Addressing Changing Distributions of Cyclist Casualties in New York City

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Introduction

The COVID-19 pandemic's effect on travel patterns may also be changing who is harmed by motor vehicle crashes. In 2022, 1,084 cyclists died in crashes in the U.S., the highest ever recorded and a 75% increase from the lowest point in 2010 (IIHS, 2025). This research analyzes crash data from New York City for the years 2017 - 2024 to identify trends in crashes that injured or killed cyclists and explore potential solutions to reduce these crashes (NYC Open Data, 2025).

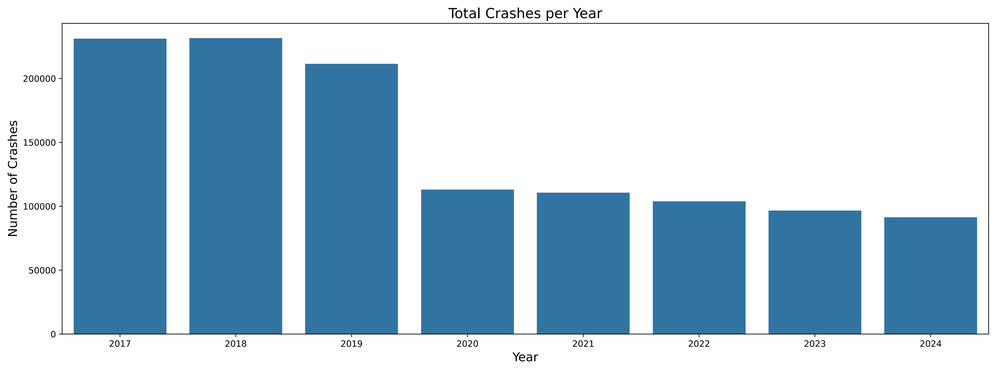

Figure 1. Crashes in New York City have decreased since 2020.

Crashes Are Injuring and Killing Cyclists at Higher Rates

While the total number of crashes dropped in 2020 and has continued to decline, the rate of crashes causing cyclist casualties has increased. The number of crashes injuring cyclists per year has remained flat, but constitutes a growing proportion of all crashes. The number of crashes killing cyclists does not show a clear trend, but the proportion of these crashes spiked in 2020 and has remained higher than pre-pandemic levels.

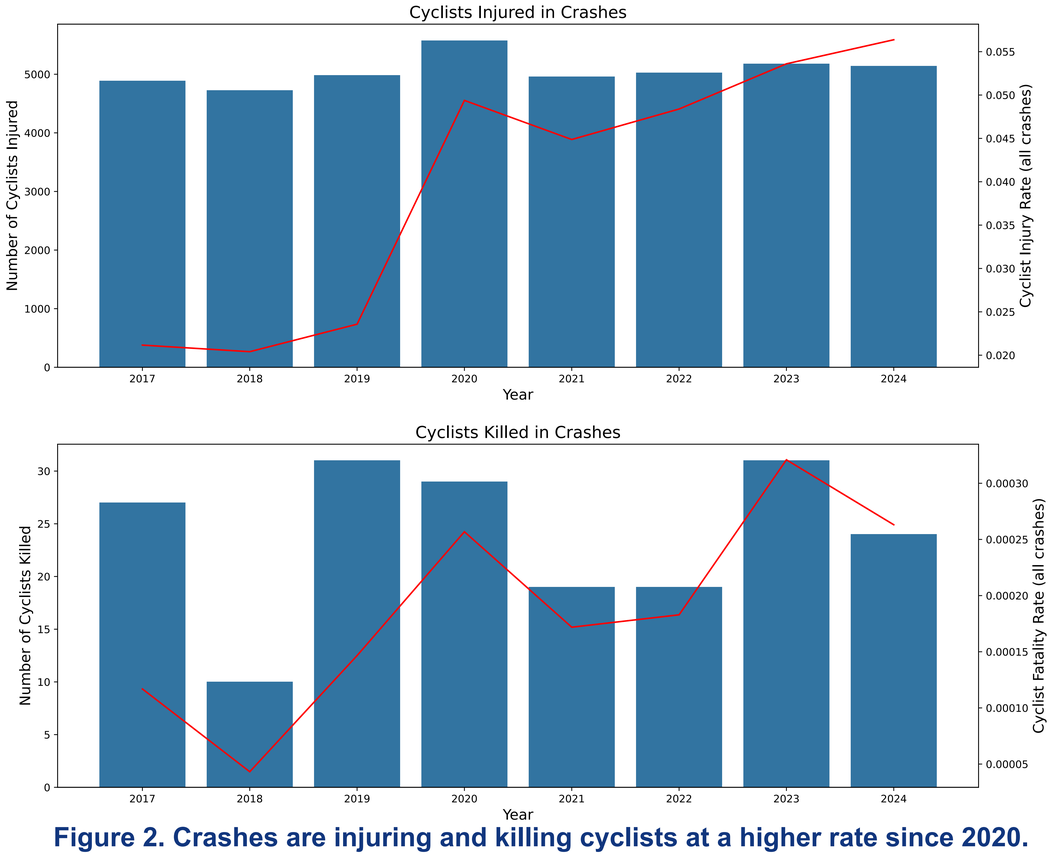

Figure 2. Crashes are injuring and killing cyclists at a higher rate since 2020.

Cyclist Casualties Are Less Concentrated

Mapping crashes that caused cyclist casualties from 2017 - 2019 (pre-pandemic) and 2022 - 2024 (post-pandemic) shows that these crashes were previously concentrated in Midtown and Lower Manhattan. While the number of these crashes has remained relatively the same, they are now more broadly distributed across the city.

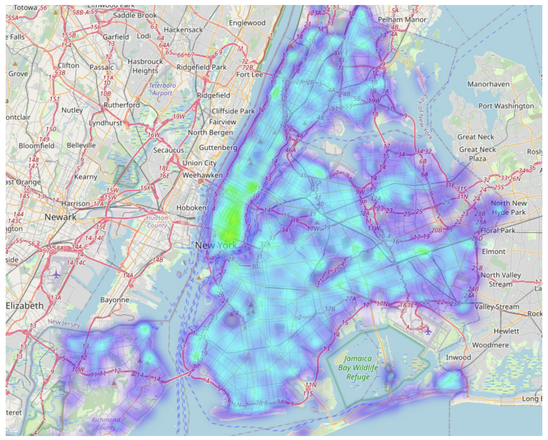

Figure 3. Heatmap of crashes injuring or killing cyclists, 2017 - 2019.

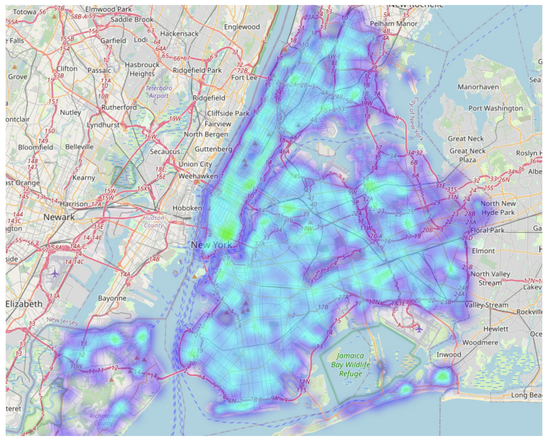

Figure 4. Heatmap of crashes injuring or killing cyclists, 2022 - 2024.

Examining Fatalities in Post-Pandemic Hotspots

Mapping cyclist fatalities in the Downtown Flushing and Long Island City/Williamsburg hotspots illustrates that many fatal crashes occurred near expressways.

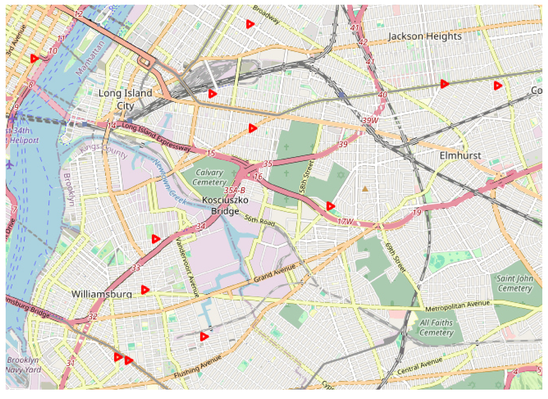

Figure 5. Fatal cyclist crashes in Long Island City and Williamsburg, 2022 - 2024.

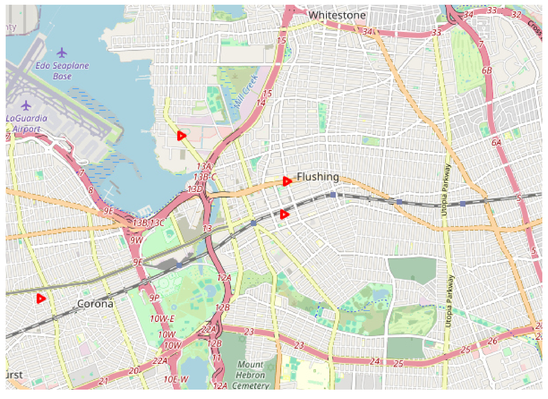

Figure 6. Fatal cyclist crashes in Downtown Flushing, 2022 - 2024.

Recommendations

Further research targeting areas where cyclist casualties increased post-pandemic could determine the causes of these crashes and identify solutions. Causes may include traffic volume, vehicle speed, road design, and driver and cyclist behavior.

Depending on the causes, the City could implement solutions near expressways such as re-engineering roads, increasing enforcement (including automated traffic enforcement), and building protected cycling infrastructure.

References

Insurance Institute for Highway Safety. (2025, February 7). Yearly snapshot: Fatality statistics. Retrieved February 7, 2025, from https://www.iihs.org/topics/fatality-statistics/detail/yearly-snapshot

New York City Open Data. (2025). Motor Vehicle Collisions [Data set]. Retrieved February 2, 2025, from https://data.cityofnewyork.us/Public-Safety/Motor-Vehicle-Collisions-Crashes/h9gi-nx95/about_data