Virtual Poster Board: Crash Rates by Time of Day in Different Boroughs of New York City

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Crash Rates in different boroughs in New York City

Understanding **time-of-day patterns** in crash rates is crucial for identifying the **hours of highest risk** on the road. By focusing on the variation in crash rates across different **boroughs** of New York City, we can determine if there are specific times when particular boroughs experience more crashes. This information can help local authorities, including the **Department of Transportation** and **Federal Highway Authority**, direct resources and safety interventions more effectively. **Key Insight**: Certain boroughs may see more crashes during peak traffic hours (e.g., **rush hour**), while others may experience more crashes at night due to impaired driving or other factors.

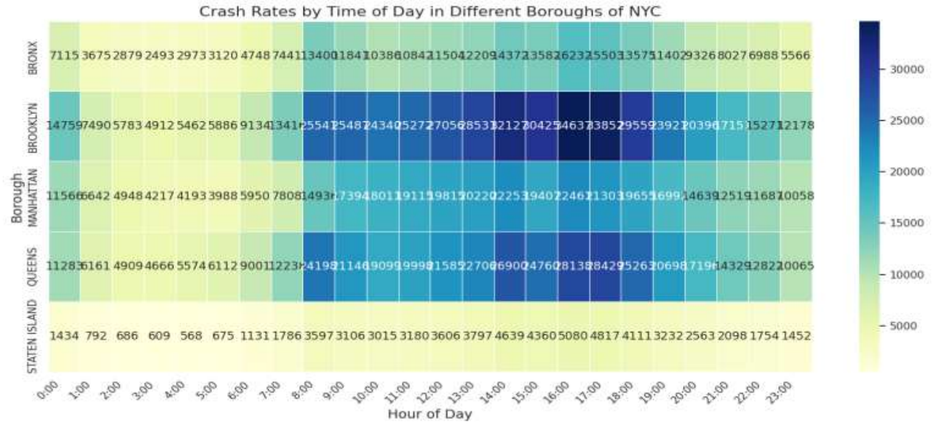

Figure 1: A bar or line graph each hour of the day

Time-of-Day Patterns:

Rush Hour: The data showed that morning (7-9 AM) and evening (4-6 PM) rush hours have the highest number of crashes, particularly in Manhattan and Brooklyn, due to increased traffic congestion.

Nighttime Crashes: Increased crashes between 10 PM and 2 AM were observed, particularly in boroughs with vibrant nightlife, such as Manhattan and Brooklyn, likely due to alcohol consumption and driver fatigue.

Borough-Specific Findings:

- Manhattan: High crash frequency during both rush hours and late-night hours, indicating a mix of congestion and impaired driving.
- Brooklyn: Crashes peaked during rush hours but also showed a steady increase throughout the day, possibly due to urban development and increased traffic flow.
- Staten Island: Crashes were more evenly distributed throughout the day, likely due to its lower population density and less urban traffic.

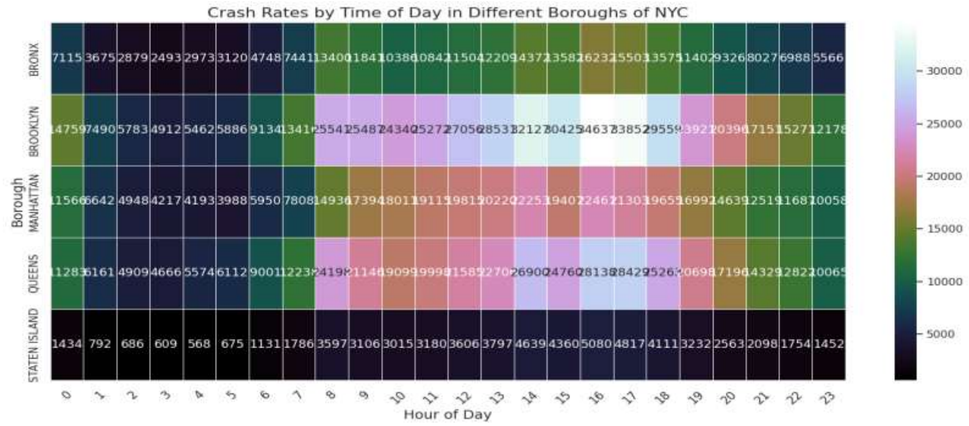

Figure 2: Heatmap of crash rates by **time of day** and **borough**

Recommendations for the Department of Transportation and Federal Highway Authority

Based on the high crash rates during morning and evening rush hours, increase traffic enforcement (speeding, seatbelt usage, impaired driving checks) during these periods, particularly in Manhattan and Brooklyn.

Rationale: Congestion during these hours leads to rear-end collisions and pedestrian accidents.

Focus on late-night driving safety programs in areas with higher nighttime crashes, such as Manhattan and Brooklyn, where alcohol consumption and impaired driving are factors.

Redesign intersections and add more pedestrian-friendly infrastructure (crosswalks, lighting, traffic signals) in high-crash areas like major intersections in Manhattan and Brooklyn.

Rationale: High traffic congestion and pedestrian accidents during peak hours highlight the need for safer road designs.

High crash rates during late-night hours suggest the need for better **public awareness** and **enforcement of impaired driving laws**.

Reference:

New York City Department of Transportation, "Motor Vehicle Collisions - Crashes," [Online]. Available: https://data.cityofnewyork.us/Public-Safety/Motor-Vehicle-Collisions-Crashes/h9gi-nx95. [Accessed: Jan. 26, 2025].

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