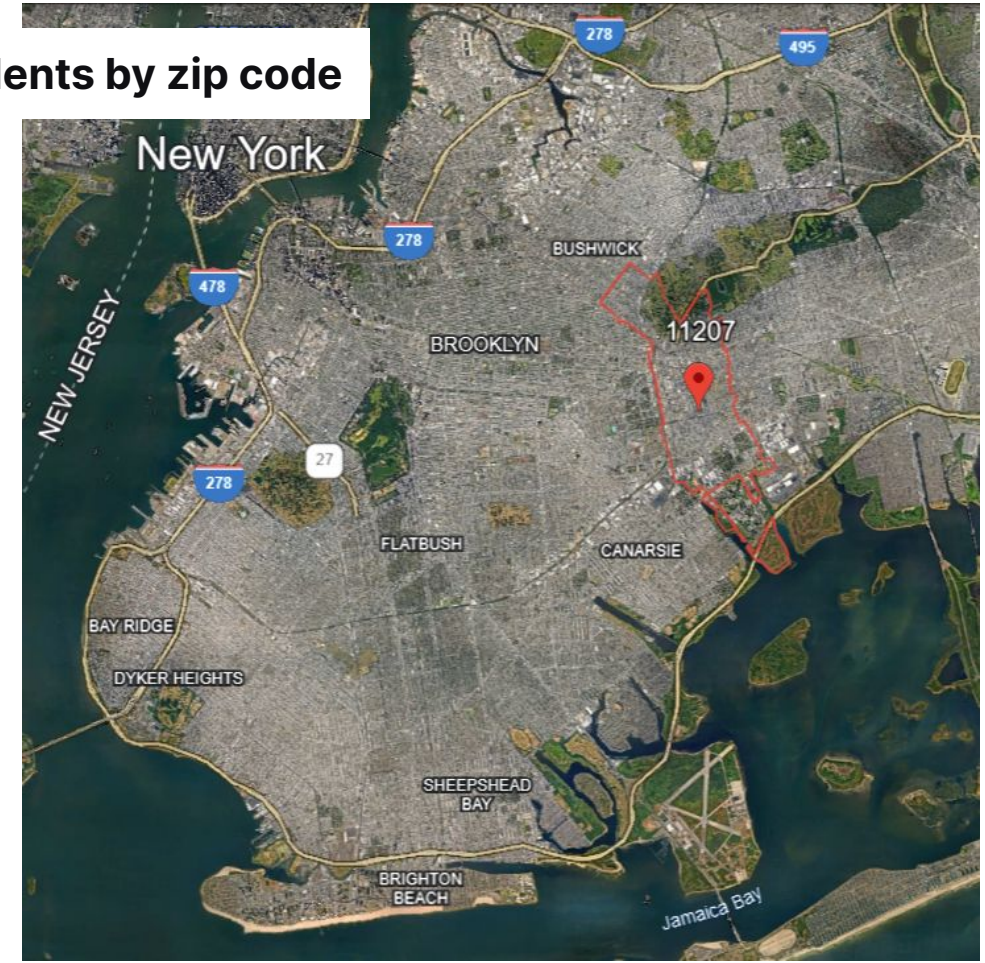


FUN FACT!

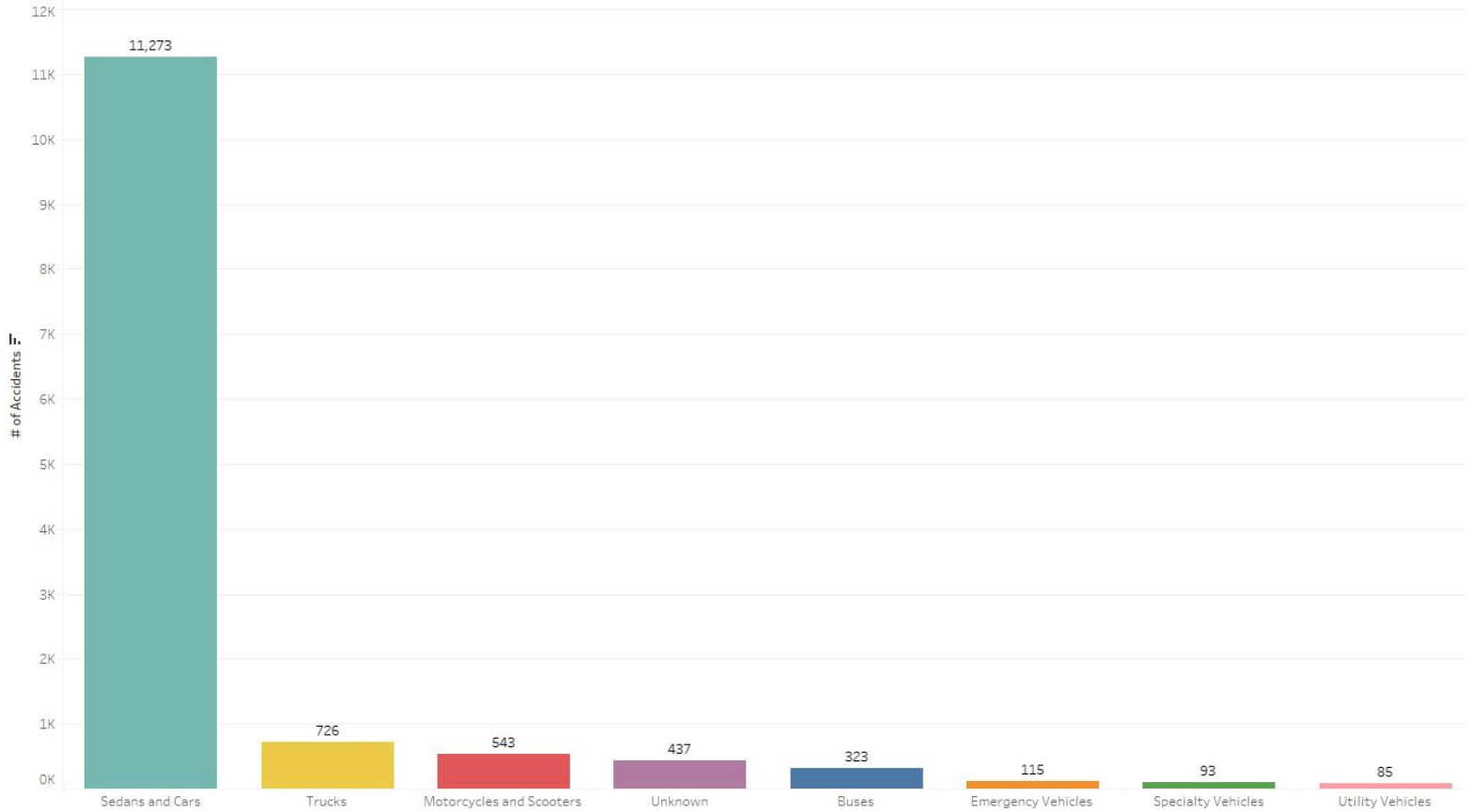
This ZIP code has one of the top most expensive car insurance premiums in the US!

Most Expensive Car Insurance Premiums in the US				
	State	*Town/City*	*ZIP Code*	Avg Annual Cost
1	Massachusetts	Boston	2119	$5,104
2	Michigan	Detroit	48213	$4,980
3	Louisiana	New Orleans	70117	$4,132
4	New York	Brooklyn	11207	$4,119
5	Maryland	Baltimore	21216	$3,841
6	California	Van Nuys	91405	$3,804
7	Missouri	St. Louis	63107	$3,769
8	Nebraska	Hayes Center	69032	$3,305
9	Rhode Island	Providence	2907	$3,304
10	Florida	Miami	33162	$3,027

https://www.marketwatch.com/guides/insurance-services/states-with-biggest-cost-difference-between-zip-codes/

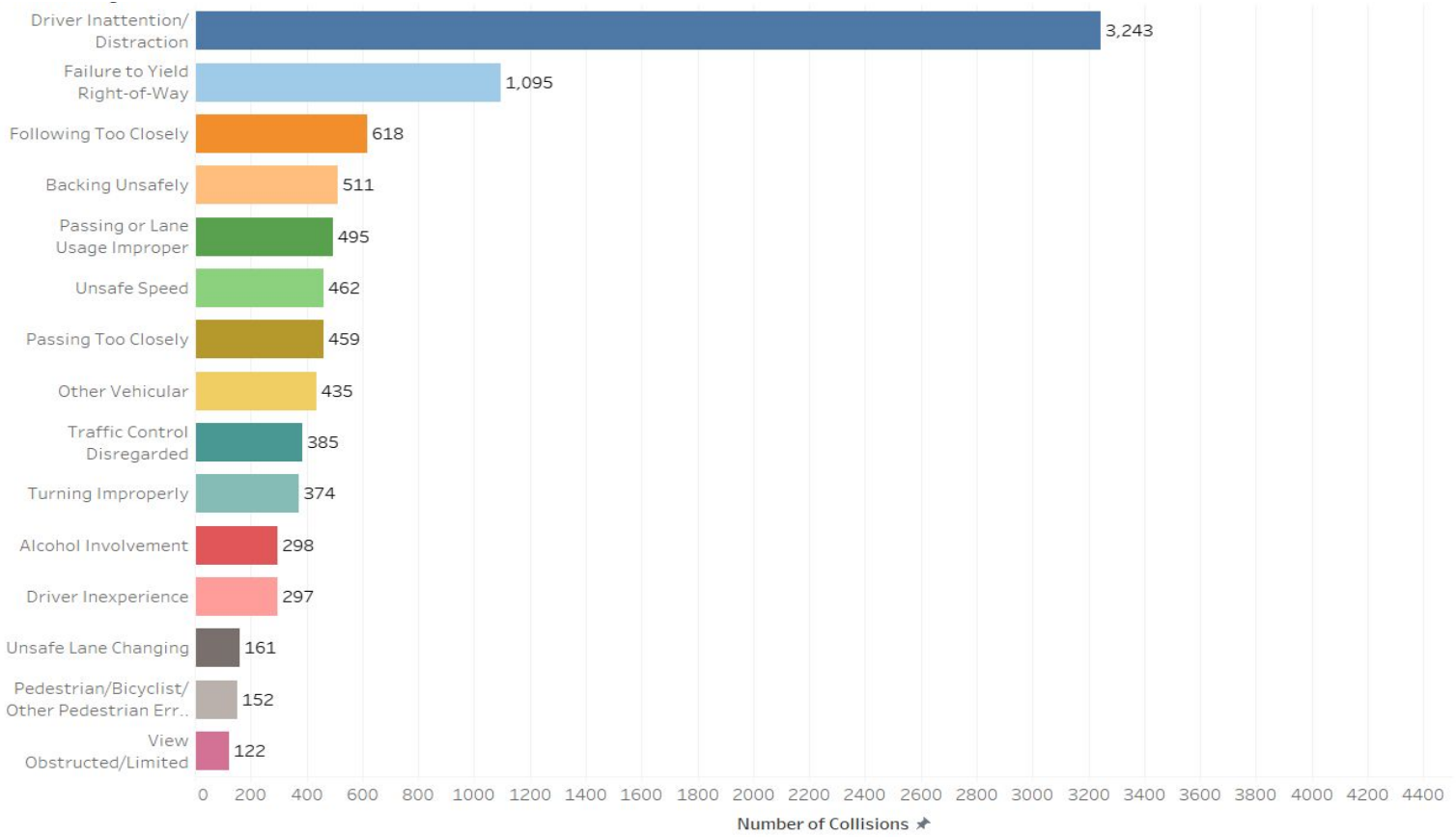
Who causes the most accidents?

of Accidents Based on Motor Vehicle

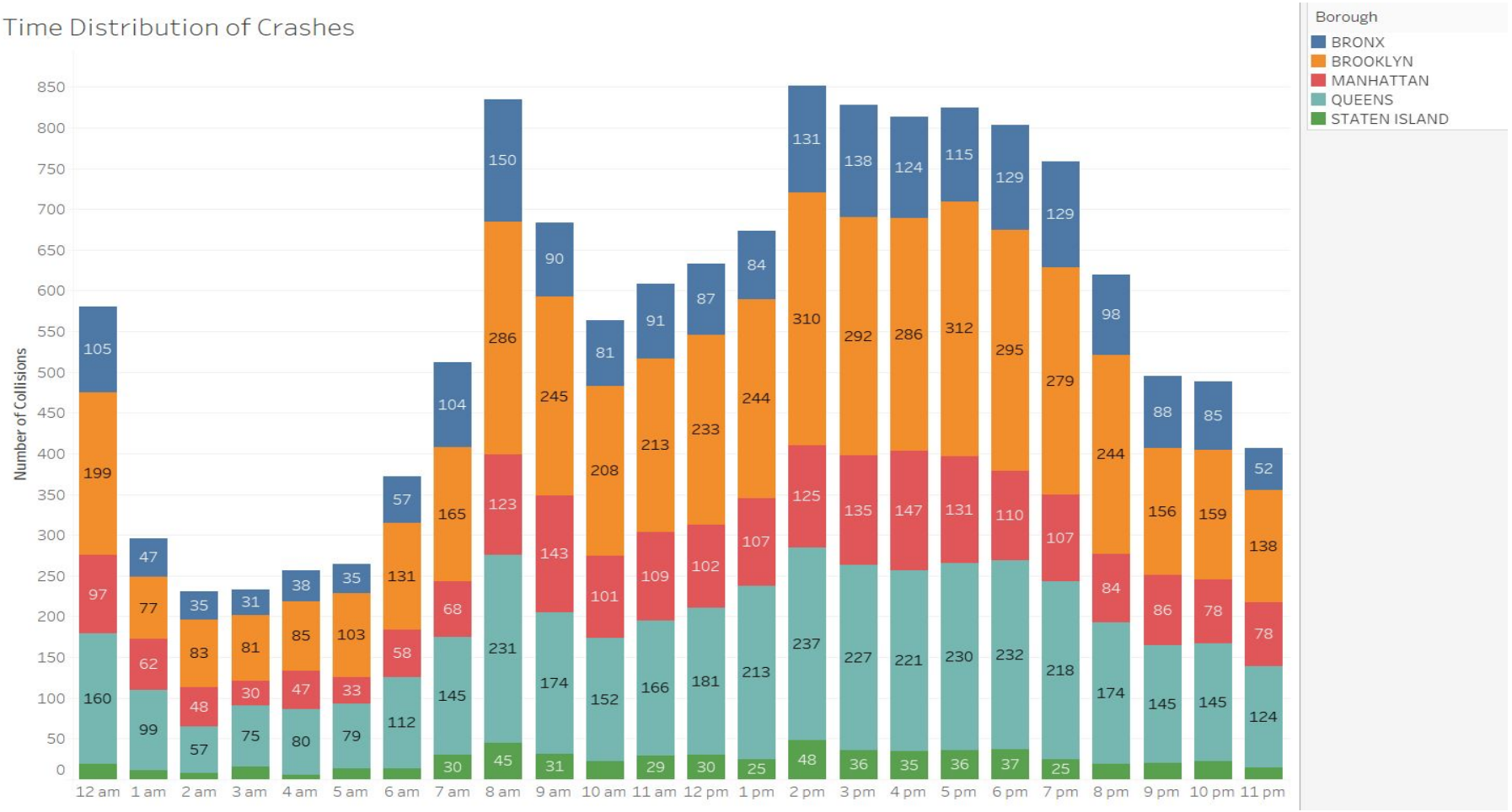


What are the top reasons for an accident occurring?

Causes for Accidents

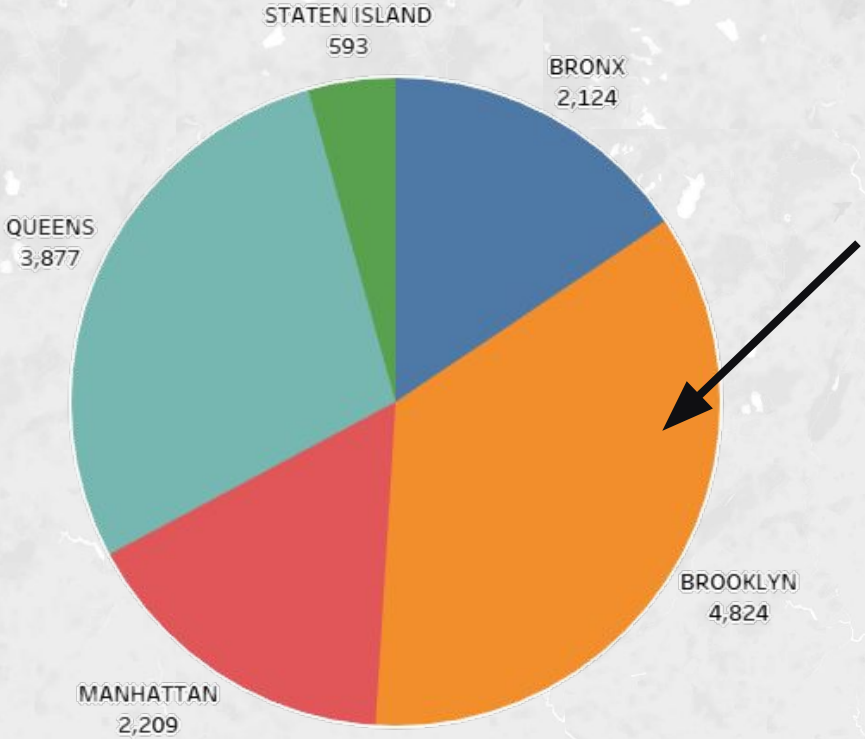


Time Distribution of Crashes

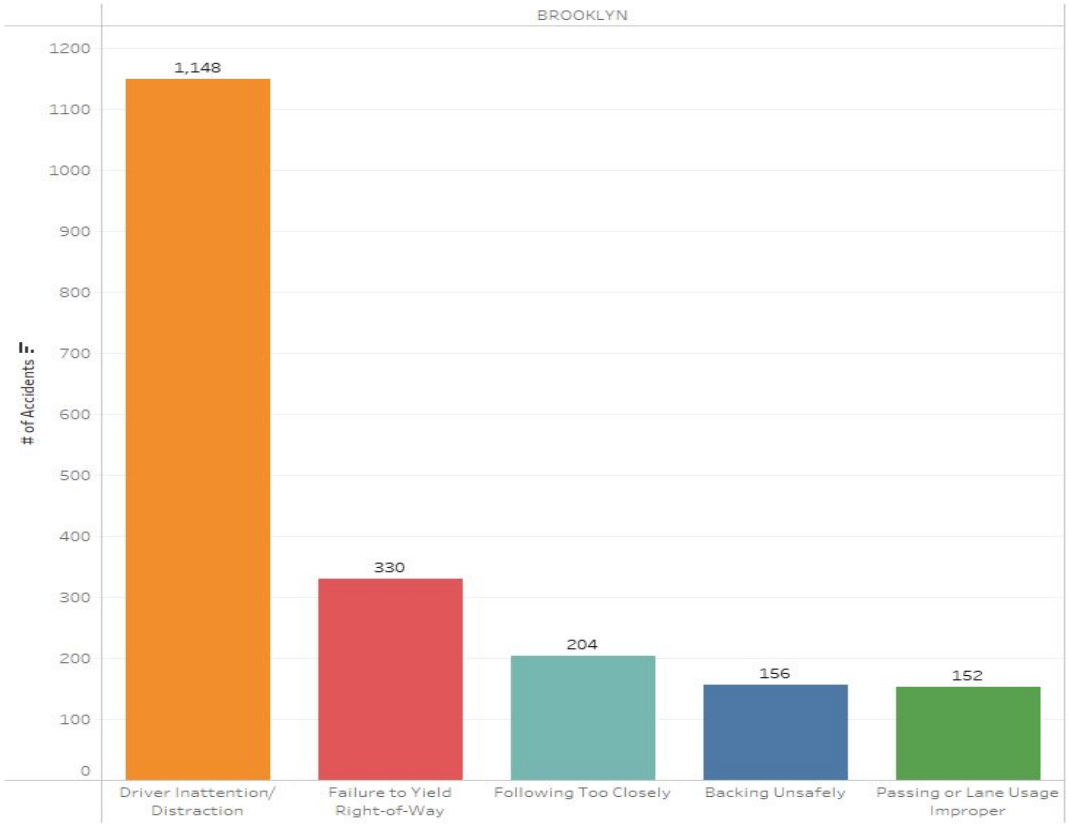


So… What's up with Brooklyn?

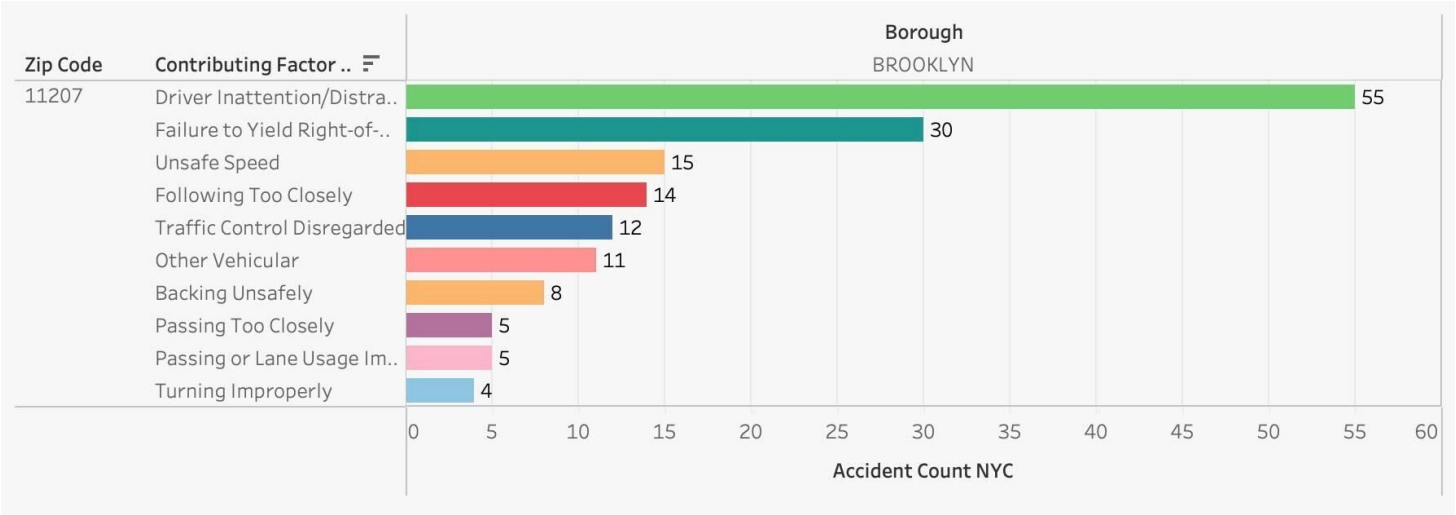
Total Accidents in Each Borough



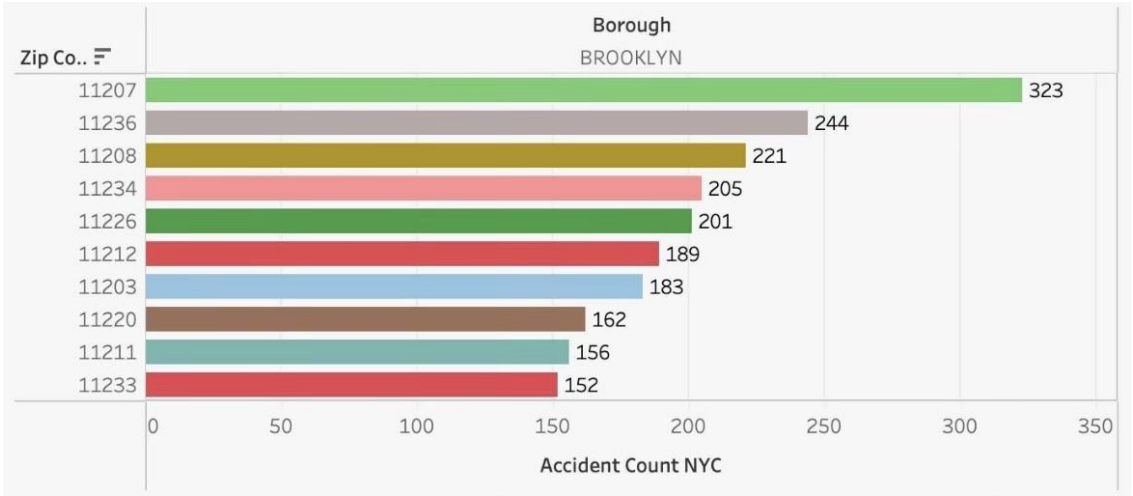
Brooklyn Contributing Factor



Hotspot of Brooklyn (11207)



Top 10 Brooklyn Accident Hotspots



Key Findings

Over 13,000 Accidents occurred in Q1

Brooklyn leads the most accidents with 4,824 accidents total

Over 85% of accidents were caused by passenger vehicles

(Sedans, mini-vans, SUVs)

Over 6,500 injured from those accidents

More than 6,300 accidents occurred at 8AM and 2PM - 8PM

60% of all accidents were due to driver negligence

Recommendations

Increase the standard of qualifying for a drivers license. Have the drivers exam be more strict and aligned with European countries such as the Netherlands where drivers are more disciplined and trained.

Install cameras to detect distracted driving such as mobile phone use. (Cameras such as this are shown in trials to be more than 95 percent accurate in the Netherlands and are effective at reducing distracted driving.)

*Allocate more traffic enforcement agents and resources towards hot spots of crash incidents within peak hours from **2pm - 8pm.***

https://data.cityofnewyork.us/Public-Safety/Motor-Vehicle-Collisions-Crashes/h9gi-nx95/about_data

Thank you!

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