Subway Recovery

Stephen DeFerrari, Rob Hogan, Chris Malasics, Faustina Maria Giaquinta

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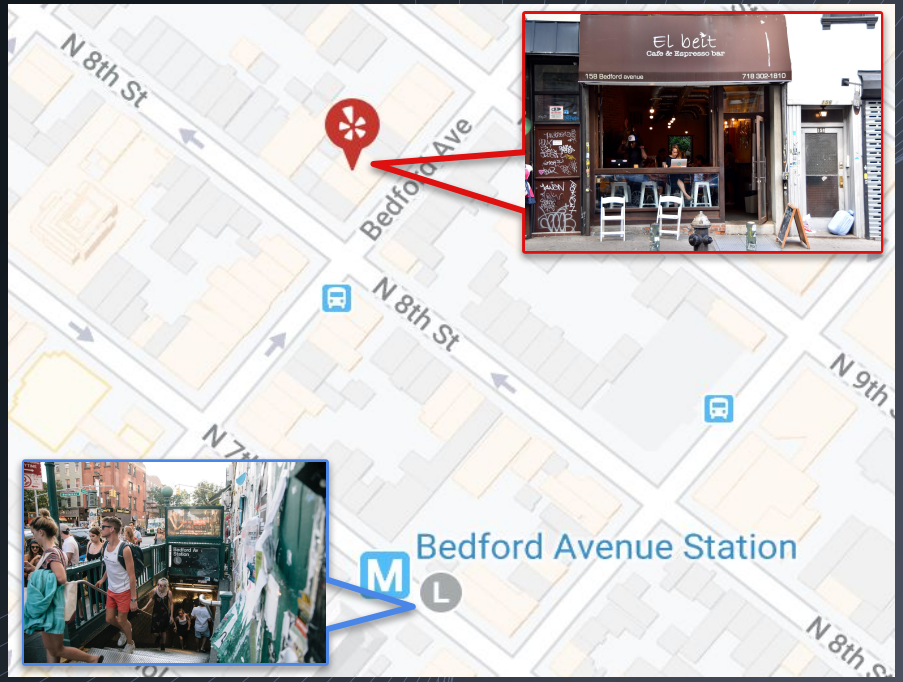
Introduction

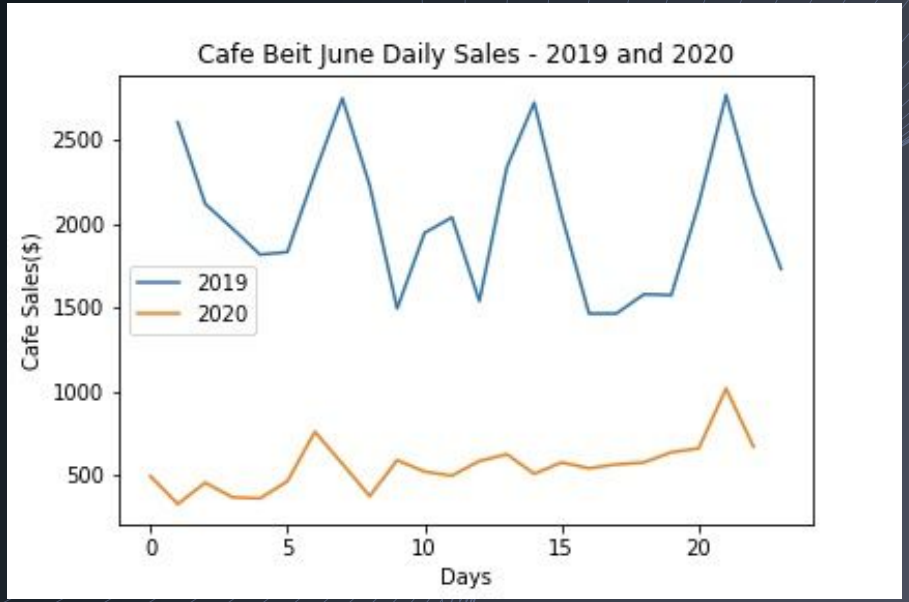
- Cafe Beit in Williamsburg reached out to us while they were renegotiating their lease
- There is a 24% premium for real estate within a quarter mile of Bedford Ave
- Despite the phased reopening of NYC, their sales were flat



Bedford Ave L in Relation to Cafe Beit

Proposal

- Help the cafe understand how MTA traffic affects their sales
- Provide information they could utilize in the lease renegotiation
- Give the cafe owners enough data to help them understand when their business may be viable again



Methodology

DATA COLLECTION (Source, Raw data, Period collected):

January 19th to August 2nd 2019 / January 18th to July 3rd 2020

DATA CLEANING

Removed records and columns

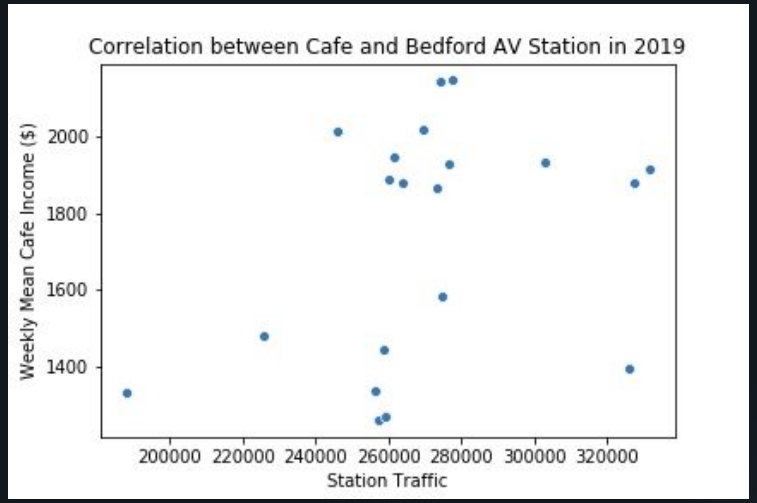
Keep records from Week 24 (June 8th) to Week 26 (June 22nd)

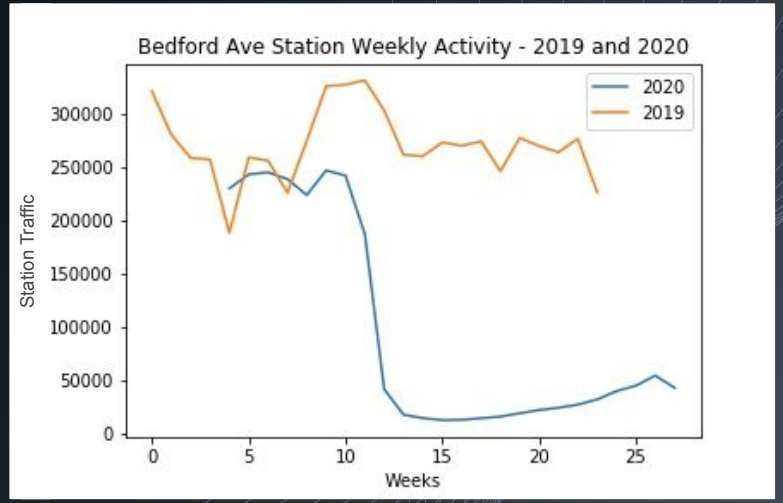
EDA (Foot Traffic)

- For each year:
  - Daily Foot Traffic (Daily Entries + Daily Exits)
  - Weekly Foot Traffic (Aggregate by Station and Week)
- Difference in Weekly Foot Traffic between years 2019 and 2020

$$\%\text{Difference} = \frac{week_2 - week_1}{week_1} \times 100$$

Bedford Stop Case Study



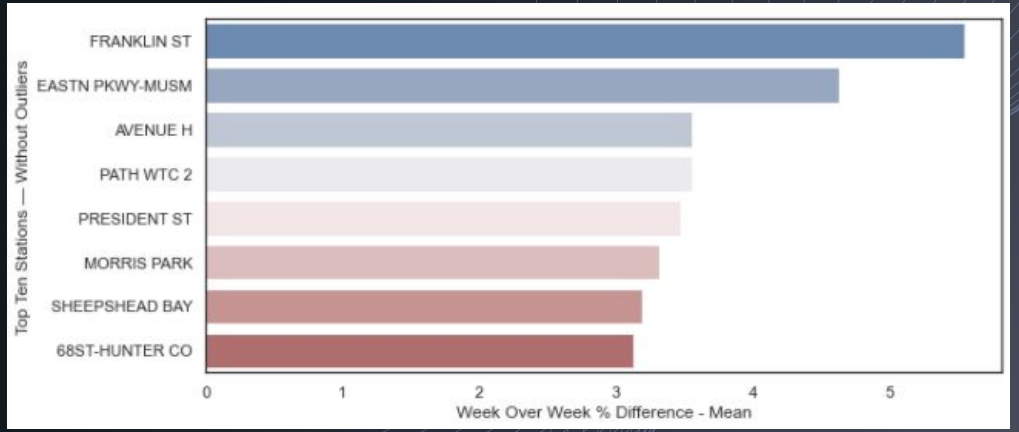


Medium Correlation
+.49

Avg Recovery rate of 1.84% per week - Post Phase 1 Reopening

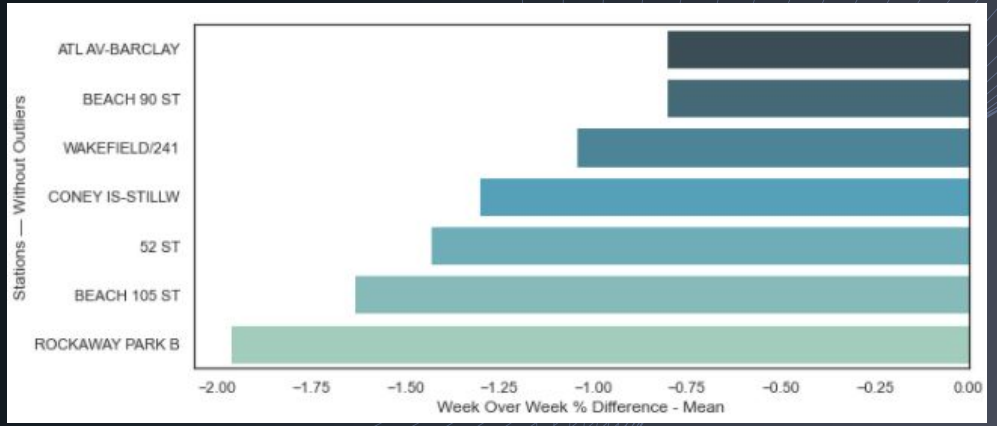
City Data/Visuals - High Recovery

- Reasons for high recovery rates were not clear initially
- Need to dig deeper into the station data
- Theory:
  - Areas that have a high residential to office building ratio



City Data/Visuals - Low Recovery

- Low recovery rates were around beaches and stadiums
- During weeks 24-27, 2019 ridership was increasing while 2020 stayed steady
- Theory: Less demand for the beach and indoor gatherings



Analysis & Conclusions

- Stations near indoor venues, airports and beaches have not recovered at same rate as other parts of the city in comparison to the previous year

- Accelerated recovery areas may be in locations that have less office buildings and high residential density

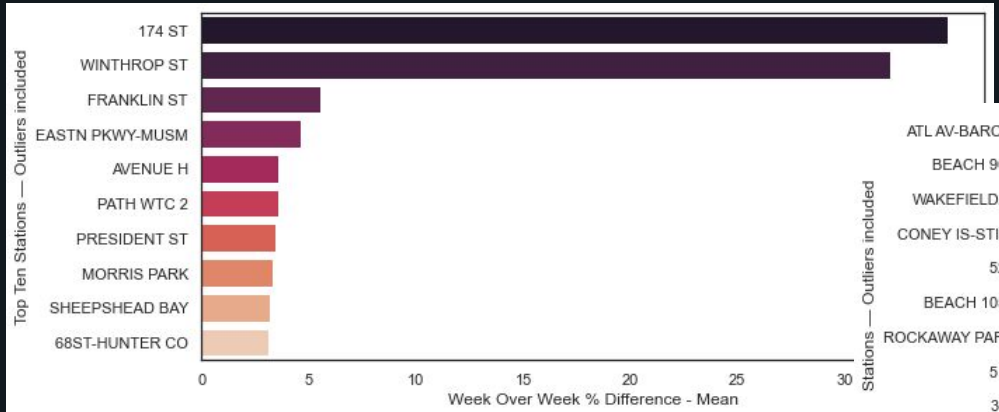
- Medium correlation between cafe revenue and foot traffic generated from the subway

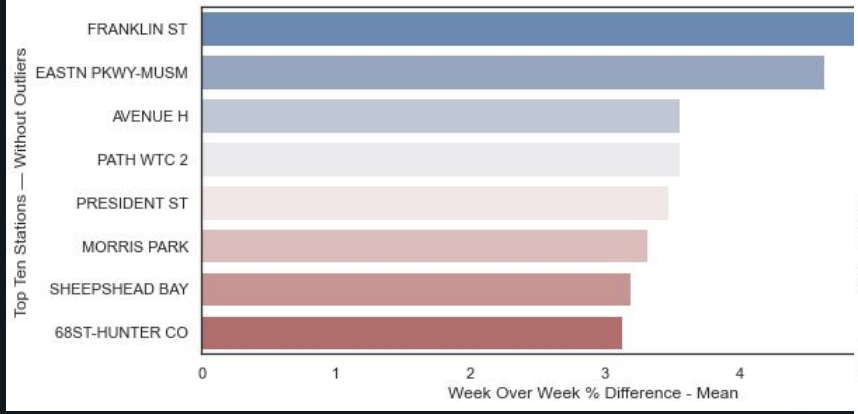
Future Work

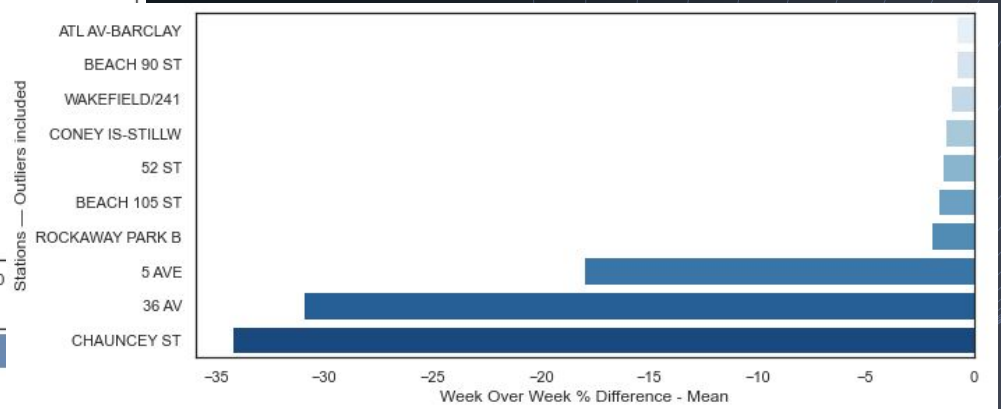
- Compare census data for locations based on income levels
- Look into upticks in bus/ride share usage to compensate for subway
- Locate more businesses to work with in low recovery areas paying a high premium for subway proximity (Coney Island)

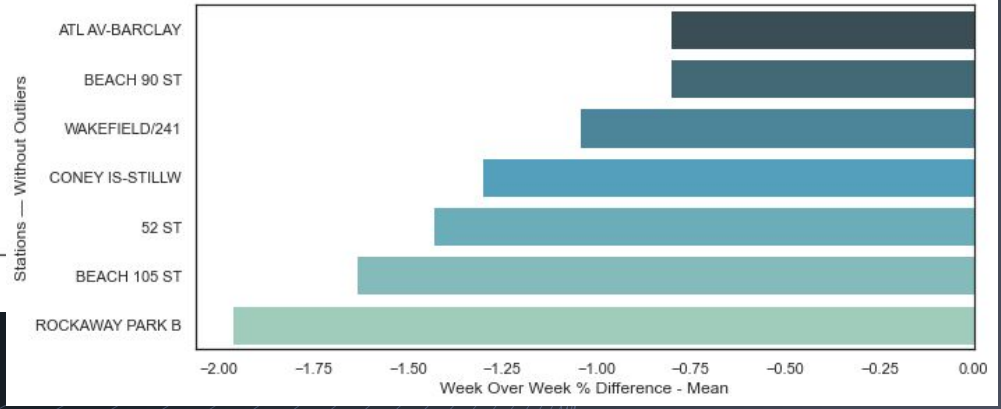
Borough	Neighborhood	Station Name	Subway Proximity Median Sale Price	Neighbordhood Median Sale Price	Difference
Brooklyn	Coney Island	Coney Island - Stillwell Av	$495,000	$380,000	30%

Thank You


Top Ten Stations — Outliers included
174 ST
WINTHROP ST
FRANKLIN ST
EASTN PKWY-MUSM
AVENUE H
PATH WTC 2
PRESIDENT ST
MORRIS PARK
SHEEPSHEAD BAY
68ST-HUNTER CO
0
5
10
15
20
25
30
Week Over Week % Difference - Mean


Top Ten Stations — Without Outliers
FRANKLIN ST
EASTN PKWY-MUSM
AVENUE H
PATH WTC 2
PRESIDENT ST
MORRIS PARK
SHEEPSHEAD BAY
68ST-HUNTER CO
0
1
2
3
4
Week Over Week % Difference - Mean


Stations — Outliers included
ATL AV-BARCLAY
BEACH 90 ST
WAKEFIELD/241
CONEY IS-STILLW
52 ST
BEACH 105 ST
ROCKAWAY PARK B
5 AVE
36 AV
CHAUNCEY ST
−35
−30
−25
−20
−15
−10
−5
0
Week Over Week % Difference - Mean


Stations — Without Outliers
ATL AV-BARCLAY
BEACH 90 ST
WAKEFIELD/241
CONEY IS-STILLW
52 ST
BEACH 105 ST
ROCKAWAY PARK B
−2.00
−1.75
−1.50
−1.25
−1.00
−0.75
−0.50
−0.25
0.00
Week Over Week % Difference - Mean

Appendix

Extra things to consider - work in progress

Property Value Relative to Subway Proximity

Borough	Neighborhood	Station Name	Subway Proximity* Median Sale Price	Neighbordhood Median Sale Price	Difference
Brooklyn	Williamsburg	Bedford Ave	$1,165,000	$939,750	24%

*Proximity refers to a quarter mile radius from station

Source: propertyshark.com