

A photograph of an MTA subway station platform. In the foreground, several silver turnstiles are visible. A man in a light blue shirt and dark pants is standing at one of the turnstiles, looking down. To his right, a woman in a green shirt is also at a turnstile. Further right, a man in a grey shirt and dark pants is standing. On the far left, a man in a green shirt and white pants is walking away. Above the turnstiles, a digital display shows "Monday, July 1" and "4:48 p.m.". To the right of the turnstiles, a sign reads "Entry B D F M 7". On the far right, a black sign for "Service Entry" lists instructions for using the gate. The background shows the station's interior with concrete walls and a tiled floor.

MTA Turnstile

Exploratory Data Analysis

By Yordanos Woldebirhan

Purpose of the EDA

To assess the demand for a coffee company

- To carry on with their post covid reopening and expansion plans
- Resource allocation
- Plan new openin

The Analysis

Qualitative : Hours with high coffee consumption(peak hour), station Location

Quantitative : Stations with the Top 10 highest traffic counts

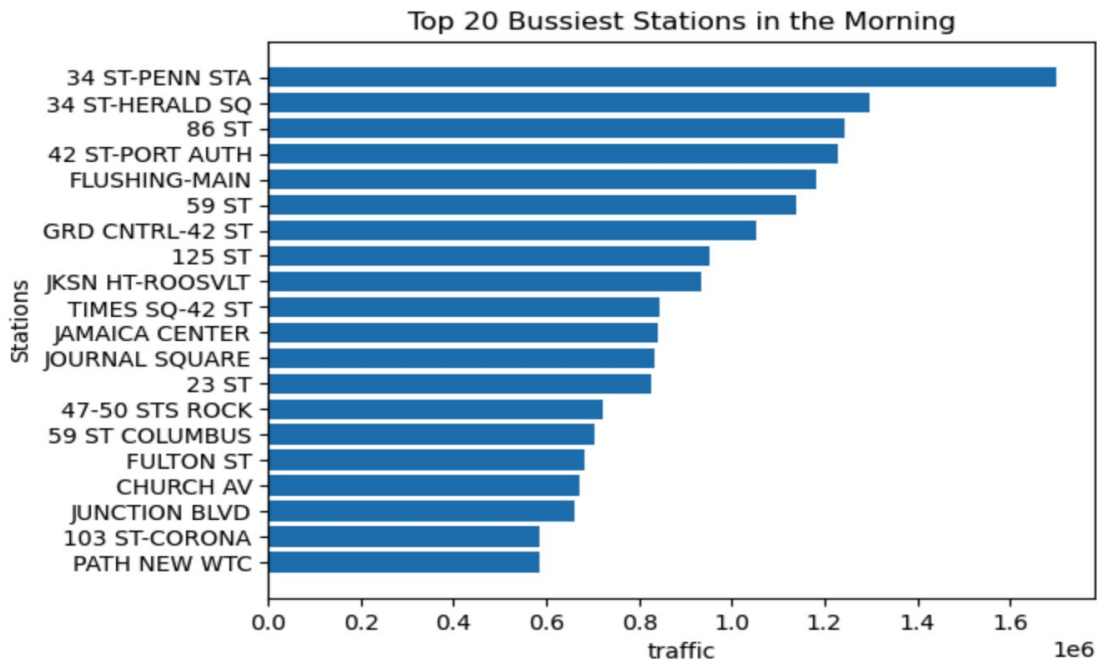
:Morning(8:00 Am - 11 AM) traffic counts for the selected stations for the given time period (Dec 19, 2020 to Mar 20, 2021

:Which Days of the week has the maximum traffic counts for the peak hour

Methodologies and tools Used

- Create a Database: MTA.db
- Create a table: MTA_Data
- Collect the required data from the MTA website and put it into the local database using SQLITE ,SQLAlchemy
- Clean the data
- Perform the data analysis using python libraries; Pandas, Matplotlib, Seaborn

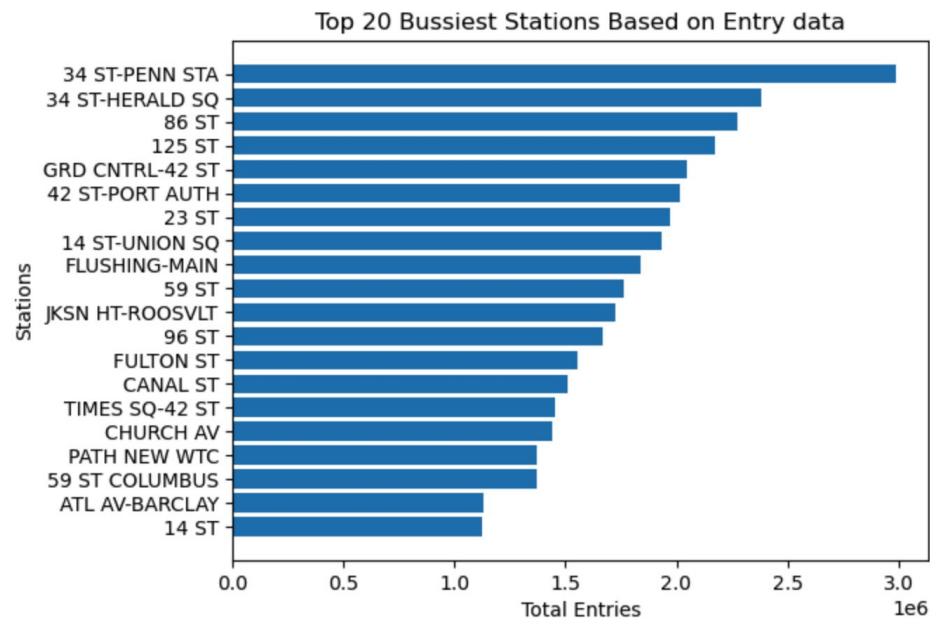
Analysis Results



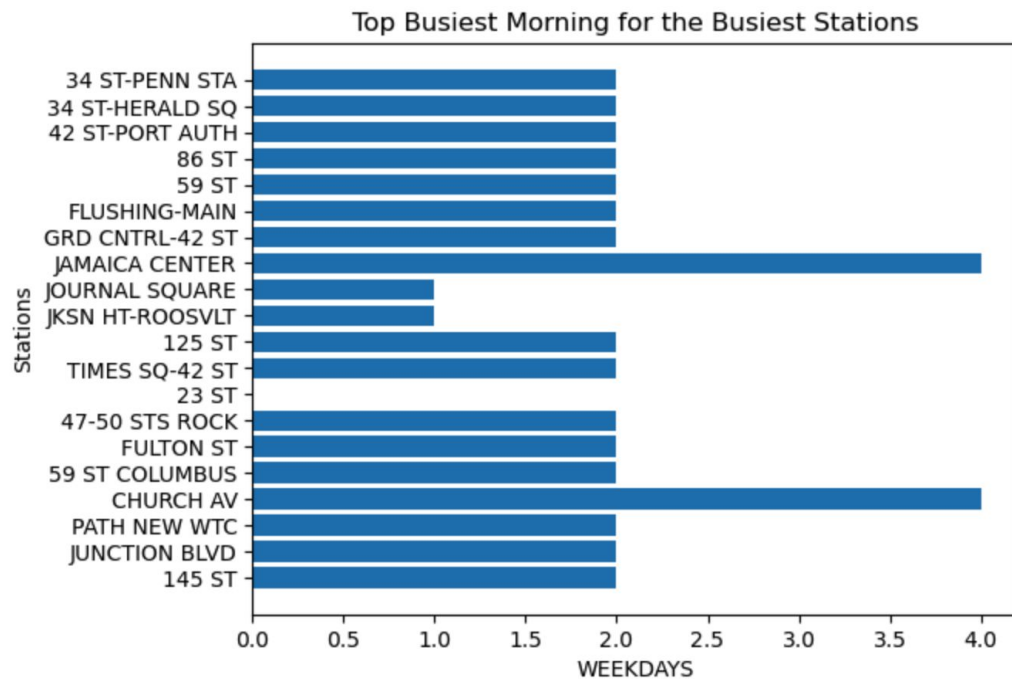
Analysis Results

- 34 st-Penn station,34 st-Herald SQ,86 St(Brooklyn, Manhattan), 125 ST,GRD CTRL - 42 ST, 42 St-port AUTH, 23 ST,14 ST-UNION SQ,59 ST(Manhattan):- Business district, head quarters , universities
- Flushing Main(Queens Borough):- Airport ,Stadium

Data visualization



Analysis Results



Conclusion

Top ten busiest stations in New York city are : 34 st-Penn station, 34 st-Herald SQ, 86 St, 125 ST, GRD CTRL - 42 ST, 42 St-port AUTH, 23 ST, 14 ST-UNION SQ, Flushing Main, 59 ST

- The company can open their shop in these locations
- The busiest stations are located in Manhattan
- Wednesday is the busiest day of the week in the top 10 stations

Thank You!