WTWY
Street Team
Deployment Analysis

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Scenario and Assumptions

Optimize WTWY street team placement

Street teams - modest headcount

Gala in early Summer

Process - MTA Turnstile Data Analysis

Import data

Clean data

- Adjust turnstile data for daily increments
- Filter outliers (ie > 99% quantile)

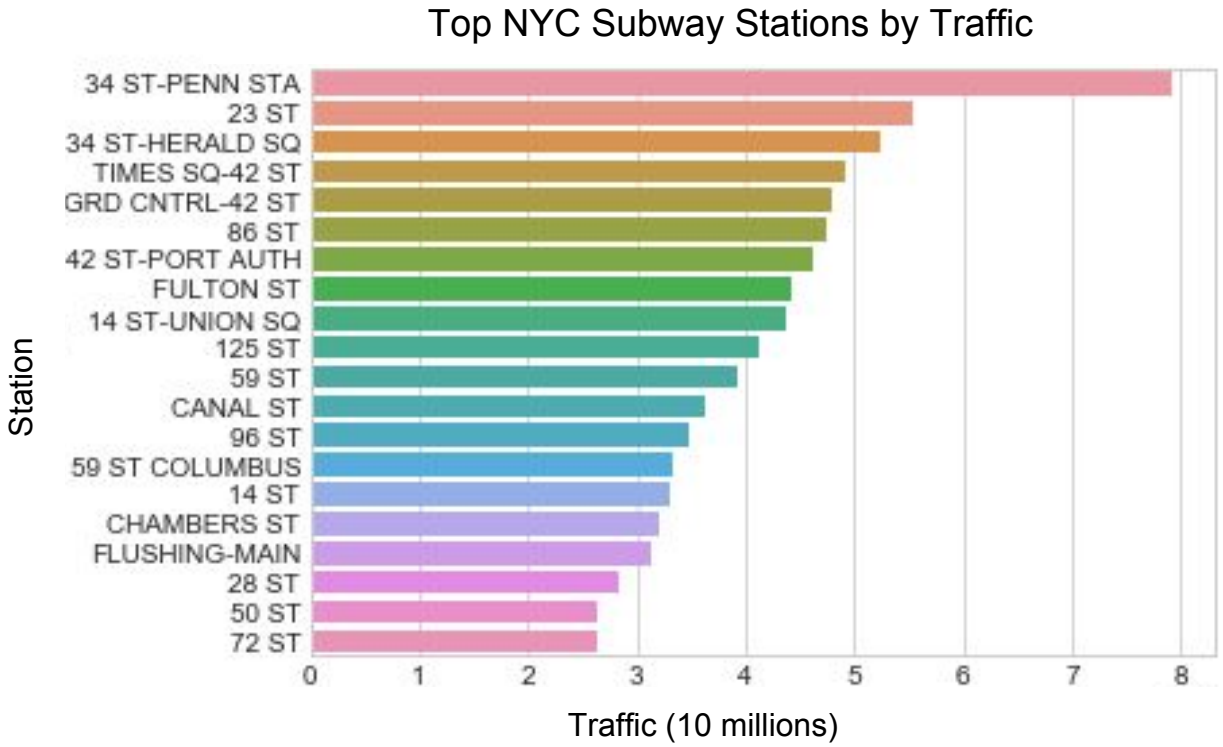
Sort by traffic

Plot time series of busiest stations

MTA Findings

Heaviest traffic in central hubs

Will further vet outliers in subsequent analysis

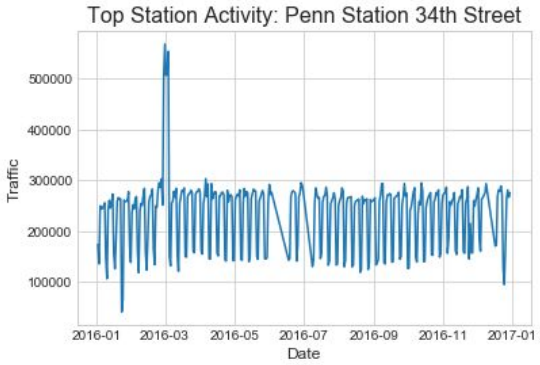


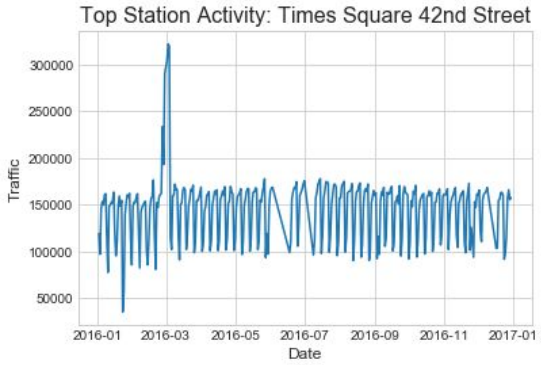
MTA Findings

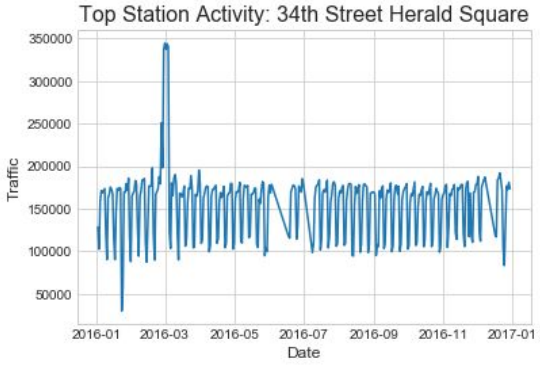
Data consistent by week and station

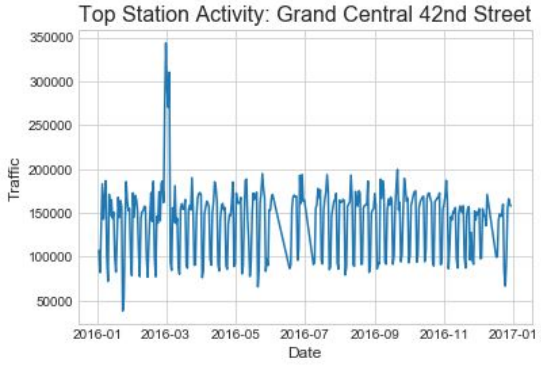
Weekend dip

To investigate March spike









Process - Demographic Data

Using American Community Survey, analyzed demographics of busiest stations

Combined with census location data

Zoomed in on highest traffic stations and close proximity to analyze average demographics

We used mapping functionality found here to map demographics

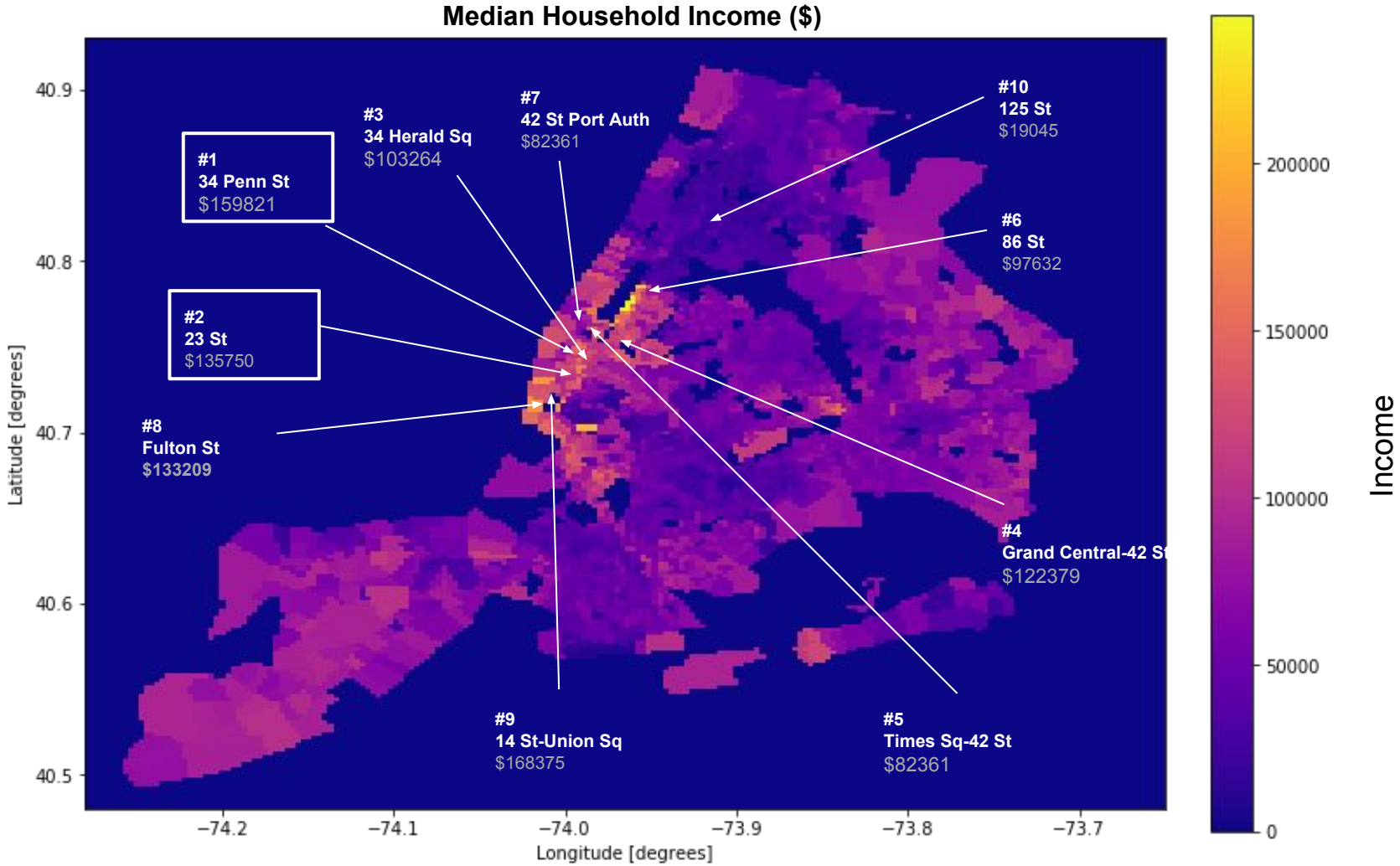
Demographic Target

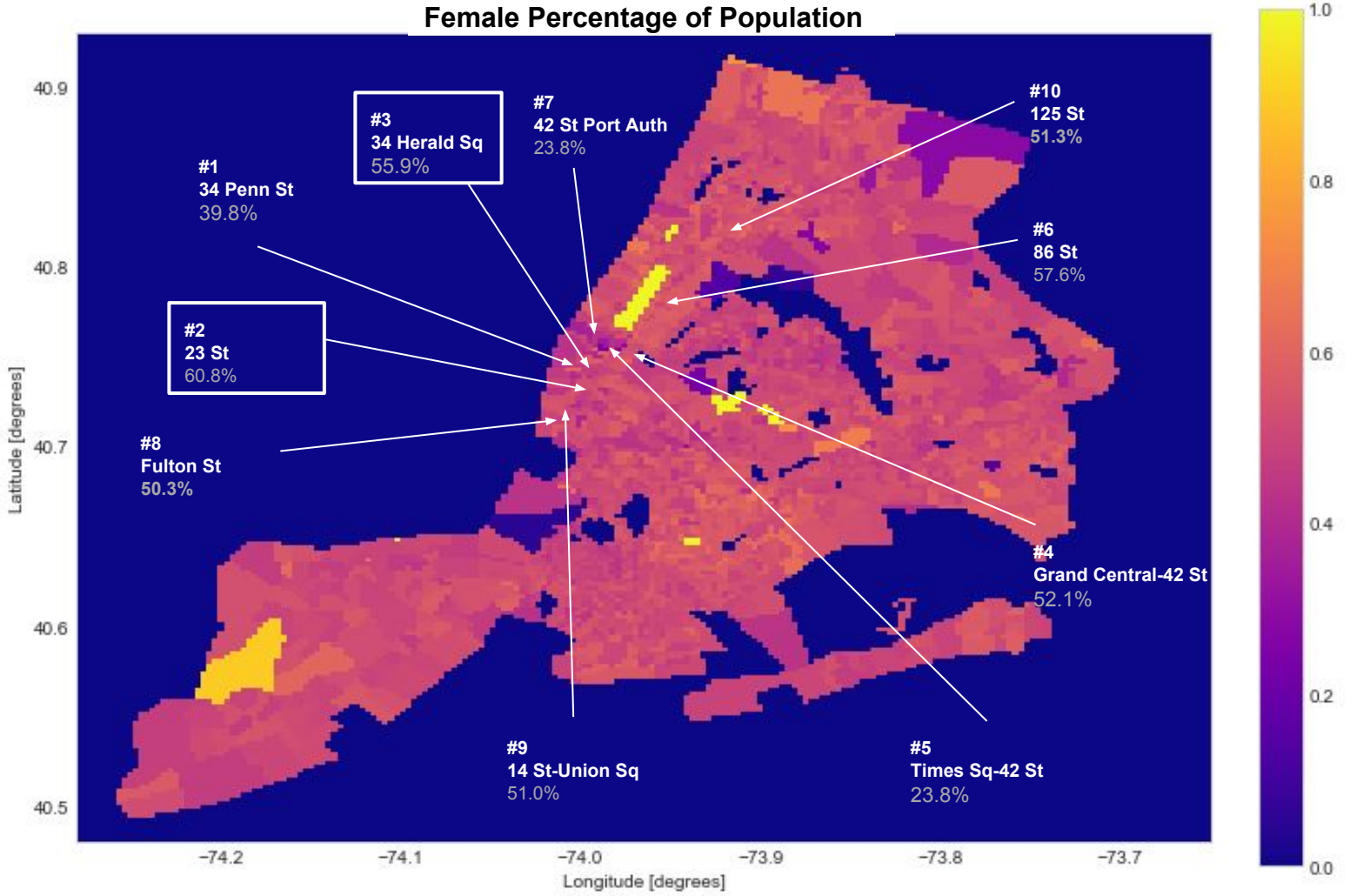
High income

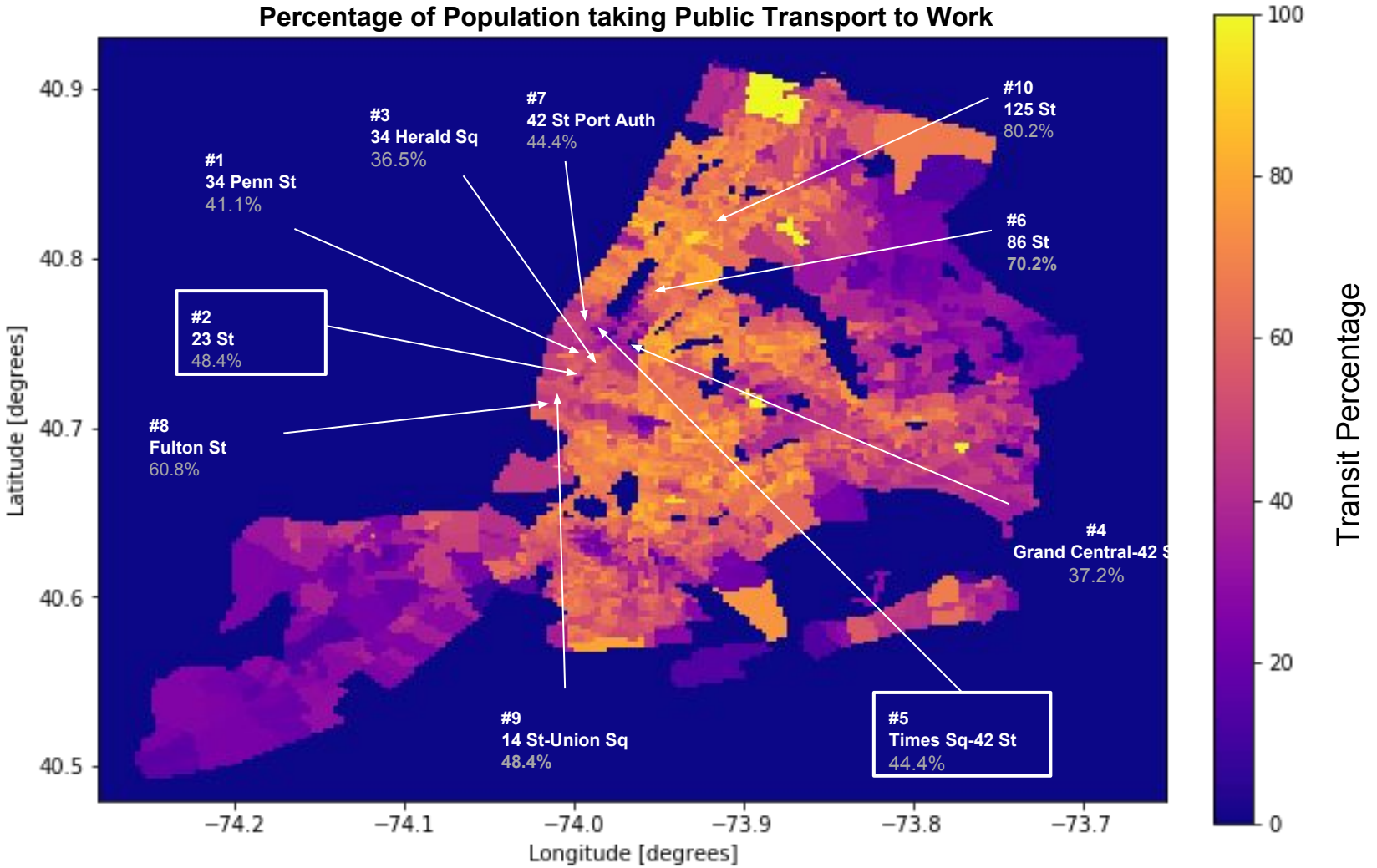
High female population

High % use the NYC Subway

Business / tech hubs


Median Household Income ($)
#1
34 Penn St
$159821
#2
23 St
$135750
#3
34 Herald Sq
$103264
#4
Grand Central-42 St
$122379
#5
Times Sq-42 St
$82361
#6
86 St
$97632
#7
42 St Port Auth
$82361
#8
Fulton St
$133209
#9
14 St-Union Sq
$168375
#10
125 St
$19045
Latitude [degrees]
Longitude [degrees]
Income
40.9
40.8
40.7
40.6
40.5
−74.2
−74.1
−74.0
−73.9
−73.8
−73.7
200000
150000
100000
50000
0


Female Percentage of Population
#1
34 Penn St
39.8%
#2
23 St
60.8%
#3
34 Herald Sq
55.9%
#4
Grand Central-42 St
52.1%
#5
Times Sq-42 St
23.8%
#6
86 St
57.6%
#7
42 St Port Auth
23.8%
#8
Fulton St
50.3%
#9
14 St-Union Sq
51.0%
#10
125 St
51.3%
Latitude [degrees]
40.9
40.8
40.7
40.6
40.5
Longitude [degrees]
−74.2
−74.1
−74.0
−73.9
−73.8
−73.7
Female Population %
1.0
0.8
0.6
0.4
0.2
0.0


Percentage of Population taking Public Transport to Work
#1
34 Penn St
41.1%
#2
23 St
48.4%
#3
34 Herald Sq
36.5%
#4
Grand Central-42 S
37.2%
#5
Times Sq-42 St
44.4%
#6
86 St
70.2%
#7
42 St Port Auth
44.4%
#8
Fulton St
60.8%
#9
14 St-Union Sq
48.4%
#10
125 St
80.2%
Latitude [degrees]
40.9
40.8
40.7
40.6
40.5
−74.2
−74.1
−74.0
−73.9
−73.8
−73.7
Longitude [degrees]
Transit Percentage
100
80
60
40
20
0

Tech Hubs

#3
34 Herald Sq

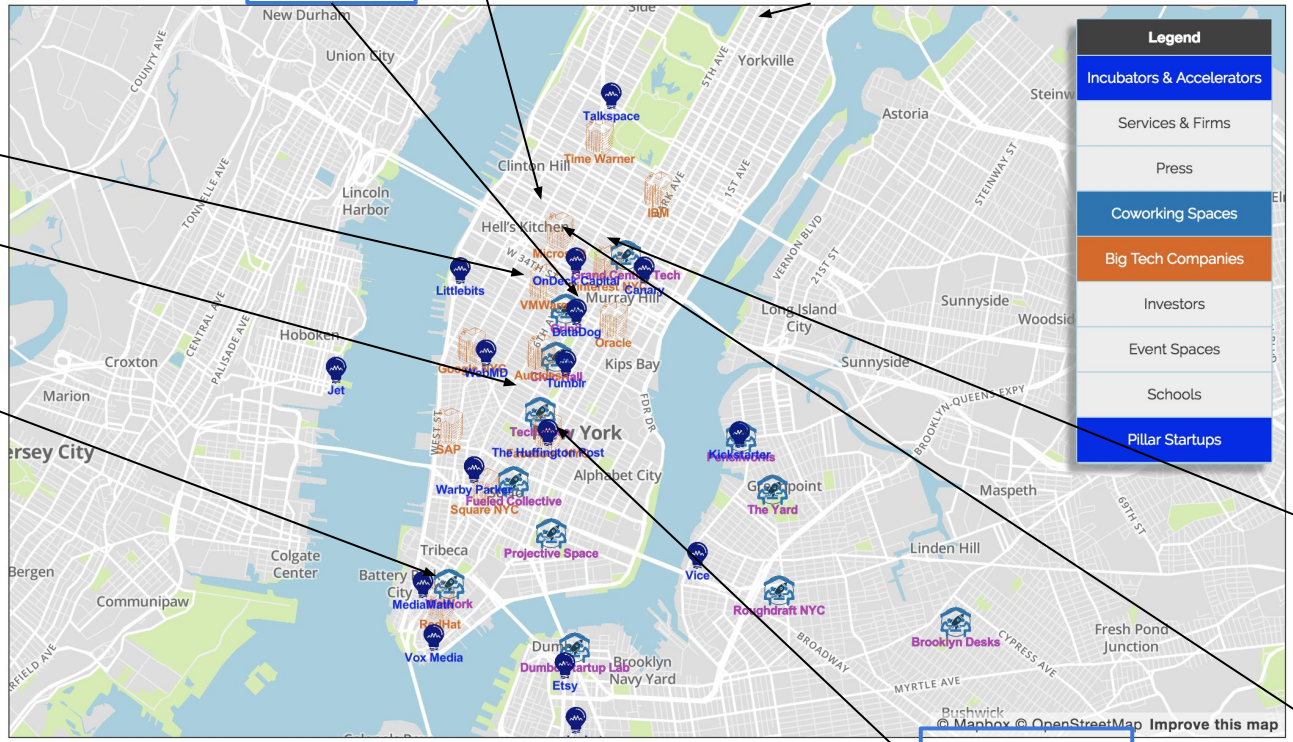
#7
42 St Port Auth

#6
86 St

#1
34 Penn St

#2
23 St

#8
Fulton St



#4
Grand Central-42 St

#5
Times Sq-42 St

#9
14 St-Union Sq

Map from: http://startupguide.nyc/

Combined Analysis

High Traffic Stations	Demographic Highlights
34th Penn St Station	High median household income ($159821)
23rd St Station	High female population (60.7%), income ($135750) and transit percentage (48.4%)
34th Herald Sq	Near tech hubs
Times Sq 42nd St Station	High transit percentage (37.2%)
Grand Central 42nd St	Near tech hubs

Conclusion

Favorable trends for WTWY in Manhattan: easy to access traffic hubs also exhibit favorable demographics: high income, tech/business savvy and >50% female

Focus street team efforts on the key central hubs of Times Square and Penn Station:

1. Penn Station
2. Herald Square
3. Times Square
4. Grand Central
5. 23rd Street

Next Steps

- Further iron out any outliers
- Analyze data for specific temporal trends
- Demographic “scorecard” for each station

Questions?

Executive Summary - Full

Tasked with optimizing WTWY street team placement for raising awareness of upcoming gala

Utilized NYC MTA and demographic data to perform analysis on areas with high traffic and favorable demographics

Findings identified major traffic hubs where placement of street teams would be optimal based on surrounding population

Recommended stations for mobilizing street teams include: Penn Station, Herald Square, Grand Central, Times Square and 23rd Street

Assumptions - Full

Street teams = can only commit modest headcount; must be efficient with placement of people

Therefore, we want to find key hubs with extensive traffic and favorable demographics to send our street teams

Approach: Analyse MTA subway data to identify the heaviest foot traffic, and then verify that the identified locations consist of sufficient amounts of favorable demographics

Gala in June 2017

Scenario

WTWY is looking to explore collaboration opportunities with our group

They are holding annual gala beginning of summer

Tasked with optimizing street team effectiveness by analyzing key areas of potential gala attendees and tech/brand ambassadors

Street teams collect email addresses; those who sign up sent free tickets to gala

Target Demographics

High income household (~> $150,000)

Tech savvy

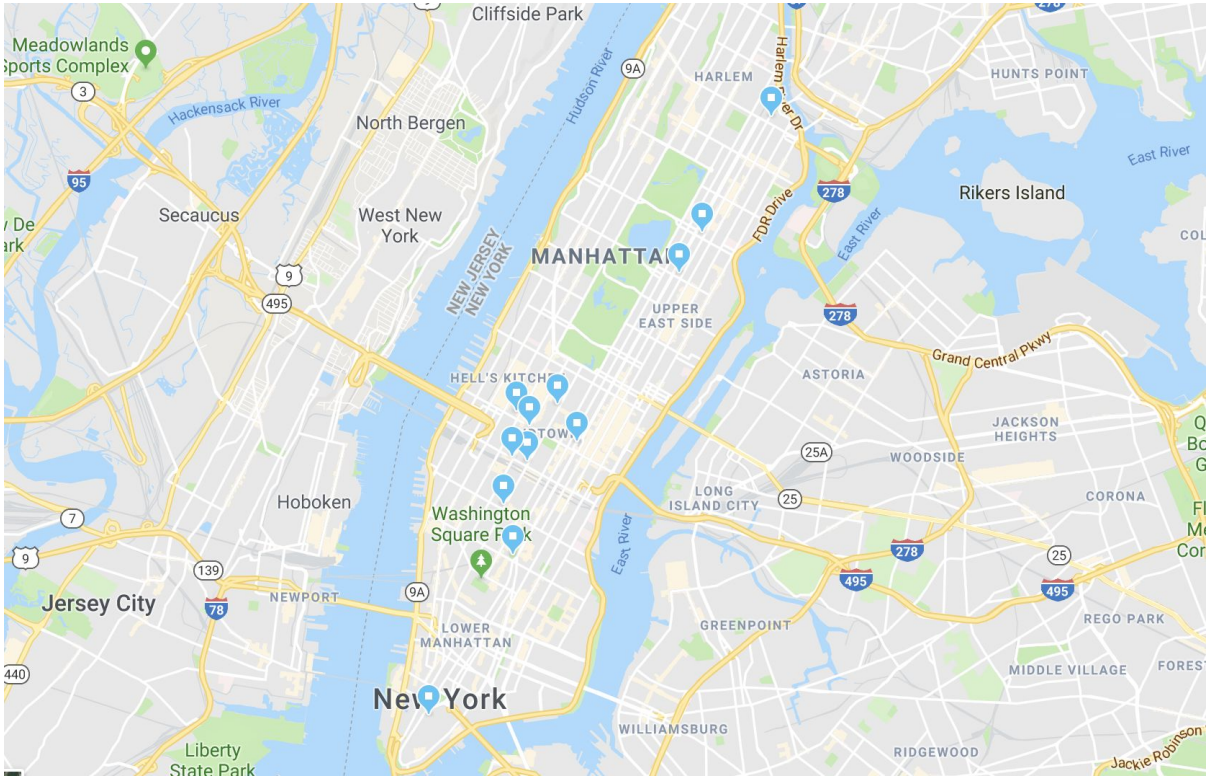
High female population (~> 51%)

High % use the NYC subway

Top Station Demographics

Max female population:	**34 St - Herald Sq** and **23 St Station**
Max median household income:	**34 - Penn St Station** and **23 St Station**
Max population using subways:	**23 St Station** and **Times Sq 42 St Station**
Tech Hubs near:	**34 St - Herald Sq** and **Grand Central** **Fulton St** and **14 St - Union Sq**

Top 10 Stations on Map



https://goo.gl/maps/pSYJLerh1vQ2