



# MTA Turnstiles

Presented by: Wafaa Alharbi

# Outline

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# Introduction

October is the Breast Cancer Awareness Month, Unfortunately, breast cancer touches 1 in 8 women (12.4%) over the course of her life.

Glamified brand is proud to debut 2 new eyeshadow palettes that will support 3 organizations that do outstanding work for breast cancer education, research, awareness, and direct patient support.

From launch on 09/01/2021 at 3PM CST through the end of year 2020, \$2 from each sale of the palettes (up to \$200,000) will benefit The Breast Cancer Research Foundation, Living Beyond Breast Cancer, and The National Breast Cancer Foundation.



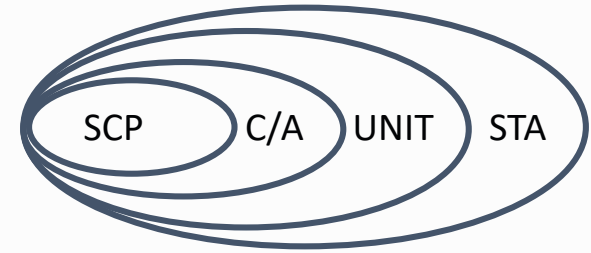
# Scope of the Project

- Sample size:  
Four months worth of data (3.5M rows) Sep-Dec 2020
- Dataset Used:
  - MTA turnstile dataset.
  - MTA subway stations zip code dataset.
  - NYC-Census dataset.
- Tools:
  - Jupyter with: numpy,pandas,matplotlib,seaborn,sqlalchemy.
  - SQLITE.
  - Tableau.



# 02.

## Exploratory Data Analysis



### Cleaning Data:

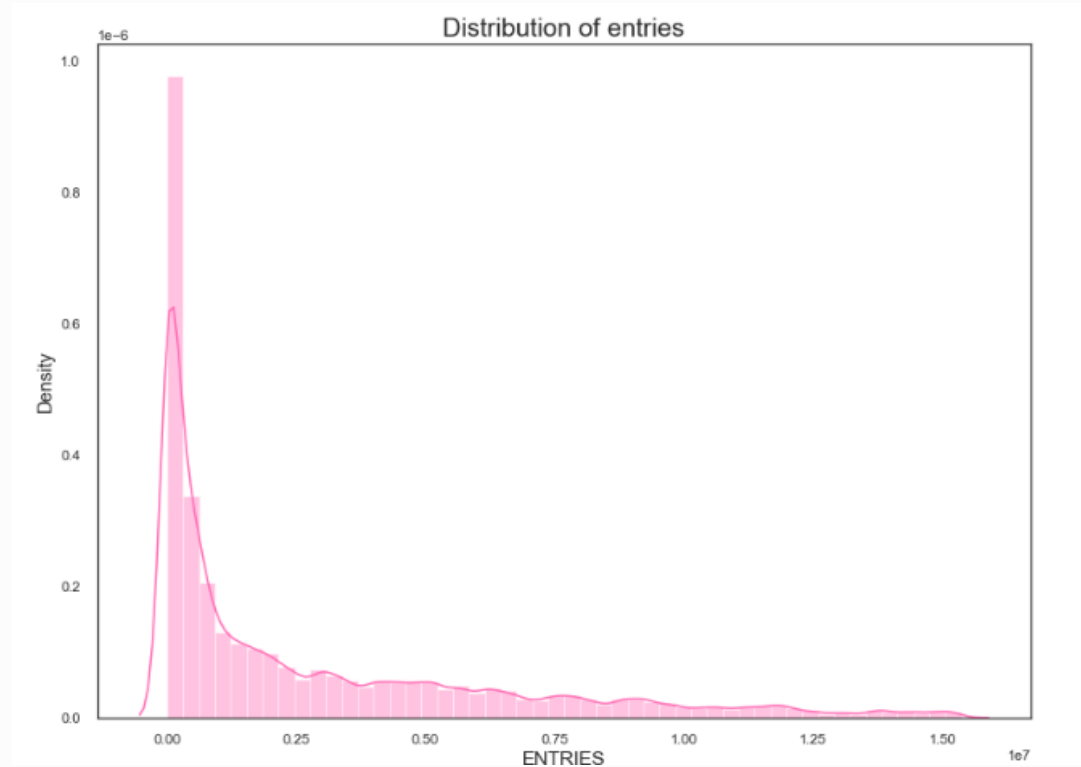
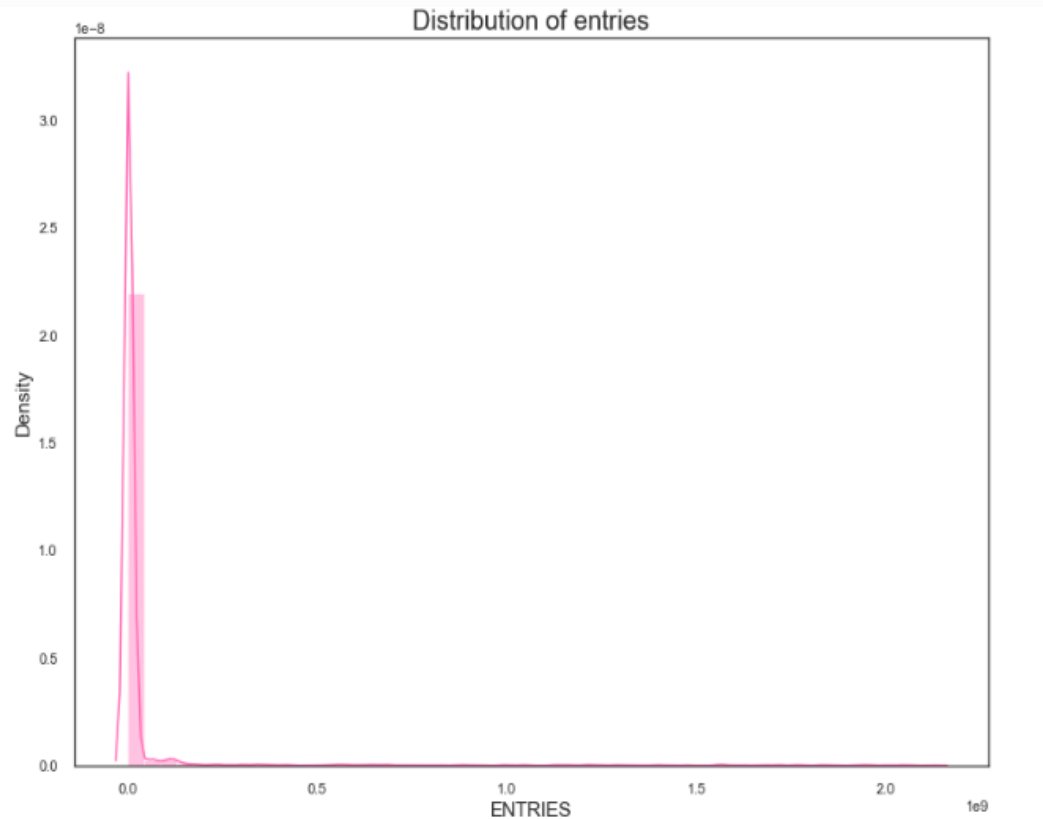
- Grouping each turnstile
- Removing white space from columns.
- Check any missing values.
- Check duplicates.
- Remove DESC column.





# Dealing with outliers

- Find outliers by IQR then remove it.
- Similar process was done to exits.

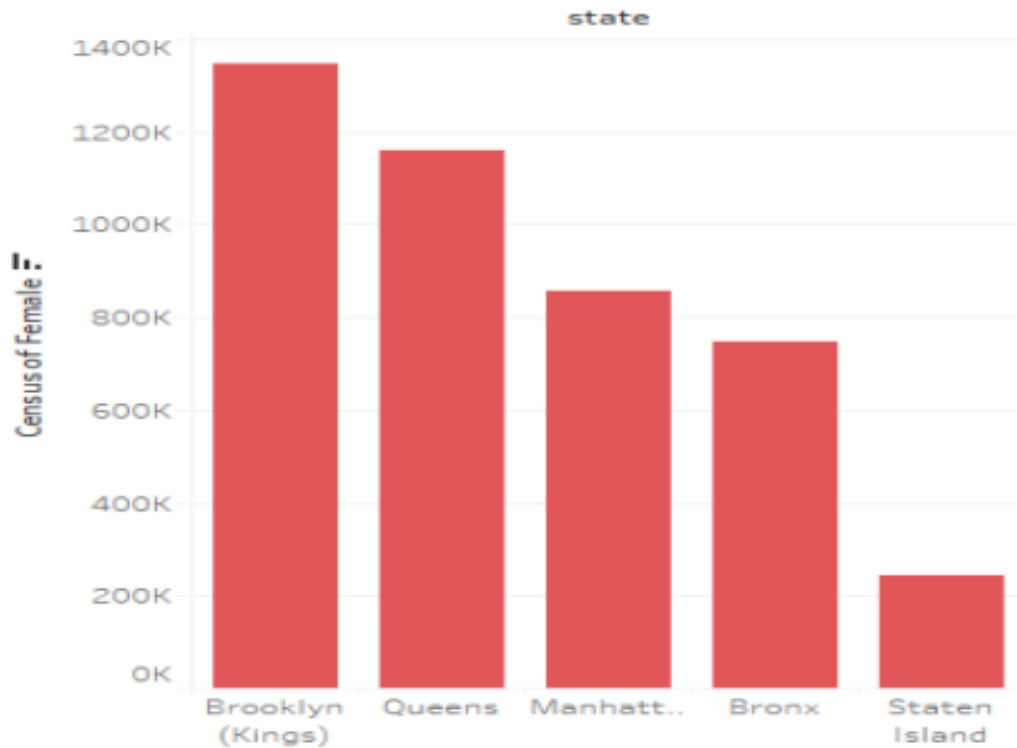


# NYC-Census dataset By Gender

## Observation from data:

- 1) The total percentage of Female in NYC: 4,357,727
- 2) More than 52% of Brooklyn's census is female with Total census : 1,346,912

Census of Femele in Boroughs of NYC



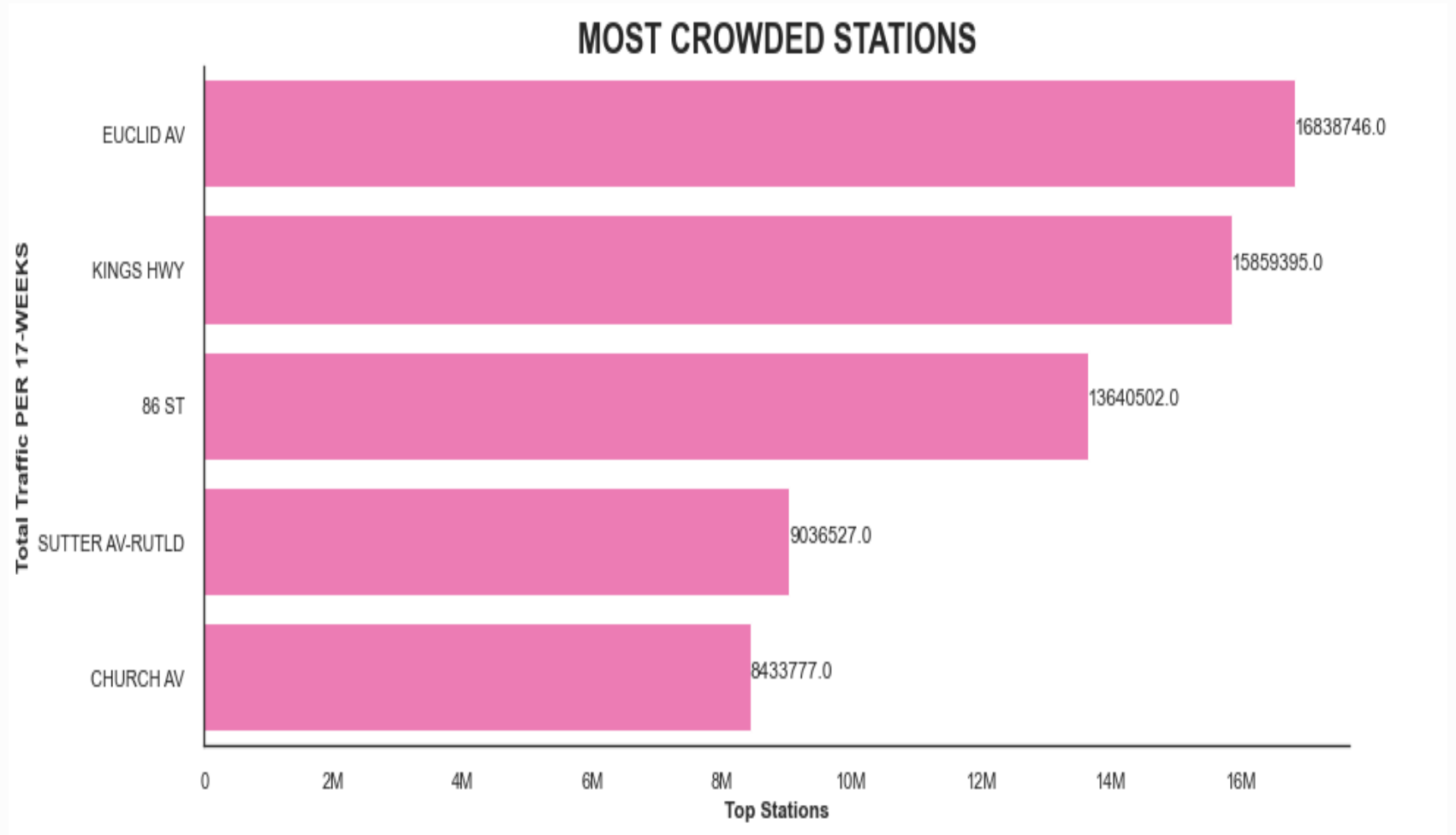
# Mapping MTA dataset to stations zip code dataset

Datasets mapped by inner join with “Station” column to extract only the stations in Brooklyn.



# 03. Insights

## Most Crowded Stations in Brooklyn

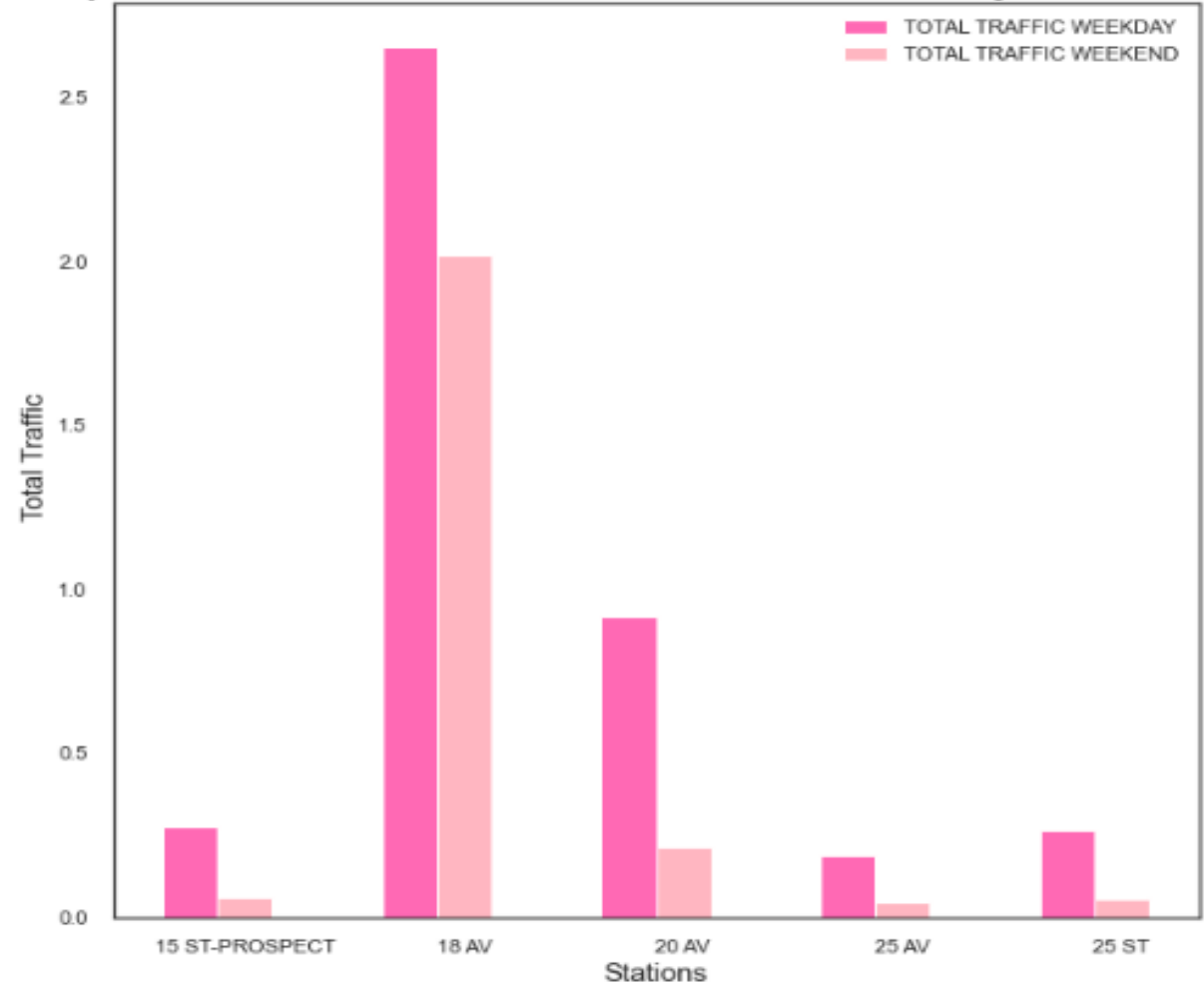


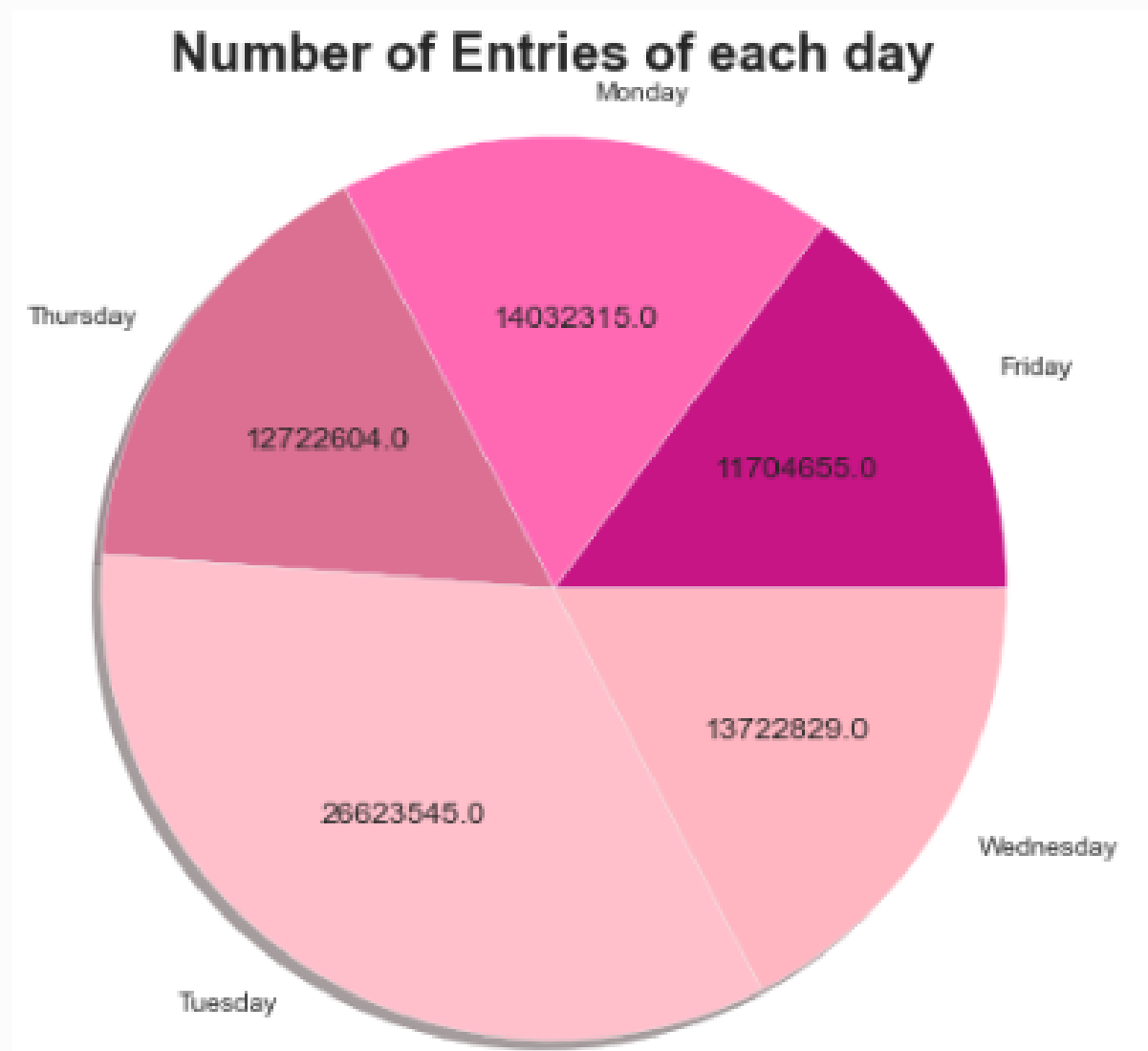


# Top 5 Stations in Weekday and Weekend



Top 5 stations are more crowded in each of weekday and weekend







# THANKS!

## Conclusion:

The street team will be placed at the entrances to subway stations in weekday especially in Tuesday.

## Future works:

Automated reports every year for best day and date.