NY Traffic Collision Assessment
The Matrix (Group 12) – Insights That Save Lives

Agenda

01 Definitions & KPIs

02 Key Findings

03 Contributing Factors Analysis

04 Vehicle Type Analysis

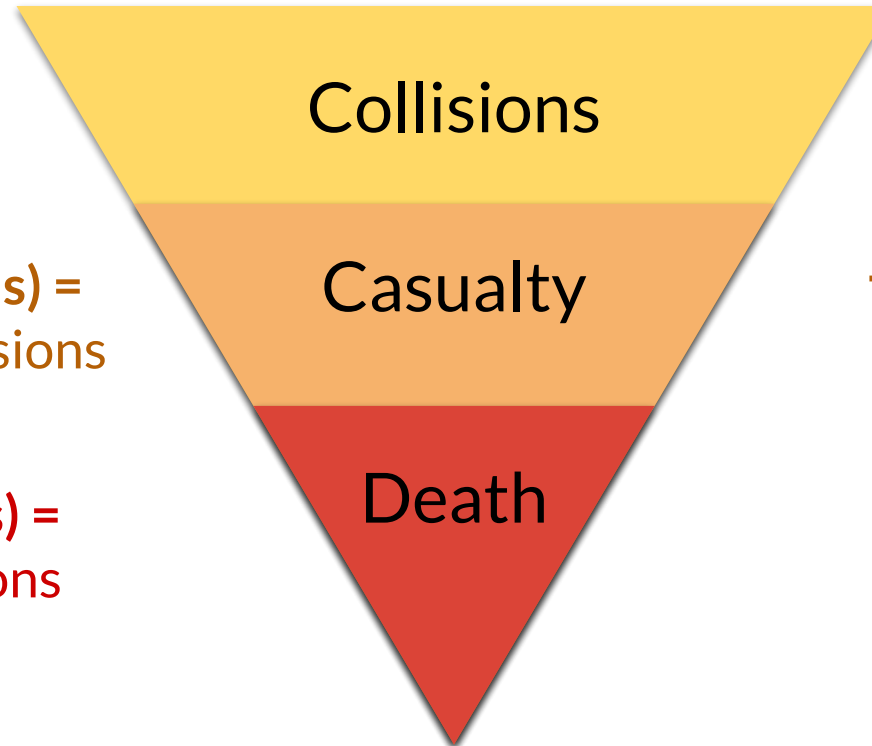**05** Location Analysis

06 Recommendations

Definitions & KPIs

Date Range
Jan 2013 - Dec 2022

Casualty Rate (per 1000 collisions) =
Number of Casualties / Total Collisions

Death Rate (per 1000 collisions) =
Number of Death / Total Collisions

Collisions

Casualty

Death

Total Collisions
1,968,878 (Cases)

Total Injured + Killed
582,699 (People)

Total Killed
2,780 (People)

Key Findings

WHERE?

Borough	% Collisions	% Deaths
Bronx	14.91	17.08
Brooklyn	30.38	29.98
Manhattan	21.40	16.91
Queens	28.46	30.35
Staten Island	4.85	5.58

WHO?

% of Total Deaths

8.0%
41.0%
51.0%

● Cyclists ● Pedestrians ● Motorists
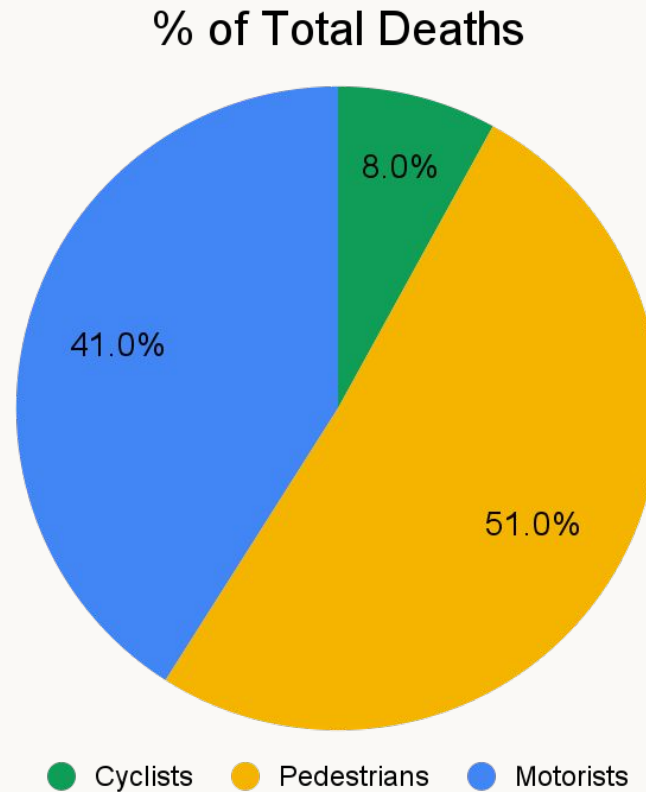
WHEN?

- **Hours of Day**
  - 5PM
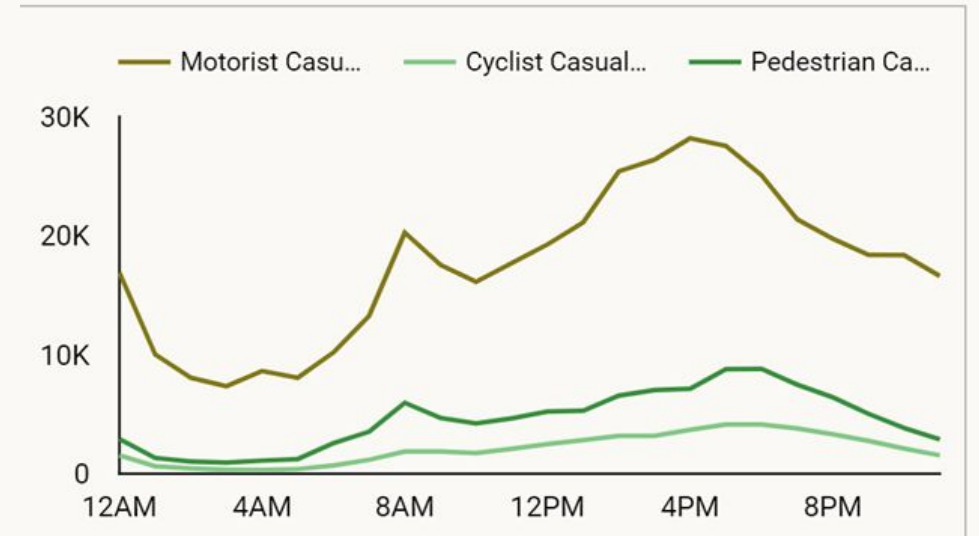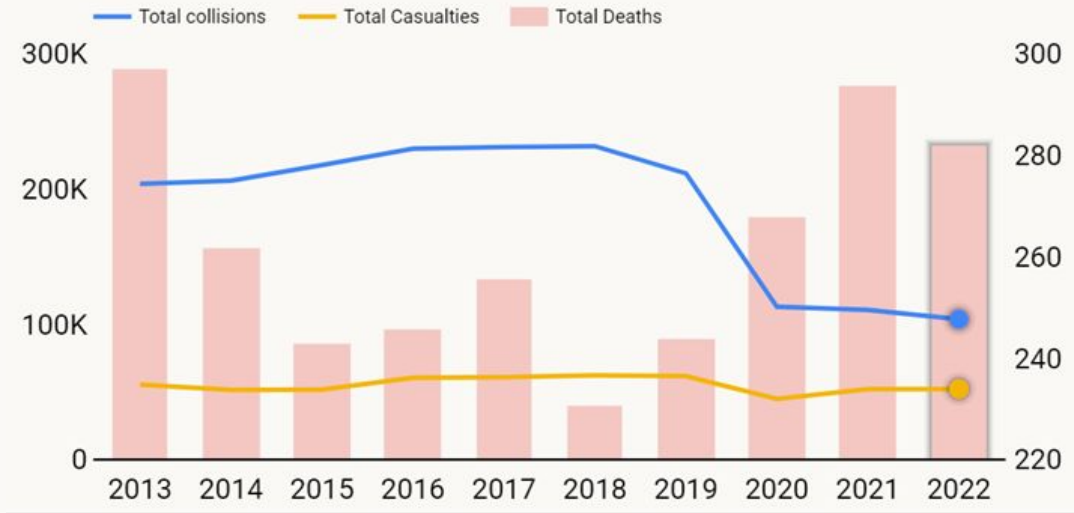 - 4PM
  - 6PM
- **Days of the Week**
  - Friday
  - Saturday
  - Thursday
- **Months**
  - July
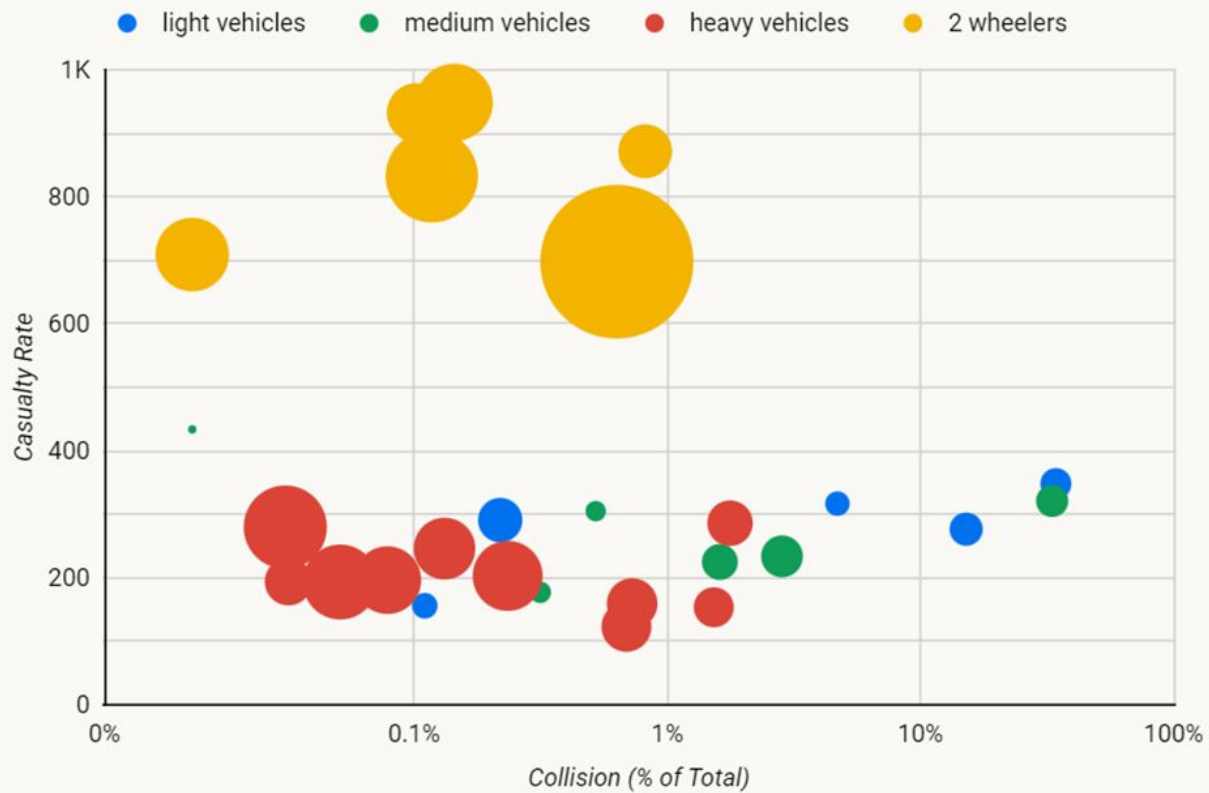 - August
  - September

Time Analysis

Contributing Factors

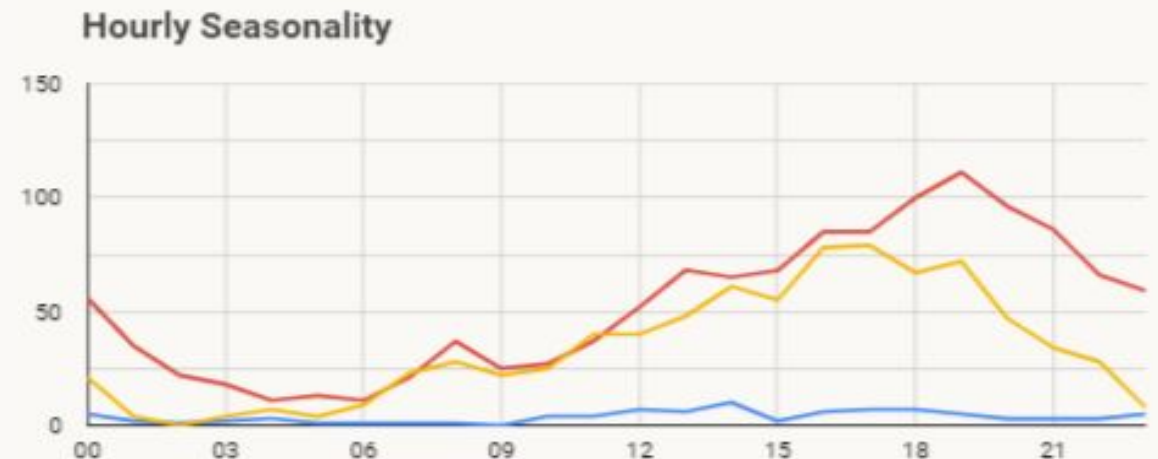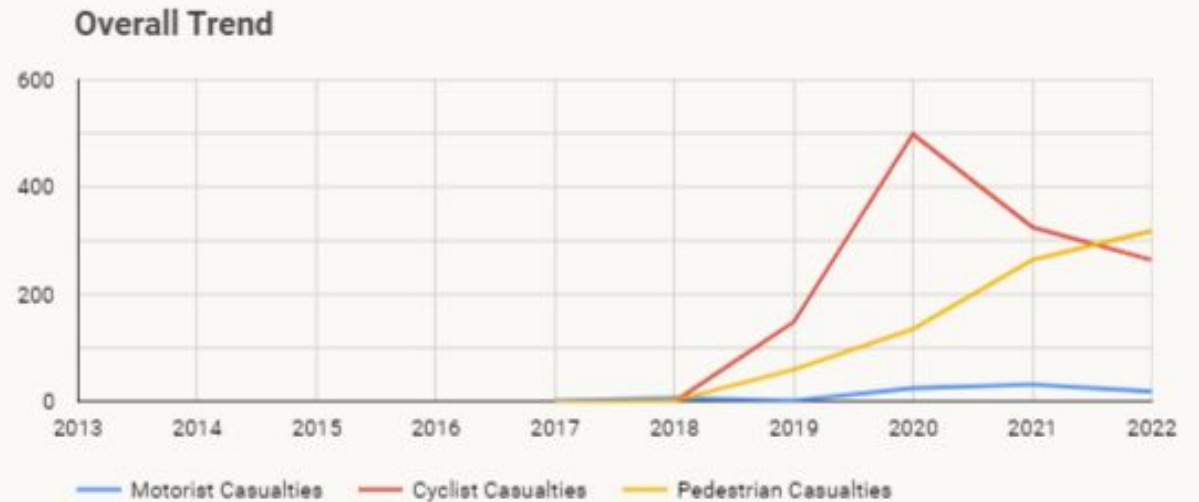| PEDESTRIAN	CYCLIST	MOTORIST
Driver Inattention/Distraction	Driver Inattention/Distraction	Unsafe Speed
Failure to yield Right-of-Way	Cyclist Error	Traffic Control Disregard
Pedestrian Error	Failure to yield Right-of-Way	Driver Inattention/Distraction
Unsafe Speed	Traffic Control Disregard	Alcohol Involvement

Vehicle Types

HIGH FREQUENCY	HIGH SEVERITY
Sedan	Motorcycle
SUV	Motorscooter
Passenger vehicle	Concrete mixer
Taxi	e-bike
Pick-up	Tanker

E-vehicles / Other 2-wheelers

	Vehicle type	Total Casualties ▾	Total Death
1.	bike	8,881	33
2.	motorcycle	5,496	208
3.	e-bike	1,702	12
4.	motorscooter	1,218	14
5.	e-scooter	1,186	5
6.	scooter	117	1

	Vehicle Type	Collision (% of Total)	Casualty Rate ▾	Death Rate
1.	e-bike	0.14%	911.13	9.31
2.	e-scooter	0.1%	884.66	2.2
3.	bike	0.81%	853.45	6.85
4.	motorscooter	0.12%	849.56	6.45
5.	motorcycle	0.62%	819.17	40.5
6.	scooter	0.01%	684.61	6.45
7.	bus	1.75%	574.49	4.41

Overall Trend

— Motorist Casualties   — Cyclist Casualties   — Pedestrian Casualties

Hourly Seasonality

E-vehicles / Other 2-wheelers

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Overall Trend

Motorist Casualties — Cyclist Casualties — Pedestrian Casualties

Hourly Seasonality

Location Analysis - Pedestrian Danger Zone

Record Count 0 ▬▬▬▬ 281

- Top 10 Streets with the highest Pedestrian Casualty Rate
- **Strategy**
  - Residential Area - No MV Zone
  - Business District - Sidewalk Barrier

Contributing Factor
1. Driver Inattention/Distraction
2. Failure to Yield Right-of-Way
3. Backing Unsafely
4. Pedestrian/Bicyclist/Other Pedestri...
5. View Obstructed/Limited
6. Passenger Distraction
7. Traffic Control Disregarded
8. Unsafe Speed

Recommendations

Issue	Recommendation
Unsafe Speed	Speed Cameras and Sensors
Driver Inattention/Distraction	Traffic Control Officials
Traffic Control Disregard	Stricter Laws for ignoring Traffic Control
Pedestrian/Cyclist Error/Driver Inattention	Street Safety Rule Education
Failure to yield Right-of-Way	More/Longer Protected Turns
Alcohol Involvement	Traffic Stops on specific days/times
High Severity (death rate) of 2-Wheeler accidents	Stricter laws for 2-wheelers More education requirements for 2-wheeler license

Thank you!