Women Tech Women Yes (WTWY) Gala Outreach

Analysis of MTA station traffic for street team placement

Jocelyn Lau
Shreyak Vashisht
Roger Wang

Metis SF Fall 2019

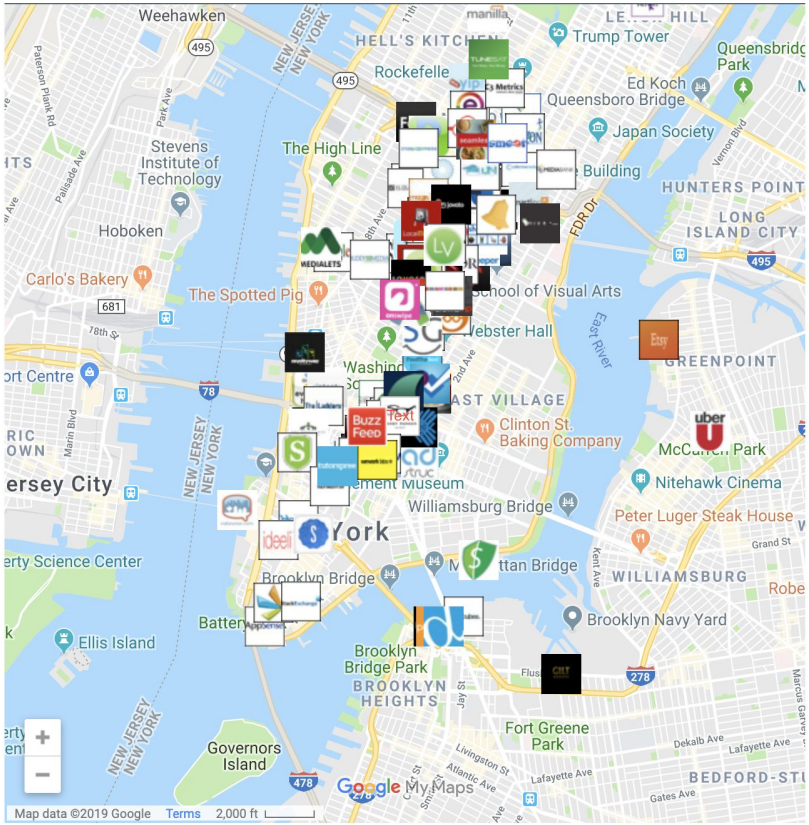
Case

- WTWY Gala in early summer
- Gather sign ups at subway stations to:
  - Increase participation at the event
  - Increase involvement with the organization

Approach

- **Problem**: How do we identify interested parties at subway stations?
- Luckily: Tech is regional
- **Where**: Top stations in the area
- **When**:
  - Analyze time prior to the event date (May)
  - Which days of the week?
  - What times of the day?

Business Insider Map of Tech Startup Concentration

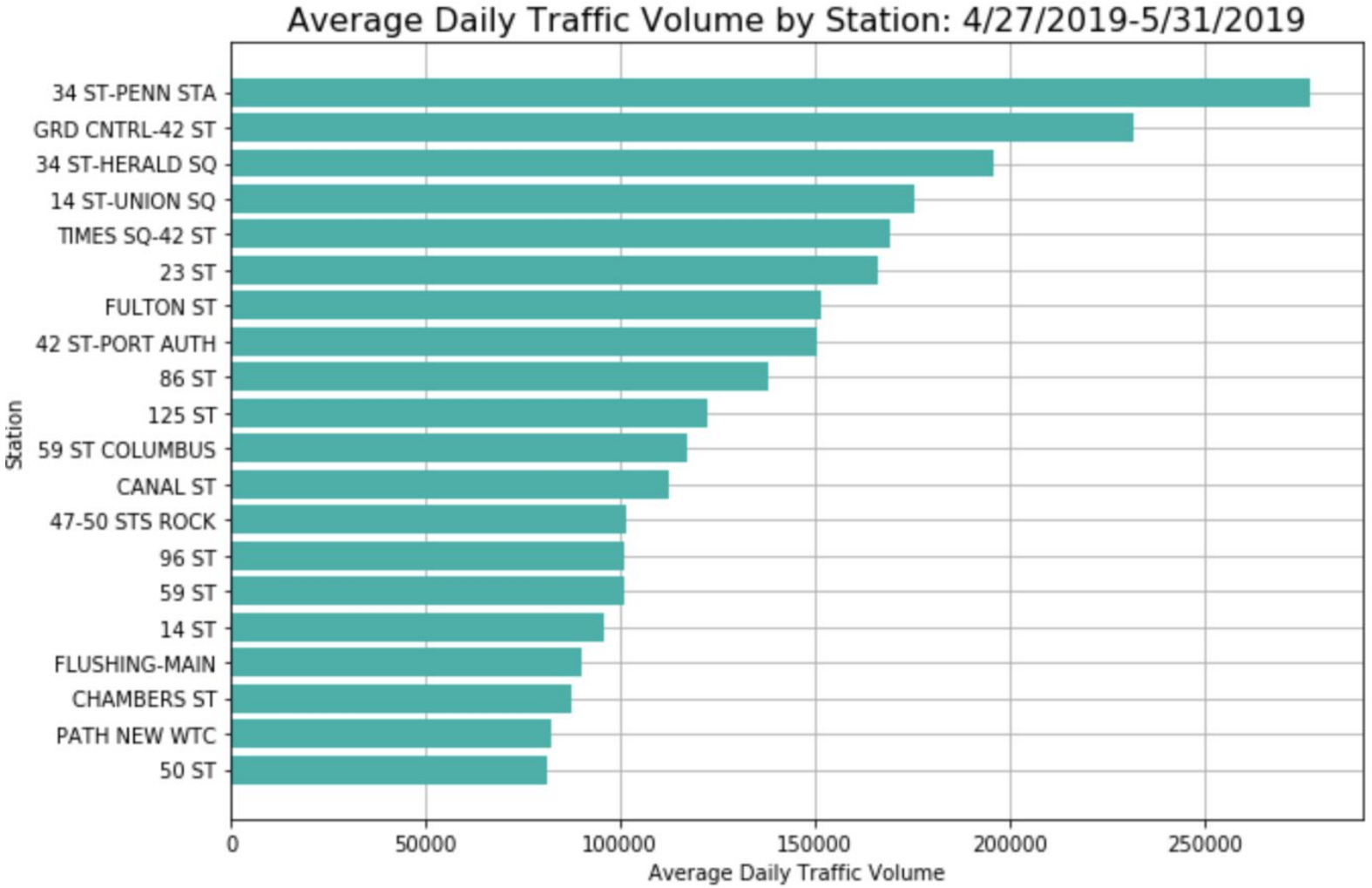


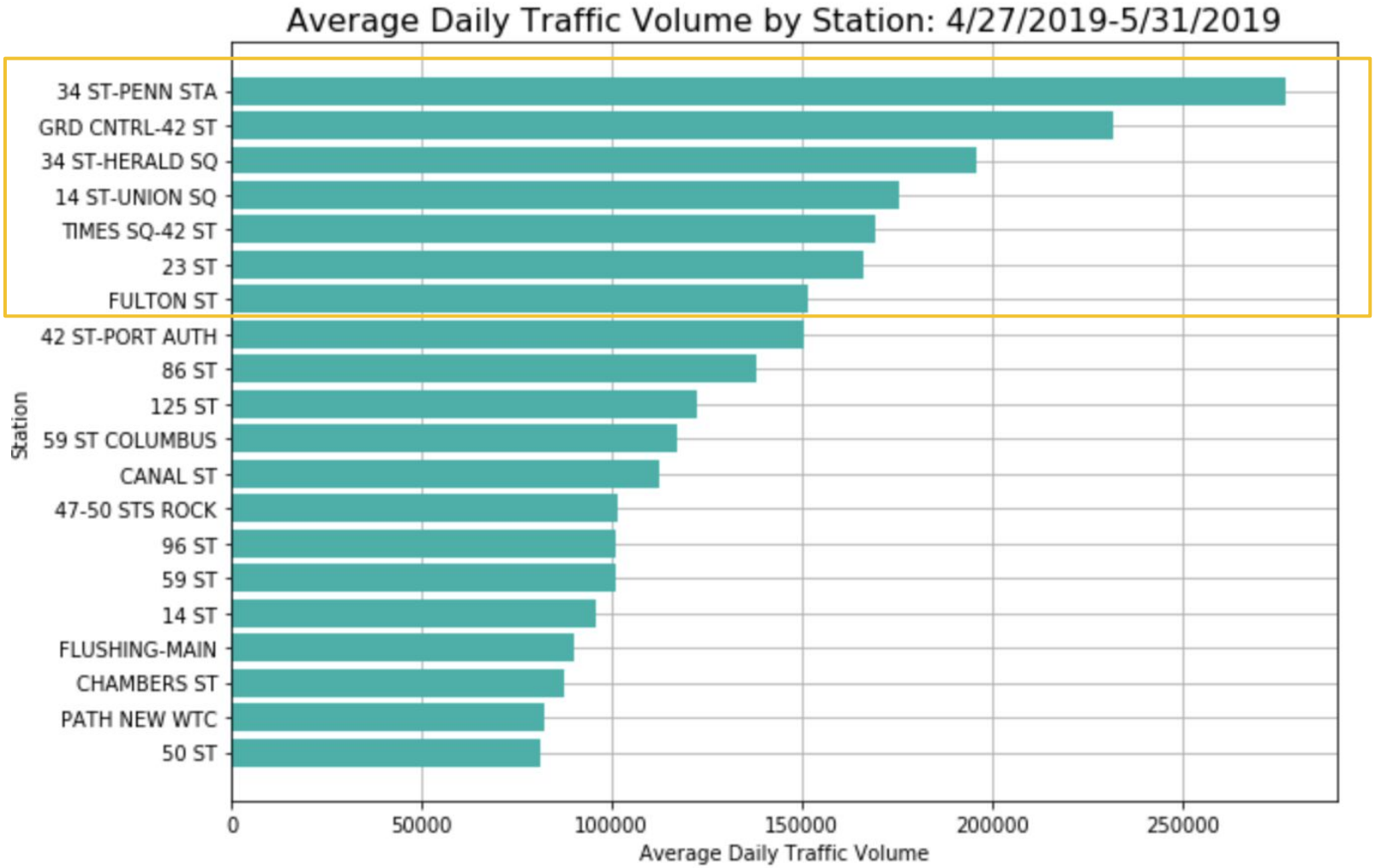
Which Stations Should You Target?

- Find subway stations with highest traffic

- Find subway stations most frequented by tech employees

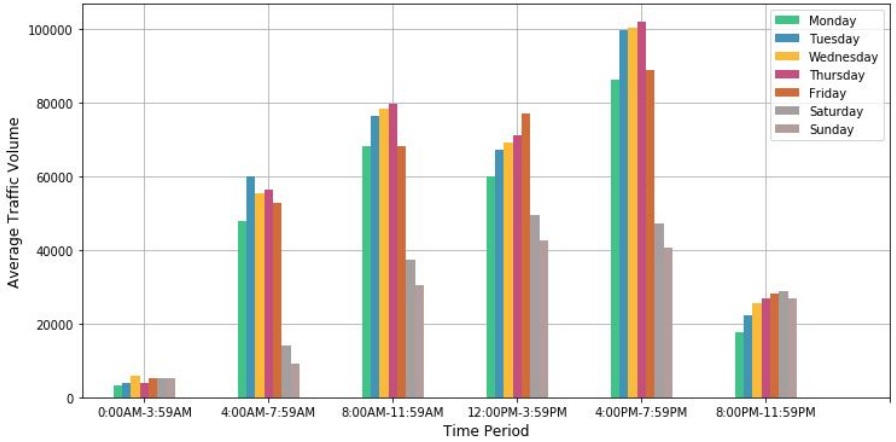
- Identify traffic from MTA turnstile data
  - Dates: 4/27/2019 - 5/31/2019
  - Total Traffic Volume = Total Entries + Total Exits
  - Calculated averages across the month


Average Daily Traffic Volume by Station: 4/27/2019-5/31/2019
34 ST-PENN STA
GRD CNTRL-42 ST
34 ST-HERALD SQ
14 ST-UNION SQ
TIMES SQ-42 ST
23 ST
FULTON ST
42 ST-PORT AUTH
86 ST
125 ST
59 ST COLUMBUS
CANAL ST
47-50 STS ROCK
96 ST
59 ST
14 ST
FLUSHING-MAIN
CHAMBERS ST
PATH NEW WTC
50 ST
Station
0
50000
100000
150000
200000
250000
Average Daily Traffic Volume

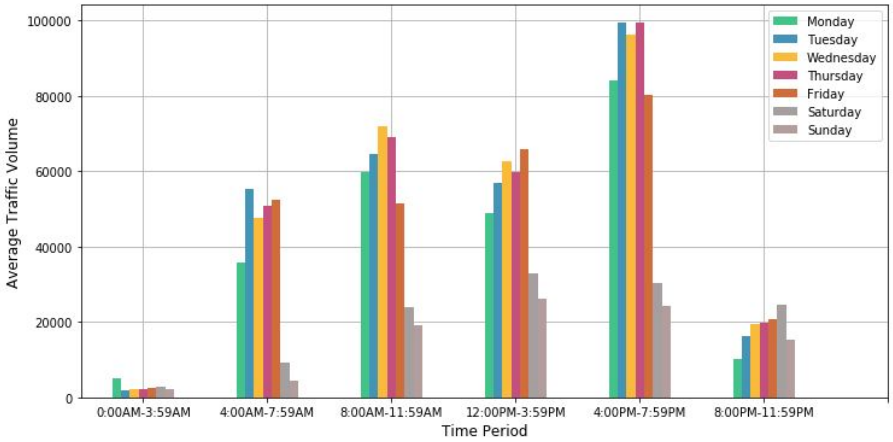


Stations confirmed in simulated commutes from 6 largest Tech Firms*

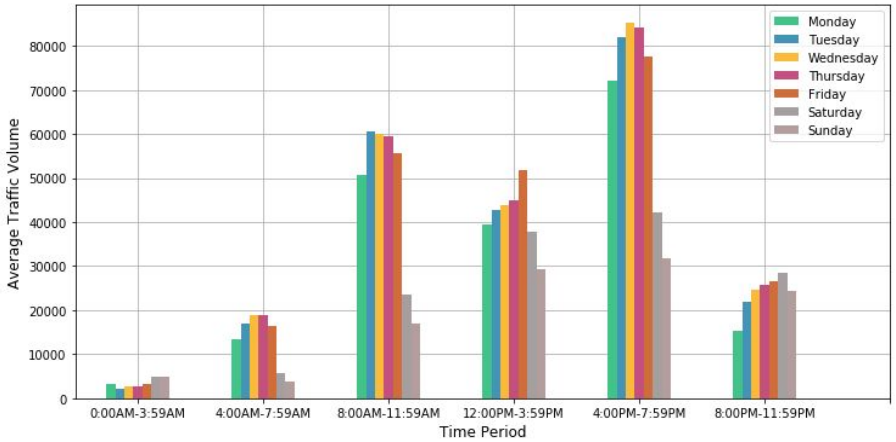
Average Traffic Volume for 34th St - Penn Station



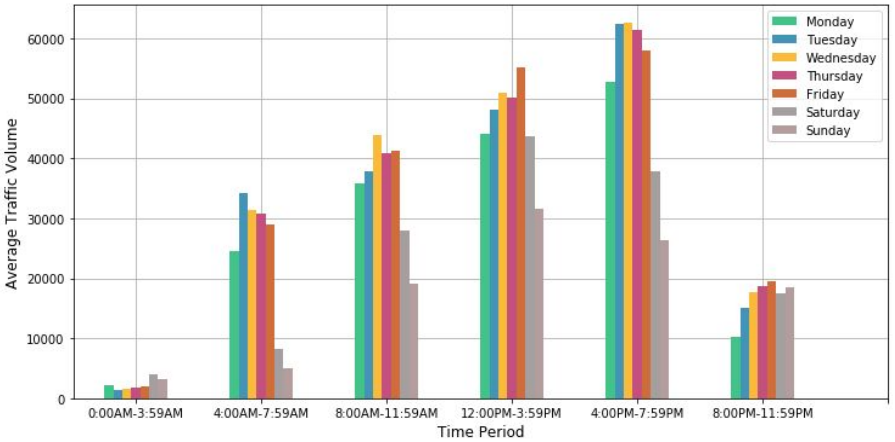
Average Traffic Volume for 42nd St - Grand Central



Average Traffic Volume for 34th St - Herald Square



Average Traffic Volume for 14th St - Union Square



Conclusions and Recommendations

- Highest-traffic stations are also used by tech employees
- Highest average traffic:
  - Where: 34th-St Penn, 42nd-Grand Central, 34th St-Herald, 14th-Union
  - Wednesdays and Thursdays
  - Evening rush hour (4-8PM)
  - Note: Worth considering noon lunch hour
- One piece to the puzzle - must also consider likelihood of signing up

Future Directions

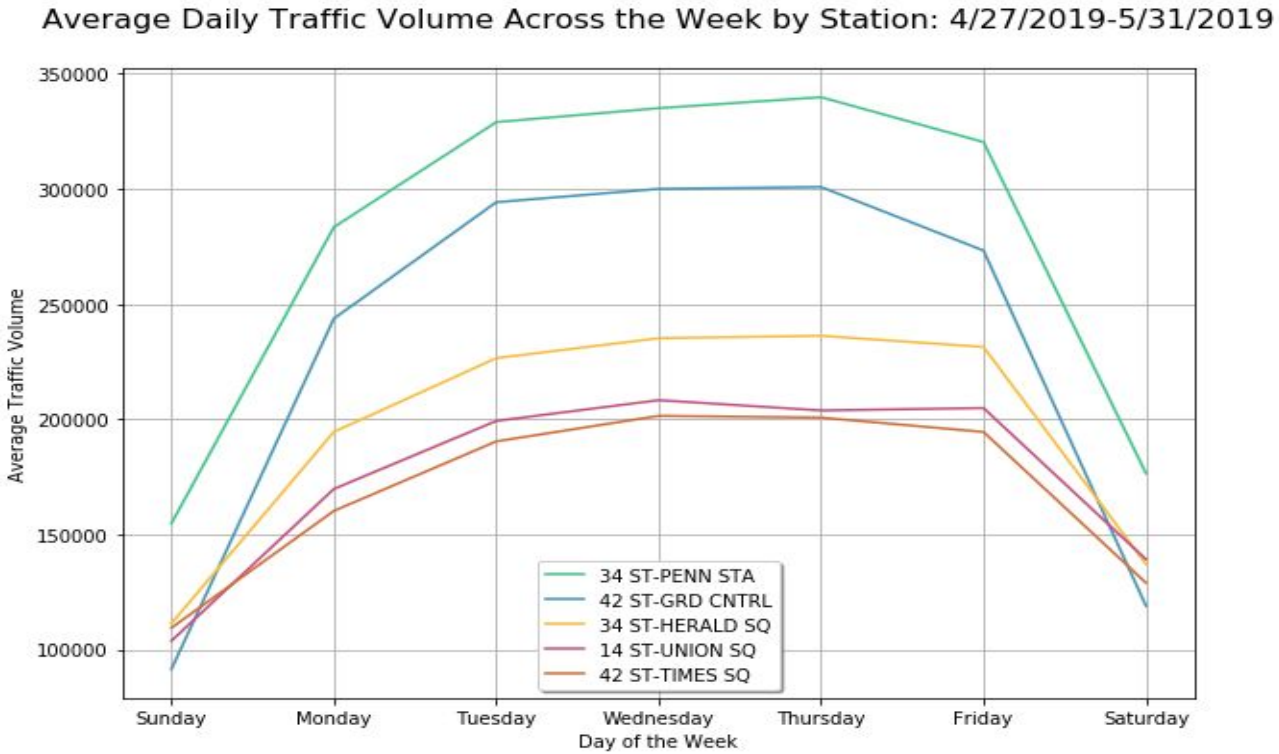
- Additional stations
- Times/behaviors associated with high likelihood of signing up
- More specific info of population most interested in women in tech

Thank You

Appendix: Alt. Visualizations

Top Days of Traffic in Week:

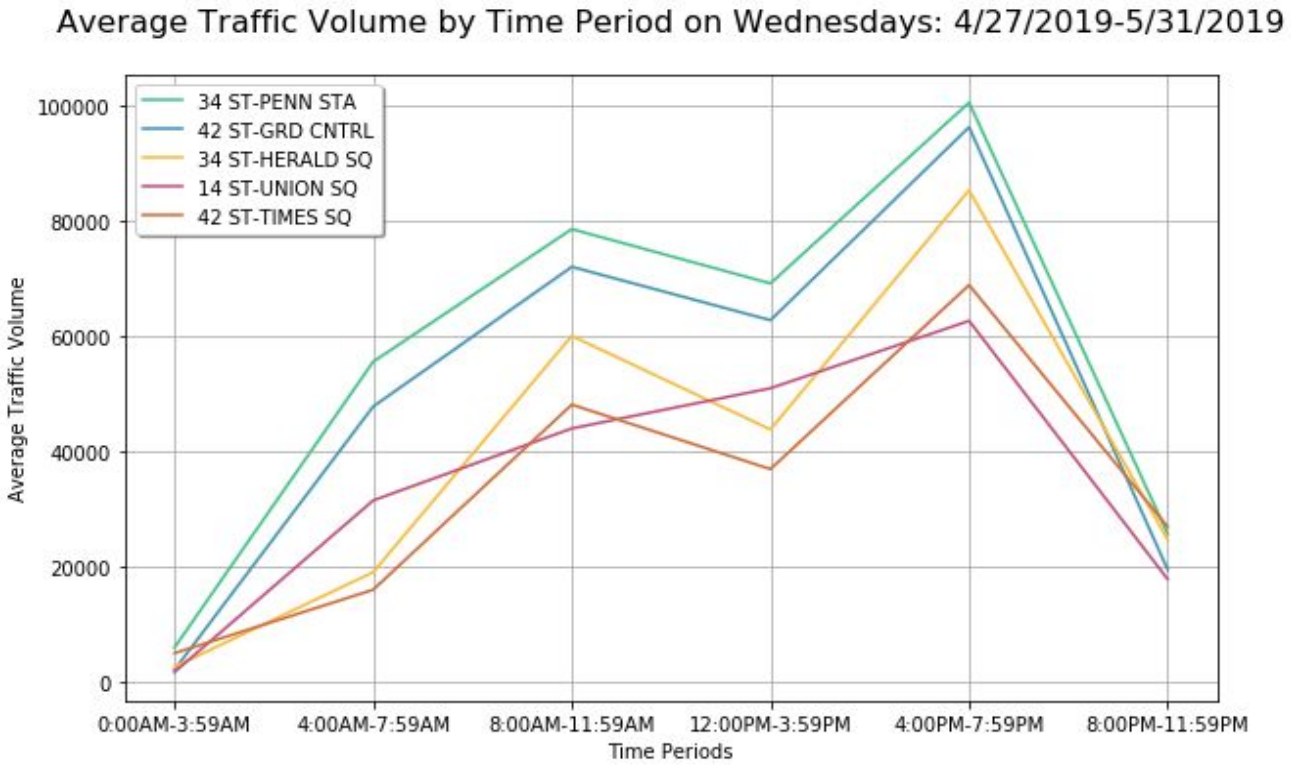
Wed/Thurs



Appendix: Alt. Visualizations

Top Times of Traffic in Day:

Evening Commute



Appendix - Data Source

Data Source: MTA Turnstile Data, which includes cumulative entry and exit traffic at all working turnstiles serviced by the MTA at specific times of the day

http://web.mta.info/developers/turnstile.html

Time Period: 4/27/2019-5/31/2019

Entry and exit traffic was grouped into time intervals by taking the difference between sequential cumulative entry and exit counts, respectively

Definition of Traffic Volume: The total number of entries and exits through a specified station

Appendix - Data Methodology

Exclusion Criteria:

- Turnstile time intervals that appear to indicate negative traffic (e.g., fewer entries or exits than the previous time period) or zero traffic (may indicate a broken turnstile)
- Turnstile time intervals that appear to show unreasonably high jumps in traffic (potentially as a result of a counter reset)

Appendix - Tech Station Identification

- Stations were identified by simulating the commutes through Manhattan for several large tech firms: Salesforce, Amazon, Spotify, Google, Facebook, WeWork
- They include both office and residential stations

- 42 ST-BRYANT PARK
- 5 AVE
- TIMES SQUARE -42 ST
- 34 ST-PENN STATION
- 34 ST-HUDSON YARDS
- GRAND CENTRAL-42 ST
- W 4 ST-WASHINGTON SQUARE
- COURT SQUARE
- CORTLANDT ST
- FULTON ST
- ASTOR PL
- BLEECKER ST
- B\WAY-LAFAYETTE
- 14 ST-UNION SQUARE,
- 14 ST
- COURT SQUARE-23 ST
- LEXINGTON AVE/53
- 51 ST
- LORIMER ST
- METROPOLITAN AVE
- 18 ST
- HOUSTON ST
- 34 ST-HERALD SQUARE