

WomenTechWomenYes

An Exploratory Analysis of New York City MTA Turnstile Data

By: Alex Pope

Introduction

- Area of Focus
 - Ample foot traffic throughout MTA Subway System
- Primary Objective
 - Analyze trends in foot traffic to optimize the placement of street team in MTA Subway system to make connections with individuals

Methodology

Data

- Cumulative turnstile entry data from the MTA Subway System (May, April, June 2021)
- 379 Subway stations and 377,379 records represent entry counts for each turnstile taken at irregular 4-hour time intervals

Data Cleaning

- Converted cumulative records to daily entry counts for each turnstile
 - Allow us to arrive at total entry counts for each station across 3-month period
- Duplicate records removed
 - Sorted according to unique turnstile records
- Daily entries for each turnstile capped at 10,000
 - Filters added to display day of week combined with time, and a summation of entries

Methodology

STATION	DAILY_ENTRIES
PARSONS BLVD	244631.0
CENTRAL PK N110	241799.0
PELHAM BAY PARK	239609.0
ST. GEORGE	239375.0
WINTHROP ST	237199.0

*First 5 stations > median total daily entries

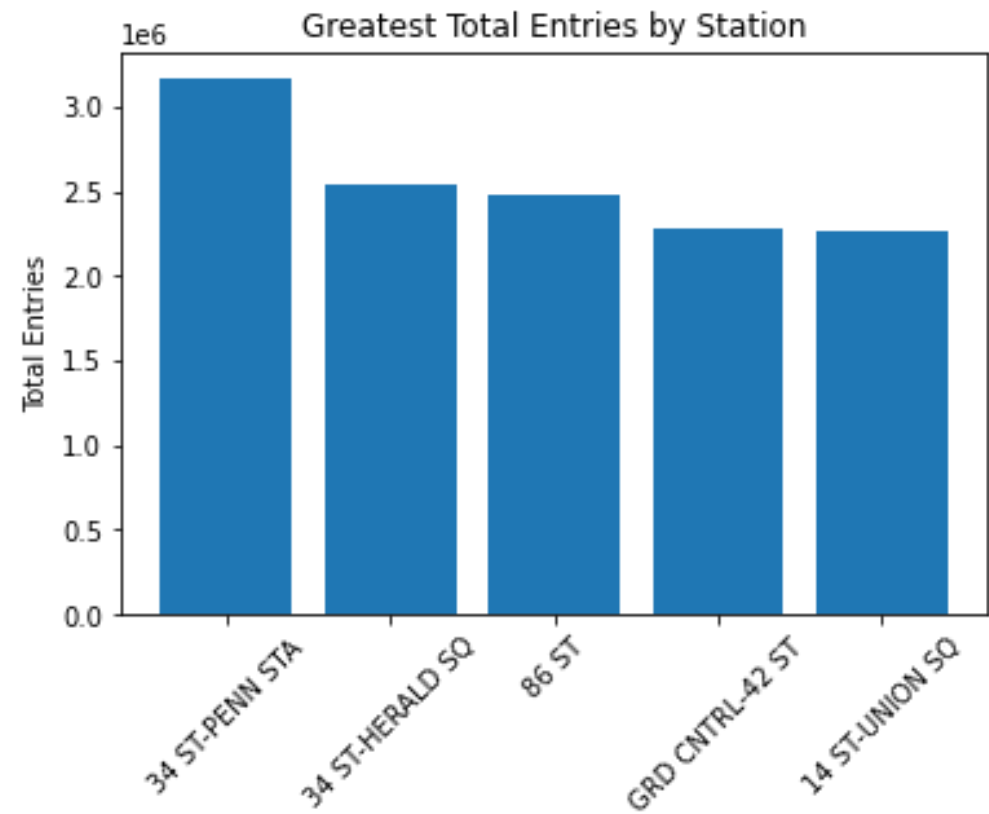
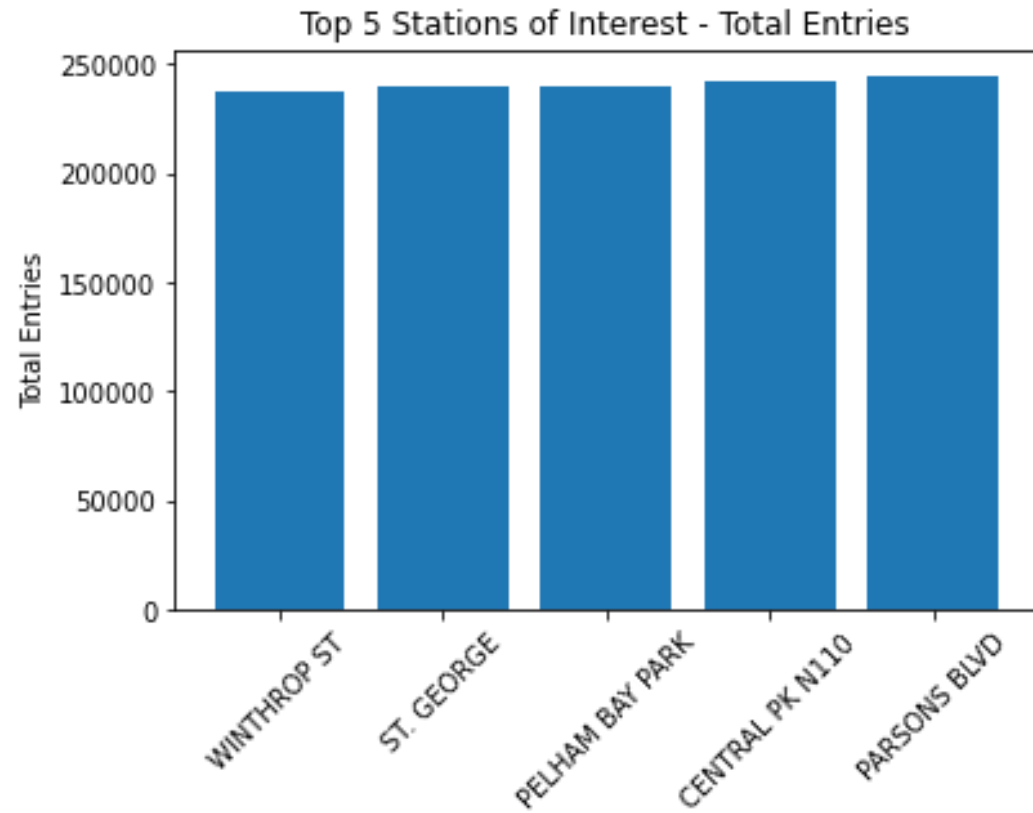
Stations of Interest

- Focused on entry data near the median

Tools

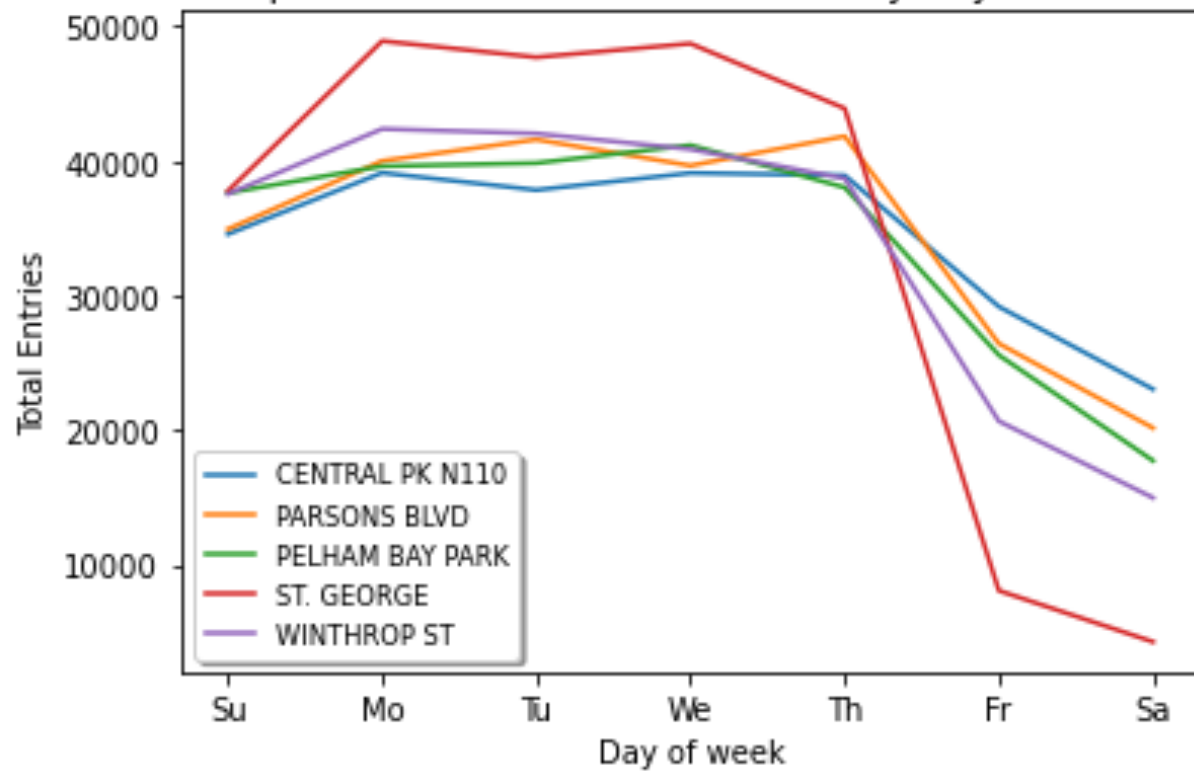
- Python and SQLAlchemy for data manipulation
- Matplotlib for data visualization

Total Entries Results

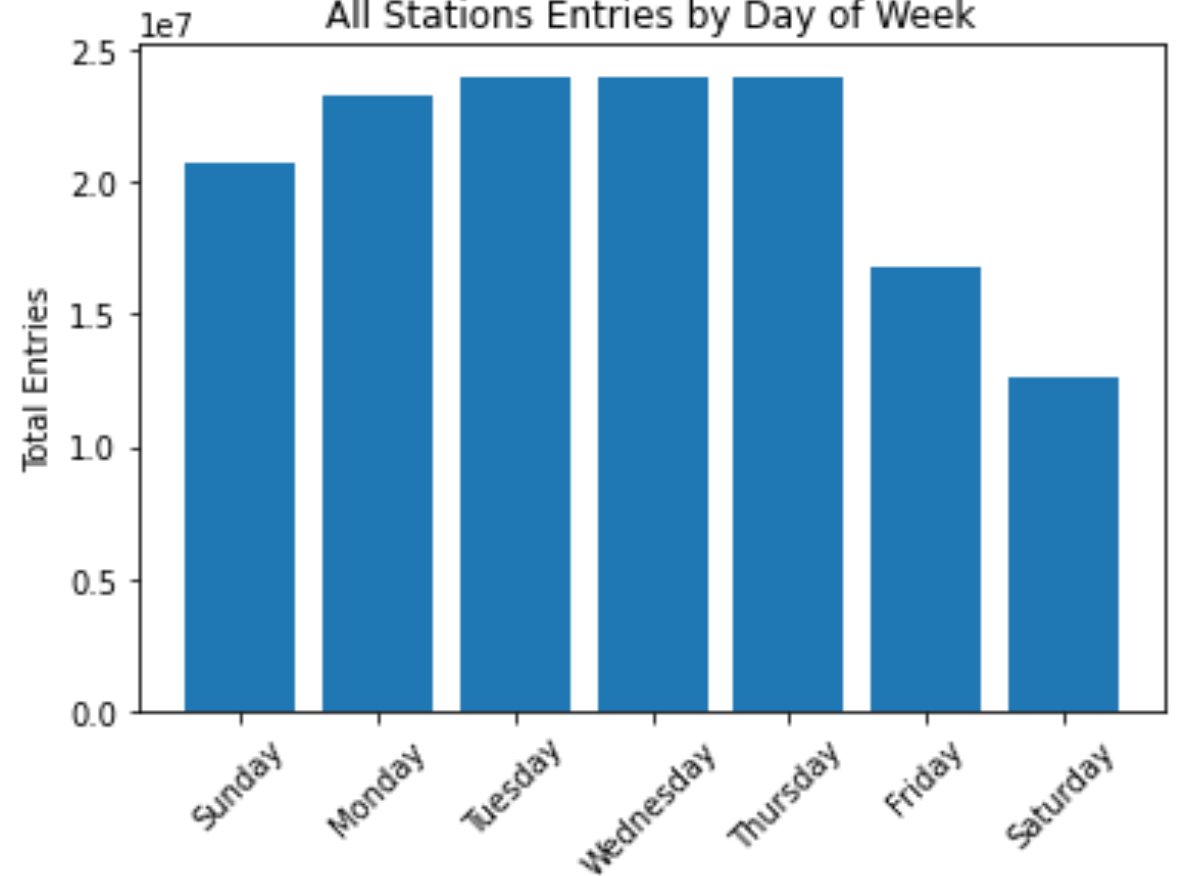


Total Entries Results

Top 5 Stations of Interest - Entries by Day of Week



All Stations Entries by Day of Week



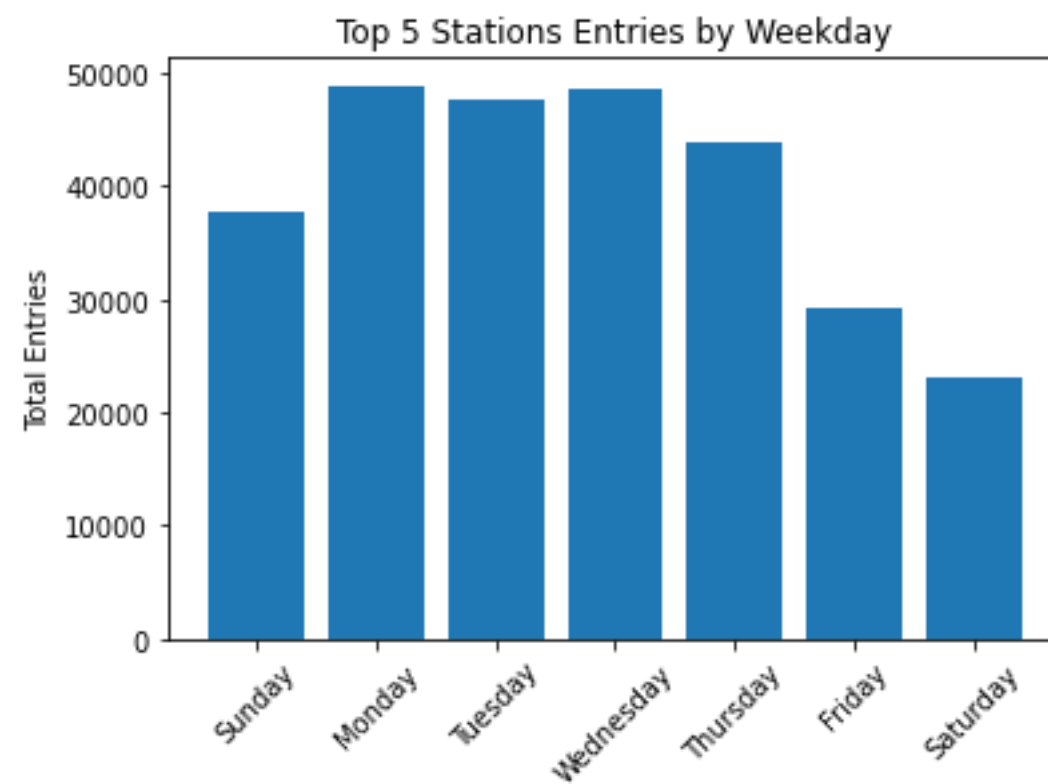
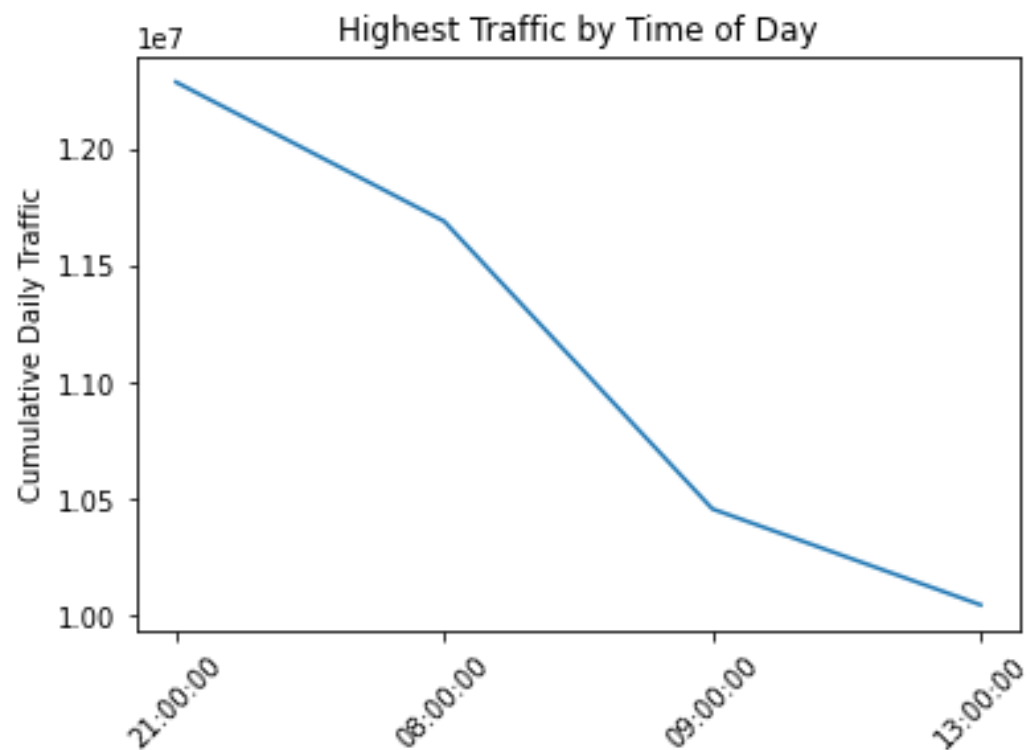
Recommendations

- Avoid highest traffic stations
- Rotate street team throughout Stations of Interest depending on day of week
- Target St. George Station Sunday-Thursday, rotate through Central Park N110 and Parsons Blvd on Friday and Saturday

Future Work

- Provide insight on entry totals by control area of each station
- Incorporate exits totals into analysis
- Identify stations in close proximity to areas of New York City with women who may be interested in WTWY

Appendix



Appendix

