WOMEN TECH WOMEN YES: GALA FUNDRAISING
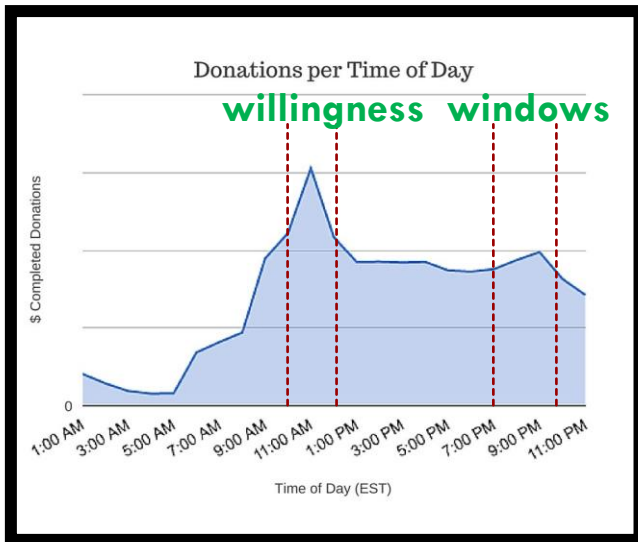
EXPLORATORY DATA ANALYSIS OF NYC MTA TURNSTILE DATA
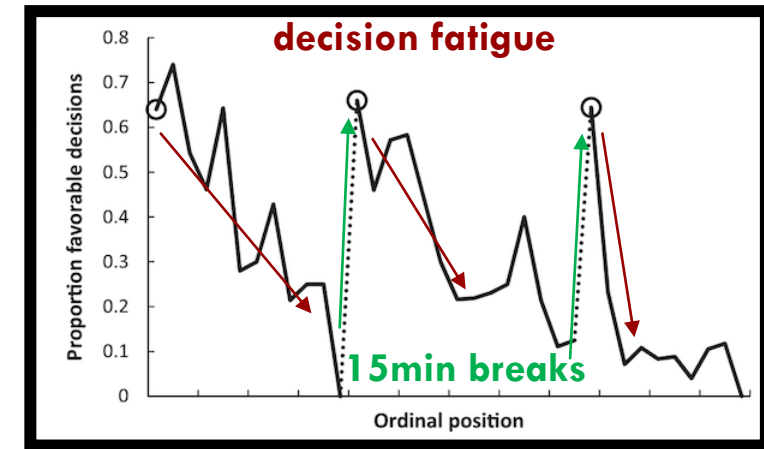
PROJECT: GOODWILL HUNTING

Donations per Time of Day — willingness windows

https://blog.goodworld.me/the-optimal-day-and-time-for-social-media-fundraising-cb8eae3ed515

TIMING IS EVERYTHING

- The more time we're willing to invest, the more likely our commitments become

- People are more amenable around mealtimes
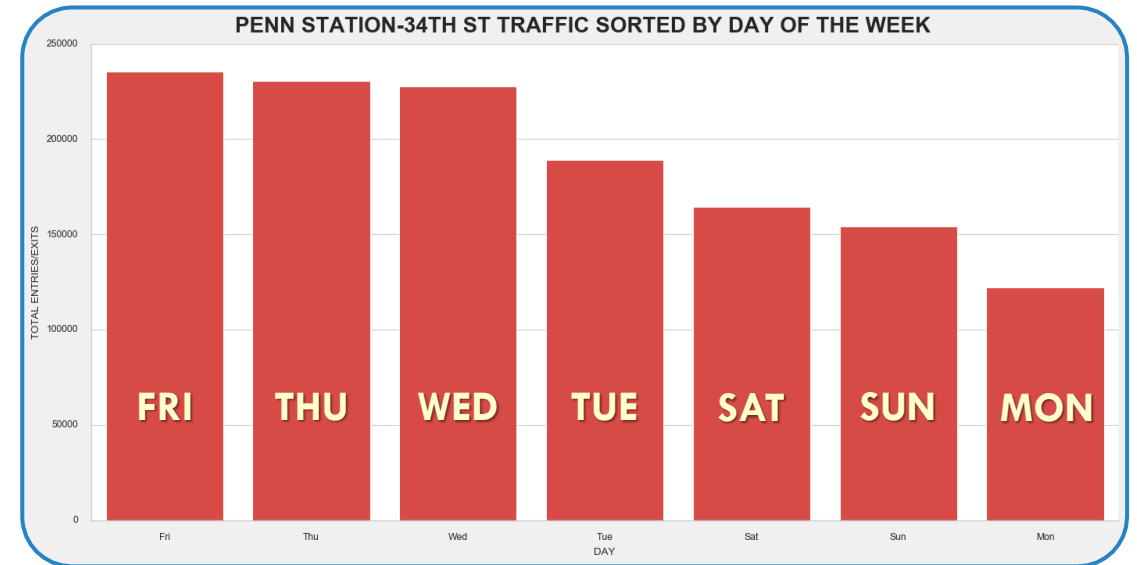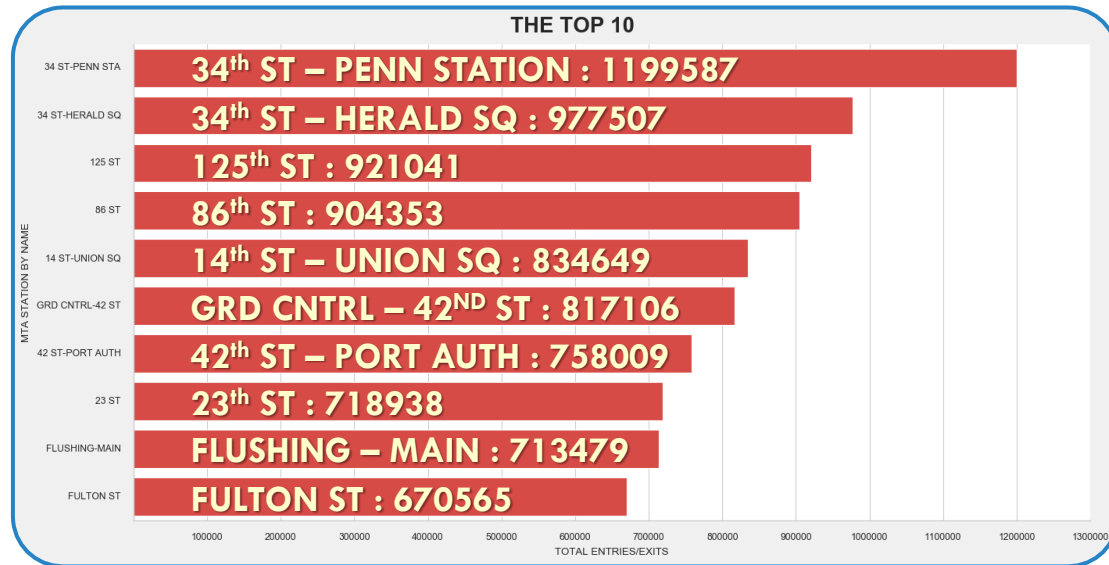
- Mental fatigue affects favorable decisions

http://nautil.us/blog/impossibly-hungry-judges

INITIAL DATA REVIEW

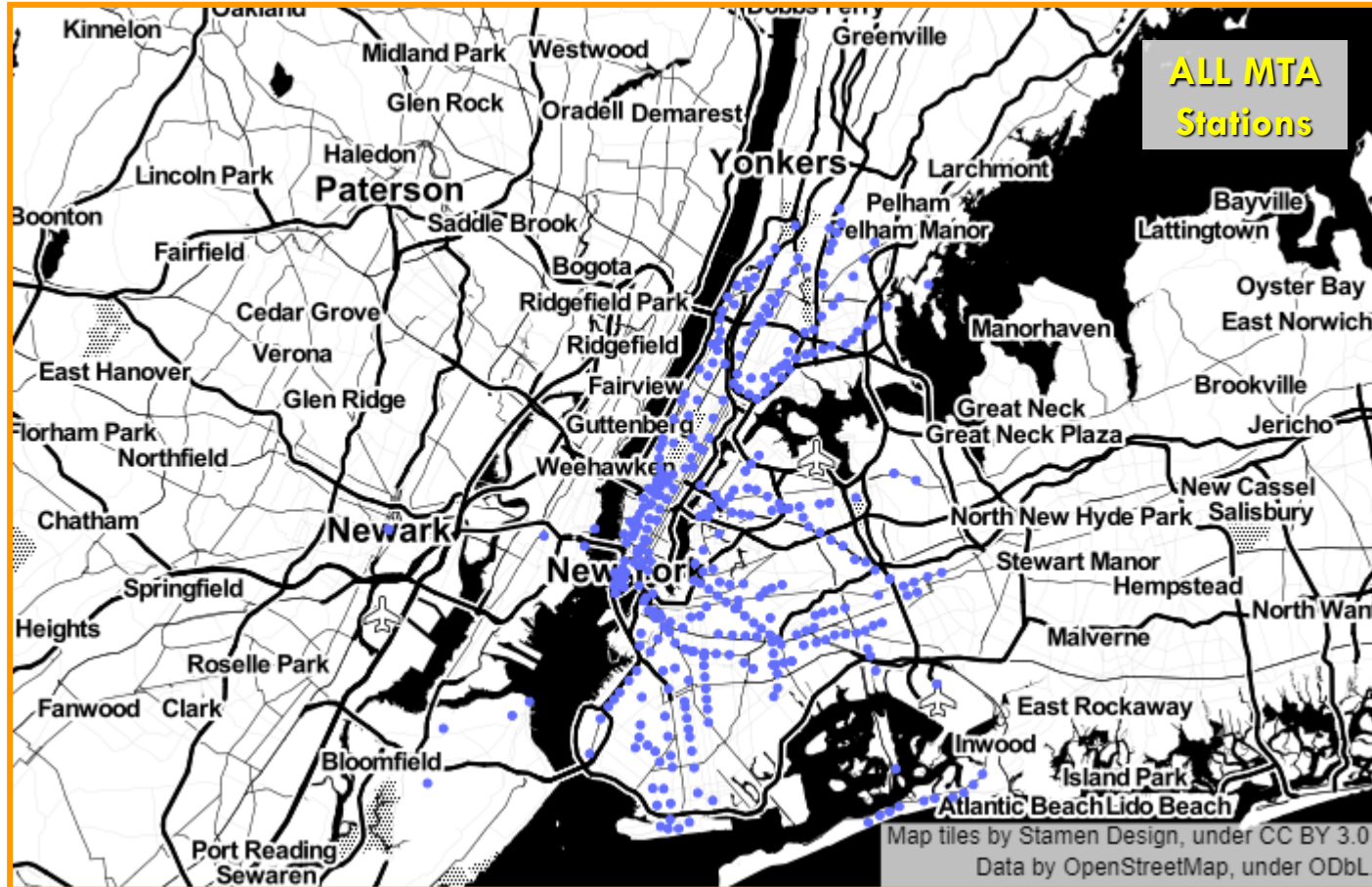| C/A	UNIT	SCP	STATION	LINE	AREA	DATE	TIME	ENTRIES	EXITS	Latitude	Longitude	ZIPCODE	POPULATION	POPULATION_DEN	MEDIAN_INCOME
TRAM2	R469	00-05-01	RIT-ROOSEVELT	R	RIT	9/18/2020	21:00:00	5554	541	43.0844	-77.6749	14623	27173	1424	46149
TRAM2	R469	00-05-01	RIT-ROOSEVELT	R	RIT	9/18/2020	17:00:00	5554	541	43.0844	-77.6749	14623	27173	1424	46149
TRAM2	R469	00-05-01	RIT-ROOSEVELT	R	RIT	9/18/2020	13:00:00	5554	541	43.0844	-77.6749	14623	27173	1424	46149
TRAM2	R469	00-05-01	RIT-ROOSEVELT	R	RIT	9/18/2020	9:00:00	5554	541	43.0844	-77.6749	14623	27173	1424	46149
TRAM2	R469	00-05-01	RIT-ROOSEVELT	R	RIT	9/18/2020	5:00:00	5554	541	43.0844	-77.6749	14623	27173	1424	46149

- 6 Unique identifiers for each station
- Location data (Latitude, Longitude, Zip Code)
- Demographic data (Population, Population Density, Median Income)

NARROWING DOWN RESULTS

THE TOP 10

Horizontal bar chart titled "THE TOP 10" — MTA STATION BY NAME vs TOTAL ENTRIES/EXITS:
- 34th ST – PENN STATION : 1199587
- 34th ST – HERALD SQ : 977507
- 125th ST : 921041
- 86th ST : 904353
- 14th ST – UNION SQ : 834649
- GRD CNTRL – 42ND ST : 817106
- 42th ST – PORT AUTH : 758009
- 23th ST : 718938
- FLUSHING – MAIN : 713479
- FULTON ST : 670565

Bar chart titled "PENN STATION-34TH ST TRAFFIC SORTED BY DAY OF THE WEEK" — TOTAL ENTRIES/EXITS vs DAY, bars labeled: FRI, THU, WED, TUE, SAT, SUN, MON
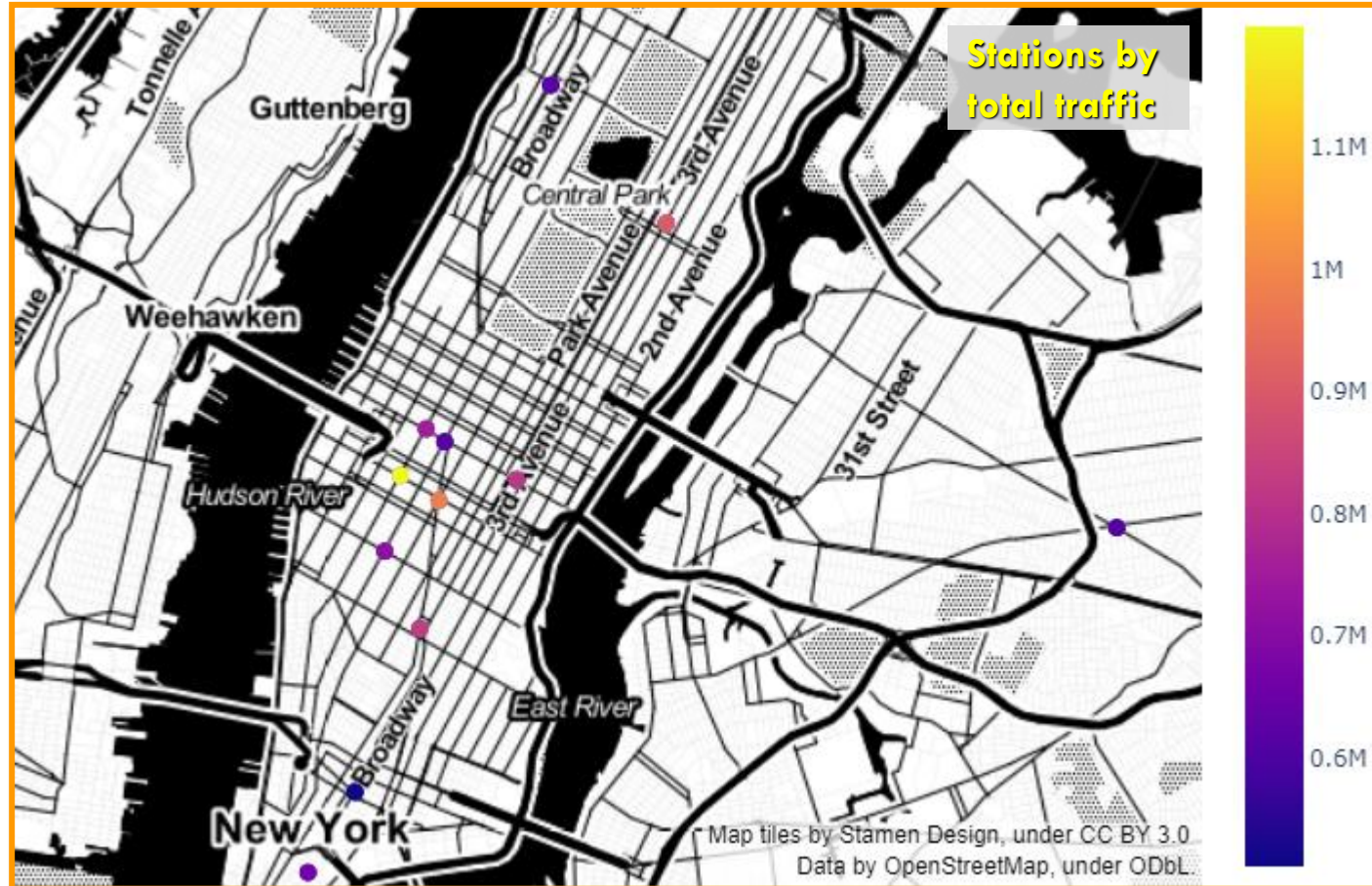
- To 10 trafficked stations for the month of September
- Some stations included on the list appear unorthodox (like 125th ST, and Flushing)
  - This top 10 list alone is not a good historical representation
  - Looking at past years data, these stations don't normally make it on the list
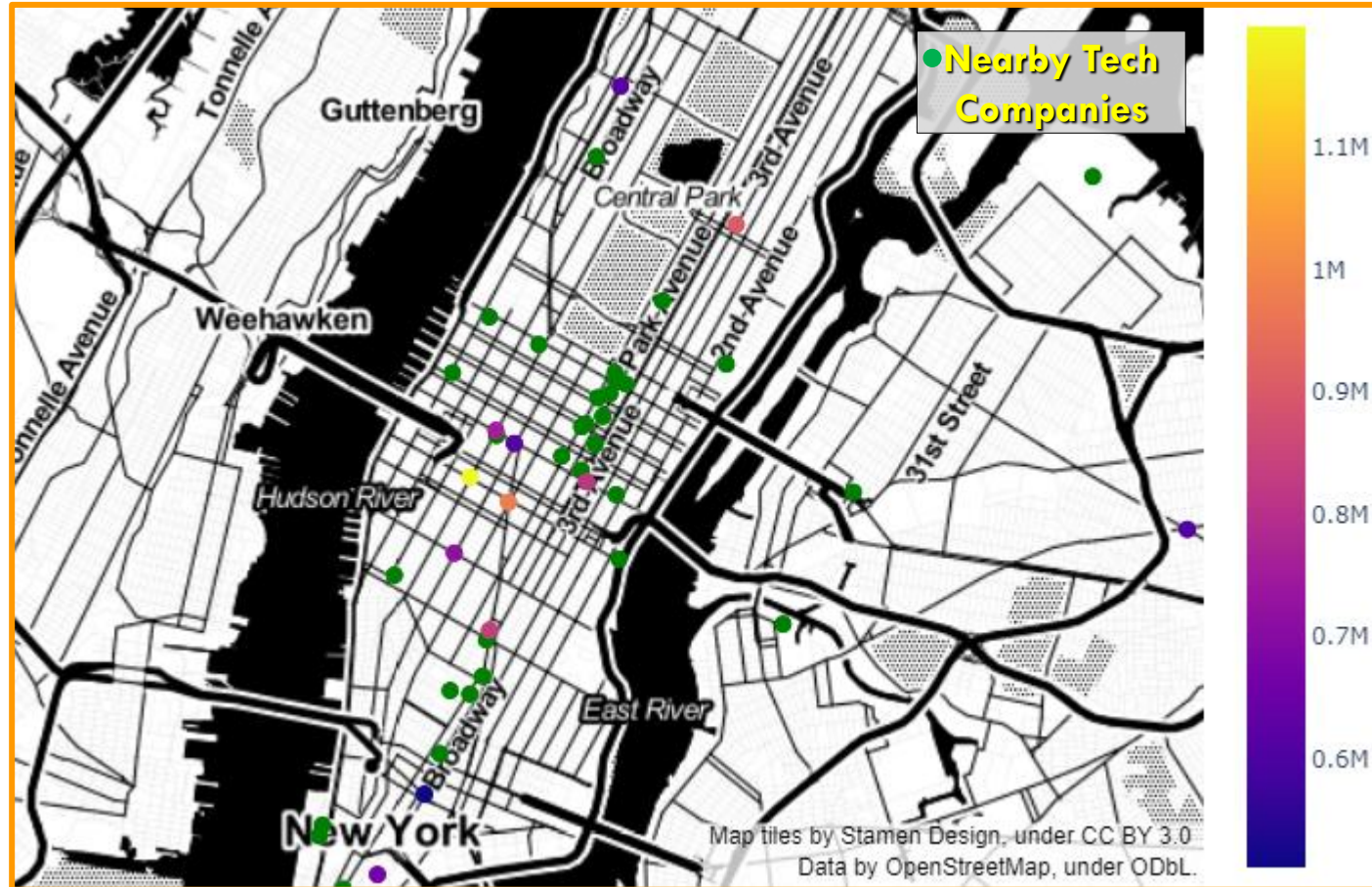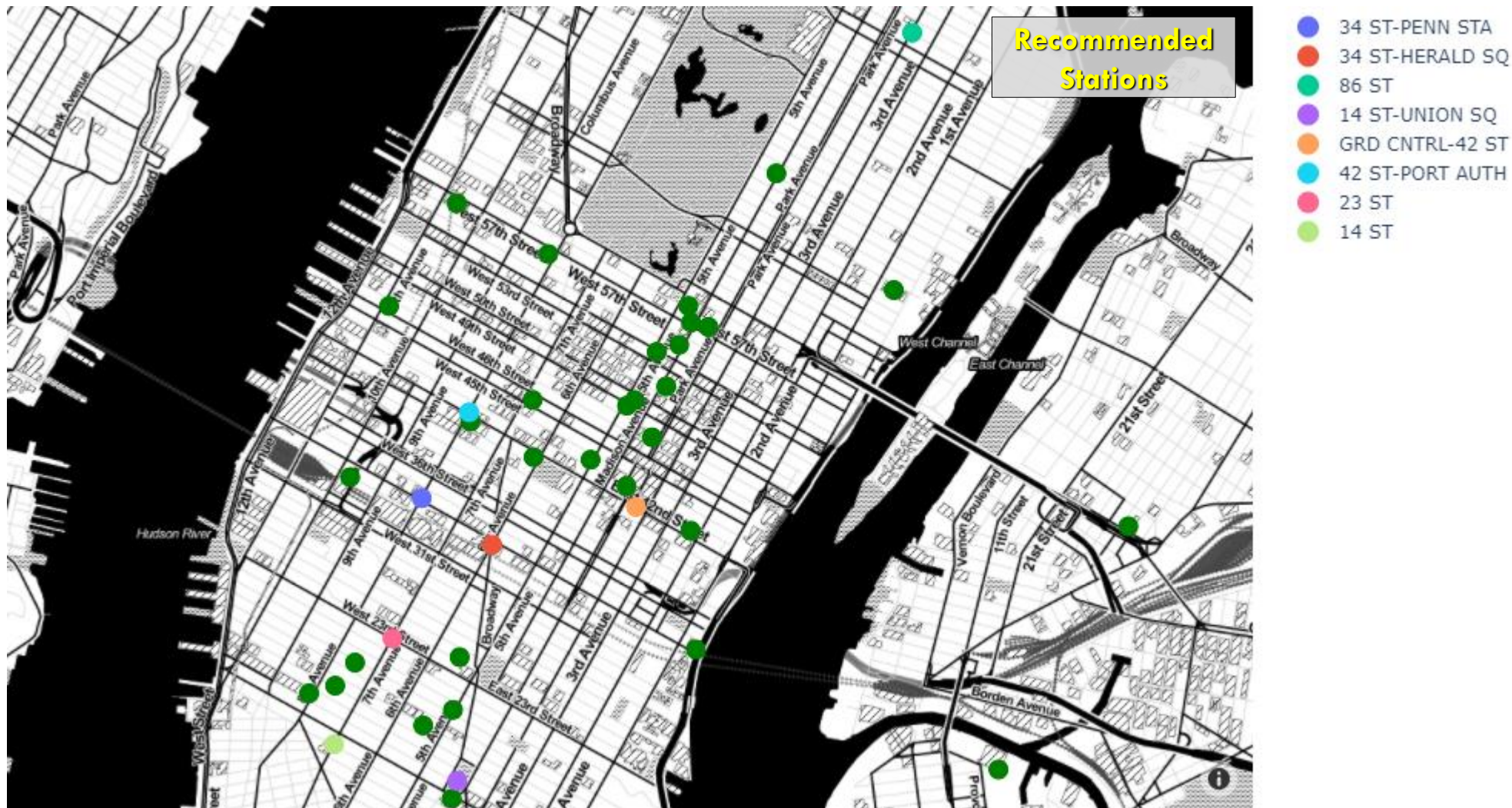
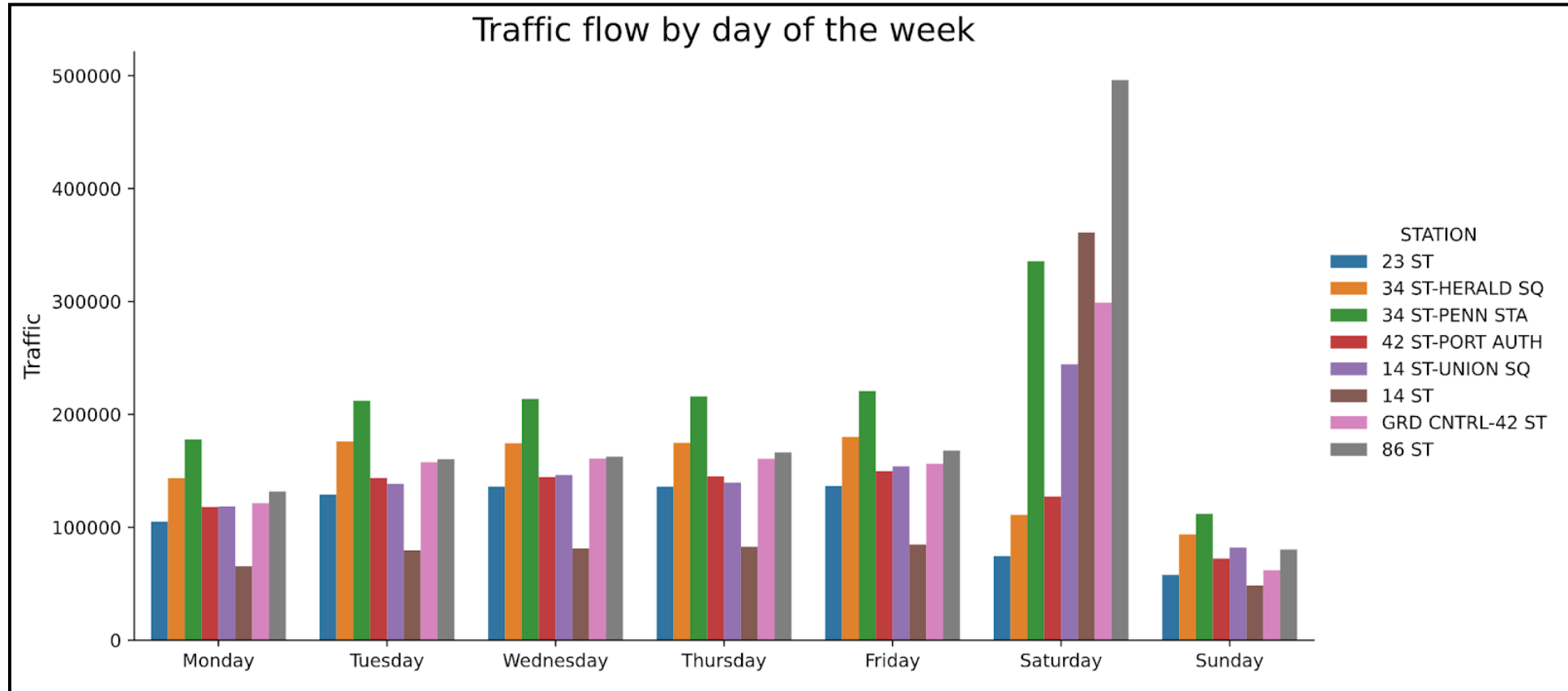# VISUALIZING SPATIAL DISTRIBUTIONS

VISUALIZING SPATIAL DISTRIBUTIONS

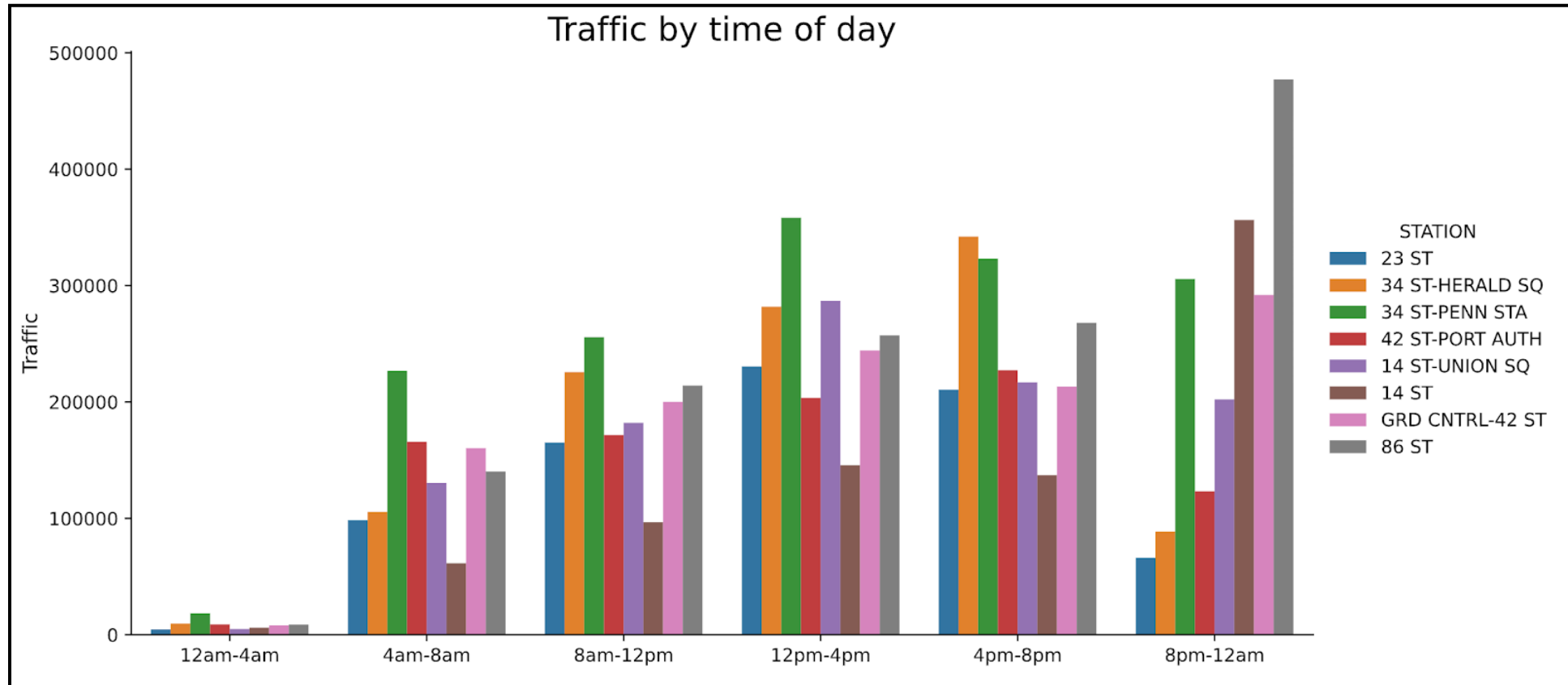# VISUALIZING SPATIAL DISTRIBUTIONS

VISUALIZING SPATIAL DISTRIBUTIONS

VISUALIZING IN TERMS OF DAY OF THE WEEK

Traffic flow by day of the week

- Varying traffic flow for different day of the week
- Stations that have proximity to cultural areas or allows transit to other cultural part of the city have high weekend traffic flow

VISUALIZING IN TERMS OF TIME OF DAY

- 12pm-8pm is the most trafficked time of the day
- 8pm-12pm is most trafficked for stations that have close proximity to museums/art galleries
  - 14 ST proximate to Whitney Museum of American Art
  - 86 ST proximate to Metropolitan Museum of Art

RECOMMENDATIONS

- Deploy two strategies: one for weekdays and one for weekends
    - Traffic generators around each station are weekday- and weekend-dependent
    - E.g. 34th St-Penn Station and 14 St-Union Sq are proximate to tech hubs, offices (weekdays)
    - E.g. 86th St proximate to Museum Mile, Central Park (weekends)

- High traffic stations to target with each strategy:
    - Weekday stations:
        - 34th St-Herald Sq, 42nd St-Port Authority, 14th St-Union Station, St, 23rd St
        - Higher traffic on weekdays aligns with proximity to business/tech hubs incl. Flatiron area
    - Weekend stations:
        - 34th St-Penn Station, Grand Central-42nd, 86th St, 14th St
        - Higher traffic on weekends aligns with proximity to cultural institutions and regional rail network
- Target time slots for deployment with each strategy
    - Weekday stations: 12pm-8pm (lunch hour for professionals, commutes from work in business areas)
    - Weekend stations: 8pm-12am (museums/galleries, daytrips in/out of city)

FUTURE WORK

- Assess sign-up rates of street teams during the week vs. weekends early on to prioritize limited resources later on

- Feasibility planning after COVID-19 (event logistics, lead times for booking, venue capacity, gathering limitations, etc.)

- Social media presence: considerations for a wider audience

- Evaluating impact of Awareness Programs for K-12 schools
  - Value of networking and fundraising through parents of students

APPENDIX