

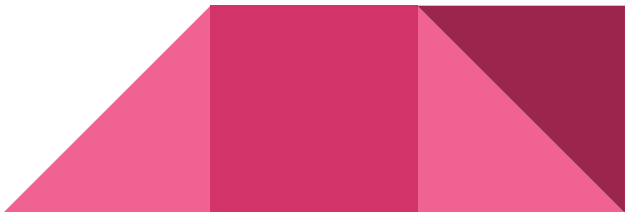
# Module 1: MTA Data Presentation

Snizhana Kurylyuk

# Kurylyuk Fitness Studio

A friend wants to open a fitness studio in New York and reached out to see if I can utilize MTA subway data to predict which proximal location is best for her studio. She would like to place her studio as close to a station as possible. In addition, she would like to know the peak days and times to schedule classes.

## **Objective/Goals**

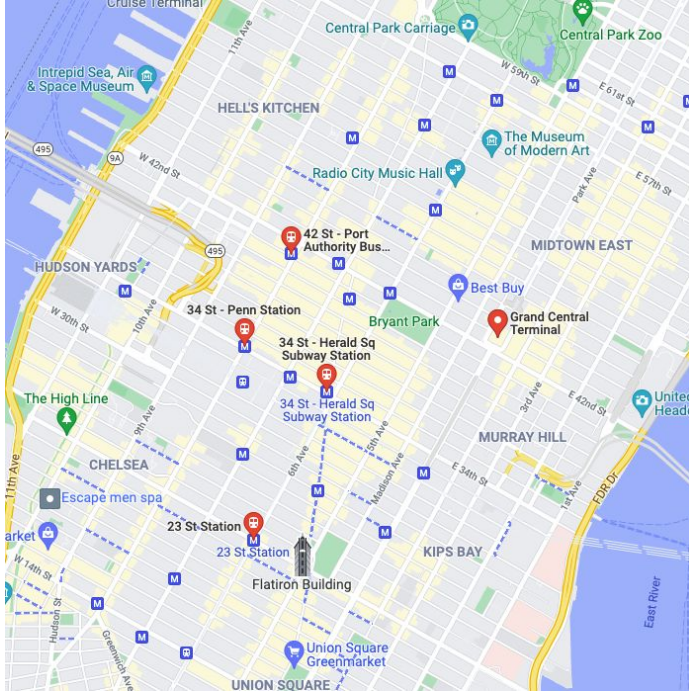
- Clean, manipulate and Analyze MTA Data
  - Predict the most optimal location to open a fitness studio
  - Predict the most optimal day of the week to hold classes
  - Predict the most optimal time of the day to hold classes
- 

# Methodology

- MTA data
  - Started with 3 months (September 2021, August 2021, July 2021)
  - Reduced it to the 5 most recent weeks - October 1, September 25, September 18, September 11 and September 4.
- Focused on top 5 stations with the most daily entries
  - Analyzed top 3 stations by day of week and time of day
- Used SQL database to ingest raw data and queried from that database into Python via SQLAlchemy
- Conducted data analysis in Pandas
- Conducted data visualization with Matplotlib and Seaborn



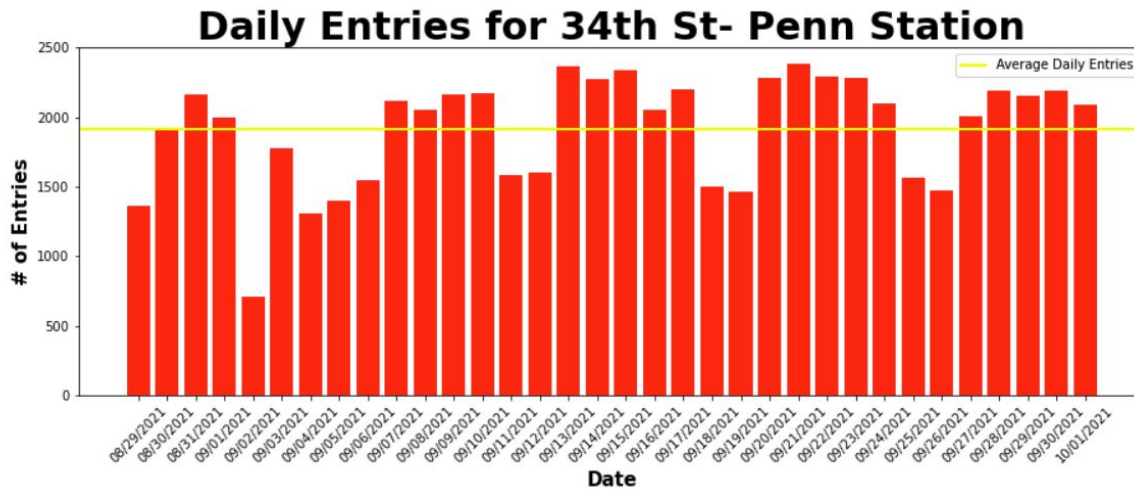
# Top 5 Stations in New York



STATION	DAILY_ENTRIES
34 ST-PENN STA	1594061.0
34 ST-HERALD SQ	1230212.0
GRD CNTRL-42 ST	1171637.0
42 ST-PORT AUTH	1111276.0
23 ST	1108802.0

# 34th St- Penn Station

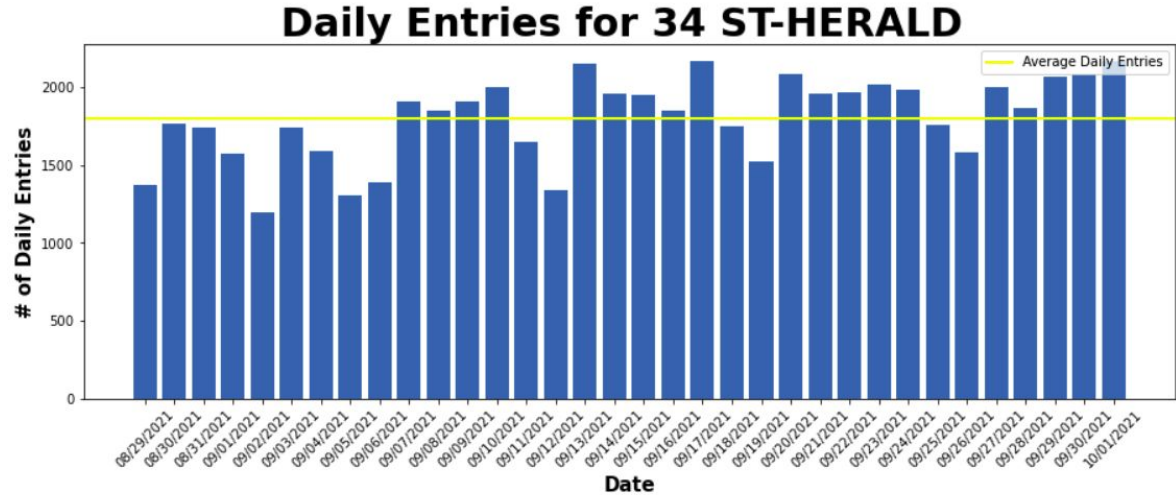
STATION	DAILY_ENTRIES
34 ST-PENN STA	1594061.0
34 ST-HERALD SQ	1230212.0
GRD CNTRL-42 ST	1171637.0
42 ST-PORT AUTH	1111276.0
23 ST	1108802.0



Average Daily Entries = 1912

# 34th St- Herald SQ

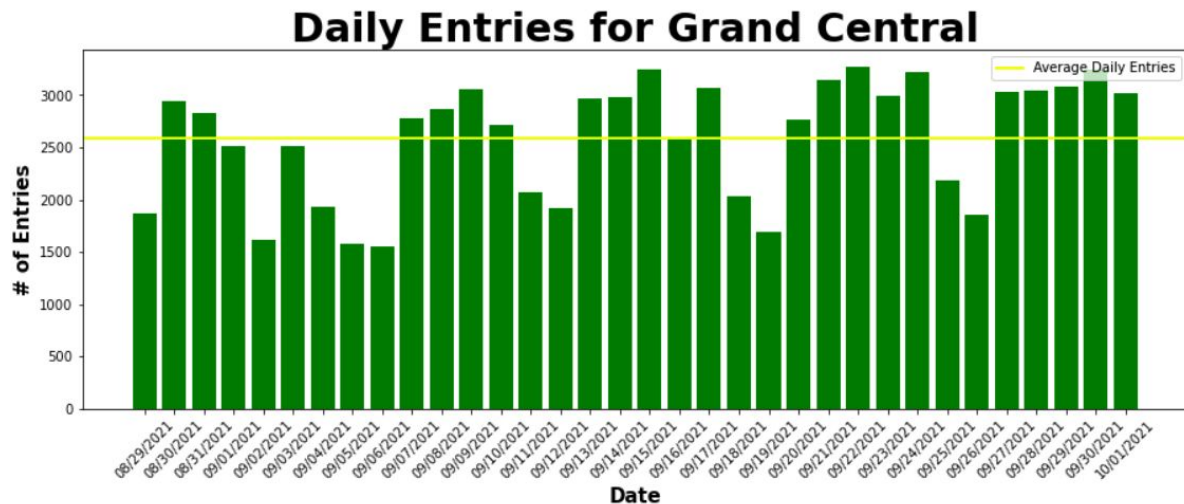
STATION	DAILY_ENTRIES
34 ST-PENN STA	1594061.0
34 ST-HERALD SQ	1230212.0
GRD CNTRL-42 ST	1171637.0
42 ST-PORT AUTH	1111276.0
23 ST	1108802.0



Average Daily Entries = 1800

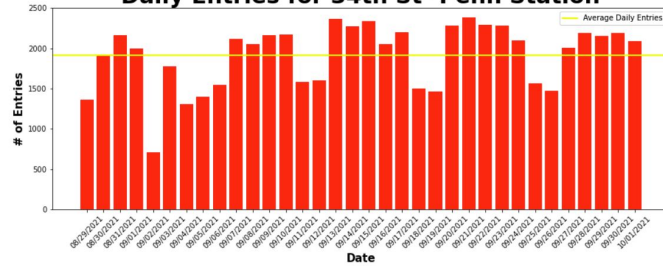
# Grand Central Station

STATION	DAILY_ENTRIES
34 ST-PENN STA	1594061.0
34 ST-HERALD SQ	1230212.0
GRD CNTRL-42 ST	1171637.0
42 ST-PORT AUTH	1111276.0
23 ST	1108802.0

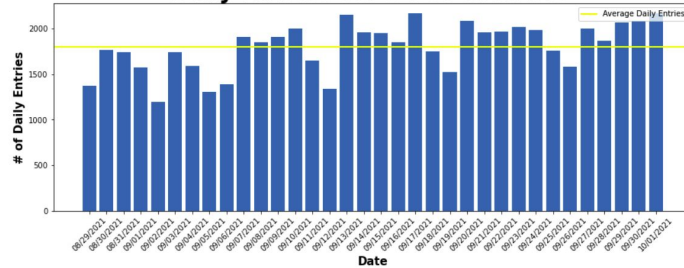


Average Daily Entries = 2595

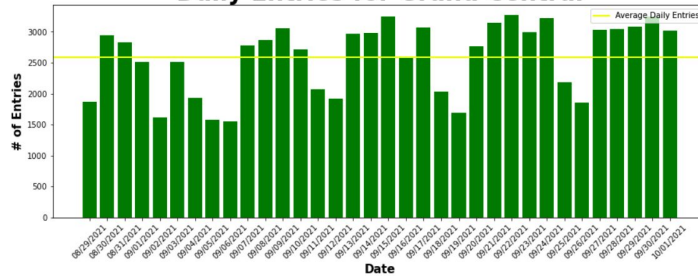
### Daily Entries for 34th St- Penn Station



### Daily Entries for 34 ST-HERALD



### Daily Entries for Grand Central



### STATION DAILY\_ENTRIES

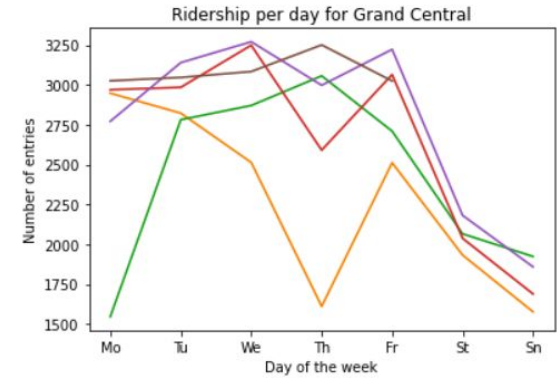
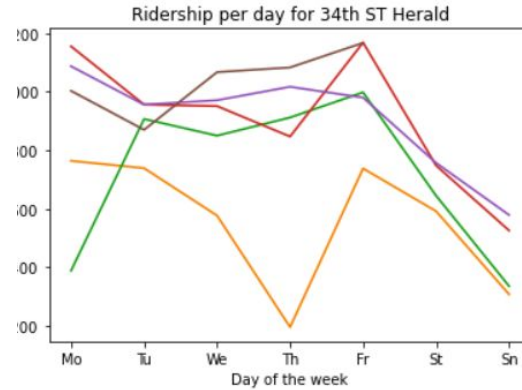
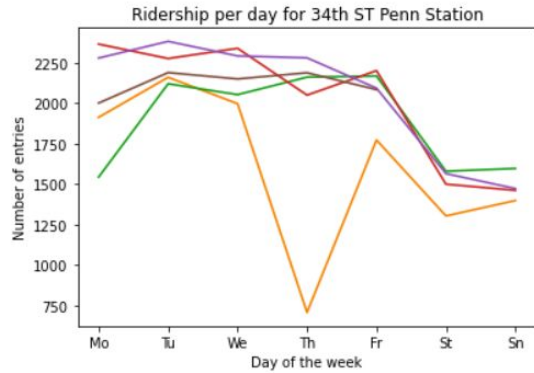
34 ST-PENN STA	1594061.0
34 ST-HERALD SQ	1230212.0
GRD CNTRL-42 ST	1171637.0
42 ST-PORT AUTH	1111276.0
23 ST	1108802.0

### Station Average Entries

0	GRD CNTRL-42 ST	2595
1	34 ST-PENN STA	1912
2	34 ST-HERALD SQ	1800

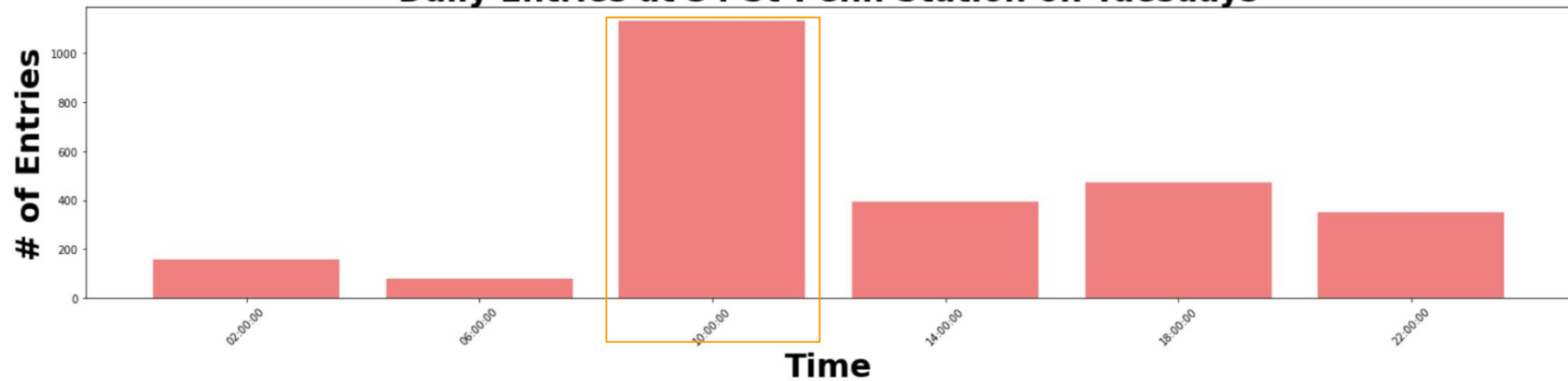


# Ridership By Date of Week

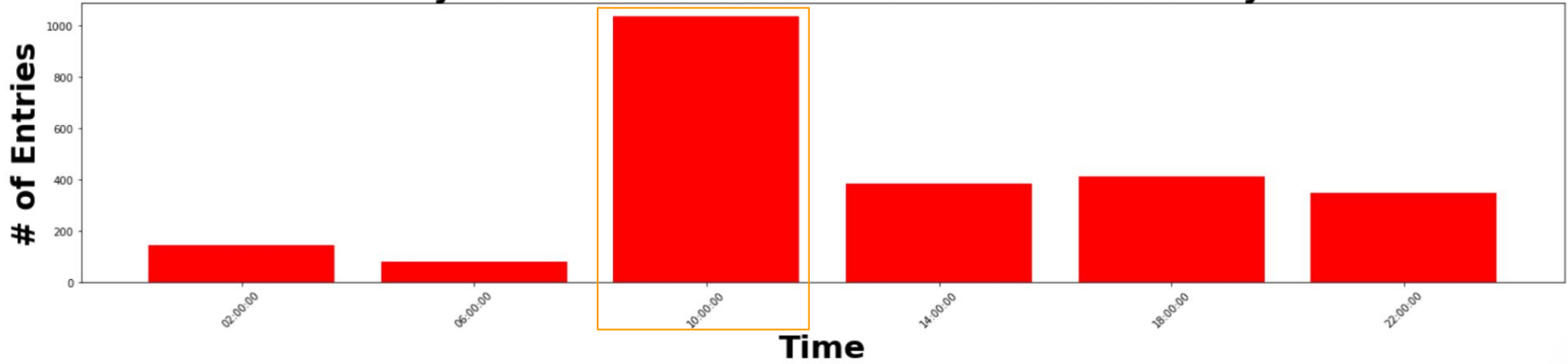


# Hourly Breakdown at 34 St-Penn Station

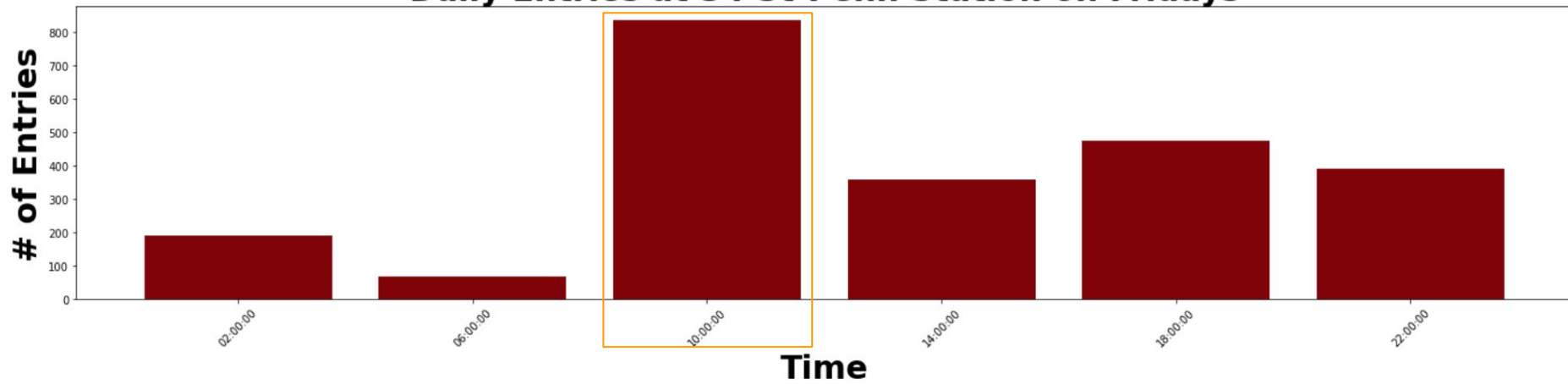
# Daily Entries at 34 St-Penn Station on Tuesdays



## Daily Entries at 34 St-Penn Station on Wednesdays



## Daily Entries at 34 St-Penn Station on Fridays



# Recommendation

- Opening a fitness studio near **34th St-Penn Station**
- Schedule classes on **Tuesdays** and **Wednesdays** around 10AM.
- Considerations
  - A lot of people are commuting for work. Class schedules should be scheduled at least 30 minutes before or after peak entry times.





If time permitted I would of explored leasing prices and commercial real estate data into my projections.



Questions?

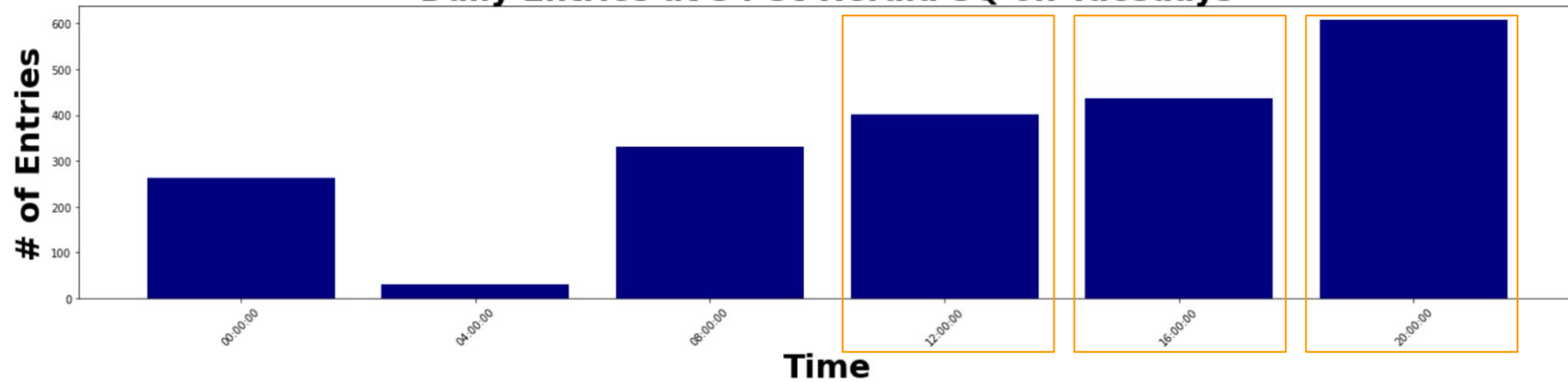




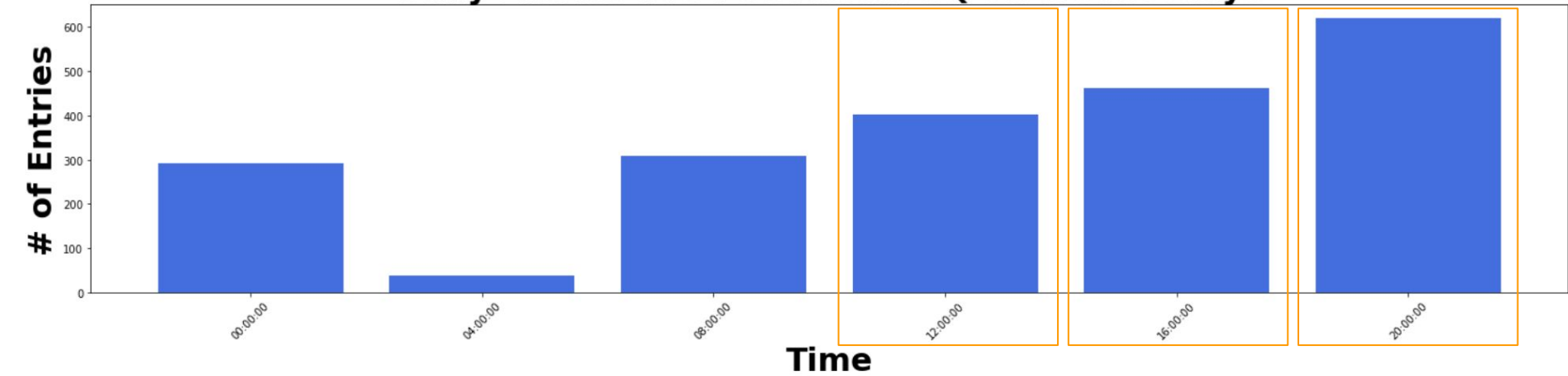
# Appendix

# Hourly Breakdown at 34 St-Herald SQ

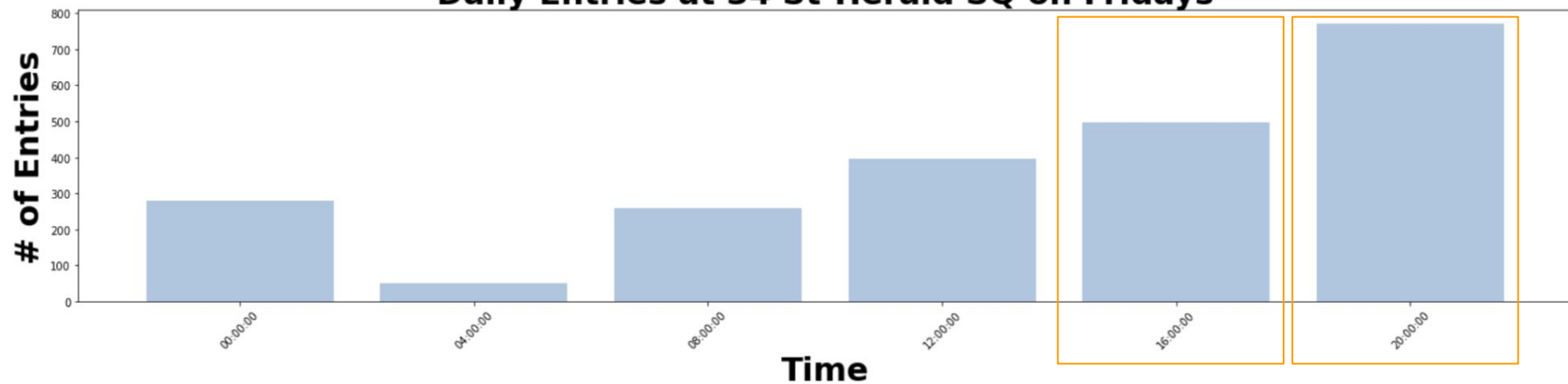
## Daily Entries at 34 St-Herald SQ on Tuesdays



## Daily Entries at 34 St-Herald SQ on Wednesdays



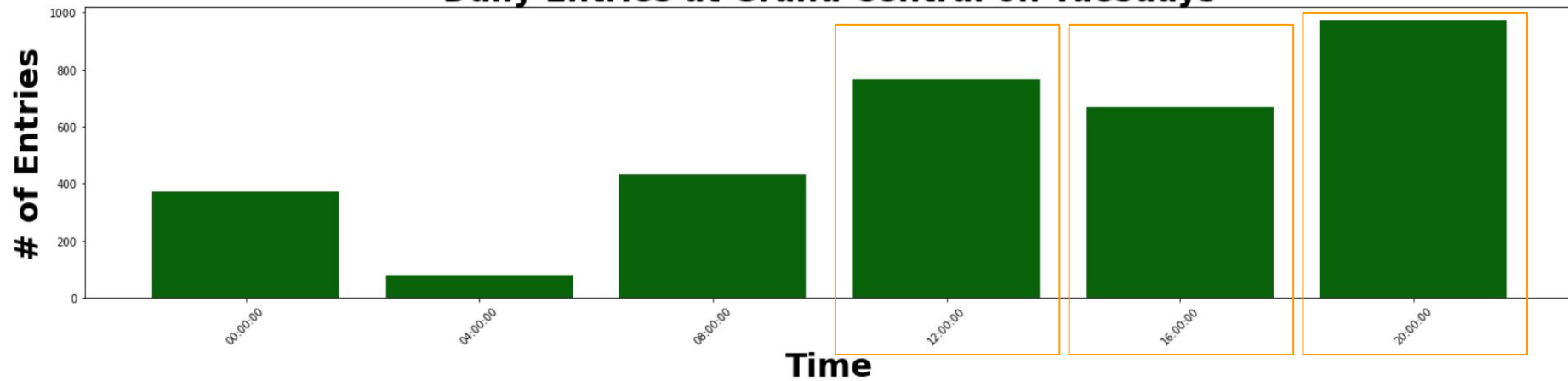
**Daily Entries at 34 St-Herald SQ on Fridays**



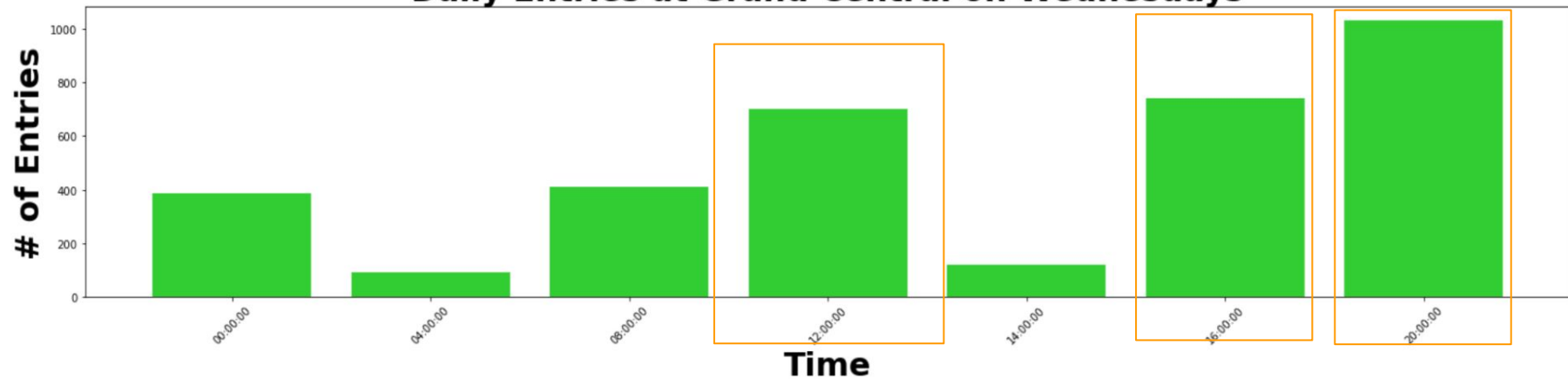


# Hourly Breakdown at Grand Central Station

## Daily Entries at Grand Central on Tuesdays



## Daily Entries at Grand Central on Wednesdays





## Daily Entries at Grand Central on Fridays

