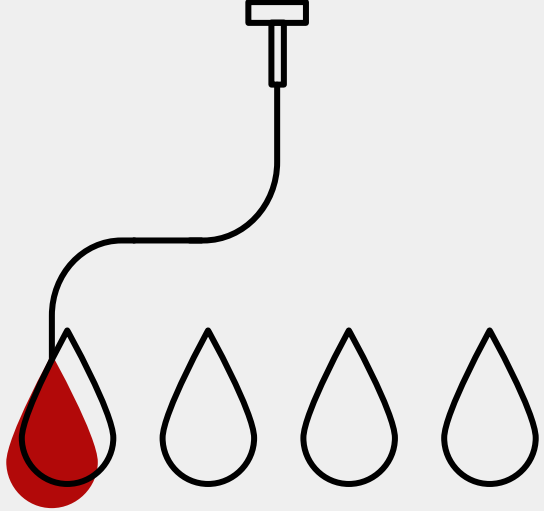
Blood Donation

Where can we get the largest number of people to donate blood?

By: Fahad Alharbi

Table of Contents



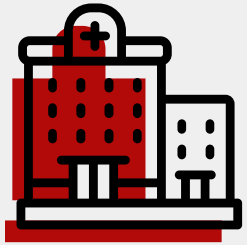
Blood Bank

Blood donation

Introduction

- What is Blood Bank ?
- Blood Bank Responsibility

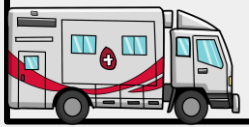
Problem?



- There is an urgent need for blood in hospitals

Solution

Blood donation mobile health vehicle



Where?

Provide a mobile health vehicle for blood donation near the busiest stations

How to Know the busiest station in new York city ?

The New York subway MTA Dataset

Scope

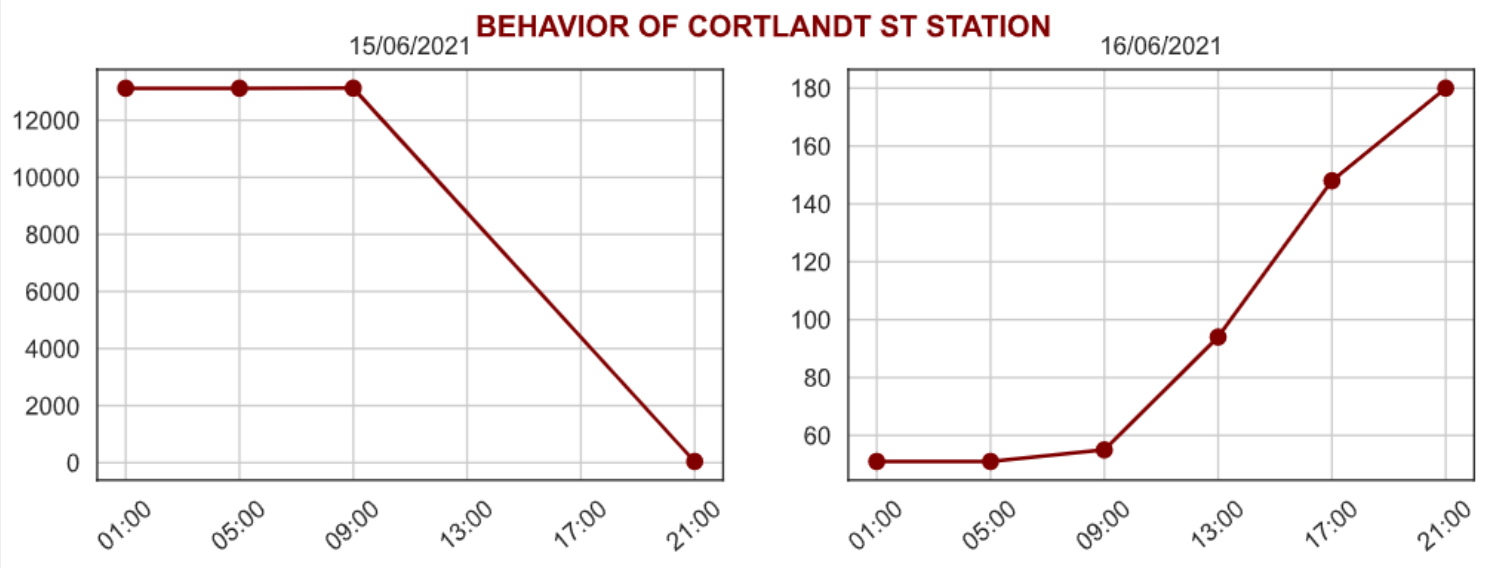
A data set was used in this project for a period of more than 3 months from MAY to AUG 2021.

- Quick result in this period
- I assumed that the data when it is less than 5000 for entry will be closer to true

Validate Data

- Duplications were found in the dataset
- A lot of missing values were found
- A lot of outliers was observed across the dataset
- Absolute negative entry for reverse entry
- For the numbers that reset entry counter,I set the data as less than 5K entry per day we found the number of rows = 458182 and when we put less than 10K we found the number of rows = 458185 and this means that the difference is 3 rows

Example of problem in dataset



TOP 3 STATIONS

3 Million

34 ST-HERALD SQ

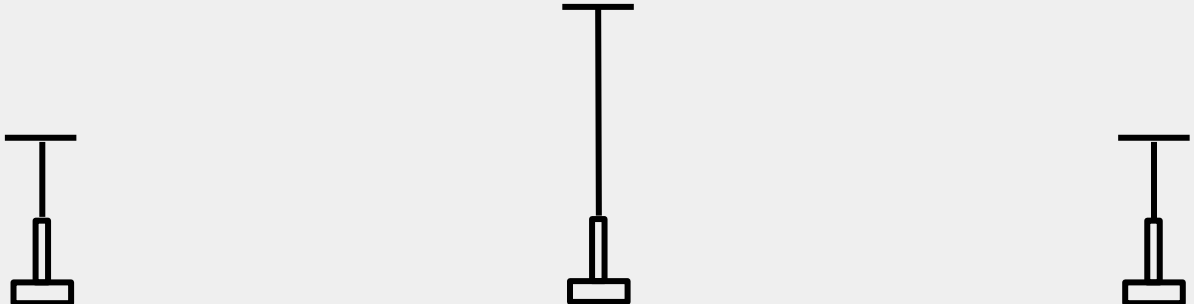
4 Million

34 ST-PENN STA

3 Million

GRD CNTRL-42 ST

TOTAL ENTRY FOR 14 WEEKS



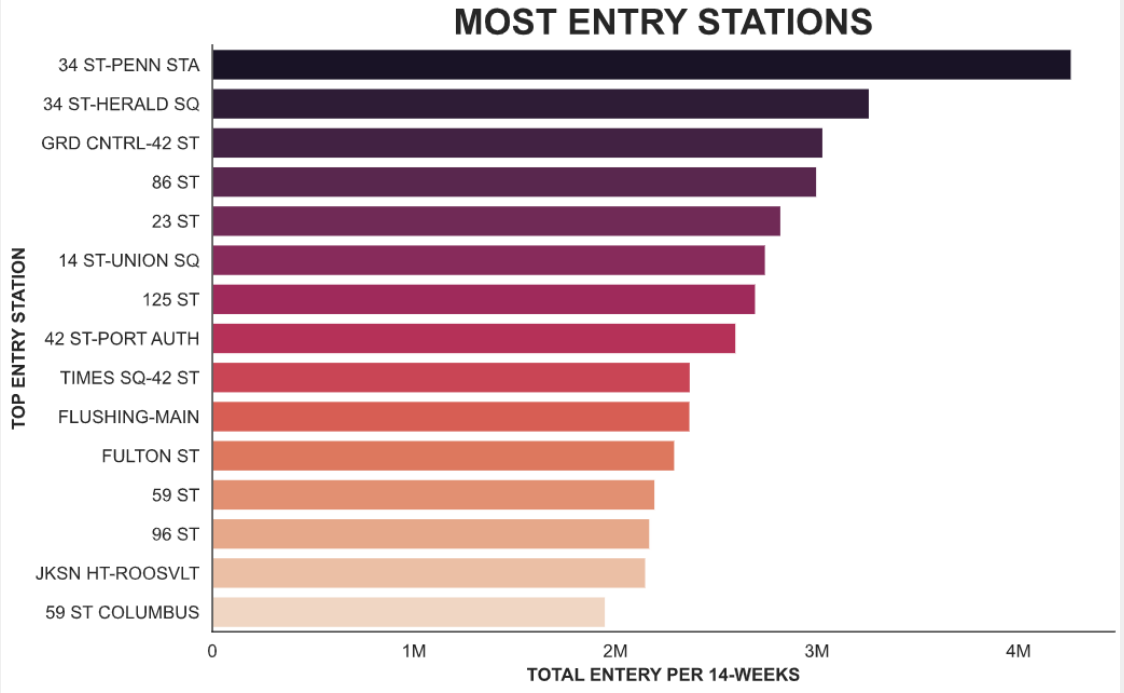
TOP 15

X axis

TOTAL ENTERY PER 14-WEEKS

Y axis

TOP 15 STATIONS



Why did you assume that?

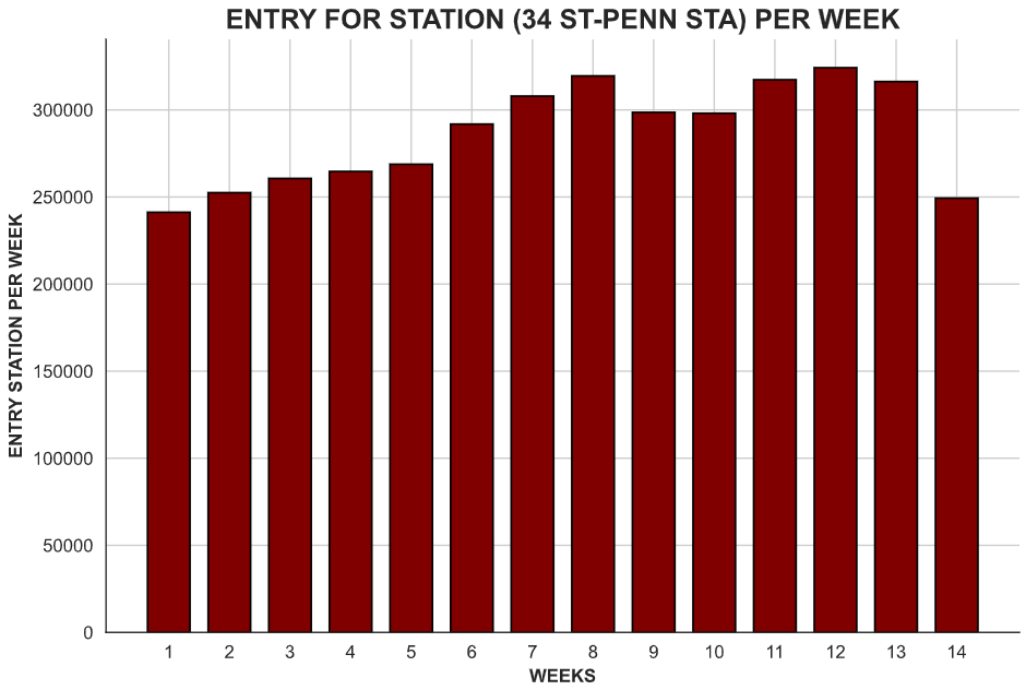
- Based on the result I got if I compare it to the MTA stats for 2019, the busiest stations with my result

Top 10 busiest subway stations in 2019

Rank	Station/Complex	Lines	Ridership
1	Times Sq-42 St/42 St	N, Q, R, W, S, 1, 2, 3, 7, A, C, E	65,020,294
2	Grand Central-42 St	S, 4, 5, 6, 7	45,745,700
3	34 St-Herald Sq	B, D, F, M, N, Q, R, W	39,385,436
4	14 St-Union Sq	L, N, Q, R, W, 4, 5, 6	32,385,260
5	Fulton St	A, C, J, Z, 2, 3, 4, 5	27,715,365
6	34 St-Penn Station	1,2,3	25,967,676
7	34 St-Penn Station	A,C,E	25,631,364
8	59 St-Columbus Circle	A,B,C,D,1	23,040,650
9	Chambers St, WTC /Park Pl/Cortlandt	A, C, E, 2, 3, R, W	20,820,549
10	Lexington Av-53 St/51 St	E, M, 6	18,957,465

Find source here

Expect More

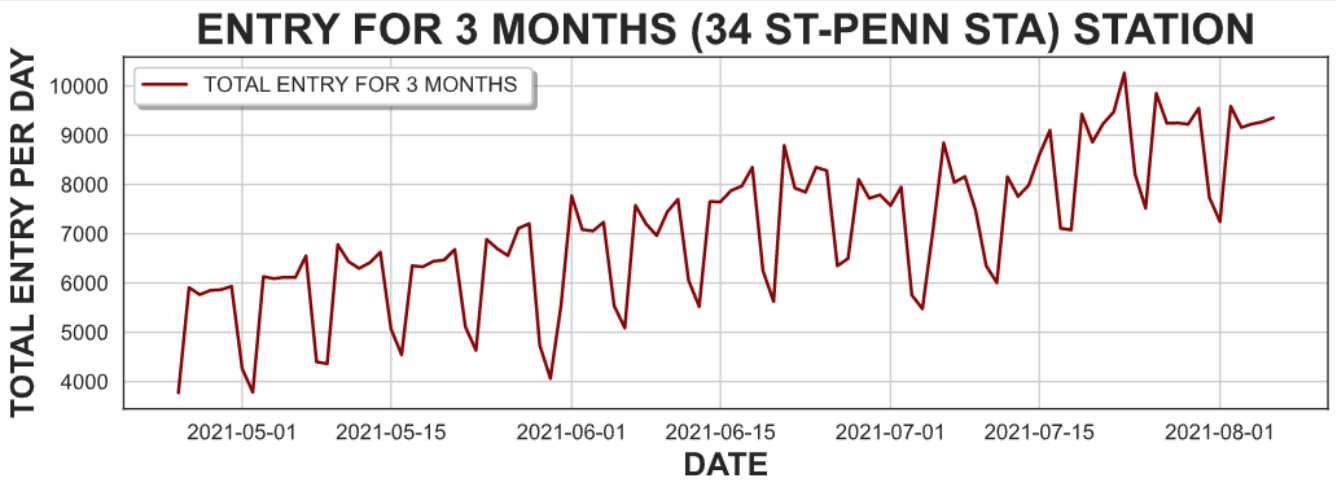


Observations

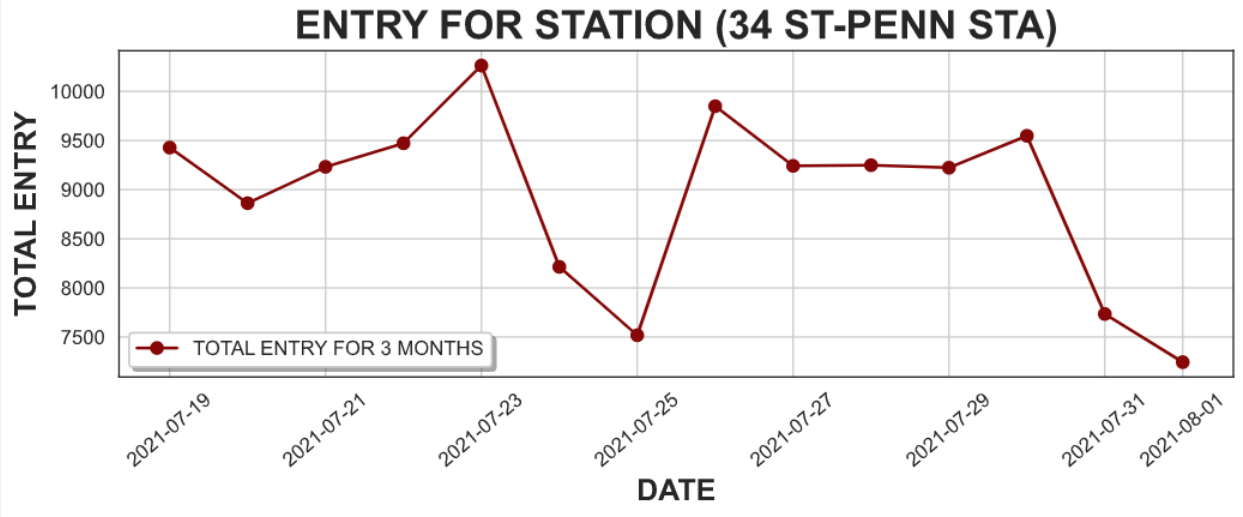
- Through this chart, we can know the sum of the entry per week for the most visited station over a period of 3 months

Expect More and More

- In this chart, we can know for 3 months each day which days have the most entry to the station



Expect Extremely More



- If we dig deeper, and choose two weeks at random to know the days and see them more clearly, we find that the days of the week are more crowded than the weekend

Finally

After all the available data, you can decide where to put the blood donation mobile health vehicle to the most crowded Subway station to benefit from blood donations from the station's visitors

Thanks!

Do you have any questions?