WomenTechWomenYes Annual Gala

Fundraising Optimization Project

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INTRODUCTION

PROBLEM	**Determining where the street teams should be located** to reach and invite NYC residents to WomenTechWomenYes Gala.
SOLUTION	**Locating the best possible spots** to reach the most number of residents that will support the cause.
OBJECTIVE	**Finding** the best days and time intervals for **stations with the most traffic**, focusing on the **income levels of the residents** to consider the likeliness to donate.

METHODOLOGY

DATA SOURCE

MTA New York City Subway

- New York City Day-by-Day Ridership Numbers Derived from Turnstile Datas
- Daily/Yearly Data of 2019/2020/2021
- From April 27th to August 27th

CCC Citizens' Committee for Children of NEW YORK

- Median Income Data of CCC New York
- Yearly Data of 2005 to 2019
- By Boroughs

TOOLS

Jupyter Notebook

Pandas

Numpy

Seaborn

Matplotlib

ABOUT THE DATA

	C/A	UNIT	SCP	STATION	LINENAME	DIVISION	DATE	TIME	DESC	ENTRIES	EXITS
0	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	00:00:00	REGULAR	7561288	2582898
1	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	04:00:00	REGULAR	7561295	2582903
2	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	08:00:00	REGULAR	7561302	2582918
3	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	12:00:00	REGULAR	7561336	2582977
4	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	16:00:00	REGULAR	7561426	2583008
5	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/24/2021	20:00:00	REGULAR	7561578	2583031
6	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/25/2021	00:00:00	REGULAR	7561638	2583044
7	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/25/2021	04:00:00	REGULAR	7561643	2583045
8	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/25/2021	08:00:00	REGULAR	7561649	2583055
9	A002	R051	02-00-00	59 ST	NQR456W	BMT	04/25/2021	12:00:00	REGULAR	7561670	2583087

MTA Turnstile Data

|	Location	Year	MedianIncome
0	New York City	2005	56998
1	New York City	2006	59080
2	New York City	2007	60110
3	New York City	2008	60844
4	New York City	2009	59763
5	New York City	2010	57277
6	New York City	2011	56345
7	New York City	2012	56776
8	New York City	2013	57407
9	New York City	2014	57286

NYC Median Income Data

RESULTS

TOP 10 BUSIEST STATIONS IN 2021
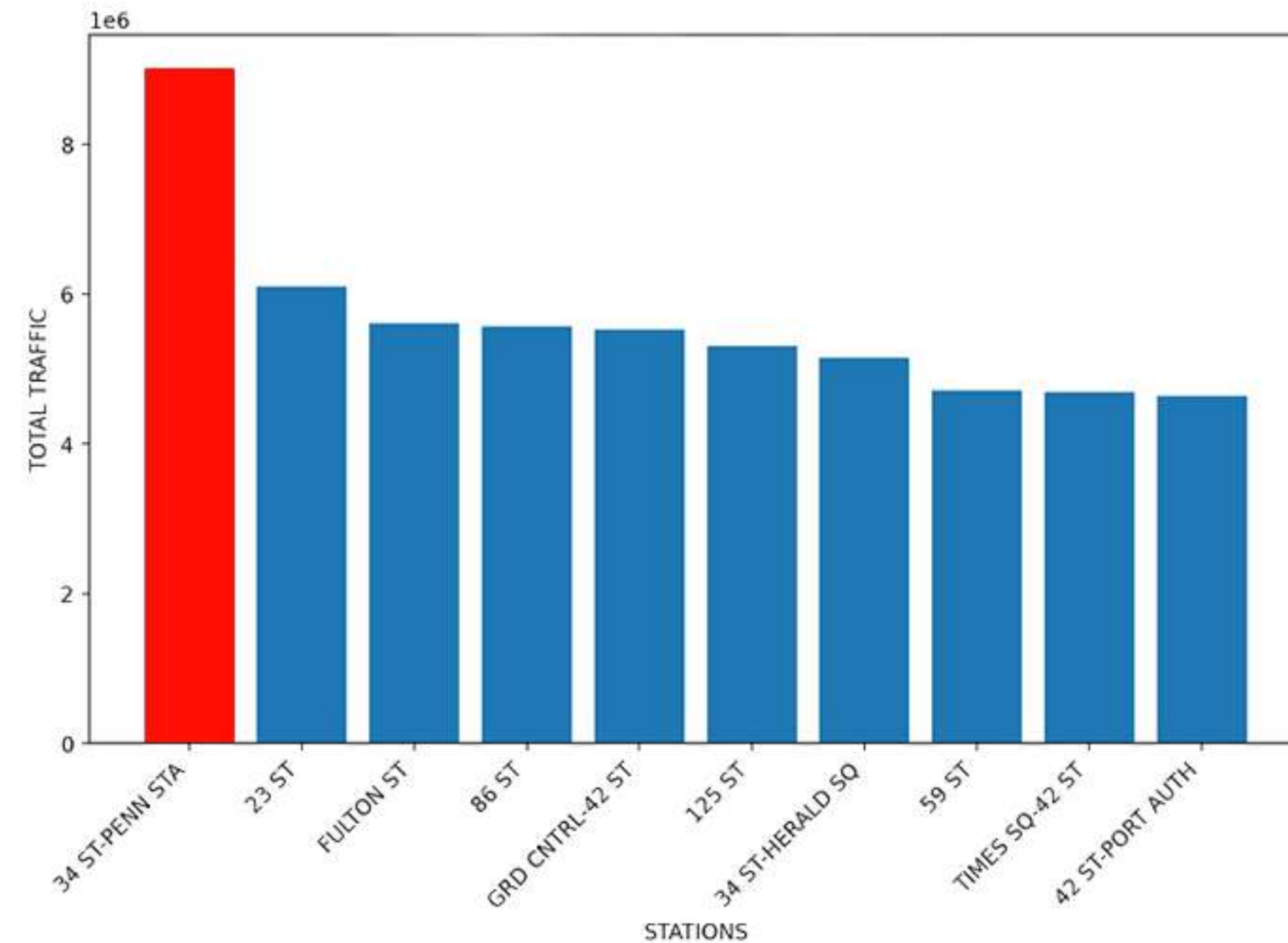
In 2021, 34th Penn Station was the busiest station by a landslide.

BUSIEST DAYS OF THE WEEK IN 2021
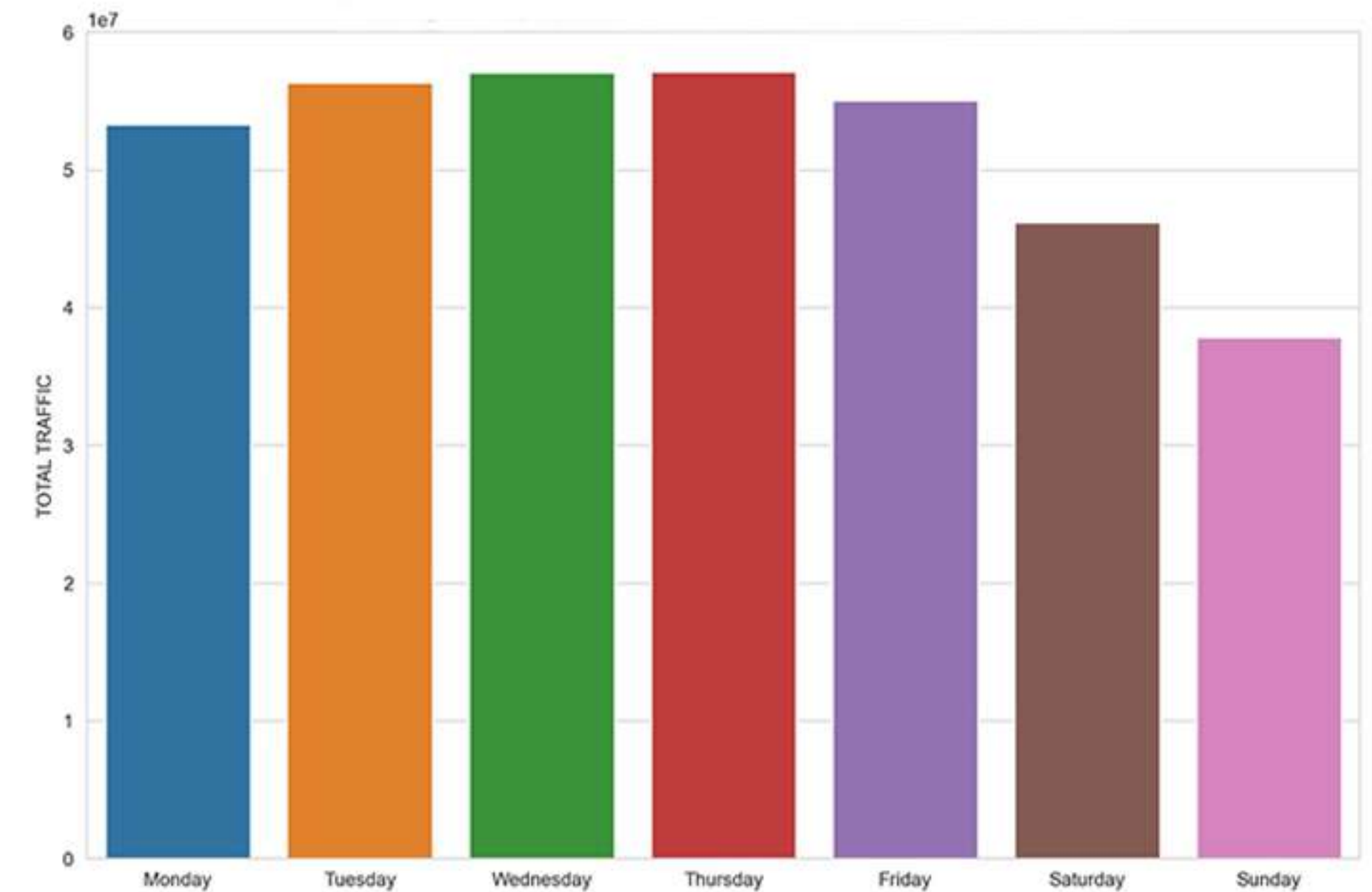
In the same year, Thursday was the day with the highest total traffic by a small margin.

*The scientific notaiton seen on the y-axis of the tables, 1e6 and 1e7, stands for million and ten-million respectively. Meaning the values on the y-axis are to be multiplied by the fore-mentioned numbers to get the real value.
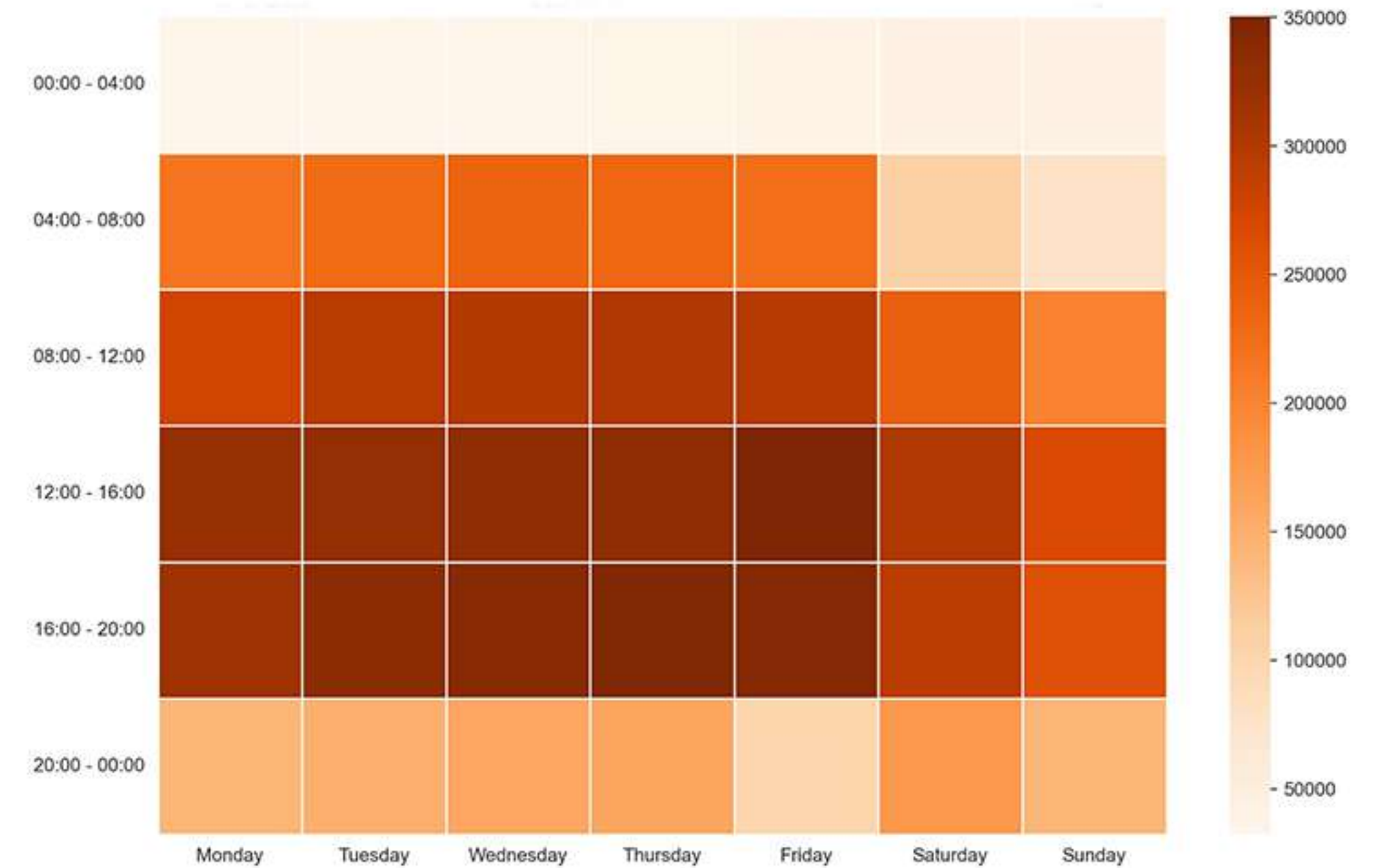
RESULTS

TOTAL TRAFFIC ACCORDING TO TIMES OF THE DAY 2021
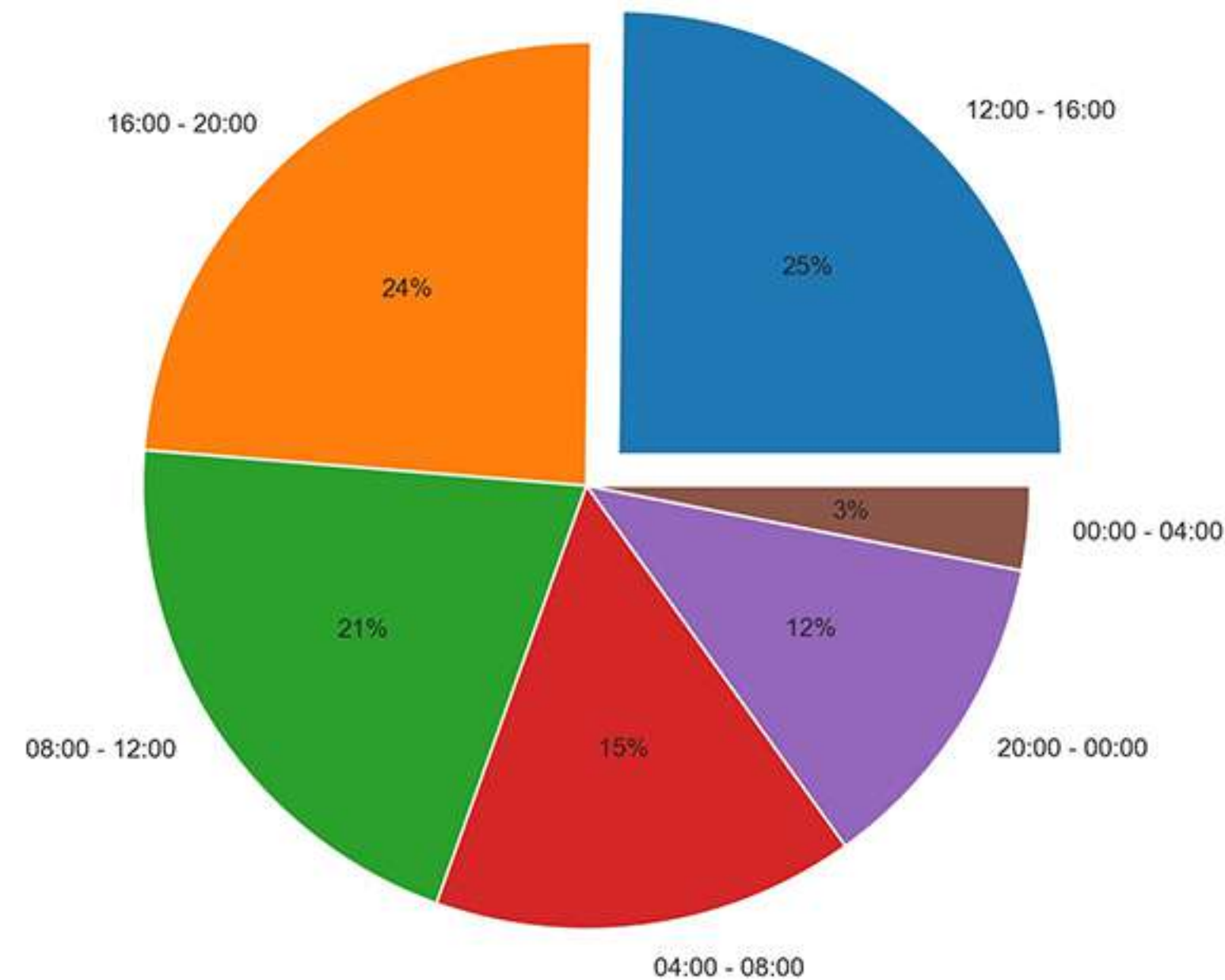
In 2021, the highest total traffic occured between **12:00–16:00**.

BUSIEST DAYS AND TIMES FOR 34TH ST PENN STATION IN 2021
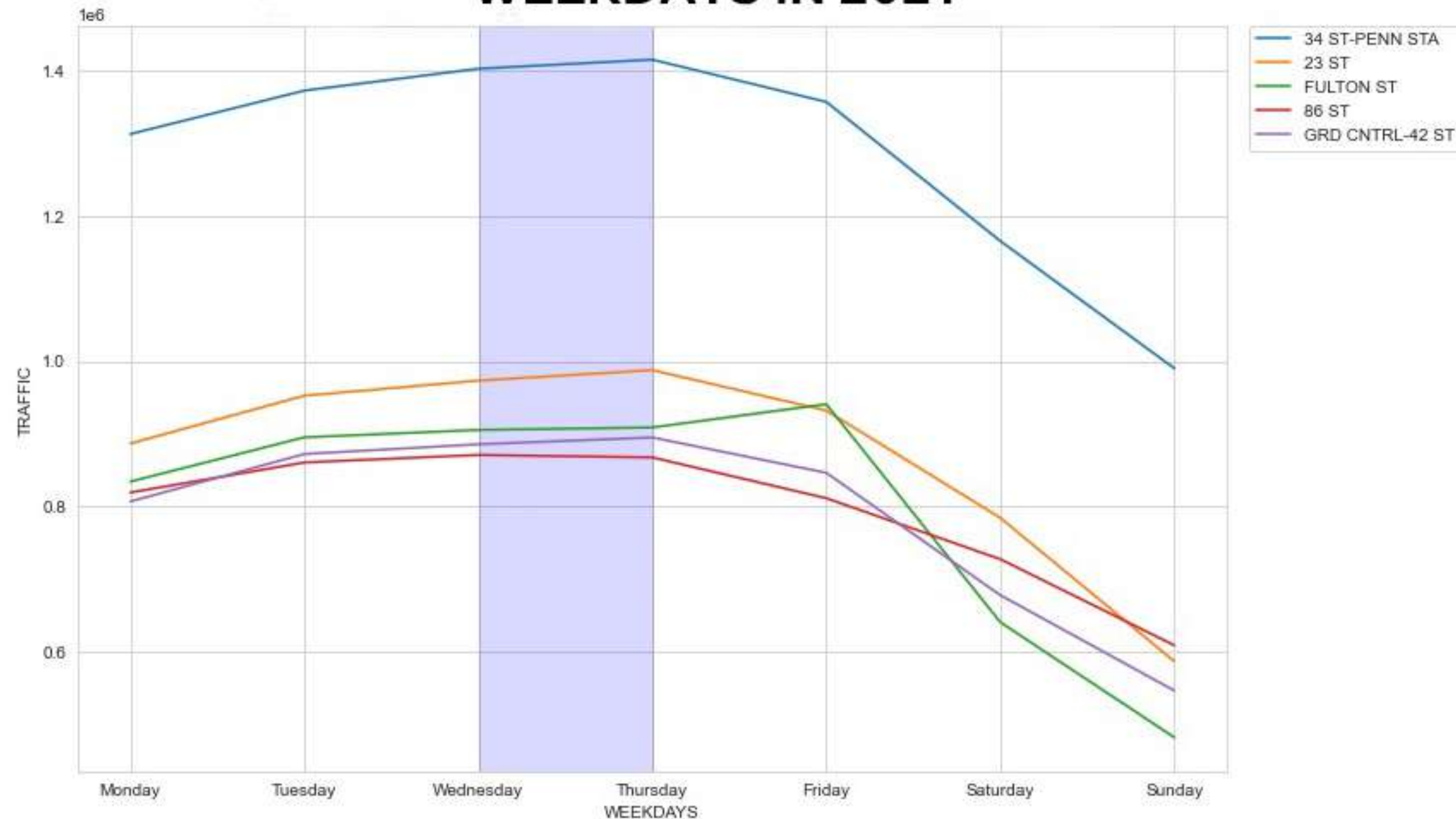

In the same year, the busiest day and time for 34th St. Penn Station was **Friday between 12:00–16:00**.
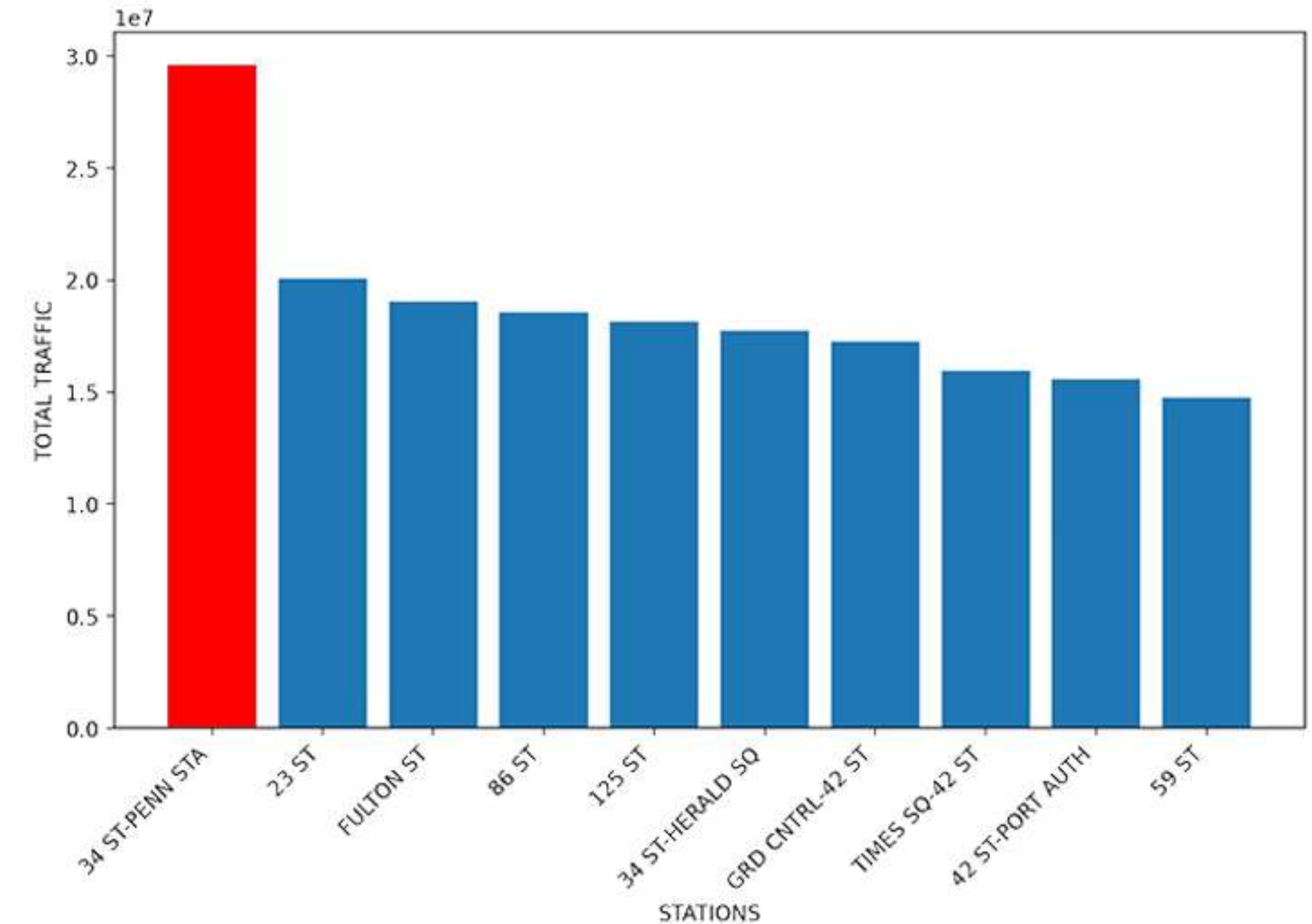
RESULTS

TOTAL TRAFFIC OF TOP 5 STATIONS BY WEEKDAYS IN 2021

In 2021, the traffic in **34th St. Penn Station** dissociates from the rest of the stations and peaks on **Thursdays**.
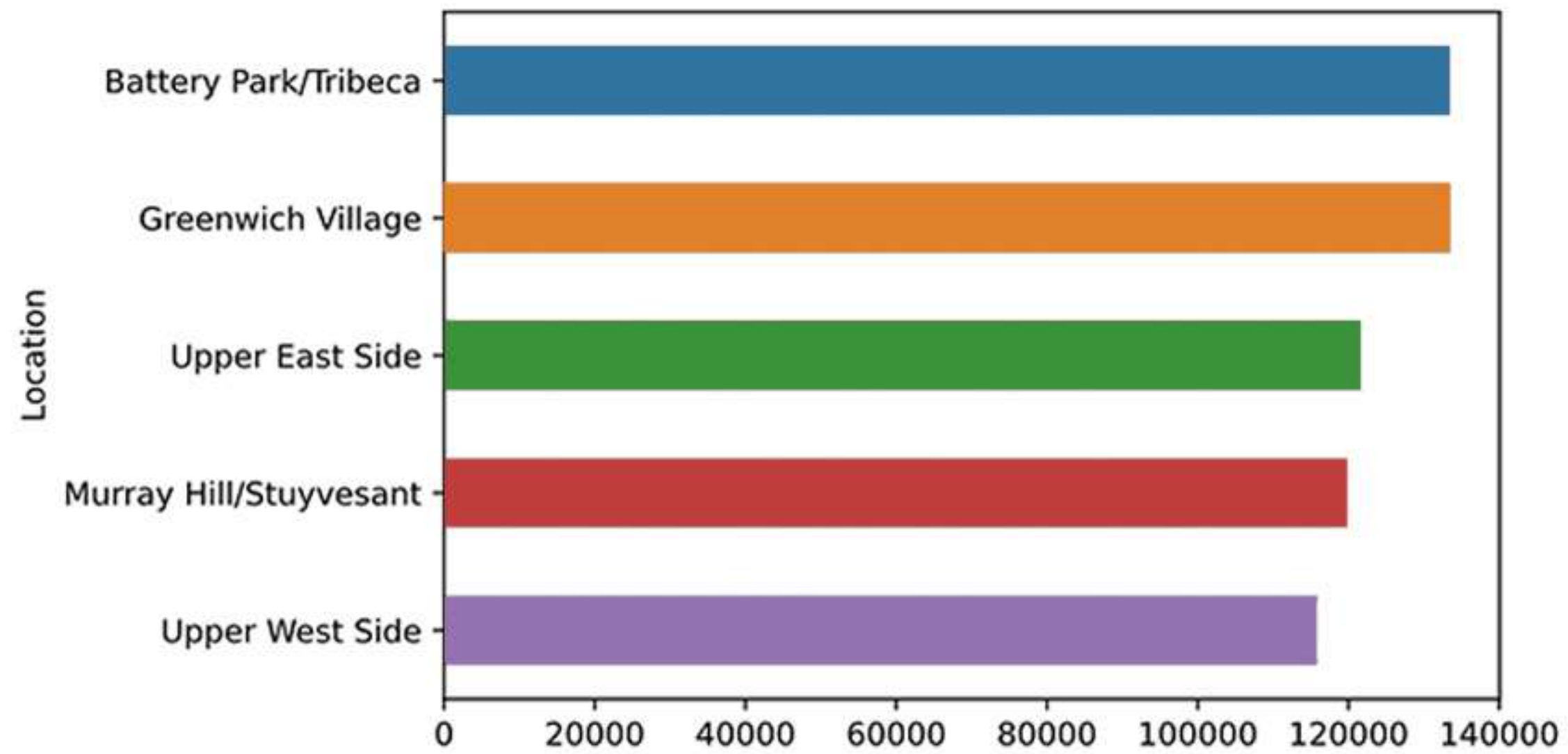
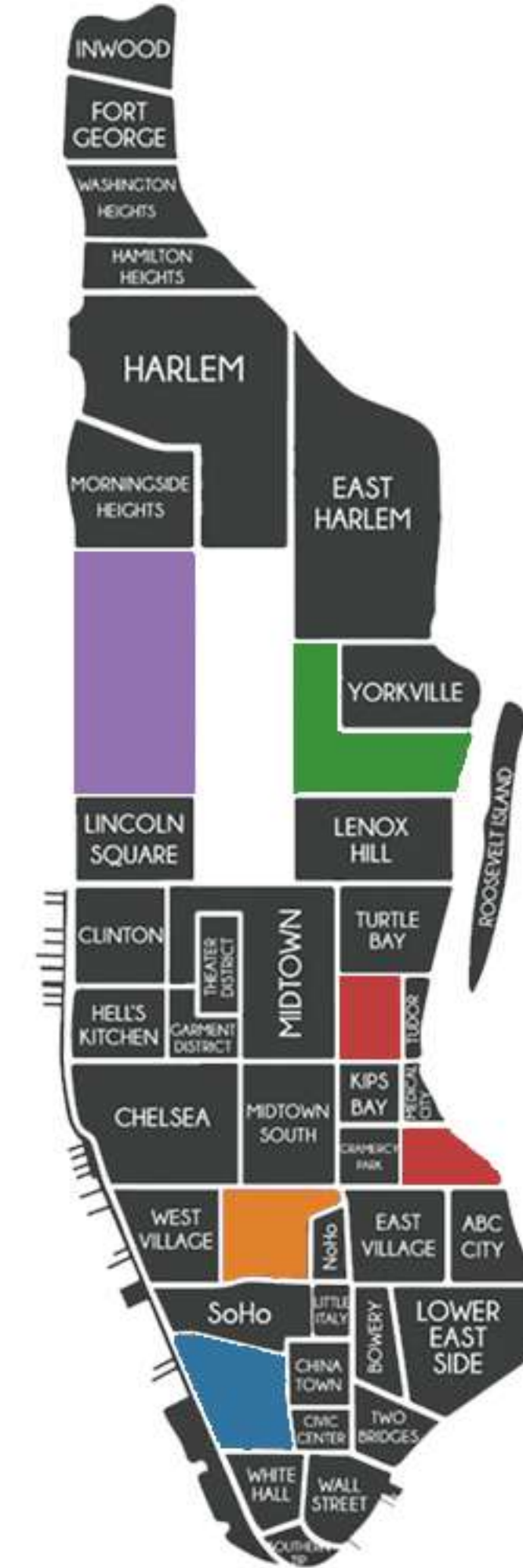## TOP 10 BUSIEST STATIONS FROM 2019 TO 2021

Datas From 2019 to 2021 depict that the busiest station of the last three years was **34th St. Penn Station.**

RESULTS

TOP 5 HIGHEST MEDIAN INCOME BOROUGHS

Residents of **Battery Park/Tribecca** have the highest average median income from years 2005 to 2019.

CONCLUSION

MTA DATA	• According to our analysis of New York City MTA Data, the best station to give out tickets for WomenTechWomenYes Gala is **34th St. Penn Station**. • The best day and time for the street team to collect email addresses at 34th St. Penn Station is **Friday between 12:00 and 16:00**.
MEDIAN INCOME DATA	• The top five highest median income residents are located in **Battery Park/Tribeca**, **Greenwich Village**, **Upper East Side**, **Murray Hill** and **Upper West Side**. • The frequently used subway stations in these districts are **Chambers**, **14th St.**, **86th Street**, **Grand Central 42nd St.** and **72nd St. Stations**.

WHAT ELSE WOULD WE DO
IF WE HAD MORE TIME

- **Additional Data's are Always Helpful** – Data's on Female Population by Boroughs and Location of Tech Companies would give us a better foresight to locate the residents that would be more willing to help our cause.

- **Merging Our Analysis** – The two datasets could be more efficiently combined in order to find the best option.

- **Visualizing Our Data's Using QGIS** – Since we are trying to find the best possible locations, utilizing a mapping software would be useful.