WOMENTECHWOMENYES (WTWY) Street Team Recommendations

Walter Tyrna - Metis - 17 Sept 2021

Overview

- Explore problem
- Review data, tools, methodology
- Present findings

Problem

How can WTWY place their street teams to most effectively gather email addresses to:

- Spread awareness of the organization
- Gain attendees to their gala
- Gain financial contributors

Considerations:

- The street teams are limited in size and time, need to engage one-on-one with individuals
- Subway riders need to be open to WTWY's message and, in some cases, be able to donate

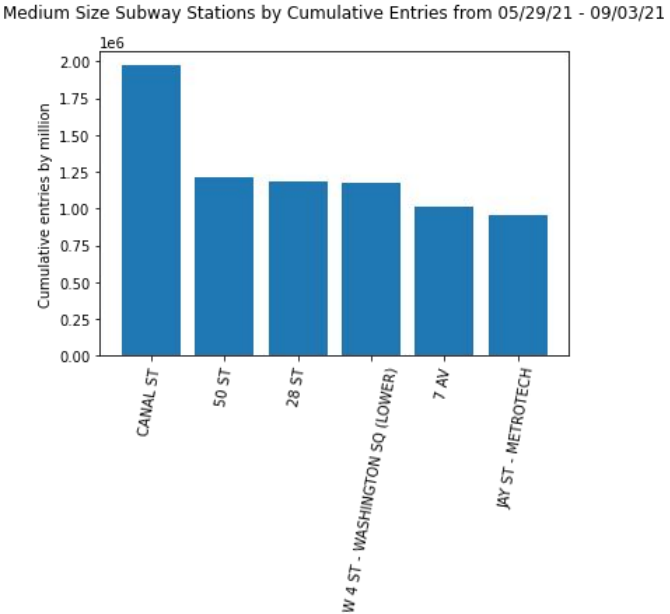
Methodology & Tools

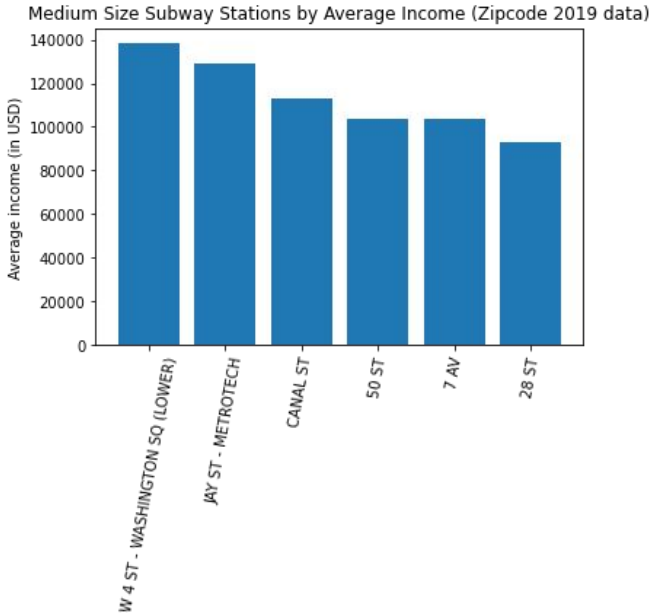
Step	DATA	TOOLS	GOALS
1	MTA Subway Data (mta.info) **data from late May to early Sept, to coincide with increased vaccine distirbution	SQL Pandas	1) Determine stations with most entries/exits 2) Determine mid-sized stations → *Highlights stations manageable for street teams*
2	MTA Subway Data Subway Location Data (opendatanyc) Census Economic Data (2019 census)	SQL Pandas Geopy	1) Find zip codes for each station 2) Match zip codes w/ economic data 3) Filter by 50% percentile average incomes → *Reveals higher income riders/ potential donors*
3	Subway Location Data University Location Data (opendatanyc) Whole Foods/ Trader Joe's Location Data (google maps)	Pandas Fiona Folium	1) Map subway, university, store locations 2) Determine which subways have closest access to key locations → *Determine locations where individuals may be interested in technology and gender issues*
4	MTA Subway Data	Matplotlib	1) Create time series chart based on recommended stations → Highlights which days are best for street teams at a given station

Findings & Recommendations

STATION	DAILY_ENTRIES	DAILY_EXITS	SCP	Zip Code	NAME	LINE	lon	lat	coord	Average Income
CANAL ST	1972467.0	2482412.0	32	10013	Canal St	4-6-6 Express	-74.0001929	40.718803	40.718803, -74.0001929	113191
W 4 ST - WASHINGTON SQ (LOWER)	1176641.0	1849908.0	19	10011	W 4th St - Washington Sq (Lower)	B-D-F-M	-74.0003081	40.7322544	40.7322544, -74.0003081	138272
50 ST	1211822.0	1514622.0	21	10019	50th St	1-2	-73.9838489	40.761727	40.761727, -73.9838489	103792
7 AV	1010586.0	1304411.0	13	10019	7th Ave	B-D-E	-73.9816978	40.762970	40.762970, -73.9816978	103792
28 ST	1182831.0	1690005.0	28	10001	28th St	N-Q-R-W	-73.9886980	40.745453	40.745453, -73.9886980	92840
JAY ST - METROTECH	951330.0	1039556.0	29	11201	Jay St - MetroTech	A-C-F	-73.9872181	40.6924706	40.6924706, -73.9872181	129248

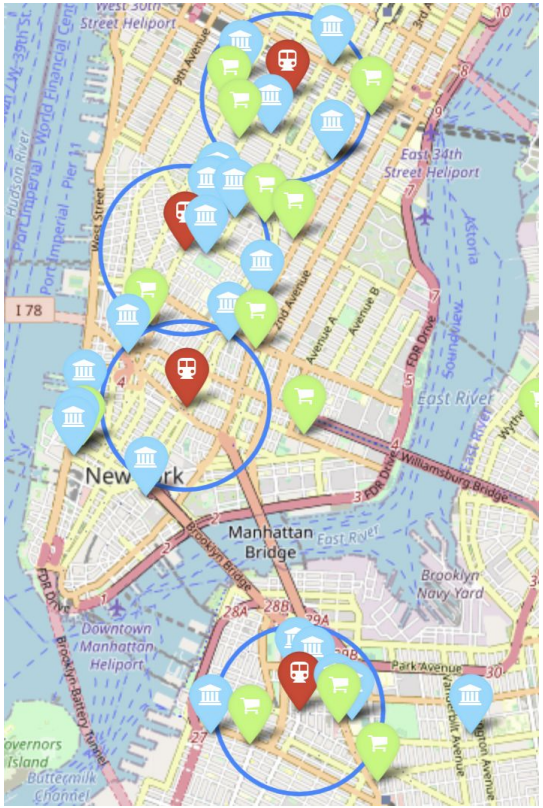
Findings & Recommendations



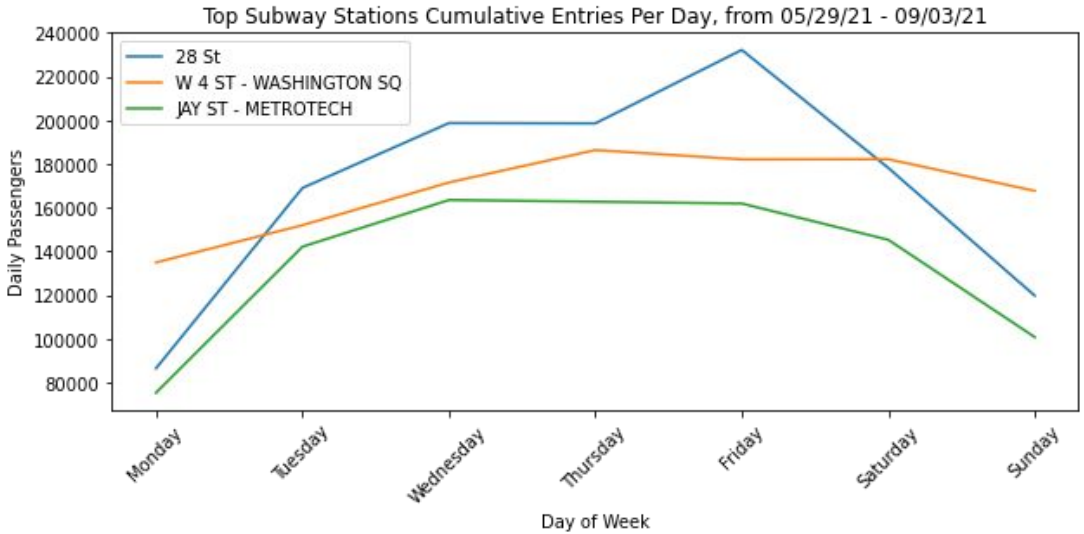


Findings & Recommendations (con't)

- Of the stations recommended, only three were in 0.5 mi of universities and higher quality grocery stores (from north to south):
  - 28 ST
  - W 4 ST - Washington SQ
  - Jay ST - Metrotech



Findings & Recommendations (con't)



- 28th ST is the busiest station almost daily.
- W 4th ST is busier on Mondays, Saturdays, and Sundays.
- Jay ST is the least busy throughout the week, but it's proximity to universities may yield better candidates.

Assumption: Because the stations largely maintain their daily cumulative entries, hourly data would be similar.

Summary

- Sorting the stations alone does not address the nuances of human-scale, hard demographic factors (income), and soft demographic factors (openness to WTWY's mission).
- Filtering for street team manageability, and demographic factors, we recommend:
    - Canal St
    - W 4th St - Washington Sq
    - 50th St
    - 7th Av
    - 28th St
    - Jay St - Metrotech
- However, geographic information informed our ultimate recommendations to WTWY:
    - W 4th St - Washington Sq
    - 28th St
    - Jay St - Metrotech

Discussion

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