



THE IMPACT OF CORONAVIRUS & the data to help you.



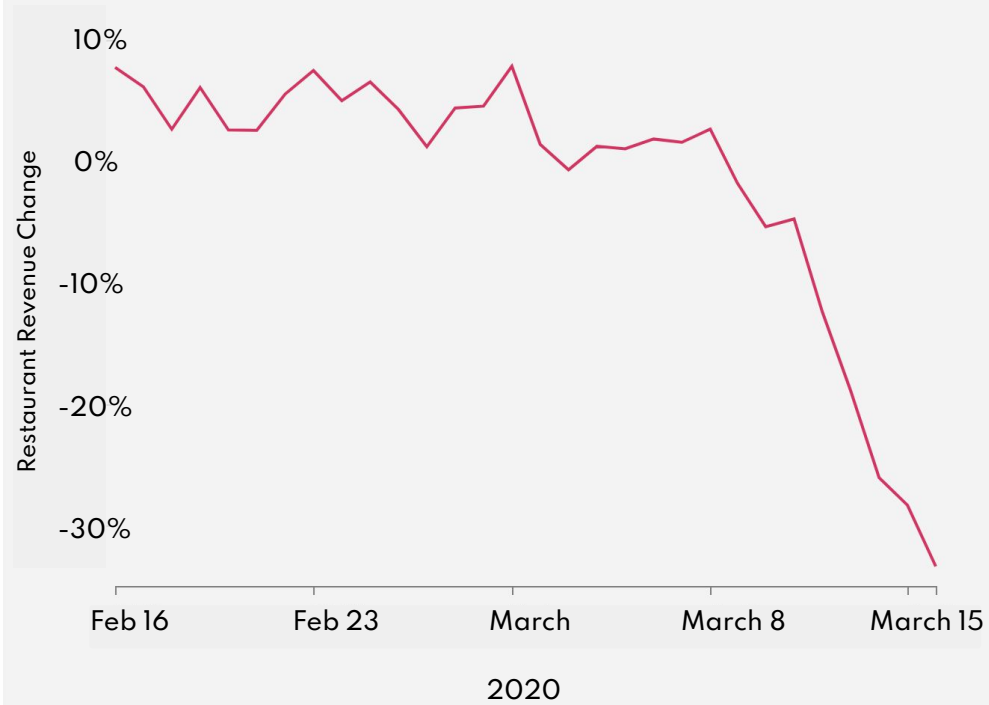
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Objective
Our Approach
Findings
Future Opportunities

Restaurant Revenue Tanks Amid Shutdown Orders



Source: [Womply](#)

PROBLEM

Loss of foot-traffic =
Loss of business.

You have revenue numbers, but
you need foot-traffic numbers to
support why revenue is low.

HOW WE HELP

When you request government
funds to support your members,

**we can give you powerful data
to back your demands.**

OUR APPROACH

GET MTA NUMBERS



For the 10 busiest stations, we pulled MTA's January - June numbers for 2020, 2019, and 2018

EXAMINE & 'CLEAN' DATA



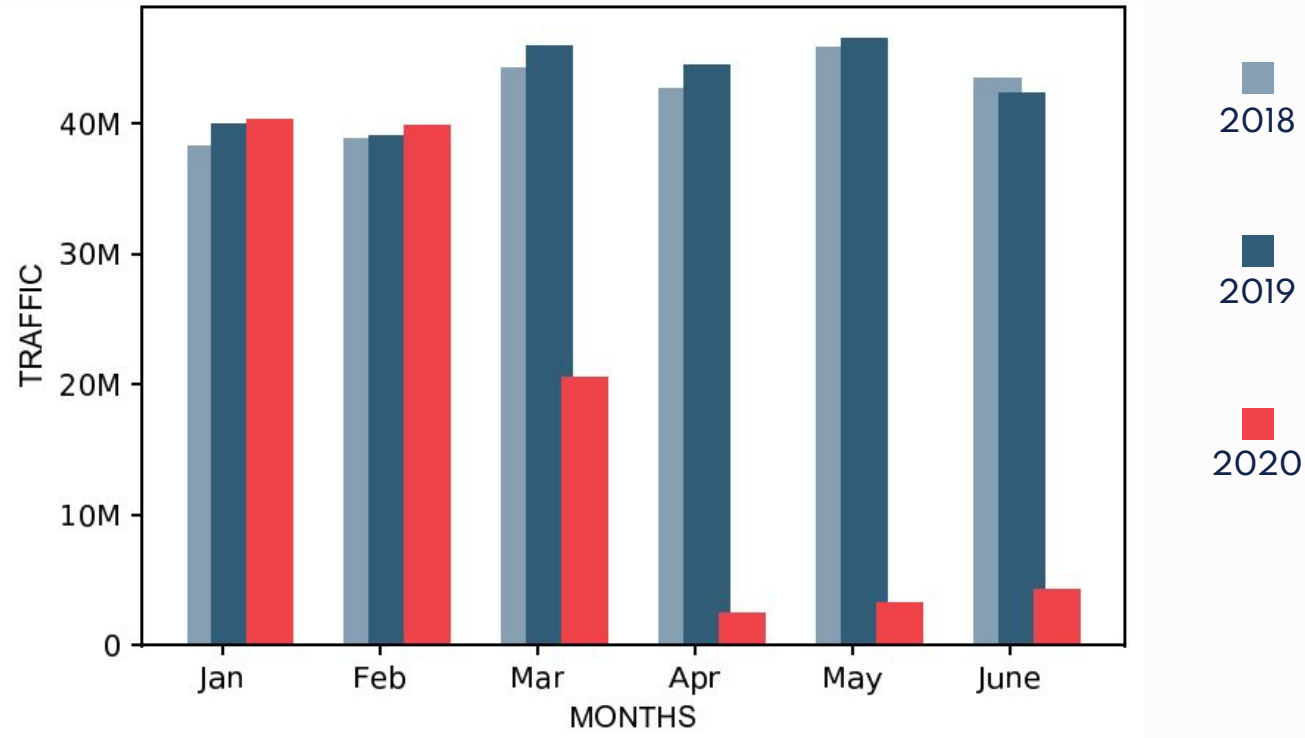
MTA's raw data is very raw. We cleaned it up without sacrifice to confidence in data's accuracy

ANALYZE NUMBERS



Using statistical calculations and graphs, we compared 2020 traffic to 2019 & 2018

MTA MONTHLY TRAFFIC FOR TOP 10 BUSIEST SUBWAY STATIONS*



*Top 10 busiest subway stations according to 2019 [MTA report](#)

BY THE NUMBERS APRIL - JUNE

ENTRIES

70M

2019

4.5M

2020

-92%

Overall drop in
traffic 2020 from 2019

EXITS

64M

2019

5.6M

2020

BY THE NUMBERS APRIL - JUNE

ENTRIES

70M

2019

4.5M

2020

-92%

Overall drop in
traffic 2020 from 2019

Not normally included
in 'ridership' numbers
for MTA



EXITS

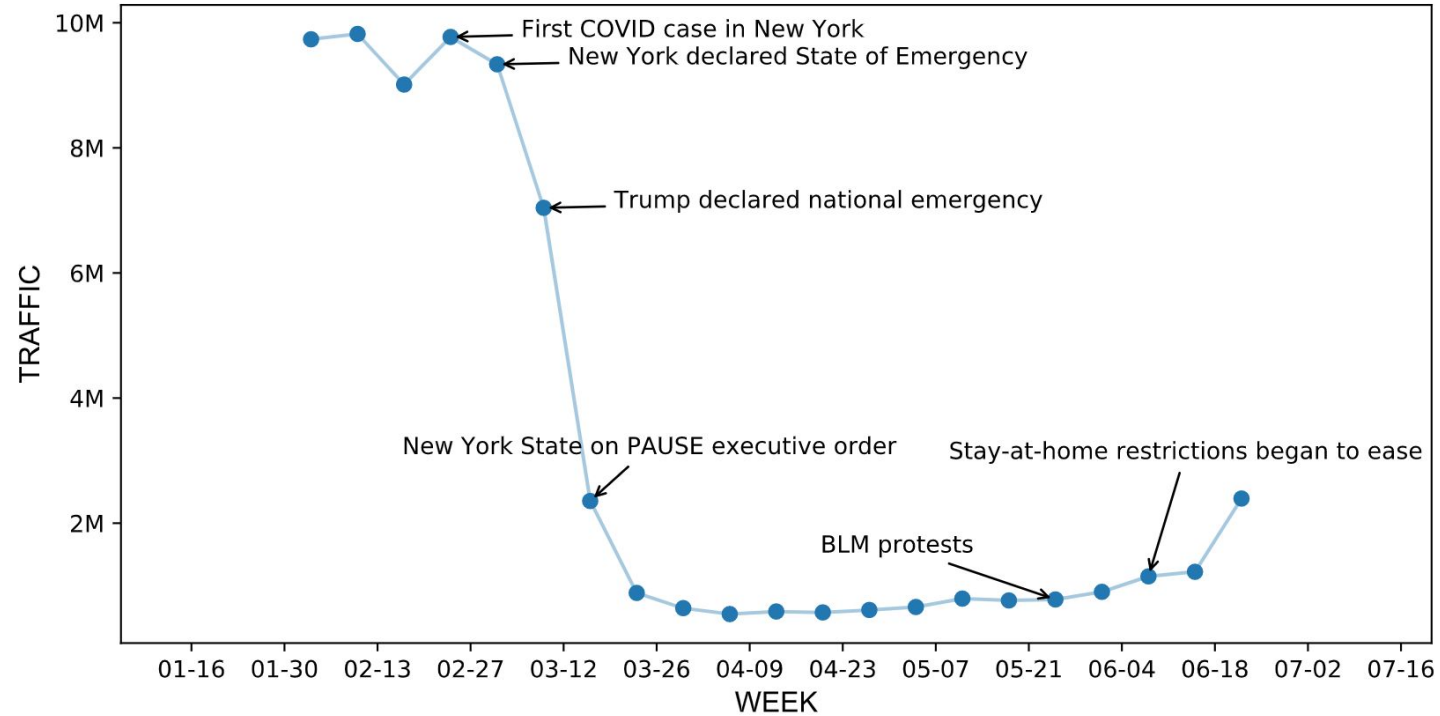
64M

2019

5.6M

2020

TRAFFIC TRENDS + MAJOR EVENTS AFFECTING NYC RESIDENTS IN 2020



FUTURE OPPORTUNITIES

- Expand from top 10 stations to all MTA stations
- If helpful, we have data by-week available
- Develop an interactive map for your members to easily search for specific station stats near them
- Pair this data with your business's revenue numbers for 2018, 2019, and 2020 to determine exactly how strong the correlation is between revenue decline and foot-traffic decline



THANK YOU

The Metis Data Science Agency

Joseph Grovers

Celina Plaza

Cynthia Wang

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik

A red-tinted photograph of a city street scene. In the foreground, a person is riding a bicycle on a paved road. In the background, there are tall buildings and a bridge. A large, solid red rectangle is centered over the image, containing the word "APPENDIX" in white, bold, sans-serif capital letters.

APPENDIX

MTA TOP 10 STATIONS

Top 10 busiest subway stations in 2019

Rank	Station/Complex	Lines	Ridership
1	Times Sq-42 St/42 St	N, Q, R, W, S, 1, 2, 3, 7, A, C, E	65,020,294
2	Grand Central-42 St	S, 4, 5, 6, 7	45,745,700
3	34 St-Herald Sq	B, D, F, M, N, Q, R, W	39,385,436
4	14 St-Union Sq	L, N, Q, R, W, 4, 5, 6	32,385,260
5	Fulton St	A, C, J, Z, 2, 3, 4, 5	27,715,365
6	34 St-Penn Station	1,2,3	25,967,676
7	34 St-Penn Station	A,C,E	25,631,364
8	59 St-Columbus Circle	A,B,C,D,1	23,040,650
9	Chambers St, WTC /Park Pl/Cortlandt	A, C, E, 2, 3, R, W	20,820,549
10	Lexington Av-53 St/51 St	E, M, 6	18,957,465

Source: [MTA](#)

MAJOR NYC EVENTS IN 2020 RELATED TO COVID & PROTESTS

- **Jan 11:** China reported first death from COVID
- **Jan 20:** First confirmed case of COVID in US (in Washington state)
- **Jan 30:** WHO declared COVID a global health emergency
- **Feb 29:** US reported first COVID death
- **Mar 1:** First COVID case in **New York**
- **Mar 7:** Governor Cuomo declares State of Emergency for **New York**
- **Mar 11:**
 - Cuomo announces that SUNY and CUNY institutions will begin distance learning for the remainder of the semester.
 - The St. Patrick's Day Parade in NYC postponed.
- **Mar 15:**
 - Trump declared national emergency
 - CDC recommends gathering of no more than 50
 - **New York City's** public schools system, announced that it would close.

Source: [NYT](#) & [Syracuse.com](#) & [nbcnewyork.com](#) & [npr](#)

MAJOR NYC EVENTS IN 2020 RELATED TO COVID & PROTESTS

- **Mar 20:** Cuomo signs the **New York State** on PAUSE executive order, closing 100% of [non-essential businesses](#) statewide. The [order](#) also cancels and bans non-essential gatherings of any size, institutes 6-foot social distancing requirements and bans contact recreational activities.
- **Apr 1: New York City** playgrounds close to address lack of compliance to social distancing mandates.
- **Apr 6:** The **New York City** maximum fine for social distancing violations is increased to \$1,000.
- **Apr 13:** "Now it is time to start opening the valve slowly and carefully while watching the infection rate meter so we don't trigger a second wave of new infections," Cuomo says in a statement about starting a plan to reopen slowly and get people back to work.
- **May 15** - Cuomo announces that 'reopening' date of May 15 will be extended in more affected areas at least until June 13
- **~May 25:** Major protests were sparked [across country](#) -- including **New York City** -- at the end of May following the death of George Floyd in Minneapolis.
- **May 28** - The Governor announced the first phase of the reopening of NYC can start on June 8. Anybody not involved in construction, manufacturing or retail is ordered to continue to stay at home.
- **June 8** - Stay-at-home restrictions begin to ease in **New York City**, allowing thousands of businesses in retail, construction, manufacturing and [certain other industries](#) to restart their operations.
- **July 7 - New York City** pushes off plans to allow indoor dining at restaurants (originally set to start July 5) amid a spike in coronavirus cases in other parts of the country that is heightening fears of a resurgence in New York.

Source: [NYT](#) & [Syracuse.com](#) & [nbcnewyork.com](#) & [npr](#)

T-TESTS TO FIND P-VALUES BETWEEN YEARS' TRAFFIC

```
# Finding P-Value between 2018 and 2019 Traffic
```

```
stats.ttest_ind(month_2018.TotalTraffic, month_2019.TotalTraffic)
```

```
Ttest_indResult(statistic=-0.47974924012453063, pvalue=0.6417258272567505)
```

```
# Finding P-Value between 2019 and 2020 Traffic
```

```
stats.ttest_ind(month_2019.TotalTraffic, month_2020.TotalTraffic)
```

```
Ttest_indResult(statistic=3.2890300587497983, pvalue=0.008163393937398865)
```


PERCENT CHANGES FOR SPECIFIC PERIODS YEAR OVER YEAR

% Change Jan - June 2019 to 2020: -50.26
% Change Jan - June 2018 to 2020: -48.7
% Change Jan - June 2018 to 2019: 3.15

% Change Apr-June 2019 to 2020: -92.42
% Change Apr-June 2018 to 2020: -92.34
% Change Apr-June 2018 to 2019: 1.08

TRAFFIC NUMBERS FOR CERTAIN DATE RANGES

2020 Jan-June Traffic: 134128070.0

2019 Jan-June Traffic: 269681461.0

2018 Jan-June Traffic: 261434809.0

2020 Apr-June Traffic: 10115724.0

2019 Apr-June Traffic: 133441418.9527897

2018 Apr-June Traffic: 132011227.0

ENTRY NUMBERS FOR CERTAIN DATE RANGES

2020 Jan-June Entries: 66920347.0

2019 Jan-June Entries: 141205578.0

2018 Jan-June Entries: 138628111.0

2020 Apr-June Entries: 4551941.0

2019 Apr-June Entries: 70330856.0

2018 Apr-June Entries: 70543737.0

EXIT NUMBERS FOR CERTAIN DATE RANGES

2020 Jan-June Exits: 67207723.0

2019 Jan-June Exits: 128475883.0

2018 Jan-June Exits: 122806698.0

2020 Apr-June Exits: 5563783.0

2019 Apr-June Exits: 63756511.0

2018 Apr-June Exits: 61467490.0

MARCH NUMBERS

March 2020 Traffic: 20587649.0

March 2019 Traffic: 20587649.0

March 2018 Traffic: 20587649.0

% Change March 2019 to 2020: -55.17

% Change March 2018 to 2020: -53.53

% Change March 2018 to 2019: 3.67

JUNE NUMBERS

June 2020 Traffic: 4321145.0

June 2019 Traffic: 4321145.0

June 2018 Traffic: 4321145.0

% Change June 2019 to 2020: -89.79

% Change June 2018 to 2020: -90.06

% Change June 2018 to 2019: -2.63