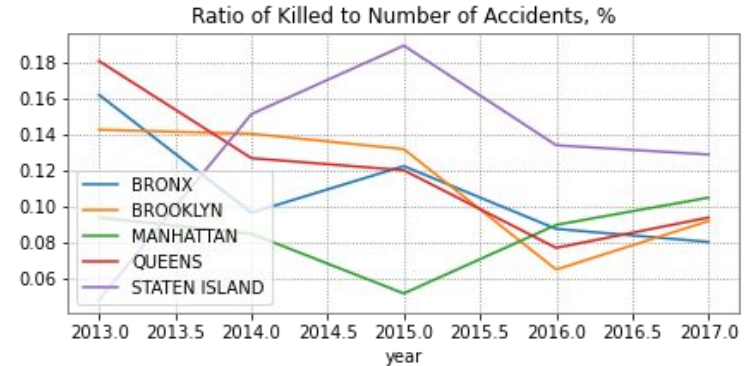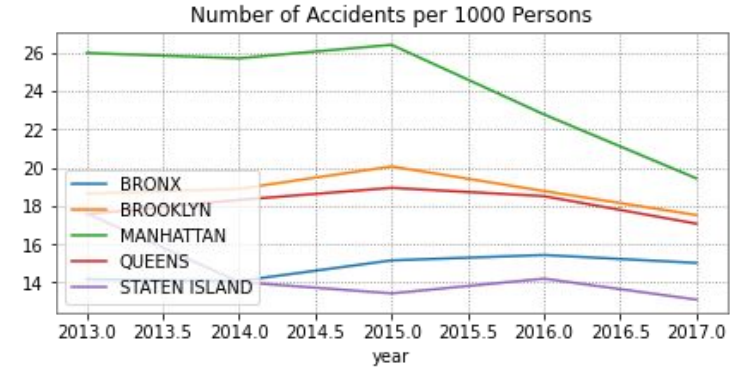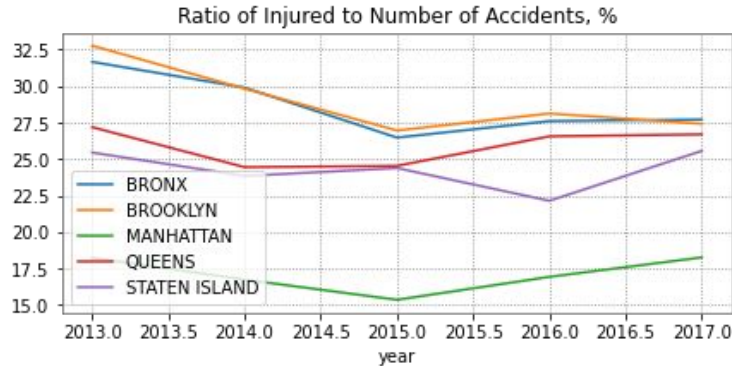# Brooklyn Motovehical Collision Analysis

High level Overview

- Number of accidents per 1000 persons decreased and is similar to other boroughs
- Number of fatalities **increased** compared to last year (2016)

Number of Accidents per 1000 Persons

Ratio of Injured to Number of Accidents, %

Ratio of Killed to Number of Accidents, %

Analysis Approach

Analysis based on:

- Reported contributing factors
- Outcome of accidents (injured, killed)
- Participants in an accident (number and type)
- Day of week, time of day
- Location

Key findings

- Driver behavior contributes to more than 60% of accidents
  - 35% of these accidents involve Driver Inattention/Distraction
  - Other contributing factors: Failure to Yield Right-of-Way, Following Too Closely, Backing Unsafely, Passing or Lane Usage Improper,Turning Improperly
- About 4% killed in 2016-2017 accidents that had Pedestrian or Bicyclist Error/Confusion factor
- About 4% killed in 2016-2017 accidents that had environment factors
  - 33% of accidents involves Pavement Slippery
  - 33% of accidents involves View Obstruction/Limitation
- 67% of injured are motorists
- 49% of killed are pedestrians, 32% - motorists and 19% - cyclists

# Recommendations to reduce accidents

- Drivers
  - Help drivers keep attention on the road (limiting speed, speed bump, artificial road bend)
  - Reduce number of drivers in busy areas (introduce congestion charge, improve public transportation)
  - Increase punishment for violating the traffic rules (increase penalties, including driving license revocation, place speed cameras)
  - Social campaign (billboards with statistics, recommendations, advertisement)
- Environment (see map in Appendix)
  - Improve traffic flow (introduce red routes)
  - Improve visibility for drivers (increase sign visibility, reduce on-road parking, improve road markings and signage)
  - Increase safety of large crossroads
  - Improve pavement traction (especially during adverse weather conditions) and treatment
- Focused on Pedestrians/Cyclists
  - Increase implementing road boards and line dividers, subway crossing, increase pedestrian light controlled crossing
  - Introduce cycle paths
  - Social campaign (billboards with statistics, recommendations, advertisement)

Additional findings

- Contributing factors unknown for 34% of accidents
- 60% of accidents involve 2 vehicles, 26% - 1 vehicle
- 90% of vehicles are passenger vehicle, sport utility or station wagon
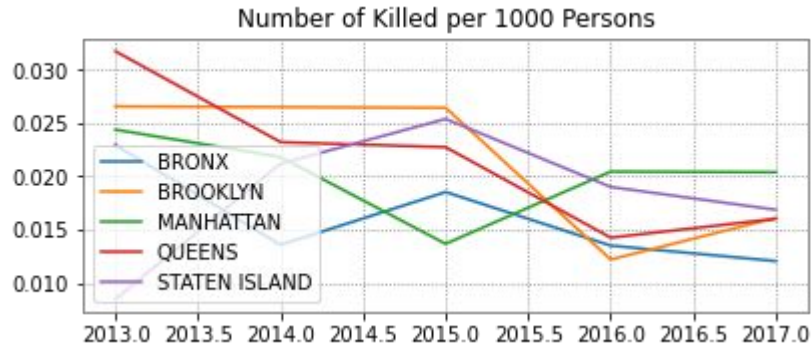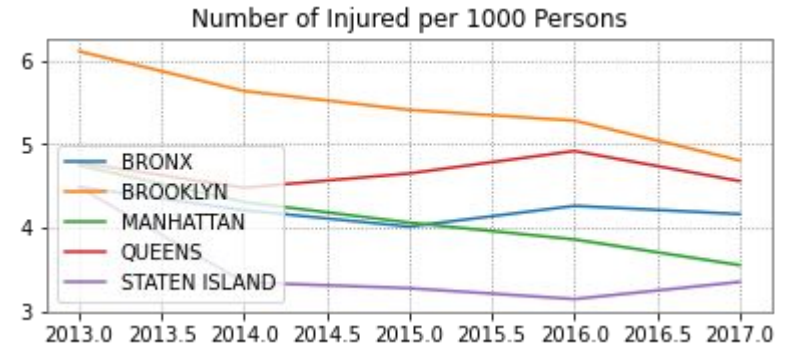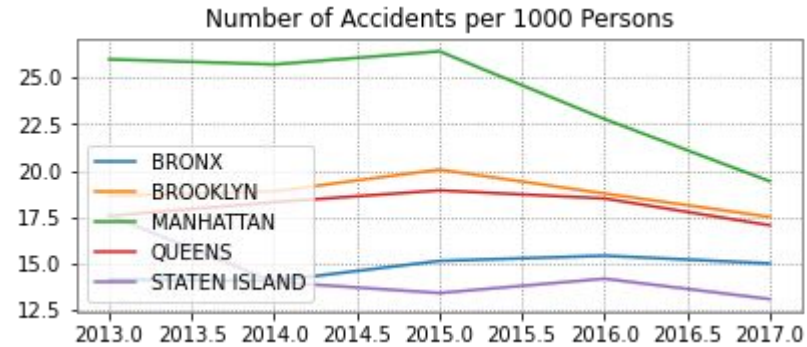- 3 peaks of accident is business days: 4-5 p.m., 2-3 p.m. and 8-9 a.m.
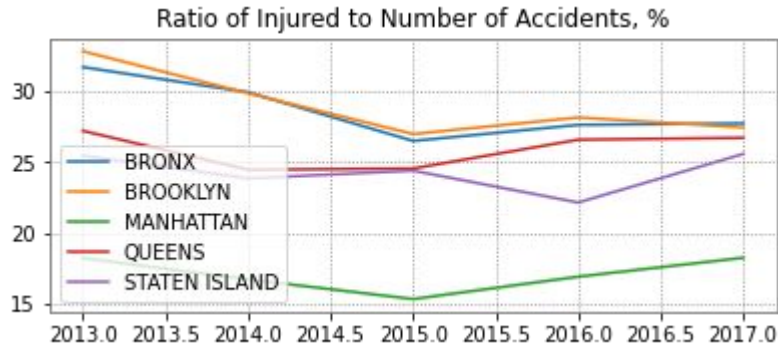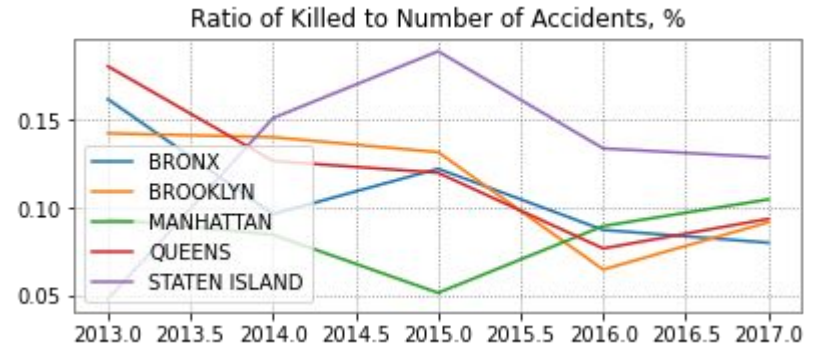
Appendix

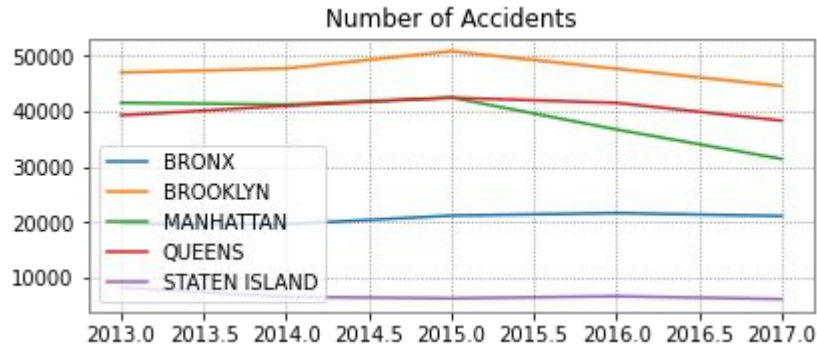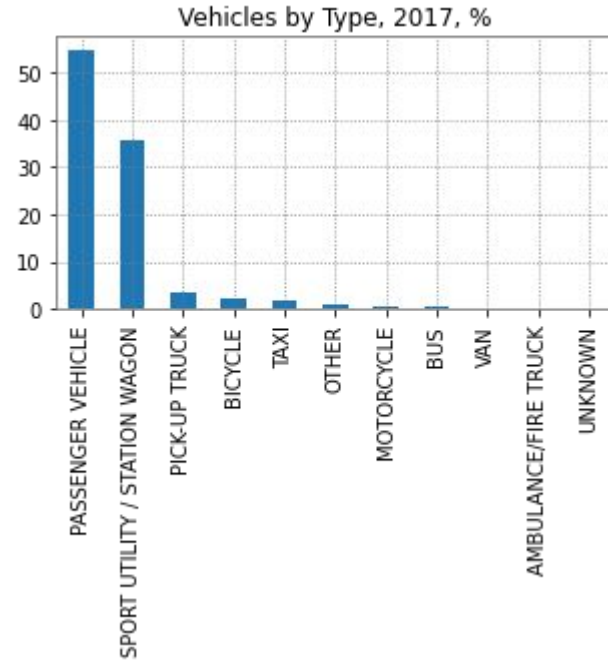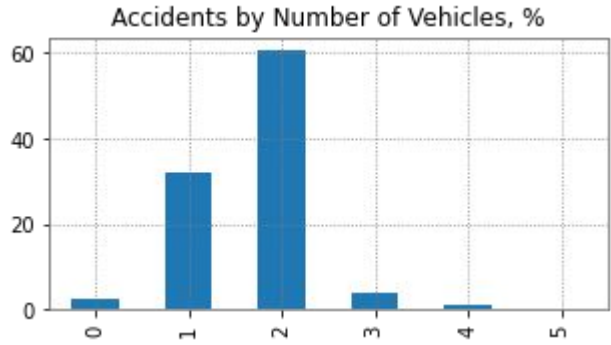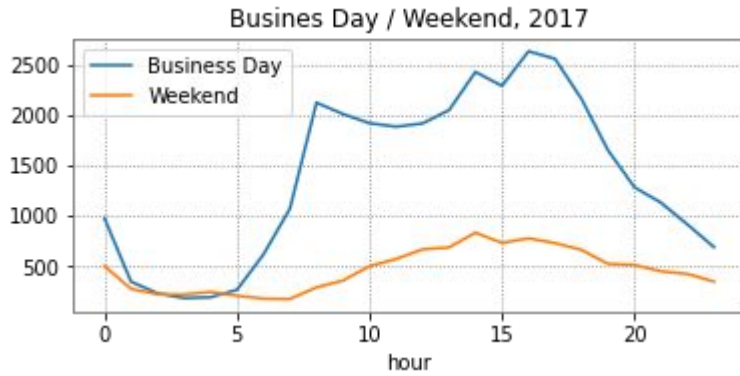# Number of Accidents by Borough
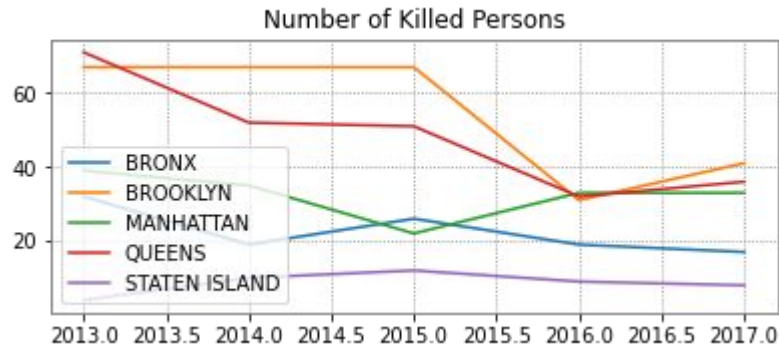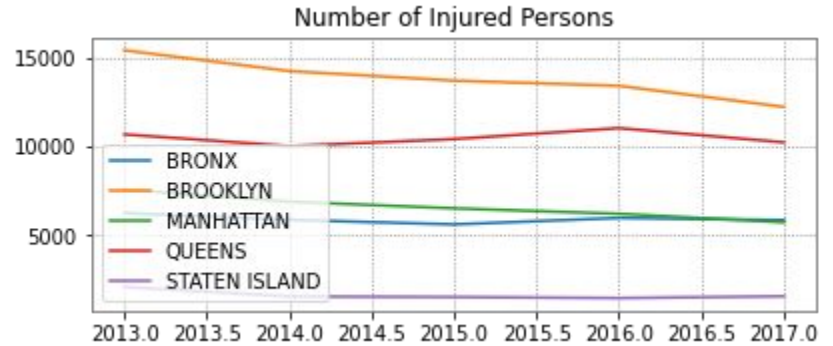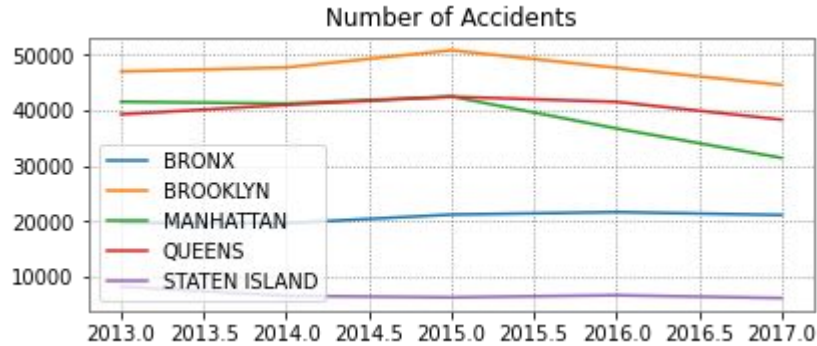
Number of Accidents per 1000 Persons by Borough

Ratio of Injured/Killed to Number of Accidents

Accident Participant Analysis

Accidents by Day/Time
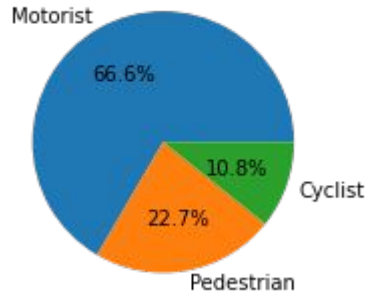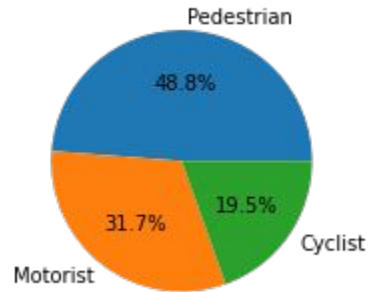

Busines Day / Weekend, 2017

Accident Victims Analysis

Injured by Categories, 2017

Motorist 66.6%
Pedestrian 22.7%
Cyclist 10.8%

Killed by Categories, 2017

Pedestrian 48.8%
Motorist 31.7%
Cyclist 19.5%

Accidents by Contributing Factors

Accidents by Contributing Factors, %

Accidents with Injured by Contributing Factors, %

Accidents with Killed by Contributing Factors, %
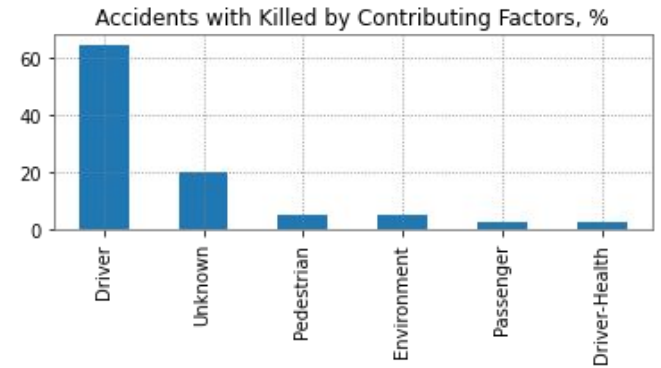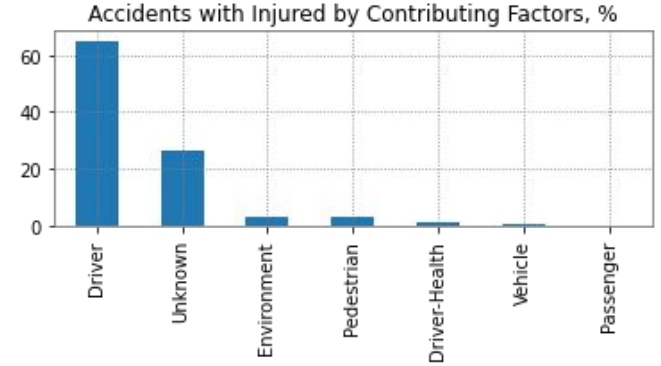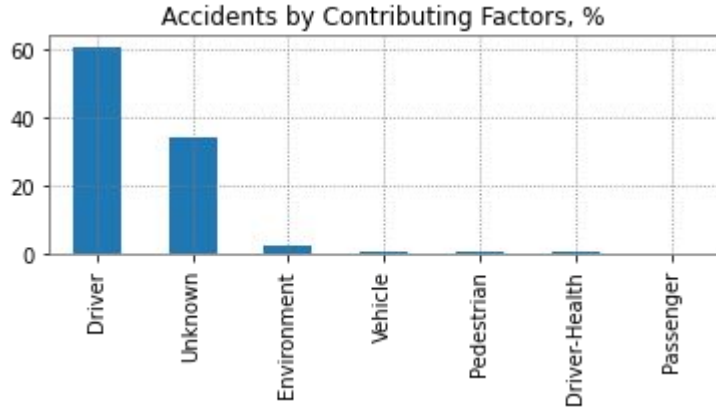
Driver by contributing factors
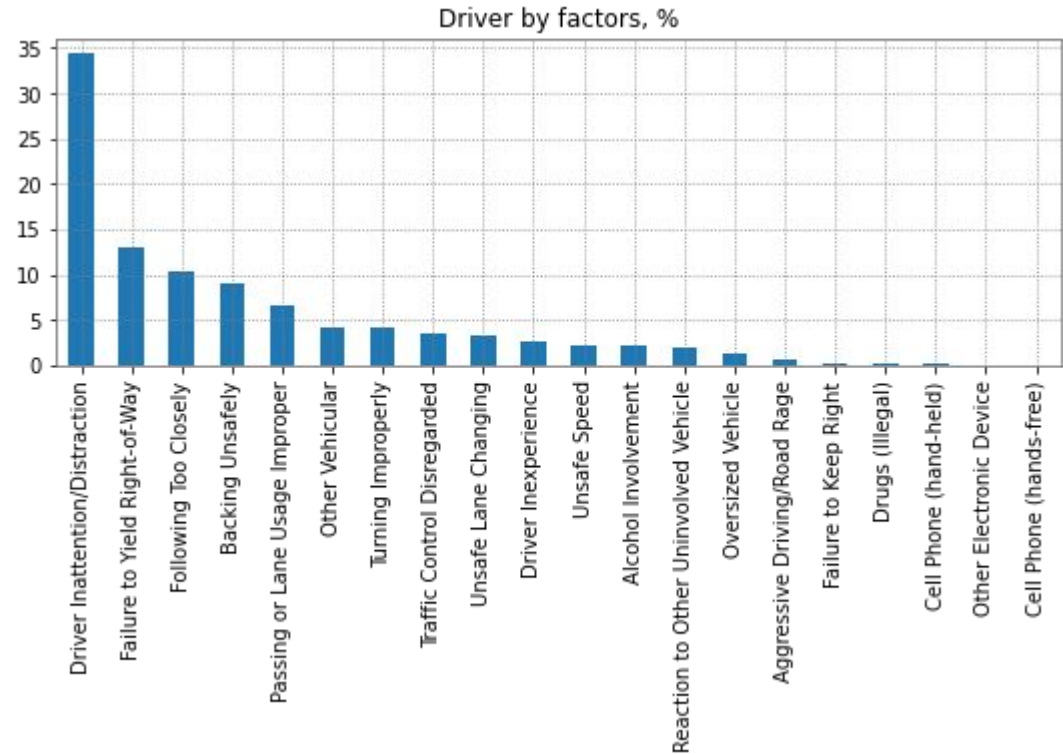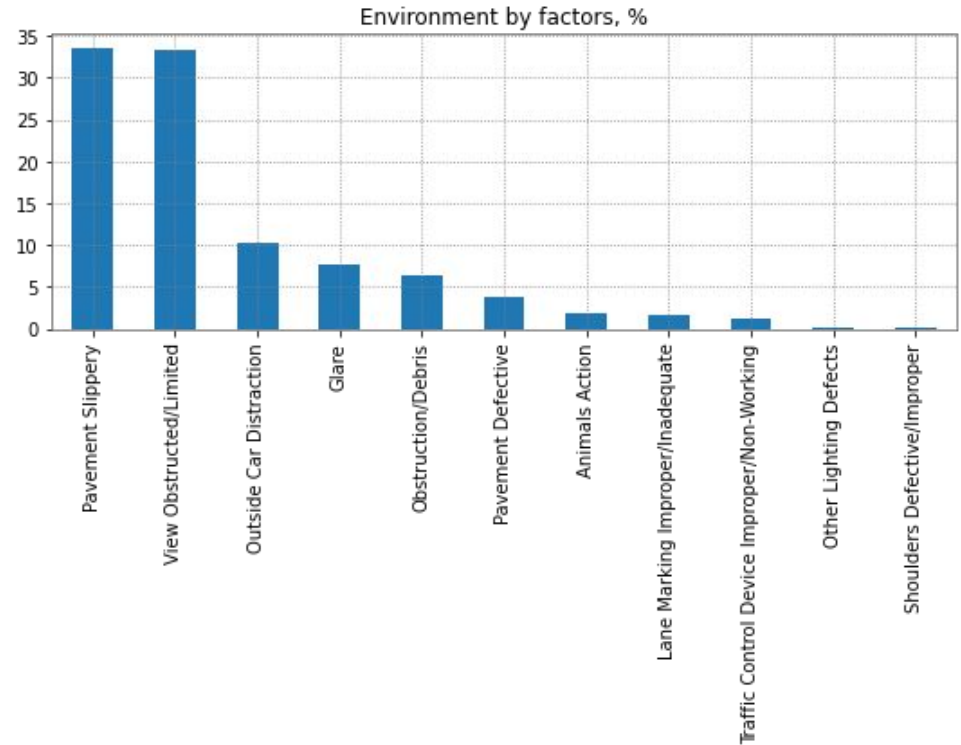
- Key problems to fix
  - Driver Inattention/Distraction
  - Failure to Yield Right-of-Way
  - Following Too Closely
  - Backing Unsafely
  - Passing or Lane Usage Improper
  - Turning Improperly

Driver by factors, %

Environment by contributing factors

- Key problems to fix
  - Pavement Slippery
  - View Obstructed/Limited
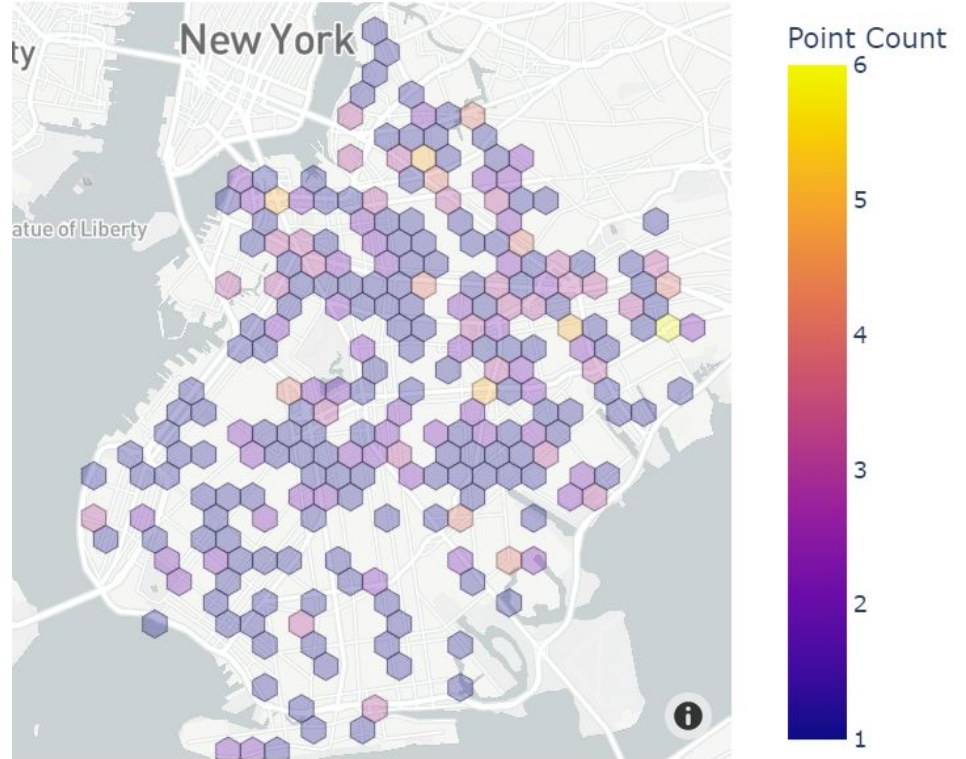

Environment by factors, %

Environment

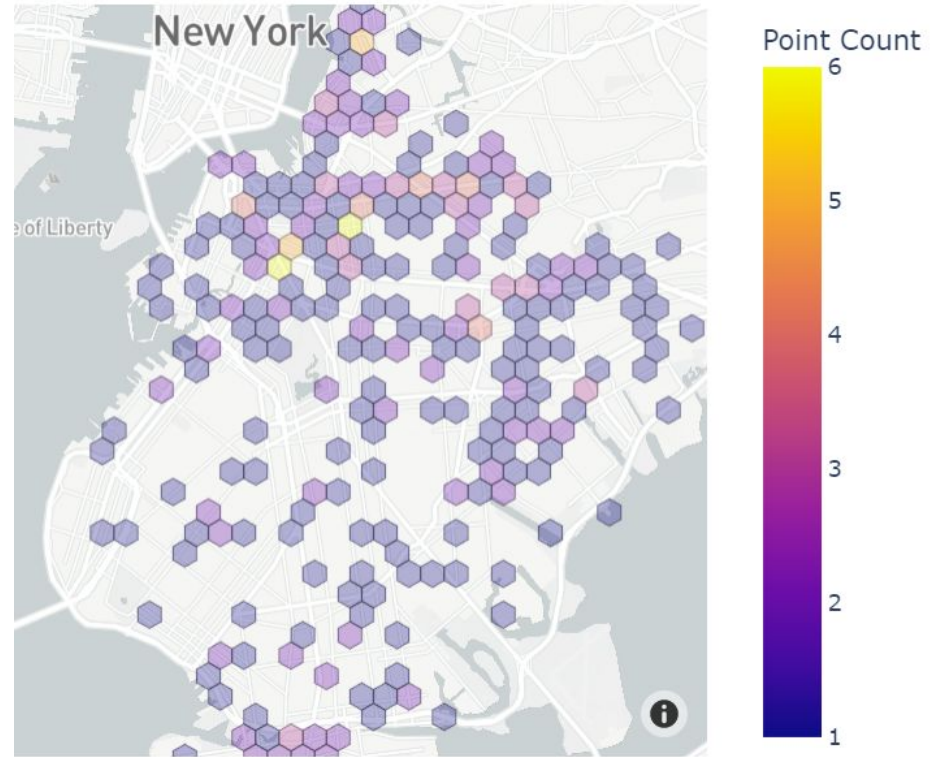- Accidents with contributing environment factors
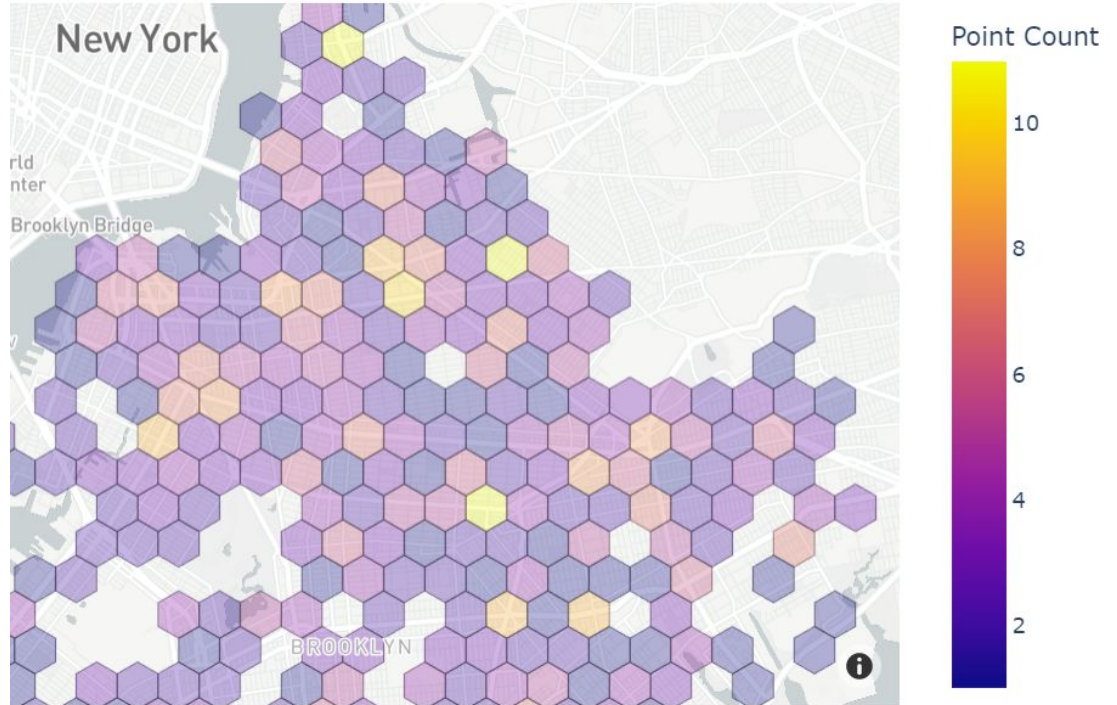
Pavements

- Check environment in orange-yellow area:
  - Pavement slippery/defective

View

- Check environment in orange-yellow area:
  - View obstructed/limited

Geo Data

- Factors to fix
  - Fix view obstruction/limitation: Flatbush Avenue crossed by 5 Avenue - fix view obstruction/limitation
  - Fix pavement damage/slippery: Linden Boulevard crossed by Fountain Avenue
- Area with most number of accidents
  - Atlantic Avenue crossed by Flatbush Avenue, Nostrand Avenue, 4 Avenue, Eastern Parkway, Linden Boulevard
  - Flatbush Avenue crossed by Church Avenue, Bedford Avenue, Nostrand Avenue; crossed by 5 Avenue (fix view obstruction/limitation)
  - Linden Boulevard crossed by Kings Highway, East part, Nostrand Avenue (check environment); crossed by Fountain Avenue (fix pavement damage/slippery)
  - East part of Eastern Parkway
  - Bedford Avenue Crossed by Church Avenue
  - Ocean Parkway crossed by Avenue P
  - East part of Church Avenue to cross with Flatbush Avenue

Vehicle, Driver Health

Vehicle by factors, %

Driver-Health by factors, %