



# High Crash Rates by ZIP Code & Borough in NYC

ULA NGUYEN  
STONEHILL COLLEGE,  
NORTHEAST BIG DATA  
INNOVATION HUB

## EXPLORING POTENTIAL CAUSES AND RECOMMENDING SAFETY IMPROVEMENTS

### INTRODUCTION

In this analysis, I will explore the ZIP codes with the highest number of crashes in New York City. Understanding the specific characteristics of these areas can offer valuable insights into the potential factors that contribute to high crash rates. By examining these factors, I aim to uncover patterns that could lead to improved safety measures.

### OBJECTIVE

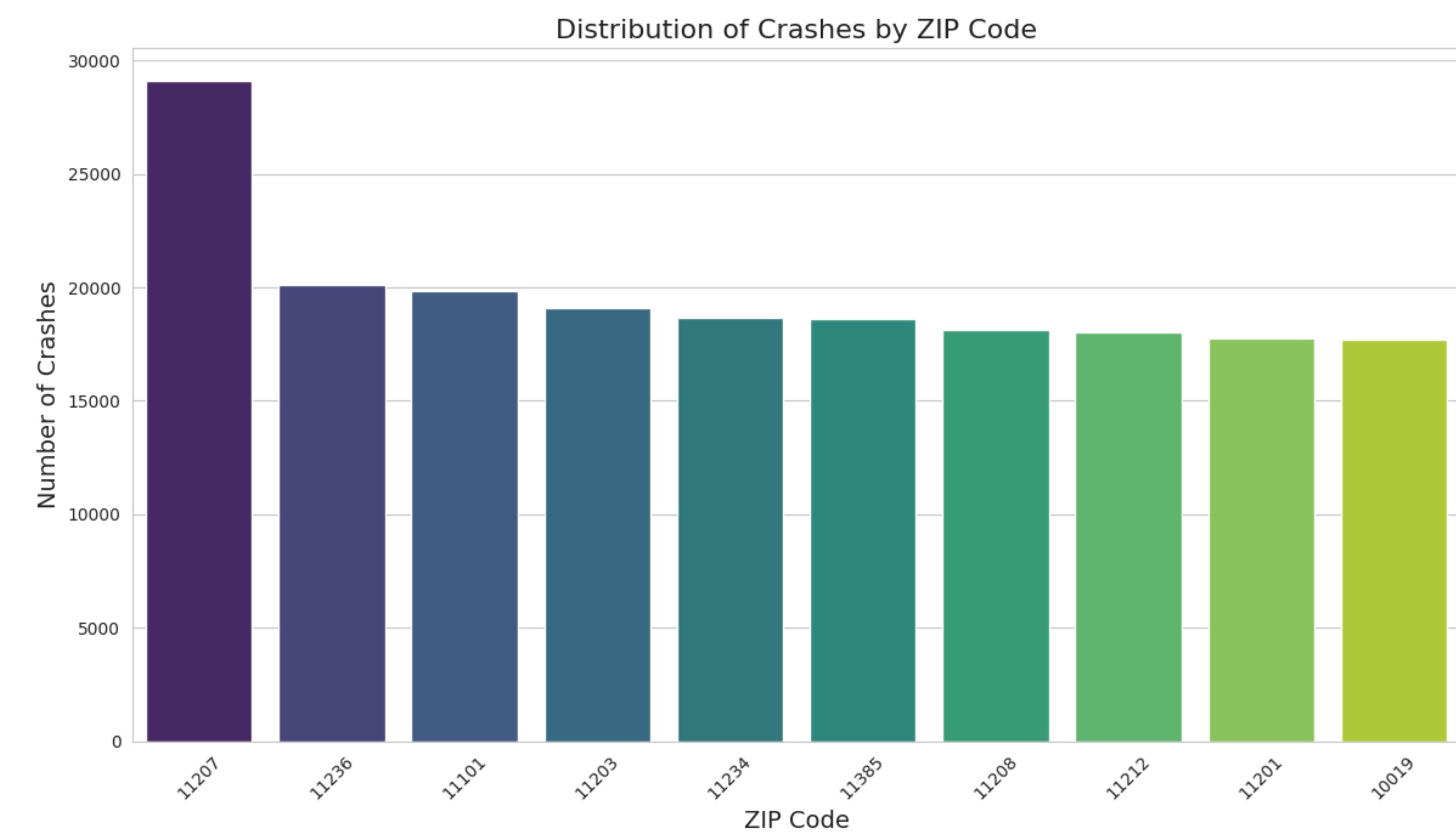
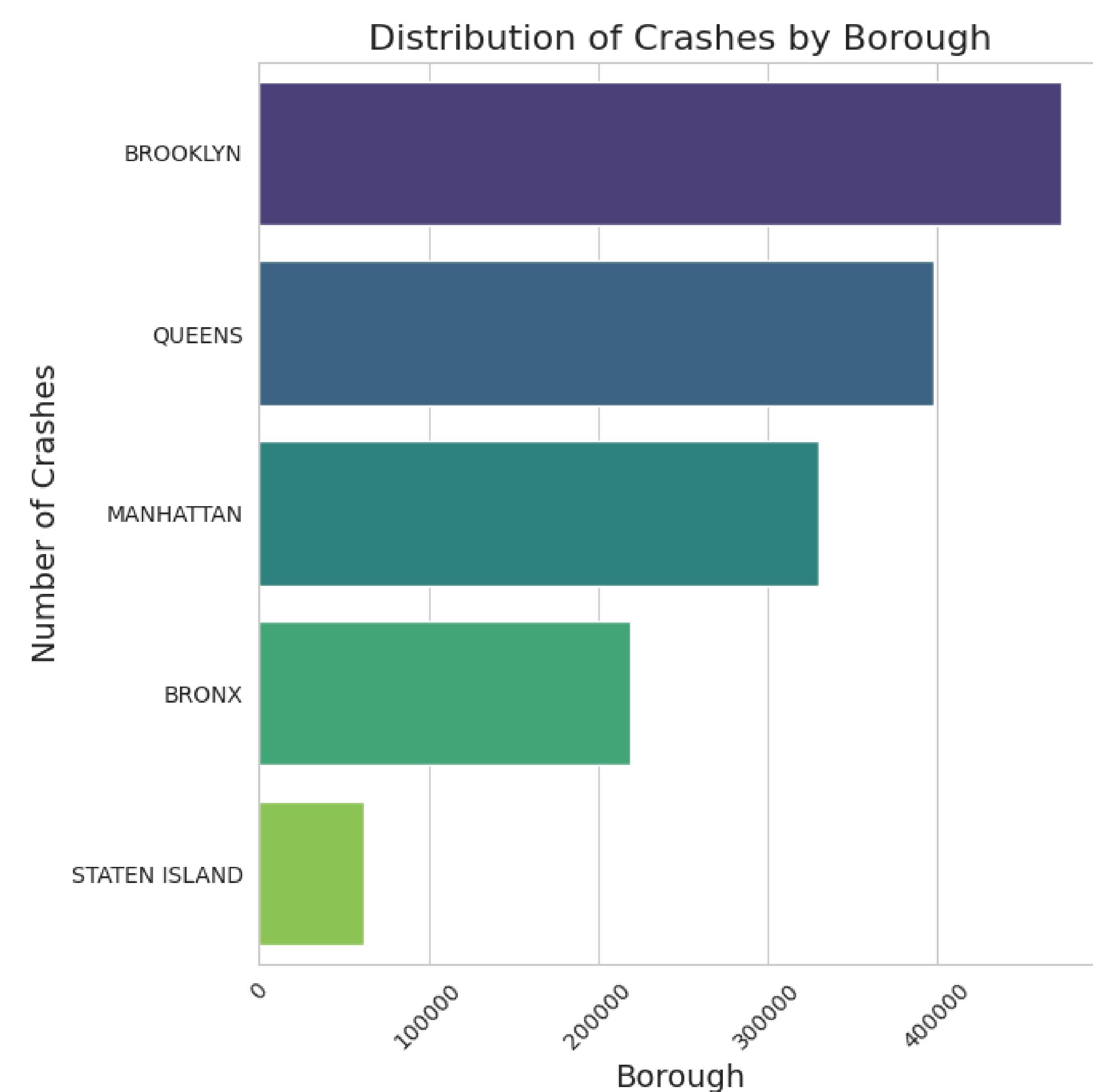
- Identify the borough with the highest crash rate
- Identify the ZIP code with the highest crash rate
- Examine if high-crash areas match borough trends
- Assess if high-crash areas are underserved communities
- Uncover potential reasons behind high crash rates
- Recommend safety improvements for high-crash ZIP codes

### METHODOLOGY

Data was collected and cleaned from NYC motor vehicle collisions. Two bar charts were created to identify crash frequency by borough and ZIP code. Analysis was conducted, followed by the proposal of recommendations.

### ANALYSIS

- Brooklyn has the highest number of crashes, followed by Queens and Manhattan.
- The top ZIP codes with the highest crashes mirror this trend, with 7 areas from Brooklyn, 2 from Queens, and 1 from Manhattan.
- Most of these high-crash ZIP codes are residential and considered underserved communities.
- Likely contributing factors include poor road maintenance, limited public transportation options, and heavy congestion due to dense populations.



### KEY FINDINGS

- Brooklyn** has the highest crash rate in NYC, with **East New York** having the highest crash frequency (ZIP: 11207, 11208).
- High-crash areas align with borough trends, with most top ZIP codes in Brooklyn.
- Inadequate infrastructure and high population density may explain higher crash rates.
- Most high-crash areas are underserved communities.

### CONCLUSION AND KEY RECOMMENDATIONS

This study found that high crash rates are concentrated in Brooklyn, particularly in East New York. Potential factors include traffic density, inadequate infrastructure, and socioeconomic conditions.

**Promoting safe driving habits** and **encouraging public transportation** are key recommendations for improving safety, especially in communities with high crash frequency. Future research should explore how traffic patterns and community characteristics intersect to reduce accidents further.