M7 Project Work Traffic Tickets Issued: Four Year Window:

• We found that most traffic penalties issued in the past four years have been for speeding, particularly in specific locations. These tickets are often issued to young males in their early thirties. The same pattern can also be seen in the other traffic rule violations. Interestingly, while the 'speed in zone' pattern holds for both genders, females list 'Speed over 55 zone' as the second most frequent infraction, differing from males, who tend to disregard traffic devices more. According to our data, most traffic rule violators are in their twenties. As people age, this lowers. The top spot on the list for where these violations occur is New York City, followed closely by the counties of Suffolk and Nassau. This indicates that there are more traffic citations issued in cities and the surrounding areas. An additional layer of understanding is provided by the temporal analysis, which highlights the midweek— particularly Wednesdays and Fridays—as well as the months of March, January and May as hotspots for violations. This suggests that a combination of regular commuter patterns and seasonal factors influence driver behavior. The year 2020 is notable because of a decrease in infractions brought on by the pandemic, highlighting outside influences on driving behaviors. • Nearly 20% of the violators do not belong to New York State. With a significant percentage of outsiders, The New York Governor's Traffic Safety Committee (GTSC) also needs to concentrate on the out-of-staters, mainly the neighboring states, by finding new ways to educate out-of-staters. • Based on all this data, we propose that young male drivers should receive particular attention to lower traffic violations. We can more effectively plan how to train drivers to follow the rules and determine where more police should watch for violations. This approach seeks to address the primary causes of traffic rule violations to make roads safer for all users.

Violation demographics by age group:

Column headers are improved.

 • Age at violations bins is properly indicated.

• Number of violations changed to % of violations for better readability along with the Male & Female percentages

Change point: This can be better represented in a graph rather than as a table.

Before Year by month Violations:

Supporting explanation:

This year-by-month bar chart can be visualized with a line chart but is best visualized in bar chart. In line graph is good for single year. But for multiple years bar graphs are best for comparing, year to year, months in different years etc. • Highlighted the peak and lowest violations of months in every year • Blue: March has the highest number of violations in every month except pandemic year 2020 • Orange: December has the least number of violations in every year except the pandemic year 2020 • Red: April 2020 has the least number of violations of all due to the Covid Lock down.

After Year by month Violations:

Change point:

Removed the unnecessary labels for the bars. • Highlighted the peak and lowest violations of months in every year • Blue: March has the highest number of violations in every month except pandemic year 2020 • Orange: December has the least number of violations in every year except the pandemic year 2020 • Red: April 2020 has the least number of violations of all due to the Covid Lock down.

Count of violation day of week:

Supporting explanation:

Weekly patterns are very important for observing the violations, because people's behaviors are almost similar every week. Bar graph is more suitable over line graph since there are only seven categories, and each category and bar can be labeled. Line graph is not the best here. • Histogram bars are labeled with the percentage instead of numbers for easy readability. • And grouped the days of the week by color highlighting. • Highest number of violations are on Wednesday, which is the middle of the week. • Friday, Tuesday & Thursday can be seen under same group because they almost have similar percentages, and they are around mid of week. • Sunday has the least number of violations

Distribution of Age at Violation:

• The 20-29 Age group committed the highest number of violations compared to the other age groups.

Before New York State Traffic Violations by Driver's License Origin:

From this geo-graphical visualization, there are nearly 20% percentage of the violators who do not belong to the New York State. With a significant percentage of outsiders, The New York Governor's Traffic Safety Committee (GTSC) also needs to concentrate on the out staters, mainly the neighboring states by finding a new way to educate outstates.

After New York State Traffic Violations by Driver's License Origin:

• Nearly 21% percentage of the violators do not belong to the New York State. • And there are 7.59% of violators with unknown identification of state • With a significant percentage of outsiders, The New York Governor's Traffic Safety Committee (GTSC) also need to concentrate on the out staters, mainly the neighboring states by finding a new way to educate outstates.

New Top 10 Violations by Gender:

• In both Males and Females, 'Speed in zone' is the top violation

• The second top violation by females is speed over 55 zone unlike disobeying traffic device in males.

• With proper educational outreach programs these violations can be reduced.