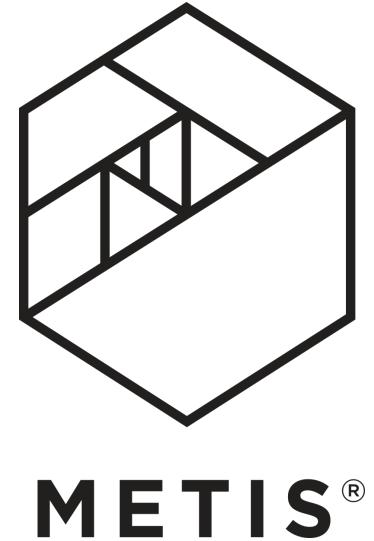


MTA Stations Traffic Analysis

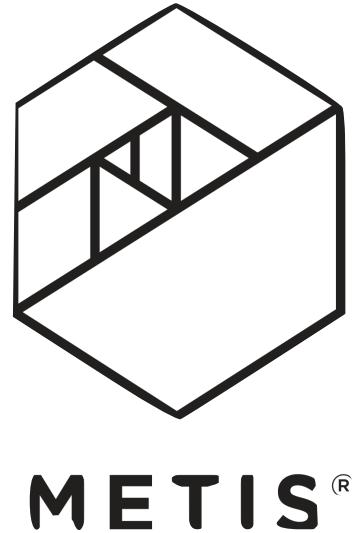
For MTA Advertising

Introduction



- MTA Advertising would like to introduce new **experimental advertising panels** at their stations.
- First 10 systems will be installed on **September 2022**.
- GOAL: To **identify 10 most busy stations** that will be optimal locations for Christmas advertising campaign in New York.

Methodology



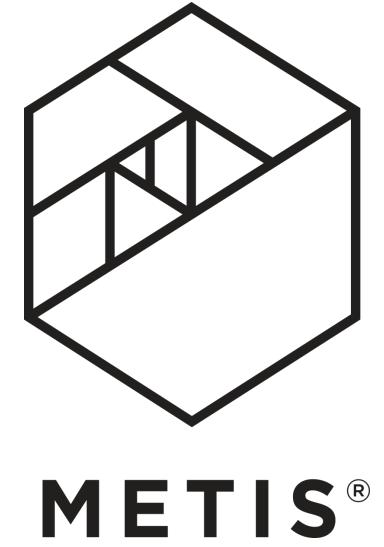
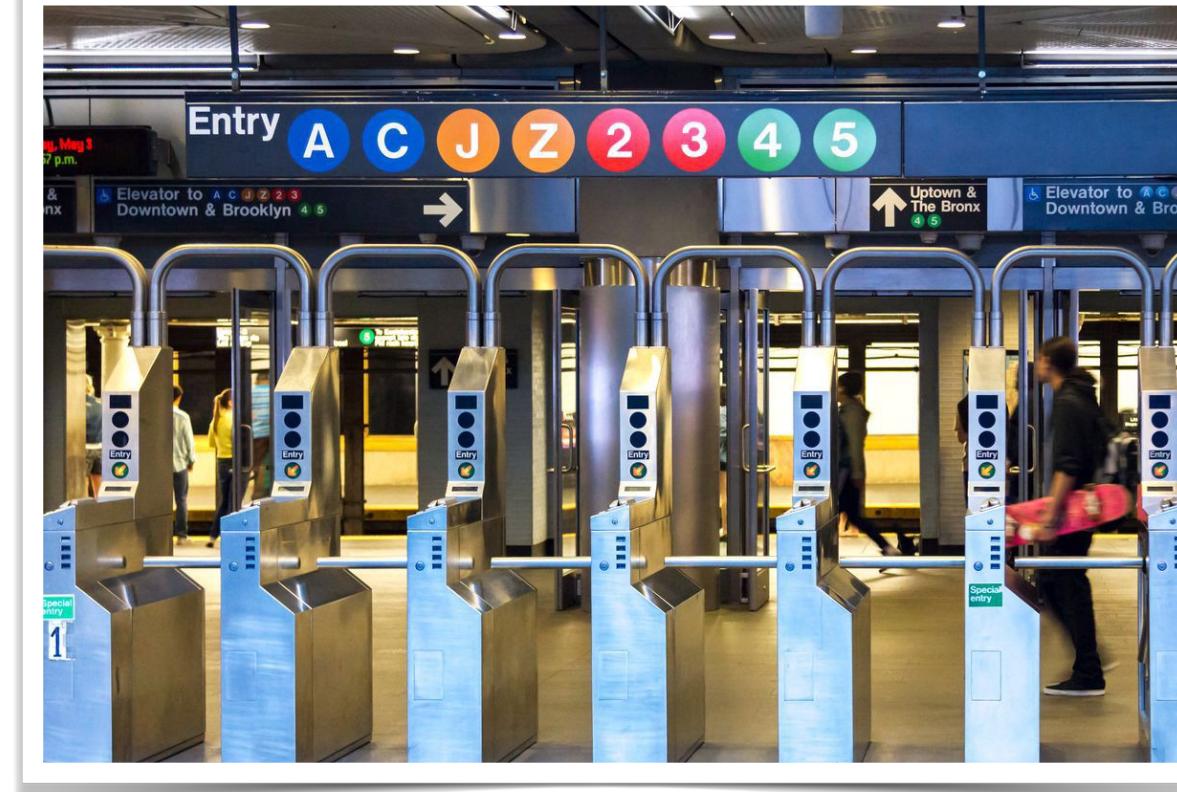
- I utilized online **MTA turnstile data** imported from SQL using SQLAlchemy

C/A	UNIT	SCP	STATION	LINENAME	DIVISION	DATE	TIME	DESC	ENTRIES	EXITS	
0	A002	R051	02-00-00	59 ST	NQR456W	BMT	08/31/2019	00:00:00	REGULAR	7183242	2433142
1	A002	R051	02-00-00	59 ST	NQR456W	BMT	08/31/2019	04:00:00	REGULAR	7183258	2433149
2	A002	R051	02-00-00	59 ST	NQR456W	BMT	08/31/2019	08:00:00	REGULAR	7183278	2433176
3	A002	R051	02-00-00	59 ST	NQR456W	BMT	08/31/2019	12:00:00	REGULAR	7183393	2433262
4	A002	R051	02-00-00	59 ST	NQR456W	BMT	08/31/2019	16:00:00	REGULAR	7183572	2433312

- Traffic data from 3 periods:
Sept-Dec 2021 (last years traffic)
Jan-May 2022, (latest trend)
Sept-Dec 2019 (pre-pandemic traffic levels - for more context).
- I chose to focus on **entries** as people who enter the station spend more time there and are therefore more likely to be exposed to advertisements.

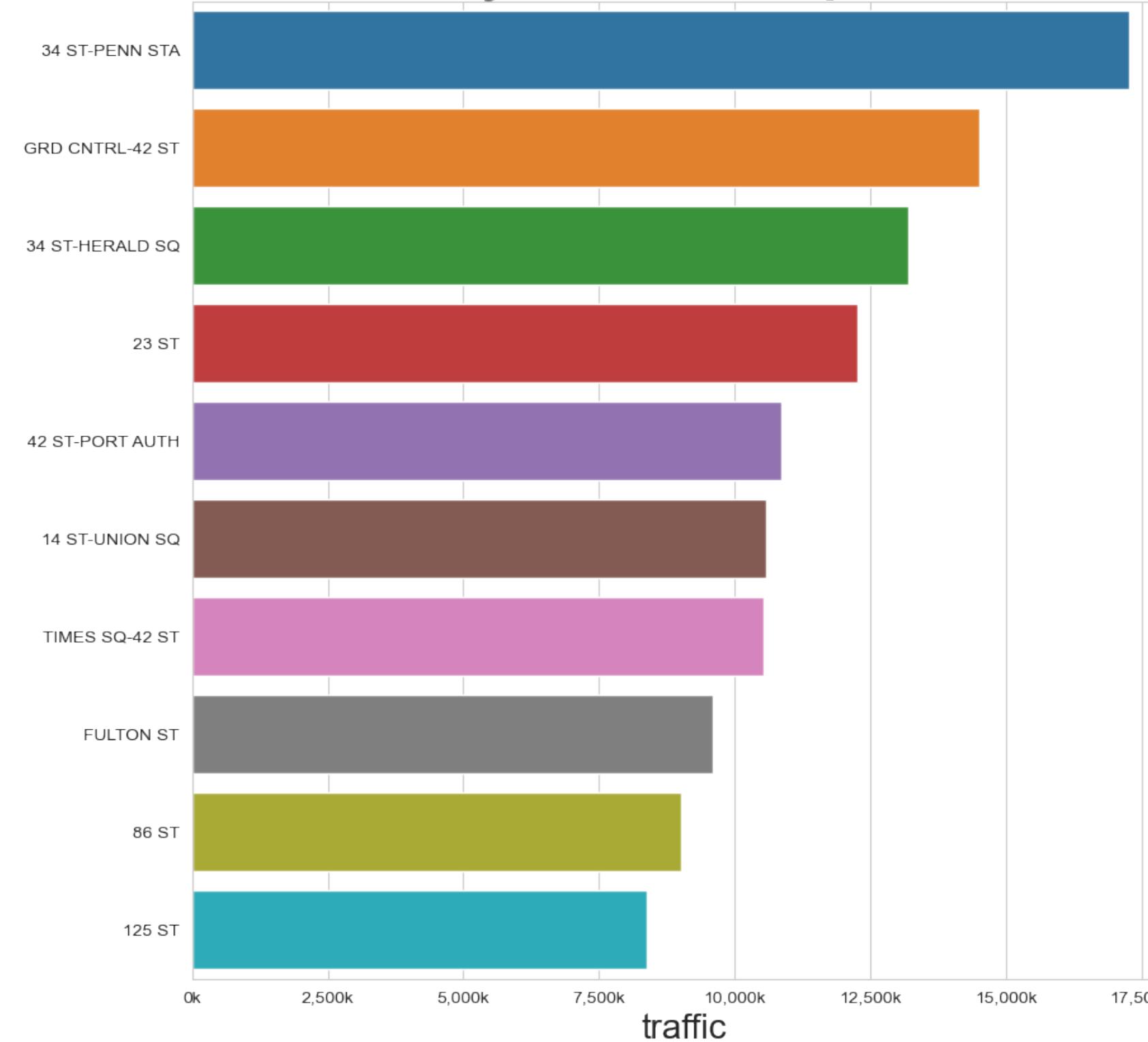
Methodology

- **Data cleaned** of errors and duplicates
- Daily number of **entries per turnstile calculated** by finding the difference between the maximum daily record and the maximum record from the previous day.
- Aggregating these values resulted in the **number of entries per station** in considered **time periods**
- Negative counts = result of a reset of the turnstile counter

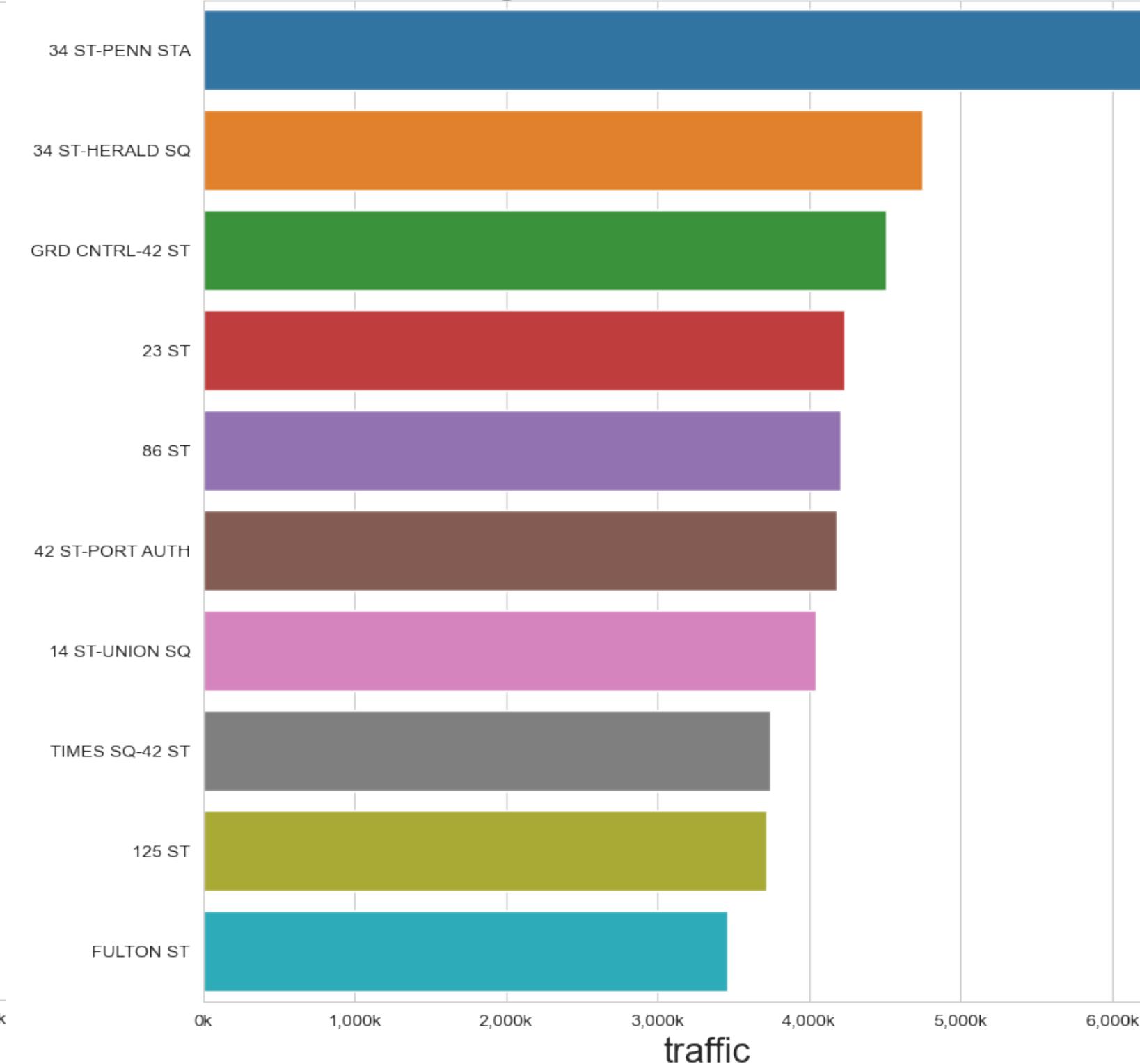


Results

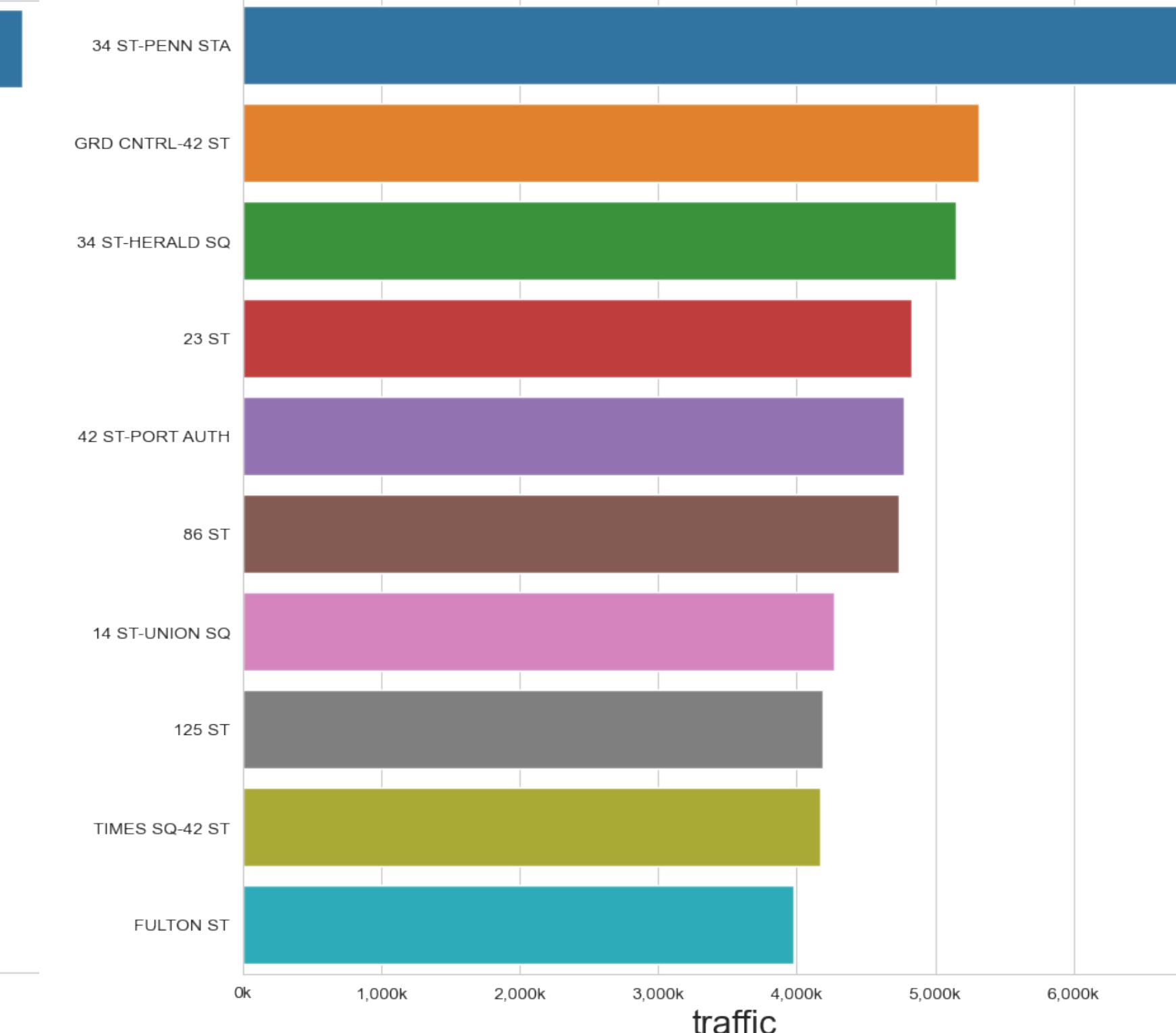
Most busy stations. Sept-Dec 2019



Most busy stations. Sept-Dec 2021



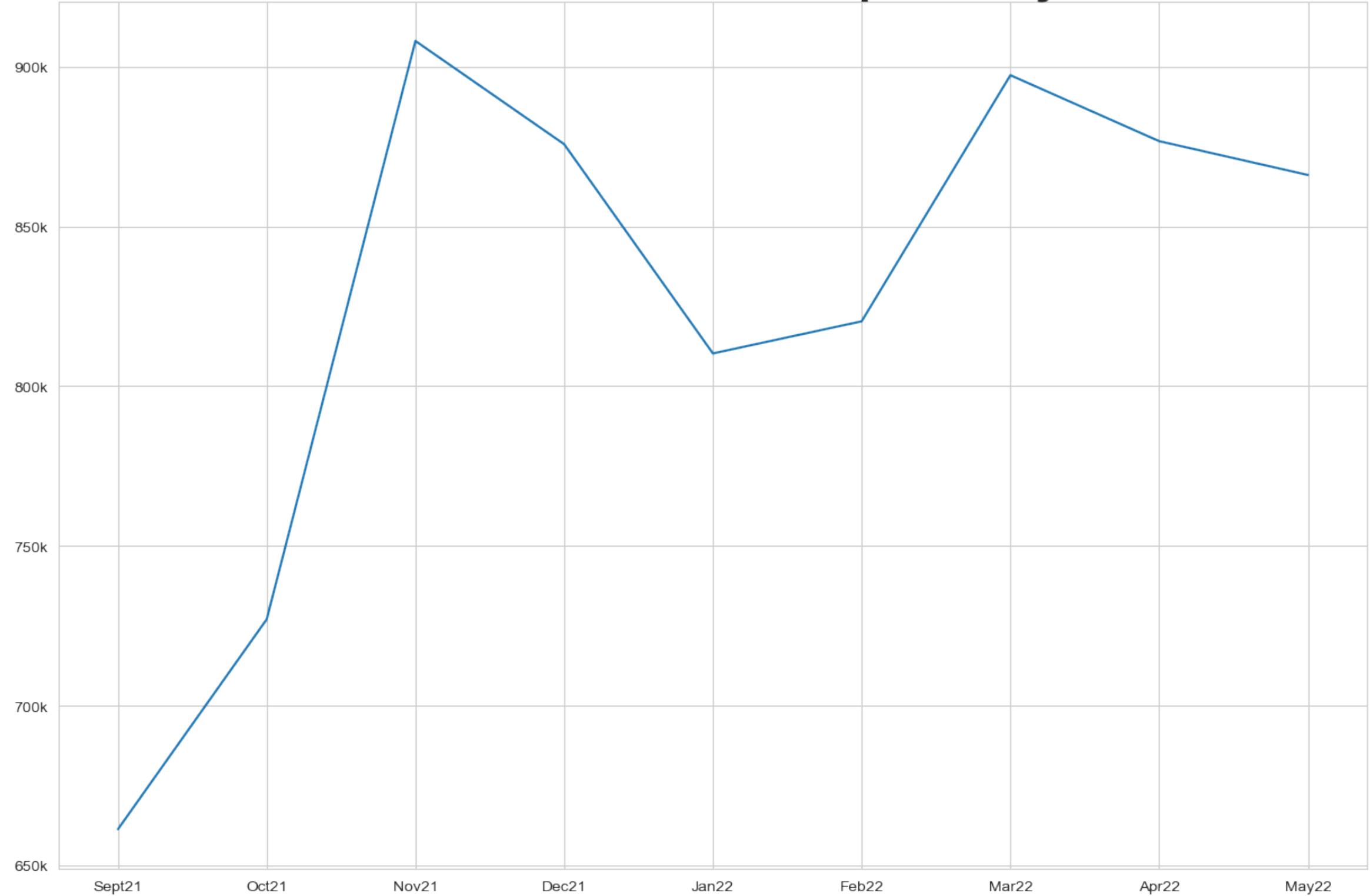
Most busy stations. Jan-May 2022



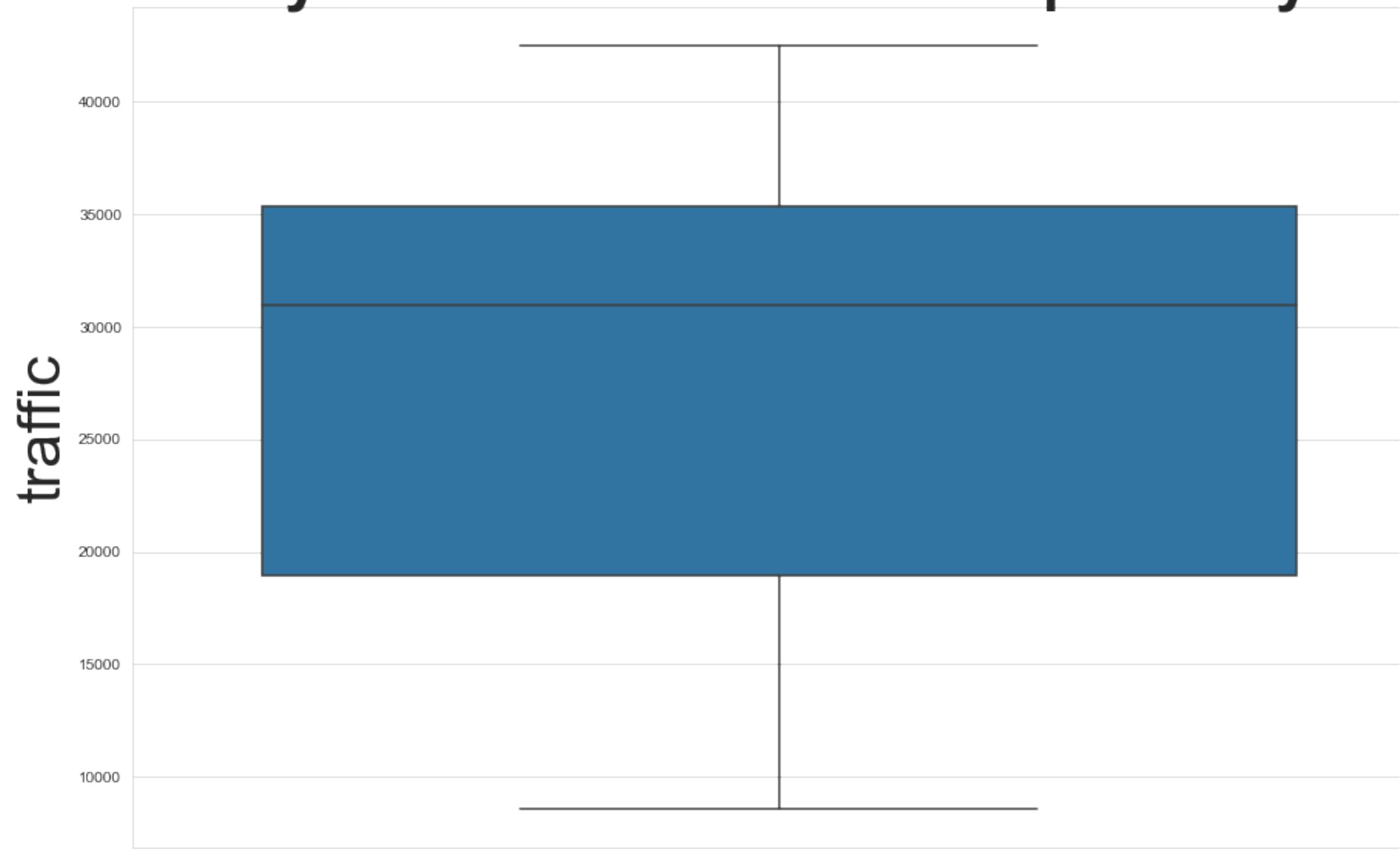
- All three periods had the same stations in the top 10 list
- 4 ST-PENN STA significantly busier than the rest

Results

Traffic at FULTON ST. Sept21-May22

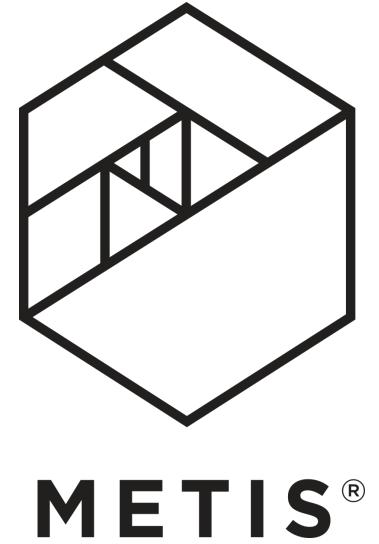


daily traffic at FULTON ST. Sept21-May22



- Monthly traffic at FULTON ST (bottom of top 10 station lists)
- Stable trend, suggests likely increase in the future

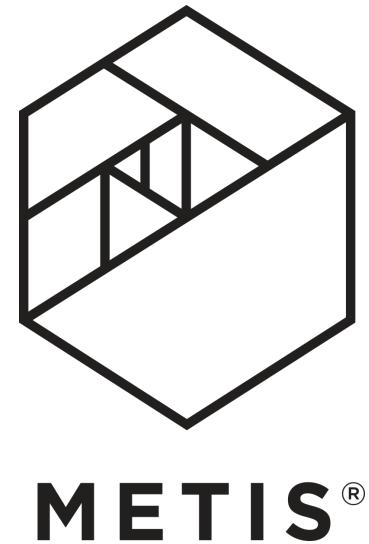
Conclusions



- I **recommend** installing new advertising panels at identified stations for potential success in September-December 2022
- In all 3 periods, same **10 stations** had most entries, providing **optimal advertisement exposure**
- MTA traffic significantly dropped after the pandemic and is now slowly recovering

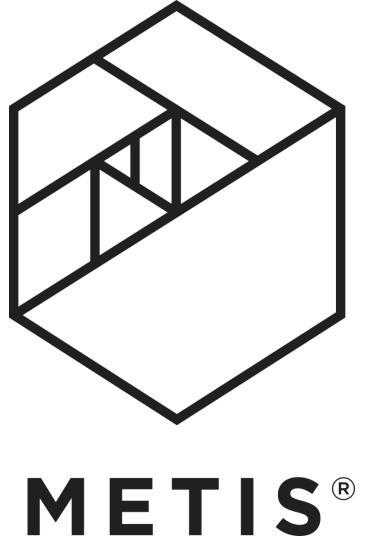
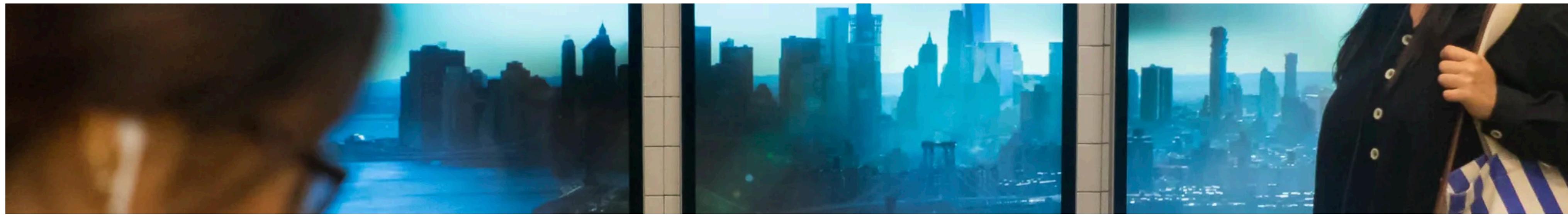


Future Work



- Further **investigation of traffic during pandemic periods** to gain insight into essential connections for the city
- Utilising **more data** from turnstiles for more comprehensive understanding of NY traffic patterns
- Exploring **additional data sources**, including socio-economic data and pedestrian traffic data, to improve analysis and create Tableau **map visualization**

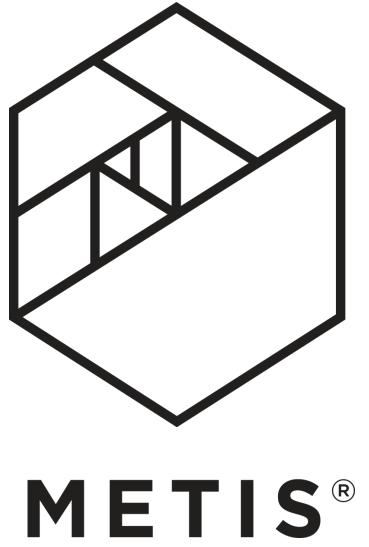




Thank you!

Questions?

Sources



- Title photo: [shutterstock.com](https://www.shutterstock.com)
- Last photo: www.nymag.com
- MTA map: MTA