



Project Benson

Grassroots Political Activism in NYC
DEDE Associates Group (Pty) Ltd.
Diane, Edward, Davis, & Emy





Quick Outline of the Presentation (tl;dr)



1. Backstory

The client, the problem, and the data



2. Methodology

The data cleansing and filtration process



3. Results

The best stations based on borough, week day, and time



1. The Backstory

News Headlines

“

“Mayor de Blasio won reelection as city’s dwindling voter turnout hit new low”

- Greg Smith, New York Daily News 11/8/2017

“Forty Years of Freefall in New York Voter Turnout”

- Nicholas Jahr, Gotham Gazette 11/13/2014



The Client & the Backstory



- Project VOTE is a political activism non-profit NGO
- They're looking to expand their reach in NYC but they are not sure where to focus their efforts
- They want NYC street locations where volunteers can hand out flyers



The Proposal



- DEDE Associates will propose the **best metro station locations**
- We'll use MTA turnstile data and some external data too
- We'll **limit to one borough** for our initial proposal

Using factors that drive foot traffic (day of week, # of turnstiles, etc.) we'll identify the busiest stations for handing out flyers



2. The Methodology



The Methodology

- Find the borough with the **highest unregistered voter count**
- Compute **total traffic for each station per day of the week** across the survey period (the N months leading to registration deadline)
- For each day of the week find the **top N stations** for the relevant borough ⁽¹⁾
- Determine the **team size for each station** ⁽²⁾
- Compile the recommendation table

Notes:

- (1) Could not find a way to programmatically map station names from turnstile files to boroughs; this was done by hand by displaying top 5*N stations and by scanning down the list using Google maps to determine the borough until top N were found.
- (2) We used the number of turnstiles as an indication for the team size, assuming that one volunteer could handle the stream of people going through 2 turnstiles.



3. The Results



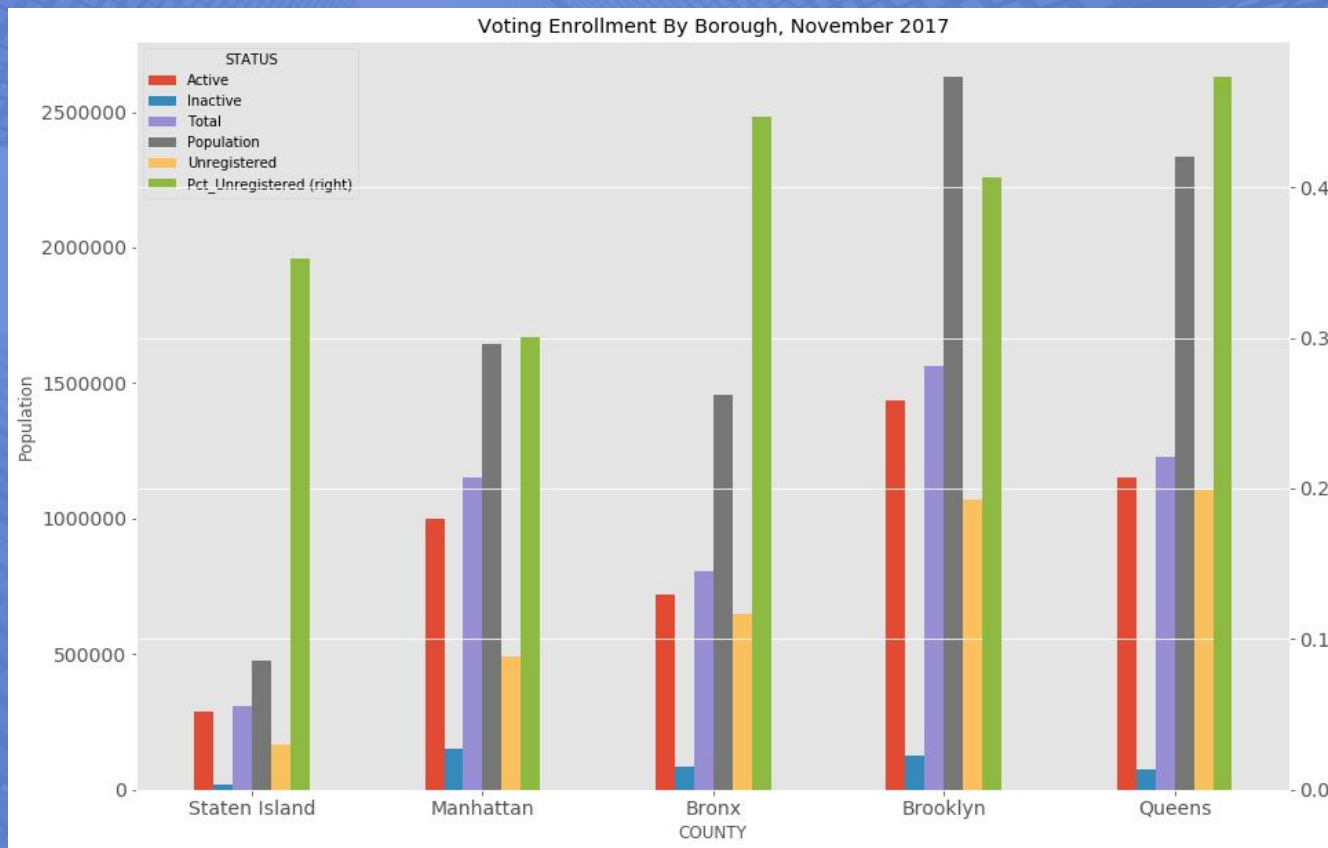
Voter Registration by Borough

STATUS	Active	Inactive	Total	Population	Unregistered	Pct_Unregistered
COUNTY						
Bronx	718302	87080	805382	1455720	650338	0.45
Brooklyn	1434091	126748	1560839	2629150	1068311	0.41
Manhattan	1001014	149357	1150371	1643734	493363	0.30
Queens	1154262	74760	1229022	2333054	1104032	0.47
Staten Island	289144	19084	308228	476015	167787	0.35
Total	4596813	457029	5053842	8537673	3483831	0.41



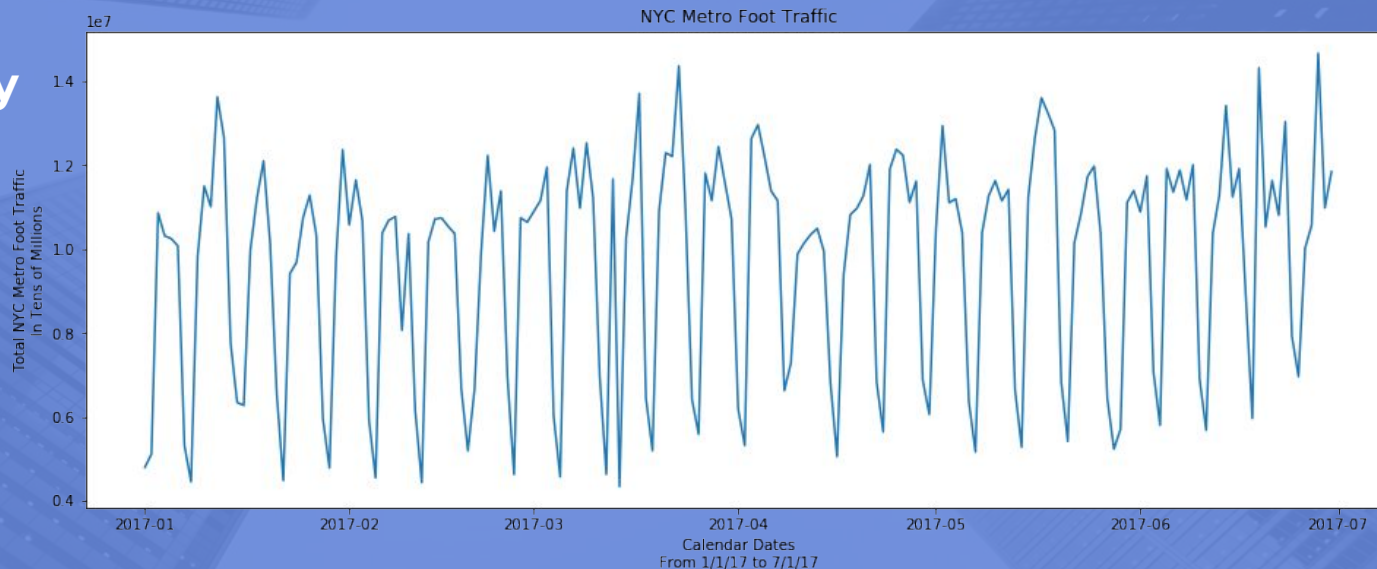
The Boroughs

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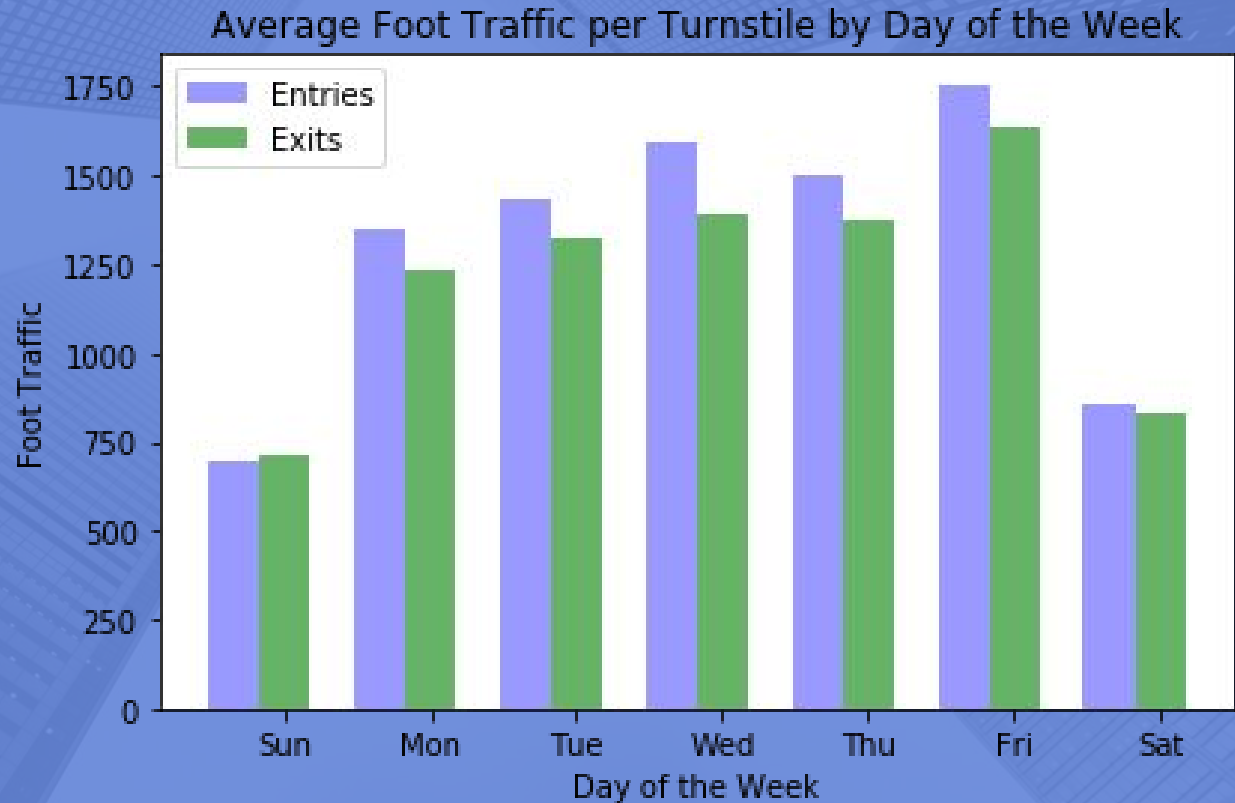


Foot Traffic Calendar Day Trend





Weekday Foot Traffic





Best Queens Stations by Weekday

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Day Of The Week	Station	Traffic by Day	Number Of Turnstiles	Team Size
Monday	MYRTLE-WYCKOFF LM	161937	13	7
	JUNCTION BLVD 7	139524	12	6
	JAMAICA CENTER EJZ	139154	21	11
Tuesday	MYRTLE-WYCKOFF LM	168341	13	7
	JAMAICA CENTER EJZ	149962	21	11
	QUEENSBORO PLZ 7NQW	143222	6	3
Wednesday	MYRTLE-WYCKOFF LM	173758	13	7
	JAMAICA CENTER EJZ	157986	21	11
	QUEENSBORO PLZ 7NQW	152277	6	3
Thursday	MYRTLE-WYCKOFF LM	169631	13	7
	QUEENSBORO PLZ 7NQW	147518	6	3
	JUNCTION BLVD 7	148913	12	6
Friday	MYRTLE-WYCKOFF LM	167638	13	7
	WOODHAVEN BLVD MR	155168	11	6
	JUNCTION BLVD 7	145014	12	6



Best Queens Stations by Weekend

Day Of The Week	Station	Traffic by Day	Number Of Turnstiles	Team Size
Saturday	MYRTLE-WYCKOFF LM	141707	13	7
	WOODHAVEN BLVD MR	117732	11	6
	QUEENSBORO PLZ 7NQW	113384	6	3
Sunday	MYRTLE-WYCKOFF LM	114441	13	7
	QUEENSBORO PLZ 7NQW	87899	6	3
	WOODHAVEN BLVD MR	84912	11	6



Best Queens Stations by Weekend, Weighted

Turnstiles taken into account as a proxy measurement for size of station and number of access points

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Day Of The Week	Station	Traffic by Day, Weighted	Number Of Turnstiles	Team Size
Monday	QUEENSBORO PLZ 7NQW	46223	6	3
	ASTORIA DITMARS NQW	32598	8	4
	JAMAICA VAN WK E	32259	7	4
Tuesday	QUEENSBORO PLZ 7NQW	47741	6	3
	ASTORIA DITMARS NQW	35349	8	4
	JAMAICA VAN WK E	34574	7	4
Wednesday	QUEENSBORO PLZ 7NQW	50759	6	3
	ASTORIA DITMARS NQW	36961	8	4
	JAMAICA VAN WK E	35590	7	4
Thursday	QUEENSBORO PLZ 7NQW	49638	6	3
	ASTORIA DITMARS NQW	36520	8	4
	JAMAICA VAN WK E	35563	7	4
Friday	QUEENSBORO PLZ 7NQW	45848	6	3
	ASTORIA DITMARS NQW	35113	8	4
	JAMAICA VAN WK E	33192	7	4



Best Queens Stations by Weekend, Weighted

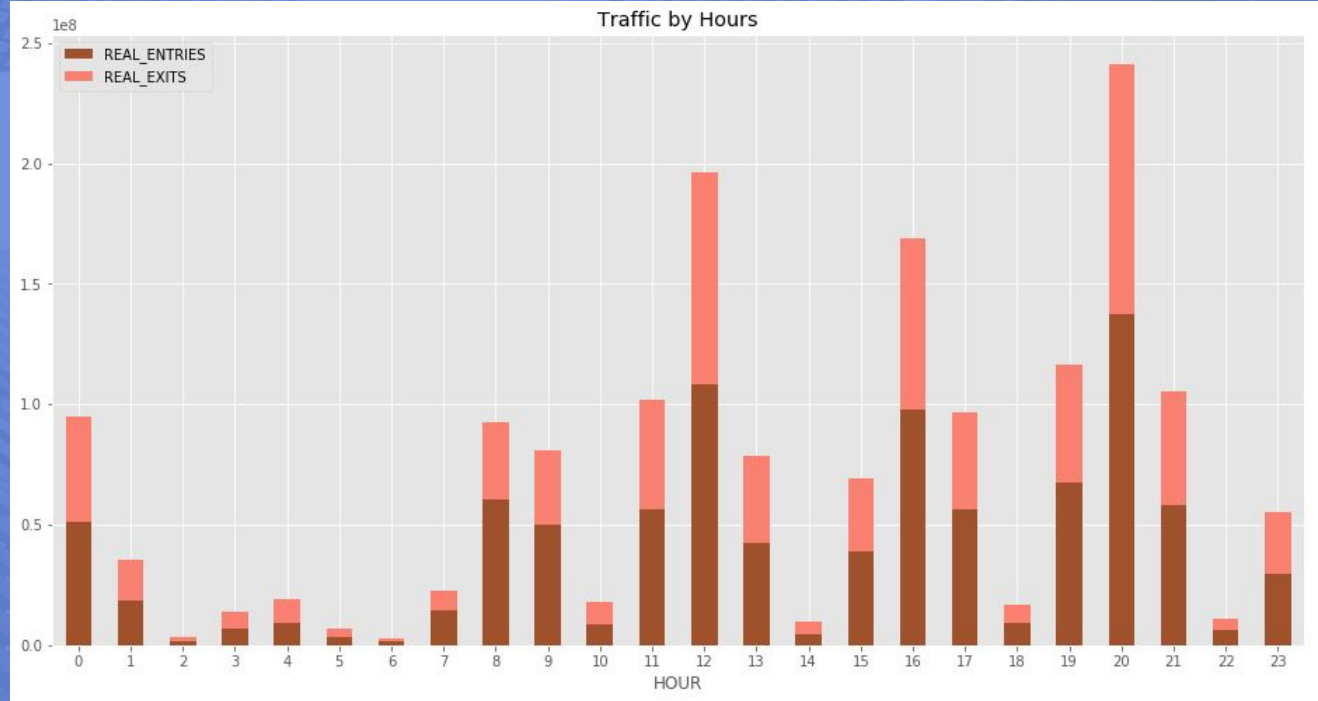
Day Of The Week	Station	Traffic by Day, Weighted	Number Of Turnstiles	Team Size
Saturday	QUEENSBORO PLZ 7NQW	37795	6	3
	JAMAICA VAN WK E	28035	7	4
	MYRTLE-WYCKOFF LM	20244	13	7
Sunday	QUEENSBORO PLZ 7NQW	29300	6	3
	JAMAICA VAN WK E	20930	7	4
	MYRTLE-WYCKOFF LM	16349	13	7

Impact

- By taking into account the unique turnstiles count, we can consider how easy it will be to engage each citizen because there will be greater opportunity for one volunteer to talk with the commuter.
- This could allow a volunteer team to do more work with smaller resources, leading to a more efficient use of their time and effort!



Highest Foot Traffic by Time of Day



Our Conclusion



Next Steps

- Build out a web application for Project VOTE
- Other NGO's focusing on minority outreach using demographic data



Contact Us

Diane

- Diane@dede.org

Emy

- Emy@dede.org

Davis

- Davis@dede.org

Edward

- Ed@dede.org





Sources

- MTA Traffic Dataset – <http://web.mta.info/developers/download.html>
- Voter Registration Dataset – <http://www.elections.ny.gov/enrollmentcounty.html>
- Project Vote Information – <http://www.projectvote.org/>
- Population Data from 2016 Census Bureau Estimates (Posted by the Department of Labor) - <https://data.ny.gov/Government-Finance/Annual-Population-Estimates-for-New-York-State-and/krtg-ymzk/data>
- MTA NYC Subway map - http://web.mta.info/maps/Large_Print_Map.pdf
- News Headlines:
<http://www.gothamgazette.com/index.php/government/5432-forty-years-of-freefall-in-new-york-voter-turnout>
<http://www.nydailynews.com/news/politics/nyc-dwindling-voter-turnout-hits-new-article-1.3620122>