NYC Collisions Analysis

Analyzing NYC traffic collisions to uncover key insights and trends for safer streets

Data Overview:

- The dataset contains recorded motor vehicle collisions in NYC, including details such as date, time, location, contributing factors, vehicle types, and injuries/fatalities.
- Key fields include Collision ID (unique identifier), Date, Borough, Contributing Factor, Vehicle Type, and Injury/Fatality Counts.

Data Transformation Process:

- **Data Cleaning & Validation:** Adjusted data types and validated calculations to ensure consistency in injury and fatality counts.
- **Collision Severity Score:** Created a metric to quantify severity using the formula: **Severity Score=(Total Injuries×1)+(Total Fatalities×3)**
- **Standardized Vehicle Types:** Categorized vehicles into broader groups like Passenger Vehicle, Public Transport, Emergency Services, Utility & Commercial, Non-Motorized, and Other.
- **Standardized Contributing Factors:** Grouped causes into Human Error, Environmental Factors, Vehicle Issues, Impairment, and Other.
- **Incident Severity Ranking:** Classified collisions into Minor, Moderate, or Severe based on injury/fatality counts.

Key Measures & Insights:

- **Average Collision Severity Score** to assess incident impact.
- **Collision Count by Cause** to determine leading reasons for accidents.
- **Daily & Monthly Average Collisions** for trend analysis.
- **Total Collisions** as an overall indicator of traffic incidents.
- **Top Collision Causes by Borough** to identify location-based trends.

Navigate to Pages

Introduction

Historical Trends

Severity and Contributing Factors

Injuries and Fatalities

38K
Total Collisions

46
Daily Average Collisions

36K
Injuries

215
Fatalities

Human Error
Top Reason for Collisions

Year

2021 | 2022 | 2023

Borough

Bronx | Brooklyn | Manhattan | Queens | Staten Island

Back to Introduction

KEY OBSERVATIONS

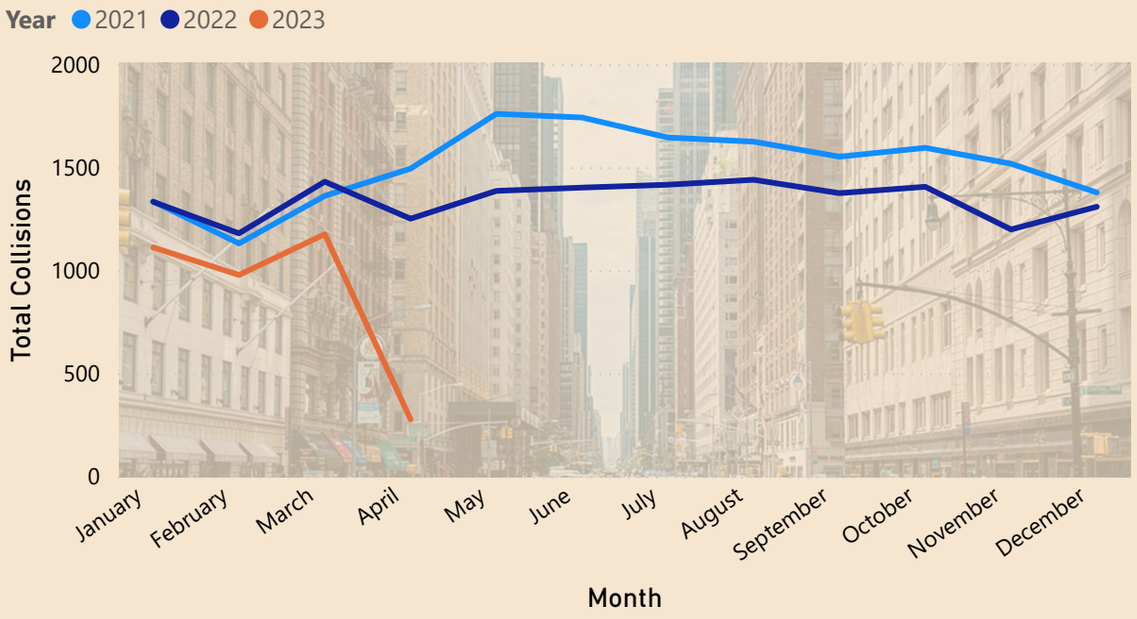
2021 had the highest total Total Collisions at 18125, followed by 2022 at 16116 and 2023 at 3540.

May in Year 2021 made up 4.66% of Total Collisions.

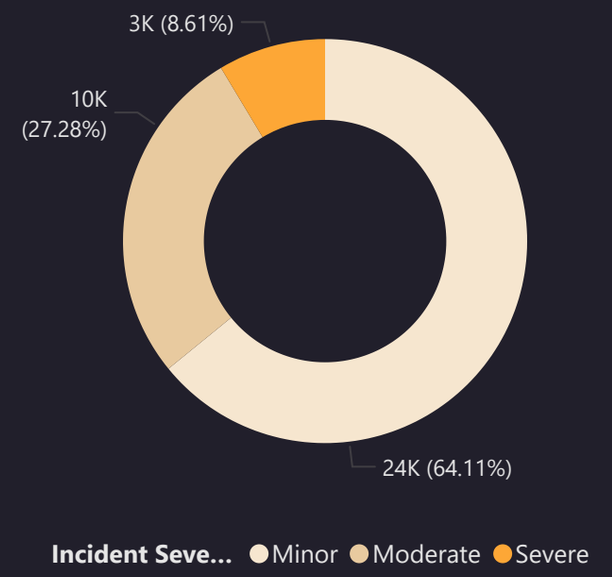
2021 had the highest average Total Collisions at 1,510.42, followed by 2022 at 1343 and 2023 at 885.
Minor had the highest Total Collisions at 24223, followed by Moderate at 10305 and Severe at 3253.

Minor accounted for 64.11% of Total Collisions

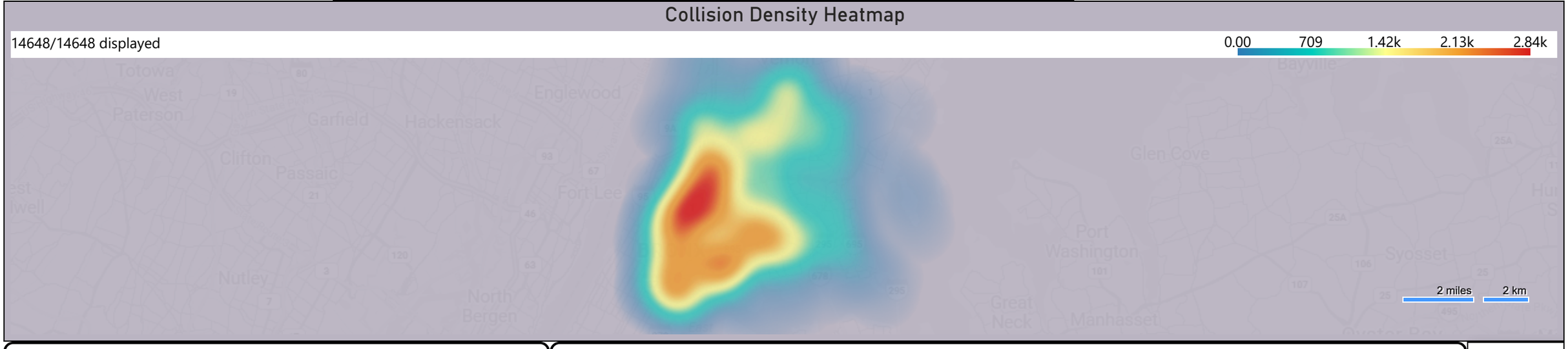
Total Collisions by Month and Year



Total Collisions by Incident Severity



Collision Density Heatmap



Year

2021 | 2022 | 2023

Borough

Bronx | Brooklyn | Manhattan | Queens | Staten Island

Back to Historical Trends

Year

2021

2022

2023

Heatmap for week of the day vs time of the day

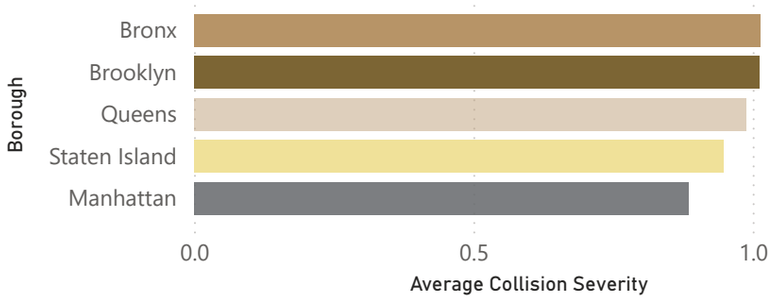
Day of Week	Afternoon	Evening	Midnight	Morning
Friday	5294	4013	1792	3691
Monday	4431	2929	1774	3600
Saturday	4088	3768	3089	2650
Sunday	3597	3190	3231	2159
Thursday	4825	3454	1477	3685
Tuesday	4665	3310	1318	3686
Wednesday	4882	3260	1409	3713

High No. of Collisions

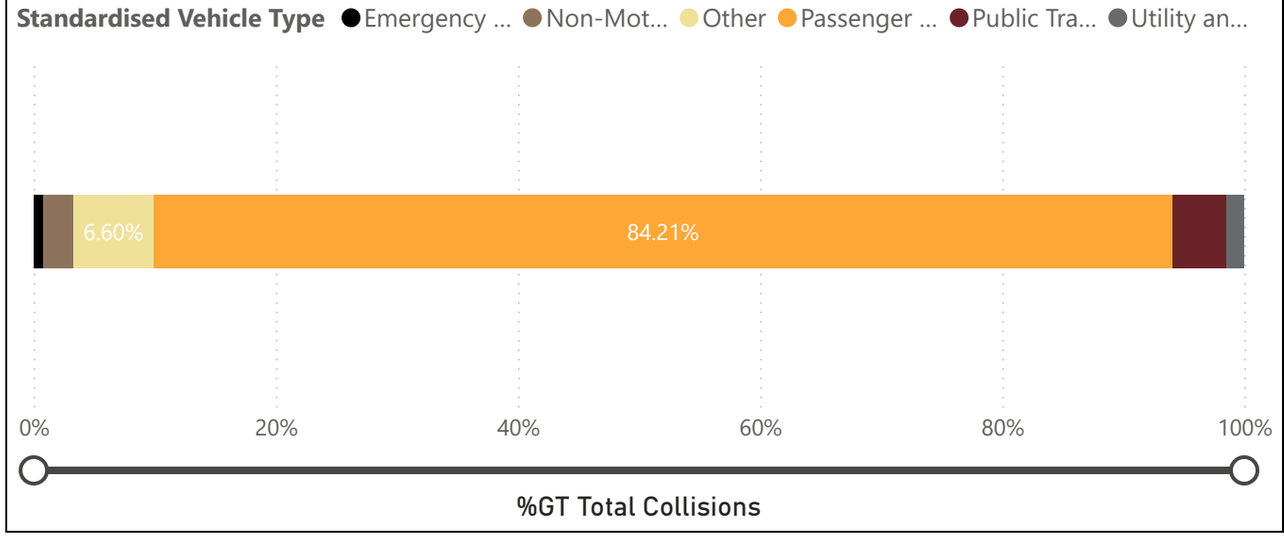
Average No. of Collisions

Relatively low No. of...

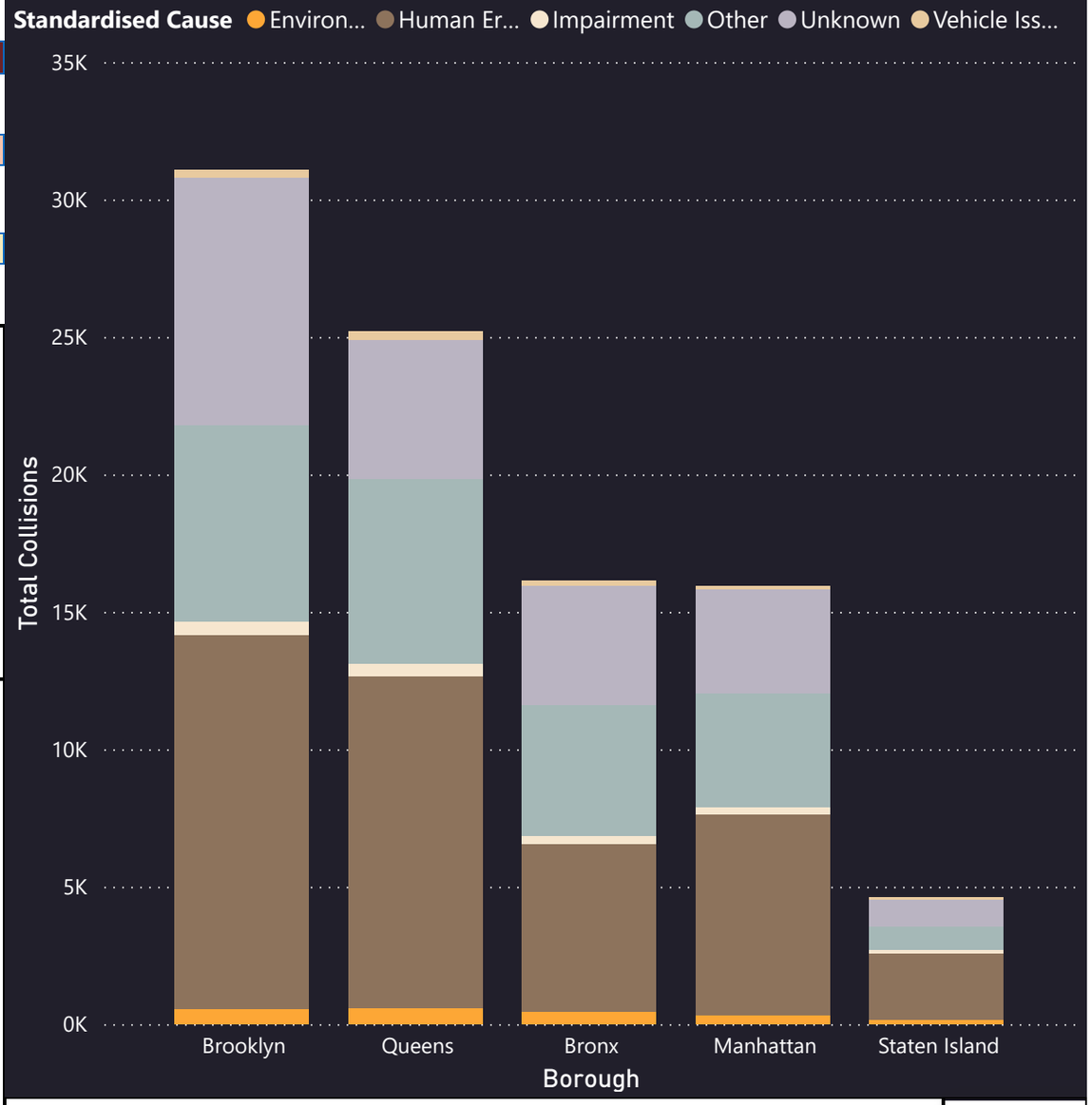
Average Collision Severity by Borough



%GT Total Collisions by Standardised Vehicle Type



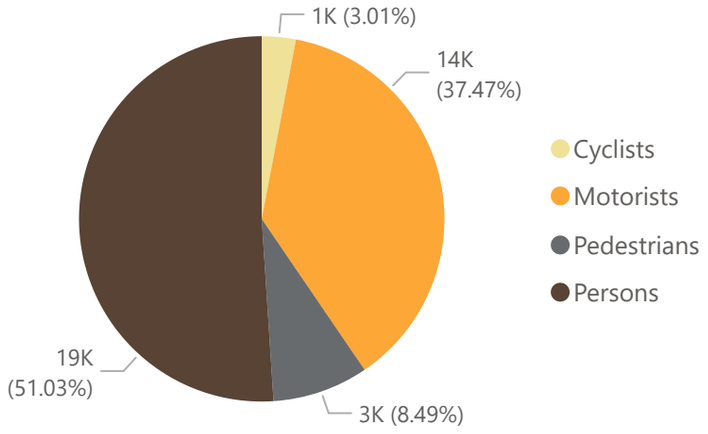
Total Collisions by Borough and Standardised Cause



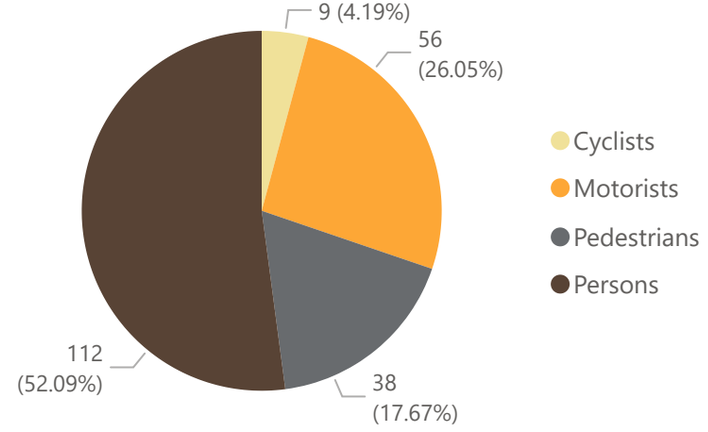
Brooklyn in Standardised Cause Human Error made up 14.62% of Total Collisions.

Back to Severity and Contributing Factors

Injury Distribution by type



Fatality Distribution by type



Borough

Bronx | Brooklyn | Manhattan | Queens | Staten Island

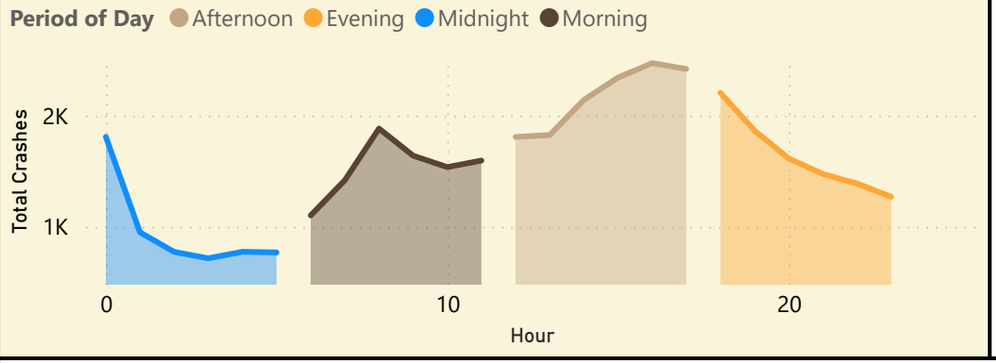
Fatality Heatmap by weekday and time of day

Day of Week	Afternoon	Evening	Midnight	Morning
Friday	4	21	7	2
Monday	2	4	6	4
Saturday	4	17	17	3
Sunday	2	10	20	2
Thursday	4	11	12	4
Tuesday	8	9	6	8
Wednesday	2	14	6	6

Injury Heatmap by Weekday and Time of Day

Day of Week	Afternoon	Evening	Midnight	Morning
Friday	1945	1712	749	1122
Monday	1694	1505	769	1093
Saturday	1696	1723	1075	870
Sunday	1563	1418	1340	746
Thursday	1775	1612	520	1260
Tuesday	1989	1382	456	1164
Wednesday	1887	1537	521	1175

Total Crashes by Hour and Period of Day



Afternoon had the highest total Total Crashes at 13007, followed by Evening, Morning, and Midnight.

16 in Period of Day Afternoon made up 6.54% of Total Crashes.

Afternoon had the highest average Total Crashes at 2,167.83, followed by Evening, Morning, and Midnight.

Fatalities by Borough, Latitude and Longitude

14648/14648 displayed