

Determining Locations for NYC Ballot Drop Boxes

Chan, Natural

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Introduction

- New York Senate passed legislation S.492, authorizing the Board of Elections to establish absentee ballot drop boxes in the state.
- Goal is to minimize drop boxes needed while increasing voter turnout by determining where to place the drop boxes.
- Use MTA turnstile data to identify stations with the highest foot traffic and then determine nearby government (public libraries, parks, schools, etc.) locations to place the drop boxes.



Methodology

- Election Day occurs on the first Tuesday following the first Monday of November. Early voting begins 10 days before Election Day.
- Observe the election years 2016, 2018, and 2020 to compare Presidential and Midterm Elections as well as pandemic and pre-pandemic years.

Methodology

- Each row consists of values that identify a unique turnstile as well as the station, date, time, and cumulative number of entries/exits.
- For our purposes, the most important columns are the station, date, time, entries, and exits.

C/A	UNIT	SCP	STATION	LINENAME	DIVISION	DATE	TIME	DESC	ENTRIES	EXITS
R325	R388	00-00-01	E 180 ST	25	IRT	10/22/2018	17:00:00	REGULAR	12898754	8650381
C021	R212	00-00-02	59 ST	NRW	BMT	10/27/2020	12:00:00	REGULAR	195268	145193
N139	R355	00-00-02	111 ST	A	IND	10/26/2016	01:00:00	REGULAR	156013	26871
B020	R263	00-05-02	AVENUE H	BQ	BMT	10/08/2020	08:00:00	REGULAR	535954	698366
R231	R176	00-00-00	33 ST	6	IRT	11/01/2018	21:00:00	REGULAR	5411014	4098551

Methodology

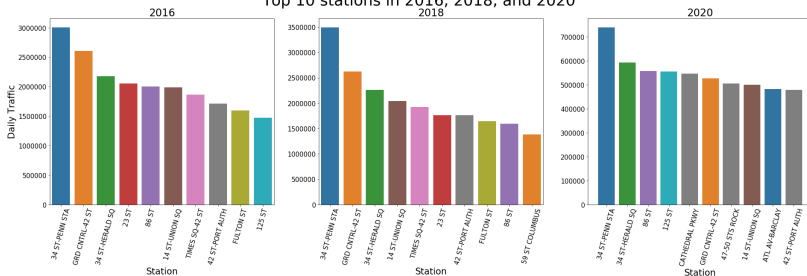
- Split the data into their respective years
- Change the cumulative entries/exits to a daily value and sum the two into a new column named Daily Traffic.
- Sum up Daily Traffic values by station

C/A	UNIT	SCP	STATION	DATE	DAILY_TRAFFIC
R183	R260	00-00-01	181 ST	2016-11-01	4718.0
A038	R085	00-00-04	8 ST-NYU	2016-11-02	2354.0
N549	R242	00-00-02	18 AV	2016-10-31	509.0
N334B	R341	00-00-00	75 AV	2016-11-05	57.0
A046	R463	00-06-08	CANAL ST	2016-10-31	2298.0

Results

- Over these 3 years, there are only 14 unique stations that appear in the top 10
- There is not a significant difference between Presidential and Midterm Election years
- Although traffic totals are drastically different between 2020 and the other years, the top 10 stations did not differ significantly

Top 10 stations in 2016, 2018, and 2020



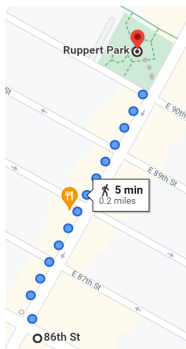
Results

- All but one of the top stations in the observed years are located in Manhattan
- Many of the stations are located in Midtown



Results

- All other stations are fairly spread out
- Some stations are located at or directly across from parks or libraries



Conclusion

- Place a ballot drop box at NYC Public Library - Stephen A. Schwarzman Building as it is within walking distance of most stations in Midtown
- Other good locations include:
 - ① Chelsea Green
 - ② Ruppert Park
 - ③ DeLury Square
 - ④ Corners of Central Park
 - ⑤ Union Square Park

Future Work

- Group stations by borough to spread out drop box locations
- Cluster some stations together to further minimize number of drop boxes needed
- Some stations were so close to parks or libraries that the drop box placements might be sub-optimal when considering other nearby stations

Questions

Questions?

Drop Box Locations

- 34 St - Penn Stat → NYC Public Library - Stephen A. Schwarzman Building
- Grd Cntrl - 42 St → NYC Public Library - Stephen A. Schwarzman Building
- 34 St - Herald Sq → NYC Public Library - Stephen A. Schwarzman Building
- 23 St → Chelsea Green
- 86 St → Ruppert Park
- 14 St - Union Sq → Union Square Park
- Times Sq - 42 St → NYC Public Library - Stephen A. Schwarzman Building

Drop Box Locations

- 42 St - Port Auth → NYC Public Library - Stephen A. Schwarzman Building
- Fulton St → DeLury Square
- 125 St → Marcus Garvey Park
- 59 St Columbus → Maine Monument (Central Park)
- Cathedral Parkway → Central Park
- Grand Central → 42 Street
- 47-50 STS Rock → NYC Public Library - Stephen A. Schwarzman Building
- ATL AV - Barclay → Brooklyn Public Library - Pacific Branch