Recommendations on WTWY NYC Public Outreach

**Based on MTA Subway Turnstile Data 2019~2021**

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Overview

In light of the request to support WomenTechWomenYes ("WTWY") annual summer gala marketing efforts in New York City, the best locations and times to maximize exposure to public were identified based on analyzing the subway turnstile data published by MTA ("[MTA data](#)").

Specifically, entries recorded generally at 4-hour intervals by NYC subway turnstiles between January and July of 2019, 2020 and 2021 were analyzed. Assuming New Yorkers are less engaging during their commute, certain parts of this analysis focuses on data between 10am and 4pm.

We recommend a 1 week street marketing effort outlined in the schedule enclosed later in this presentation.

When do New Yorkers move around?

Median traffic levels at NYC subway turnstiles (entries)
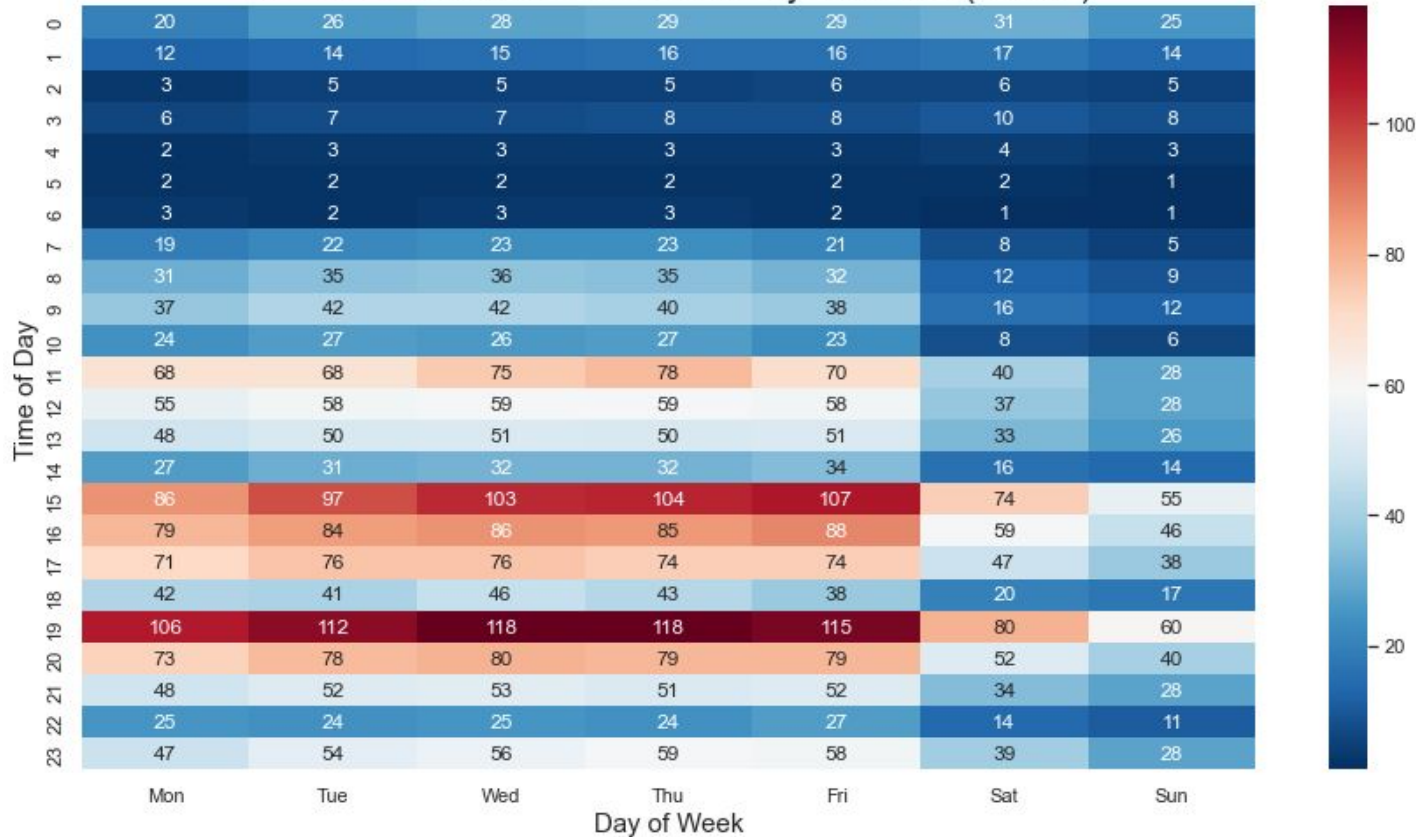
- NYC subway traffic level increases during daytime, while less traffic is observed during the weekends

- Initial look at this heatmap suggest New Yorkers concentrate to certain parts of NYC throughout the early times of the day and leave those areas during the evening commute hours

When do New Yorkers move around?

Hourly traffic (entry) dispersion
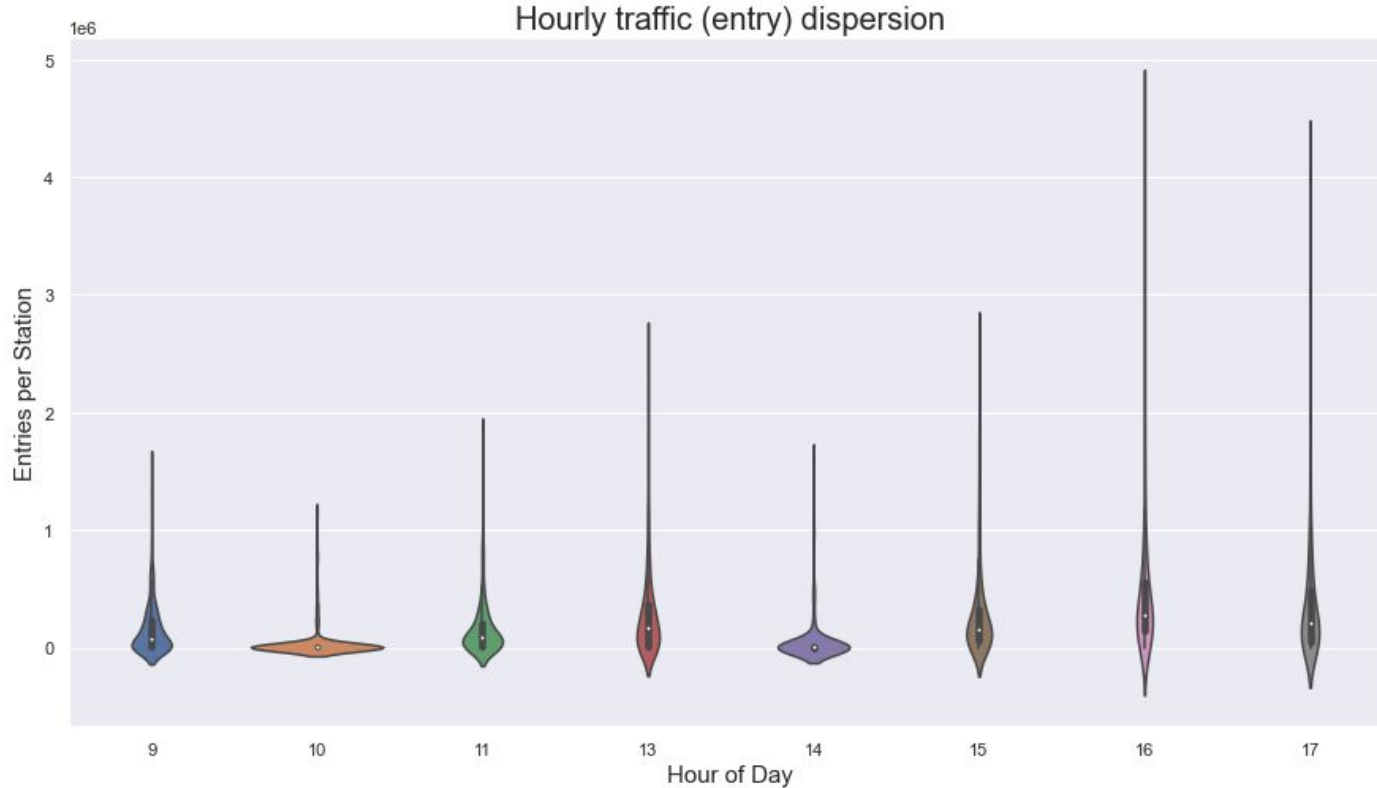
- Traffic is generally right skewed at all hours, implying few stations tend to attract a large part of NYC traffic than other stations - this is even more the case towards the evening

- Majority of the subway stations attract low levels of traffic and WTWY street team placement should rather ignore these stations for efficient marketing

Some subway entrances are more favored than others

Traffic dispersion by Control Area at the top 2 stations, Penn Station & 34th St. Herald Square
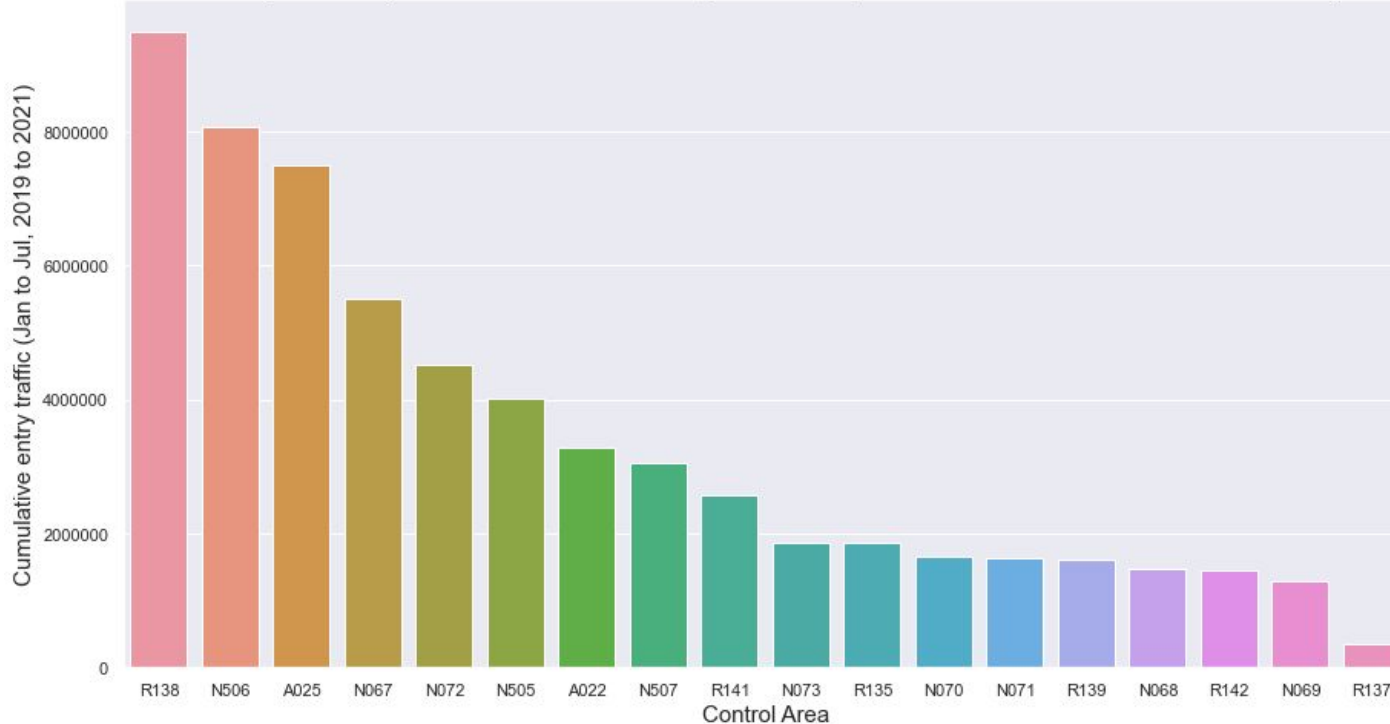
- "Control Area" is viewed as a proxy for subway entrance in this analysis

- The top 2 stations by traffic between January and July in 2019, 2020 and 2021 - Penn Station and Herald Square - have multiple entrances which record very different traffic levels, warranting the analysis to be at the Control Area level

When and where should the street teams be located?

| Place		Time		Statistics			
Station	Control Area	Day of Week	Hour of Day	Rank, by Median	Median Hourly Entry Traffic	Range	Standard Deviation
GRD CNTRL-42 ST	R238A	Mon	10	1	1,406	773	287
21 ST-QNSBRIDGE	N603	Mon	10	24	633	858	351
JKSN HT-ROOSVLT	N324	Mon	10	26	623	921	279
CANAL ST	A066	Mon	16	10	761	1,139	321
14 ST-UNION SQ	A037	Mon	16	19	672	1,048	281
YORK ST	N530	Mon	16	30	607	971	285
GRD CNTRL-42 ST	R238A	Tue	10	2	1,336	714	258
QUEENSBORO PLZ	R509	Tue	10	23	634	835	297
CANAL ST	A066	Tue	16	12	742	1,138	317
14 ST-UNION SQ	A037	Tue	16	14	740	1,116	299
YORK ST	N530	Tue	16	25	628	859	267
23 ST	R131	Tue	16	27	622	868	264
34 ST-HERALD SQ	A025	Wed	10	29	611	850	308
CANAL ST	A066	Wed	16	7	769	891	299
14 ST-UNION SQ	A037	Wed	16	13	741	932	301
YORK ST	N530	Wed	16	18	680	901	287
23 ST	R131	Wed	16	22	652	845	266

- As traffic levels fluctuate by time windows and also differ for each subway entrances, we analyzed for every "place & time" combinations

- This part of the analysis considers only traffic between 10am and 4pm

- Grand Central Station's R238A entrance ranked the first, second and third against all other "time & places"

When and where should the street teams be located?

Place		Time		Statistics			
Station	Control Area	Day of Week	Hour of Day	Rank, by Median	Median Hourly Entry Traffic	Range	Standard Deviation
CANAL ST	A066	Thu	16	6	773	940	306
14 ST-UNION SQ	A037	Thu	16	9	765	1,098	307
23 ST	R131	Thu	16	20	666	903	267
YORK ST	N530	Thu	16	21	664	1,166	300
GRD CNTRL-42 ST	R238A	Fri	10	3	1,262	850	313
42 ST-PORT AUTH	N063A	Fri	10	4	1,079	1,269	537
86 ST	R250	Fri	10	15	726	655	247
14 ST-UNION SQ	A037	Fri	16	5	824	1,156	343
CANAL ST	A066	Fri	16	8	768	1,029	334
YORK ST	N530	Fri	16	11	747	1,065	325
23 ST	R131	Fri	16	17	706	977	300

- The station entrances colored in red have high number of coworking spaces, higher education facilities, and/or tech companies in the vicinity which may indicate higher concentration of those who are relevant for WTWY's causes

- Our recommendation is to have 3-4 street teams available each day covering the respective entrances at 10am and 4pm

When and where should the street teams be located?

Daily entry traffic per turnstile from 2019 to 2020
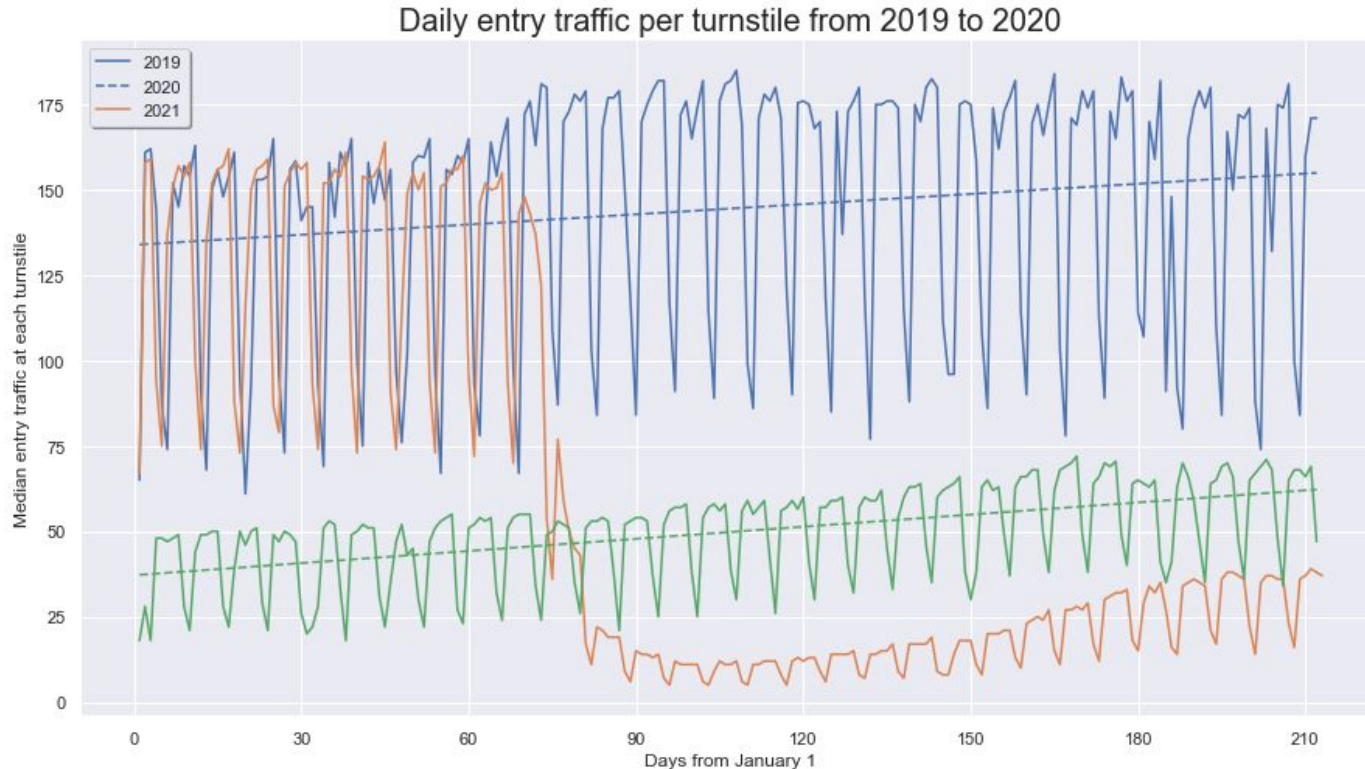
- For both 2019 and 2021, subway traffic generally tends to increase from the cold January to hot July in NYC

- While we expect COVID-19 restrictions or pick up in the variants to be able to derail this trend, as seen in 2020, launching the public outreach in Q2 is more recommended

Q&A