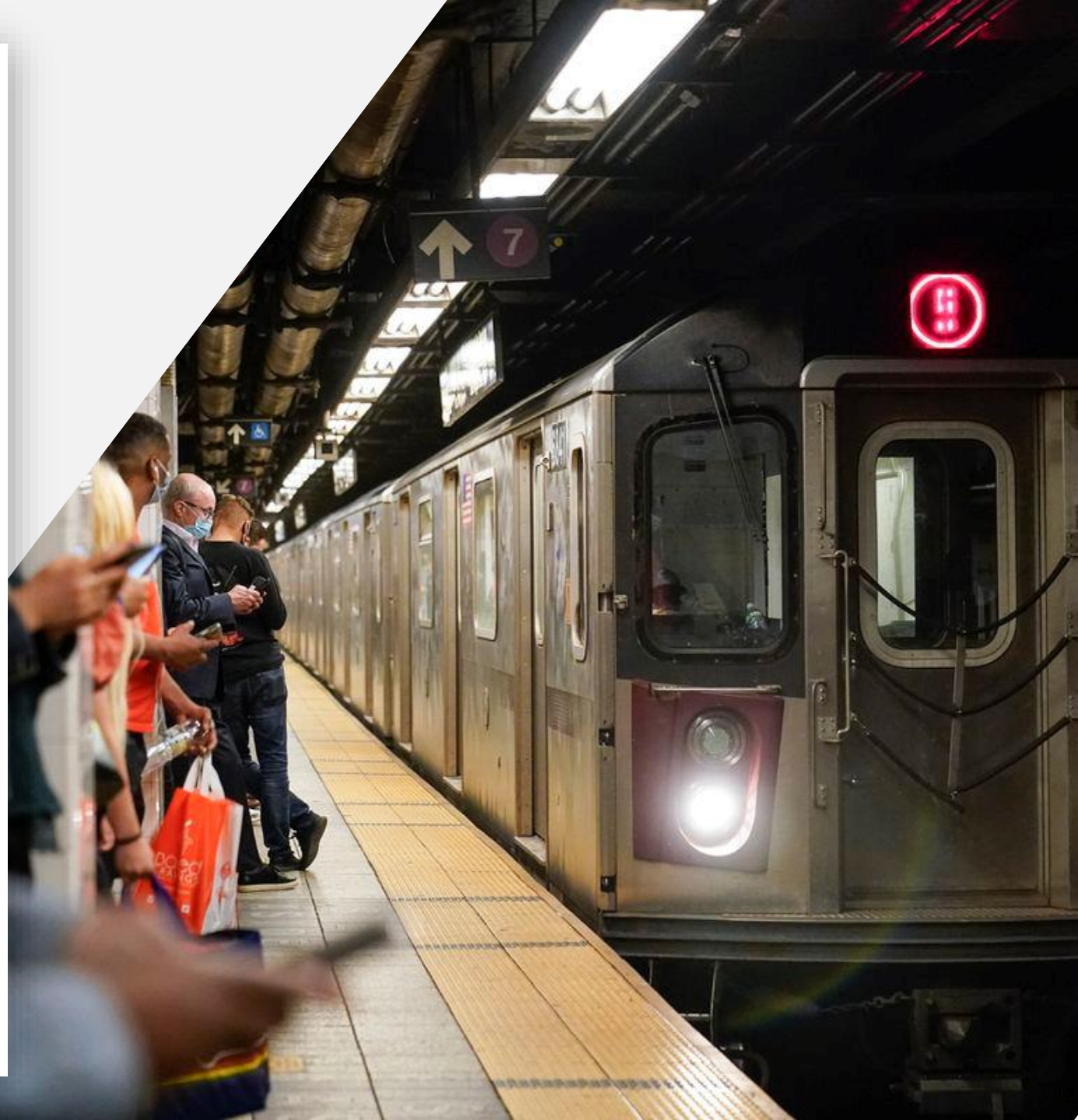


MTA

MTA DATA ANALYSIS NEW YORK CITY SUBWAY SHELTER COMPANY

By Shahad Almubki.





BACKSTORY :

- The United States of America has the highest rates of homeless people, specifically, New York has a huge number of homeless people. New York City aspires to realize its vision that by 2024, there will be no homeless people.
- Shelter is a company that shelters homeless people and provides them with permanent housing, contributes to be part of achieving the vision, and helps collect donations from people to contribute to reducing homelessness.
- A shelter company wants to start collecting donations by placing donation boxes at the entrances and exits to the crowded New York City subway stations .
- The mission is to use subway data from the New York City Public Transportation Authority (MTA) to help the shelter company raise as many donations as possible. The data retrieved through the online MTA portal is used to extract a list of the most frequently used and crowded stations in the morning, noon, and evening to explore residential areas and attract the kindness of nearby residents to donate, as well as commercial areas, gathering people at stations and the presence of a large number of homeless in them.



TOOLS:

- **Pandas**
- **NumPy**
- **SQLPy**
- **SQLalchemy**
- **Matplotlib**
- **Seaborn**
- **math**

PERFORMING THE ANALYSIS





Data Sources

- From the MTA data I took three months (July, August, and September in 2021).
- Looking for the stations near residential and most crowded commercial areas,
- For each station, I added their turnstile's daily entries , turnstile's daily exits and , turnstile's daily Traffic data To know where is the residential and commercial areas and to find the busiest stations.

After Analyzing the Data

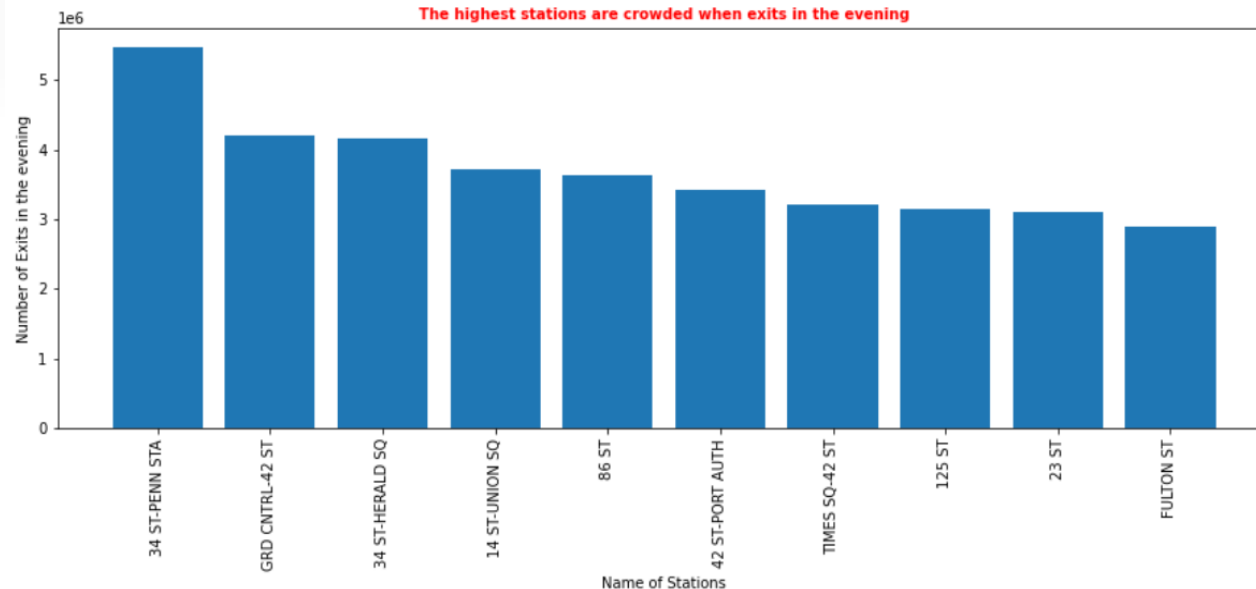
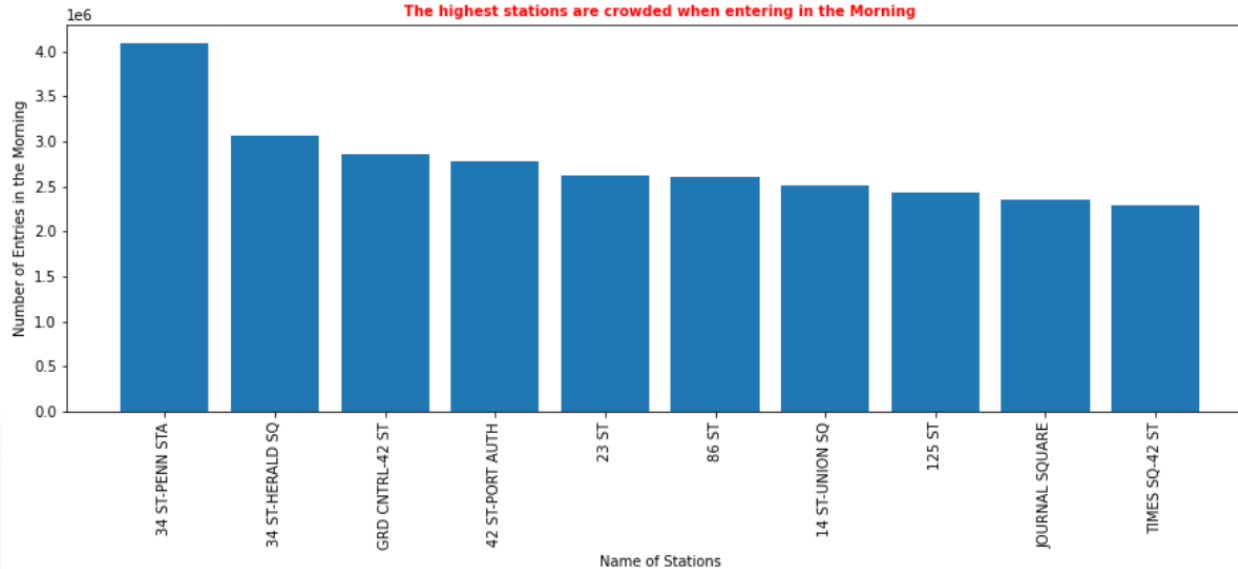
Results:

Residential Area

Entries in the Morning

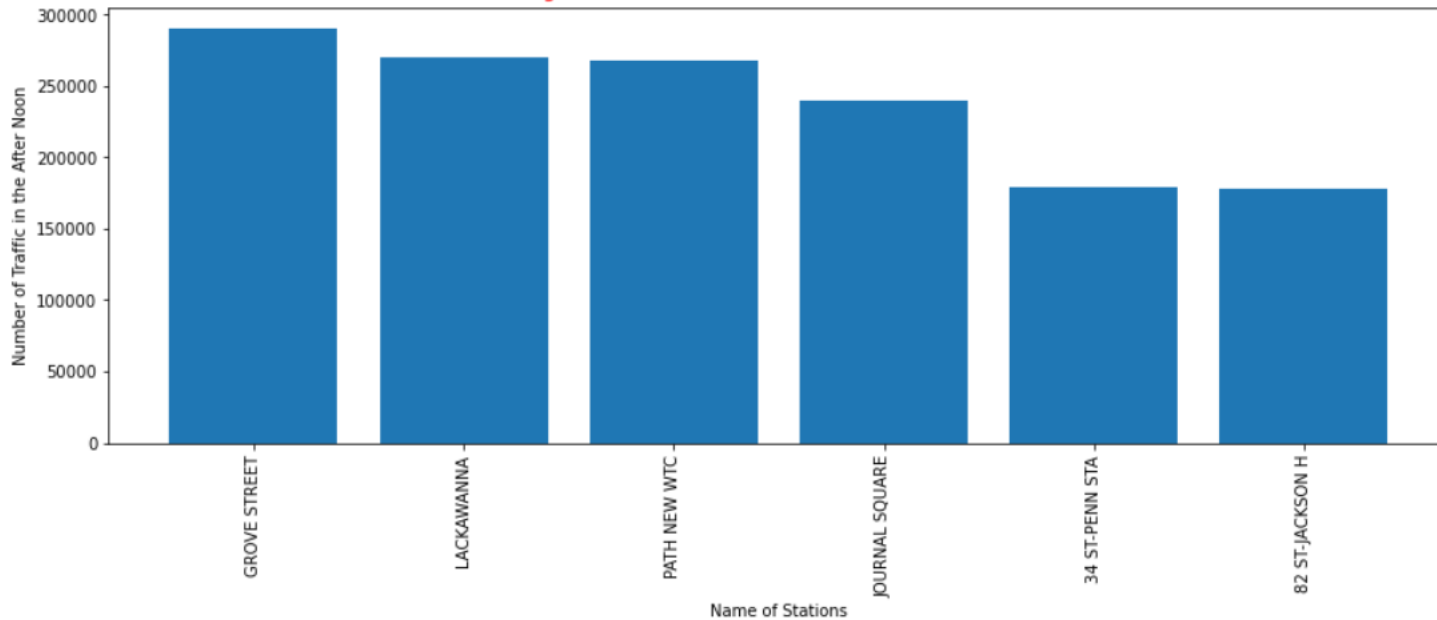
- 34 ST-PENN STA .
- 34 ST-HERALD SQ.
- GRD CNTRL-42 ST.
- 42 ST-PORT AUTH.
- 23 ST.
- 86 S.
- 14 ST-UNION SQ.
- 125 ST.
- TIMES SQ-42 ST.
- PATH NEW WTC.
- JOURNAL SQUARE.
- FULTON ST

Exits in the Evening



Commercial Area

The highest stations are crowded when Traffic in the After Noon



Entries and Exits (Traffic)
in the After Noon

- GROVE STREET.
- LACKAWANNA.
- PATH NEW WTC.
- JOURNAL SQUARE.
- 34 ST-PENN STA.
- 82 ST-JACKSON H.

There is the 18 stations that will placed the donation boxes

Commercial Area

- GROVE STREET.
- LACKAWANNA.
- PATH NEW WTC.
- JOURNAL SQUARE.
- 34 ST-PENN STA.
- 82 ST-JACKSON H.

Residential Area

- 34 ST-PENN STA .
- 34 ST-HERALD SQ.
- GRD CNTRL-42 ST.
- 42 ST-PORT AUTH.
- 23 ST.
- 86 S.
- 14 ST-UNION SQ.
- 125 ST.
- TIMES SQ-42 ST.
- PATH NEW WTC.
- JOURNAL SQUARE.
- FULTOON ST

Common stations in the Commercial and Residential Area

- JOURNAL SQUARE.
- 34 ST-PENN STA.

CONCLUSION:

My recommendation is to place donation boxes in the stations for each of the residential and commercial areas that were previously proposed, thus we will have contributed to achieving the vision and collecting donations to reduce homelessness.

A photograph of a subway station platform. A train is stopped at the platform, with its doors open. People are waiting on the platform. A blue semi-transparent rectangle is overlaid in the center, containing the text "THANK YOU". There are orange geometric shapes in the corners of the blue rectangle. A sign with an upward arrow and the number 7 is visible above the train. A red circular light is visible on the train's side.

THANK YOU