

COVID19 IMPACTS ON TRANSPORTATION

Produced by the NYC Department of City Planning's Transportation Division

June 9, 2020



- The NYC Department of City Planning's Transportation Division is compiling data to help understand the effects of COVID19 on the transportation network. This is our eleventh weekly report.
- This week's report includes the following information:
 1. Executive Summary
 2. Citywide Trend
 3. Phase 1 Reopening
 4. Subway
 5. Ferries
 6. Citi Bike
 7. Timeline
- We continue to expand the content of these weekly reports as new data become available to us, and are prioritizing work around understanding how mobility trends relate to the economic and employment landscape.
- This report may serve to help in pandemic response and longer-term recovery. We are eager for feedback in how to make this more useful. Feel free to reach out to Laura Smith (lsmith@planning.nyc.gov) with questions or comments.

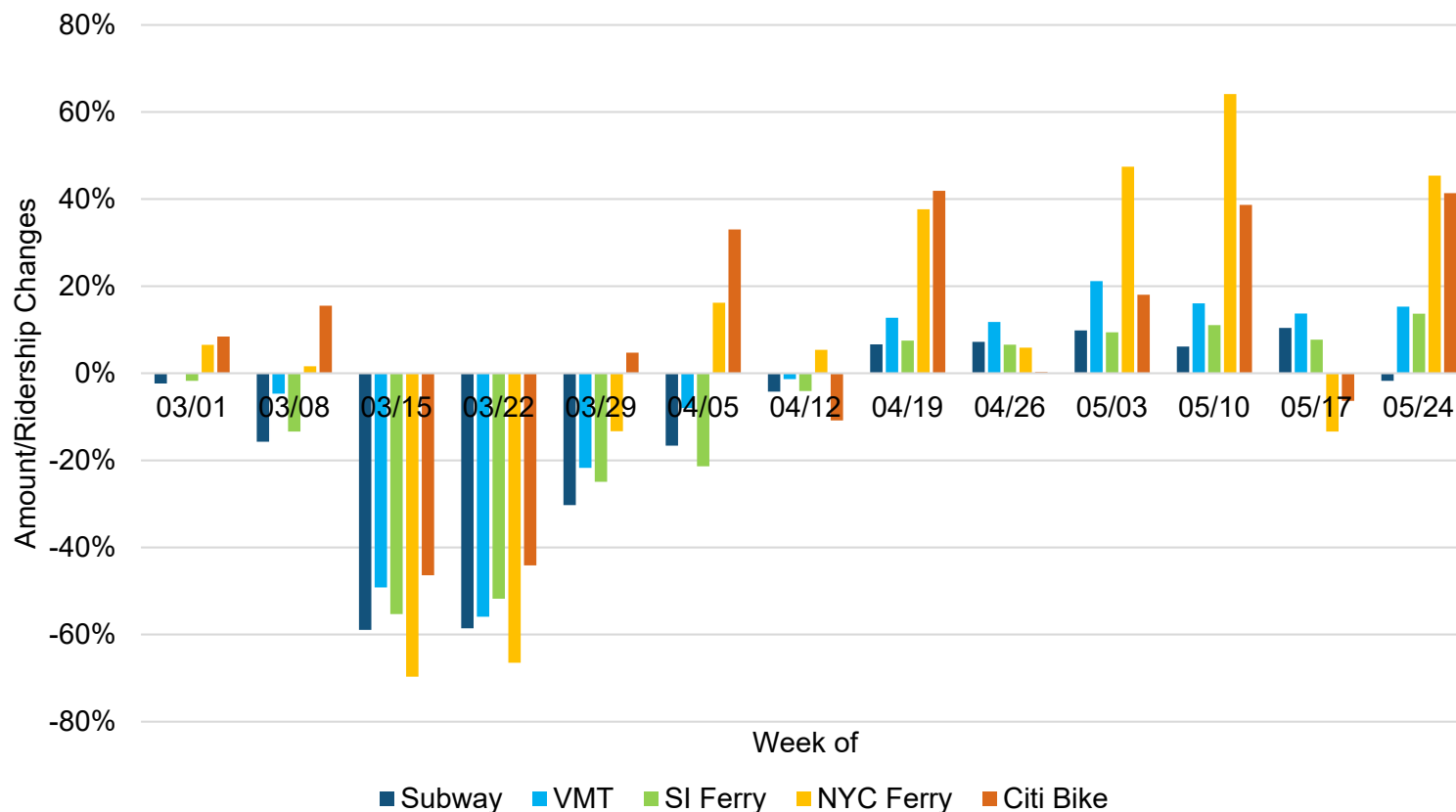
- **Ridership across most modes continues to increase** but, despite gains in subway ridership in recent weeks, the system is still seeing 88% fewer riders over pre-COVID19 travel. Nevertheless, there were more than 3 million total subway riders the week of 5/24/20, compared to 430,000 Citi Bike trips that same week.
- **New York City entered Phase 1 on June 8th.** This allows nonessential workers in retail, construction, and manufacturing & warehousing to return to work. We do not yet have enough travel data associated with the reopening to assess Phase 1 patterns, but will be tracking travel in the coming weeks.
- **The Phase 1 industries represent a much smaller share of the city's overall workforce than do Phase 2 industries.** There are more total office workers arriving to work between 7:30am and 8am than there are construction workers arriving during that same time period, which is the peak period for that sector.
- Much of the Bronx, southern and eastern Brooklyn, and southeastern Queens continue to show the lowest percentage reduction in subway riders over pre-COVID19 values.
- Unlike NYC Ferry, ridership on the Staten Island Ferry remains higher on weekdays than on weekends. **The Staten Island Ferry ridership peak travel time is 2 hour earlier than May of last year.**
- Face covering violations and social distancing complaints had their lowest number of total weekly complaints during the week starting May 31, which was also a week of widespread protests across NYC.
- While Citi Bike ridership on weekdays and weekends in March and April 2019 exceeded ridership in 2020 **weekend ridership in May 2020 exceeded ridership in May 2019.**

Citywide Trends

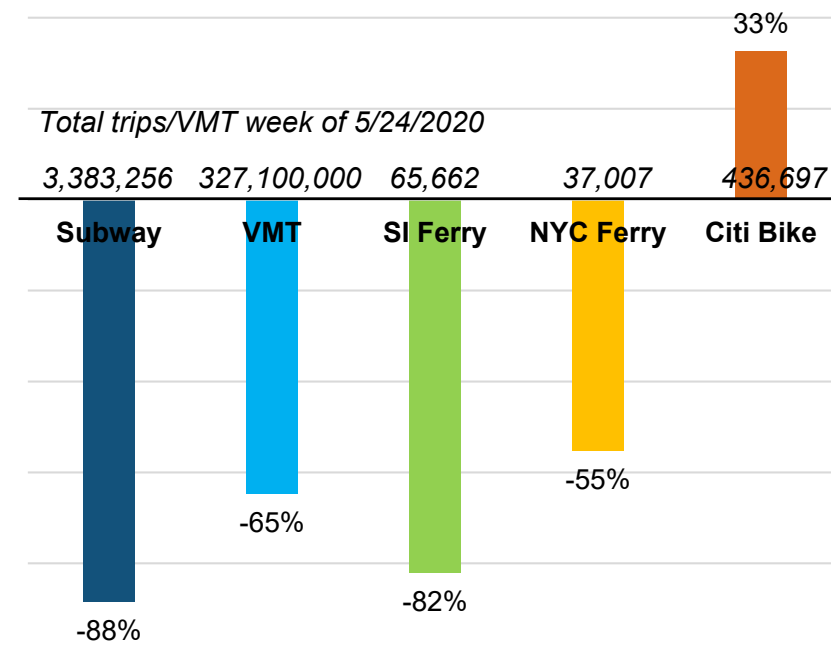
Citywide Trends

- Ridership across most modes continues to increase. Reduced ridership on NYC Ferry and Citi Bike the week of 5/17 may be attributed to poor weather on Saturday, May 23, and reduced subway ridership the week of 5/24 may be attributed to the Memorial Day holiday.
- Despite gains in subway ridership in recent weeks, the system is still seeing 88% fewer riders over pre-COVID19 travel. But there were more than 3 million total subway riders the week of 5/24/20, compared to 430,000 Citi Bike trips that week.

Week Over Week Changes



Week of 05/24/2020 Compared to Week of 03/01/2020

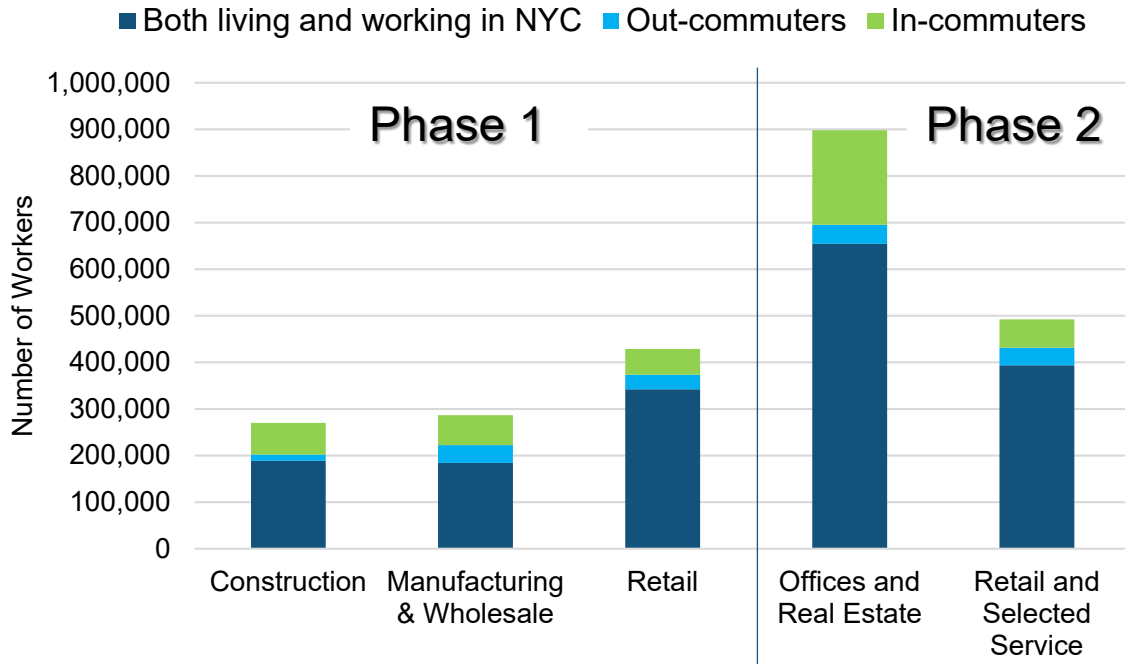


Phase 1 Reopening:

New York City entered Phase 1 on Monday, June 8

Reopening Analysis Introduction

- We do not yet have enough travel data associated with the reopening to assess Phase 1 patterns, but will be tracking travel in the coming weeks.
- The reopening analysis is conducted for industries indicated in New York reopening plan by phase (as listed on the right). Industries with relatively few workers are combined to improve data reliability.



Phase One

(Start Date: June 8)

- Construction
- Manufacturing
- Wholesale Trade
- Retail - (Limited to curbside or in-store pickup or drop off)
- Agriculture, Forestry, Fishing and Hunting (n/a in NYC)

Phase Two

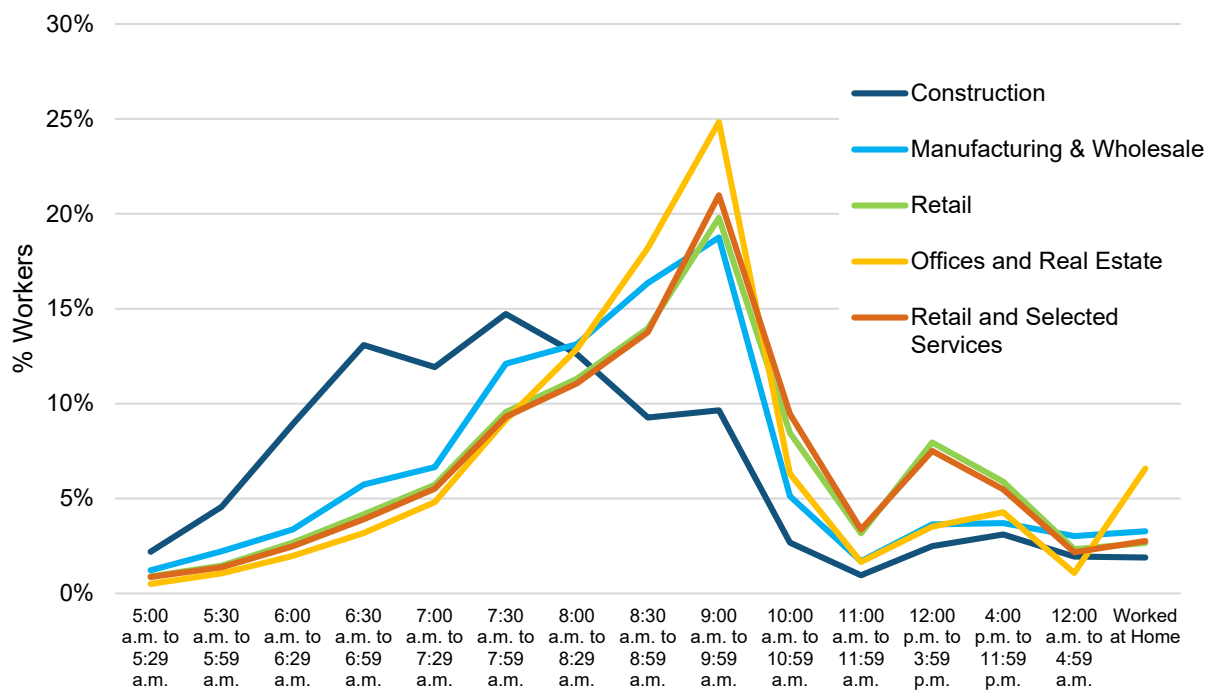
- Offices
- Real Estate
- Commercial Building Management
- Retail (in-store)
- Vehicle Sales, Leases, and Rentals
- Retail Rental, Repair, and Cleaning
- Hair Salons and Barbershops

Source: NY Forward. <https://forward.ny.gov>

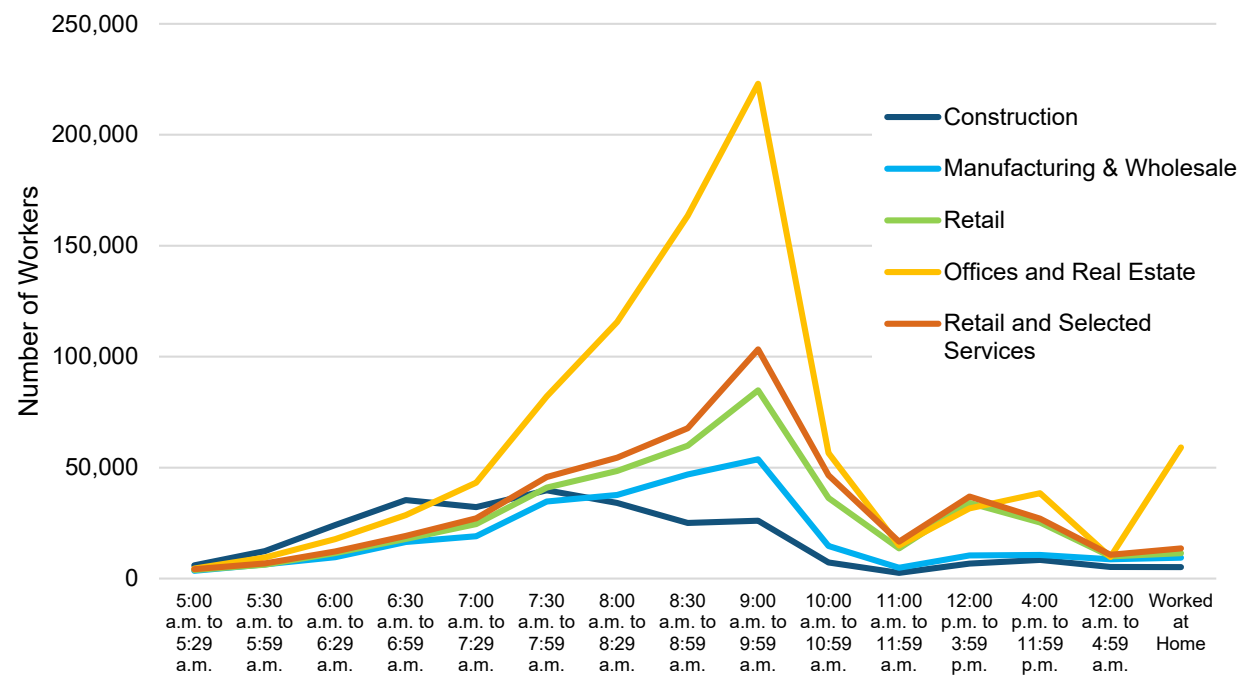
Time of Arrival at Work by Industry Sector

- Phase 1 industries, specifically construction and manufacturing & wholesale, are substantially less oriented around a 9-10am peak arrival hour than are the Phase 2 sectors.
- The Phase 1 industries also represent a much smaller share of the city's overall workforce. As seen on the charts below, there are more total office workers arriving to work between 7:30am and 8am than there are construction workers arriving during that same time period, which is the peak period for that sector.
- The greatest strain on the city's transportation system is expected as a result of Phase 2, and we are continuing to work to anticipate travel demand.

Percent of Worker by Arrival Time at Work by Industry



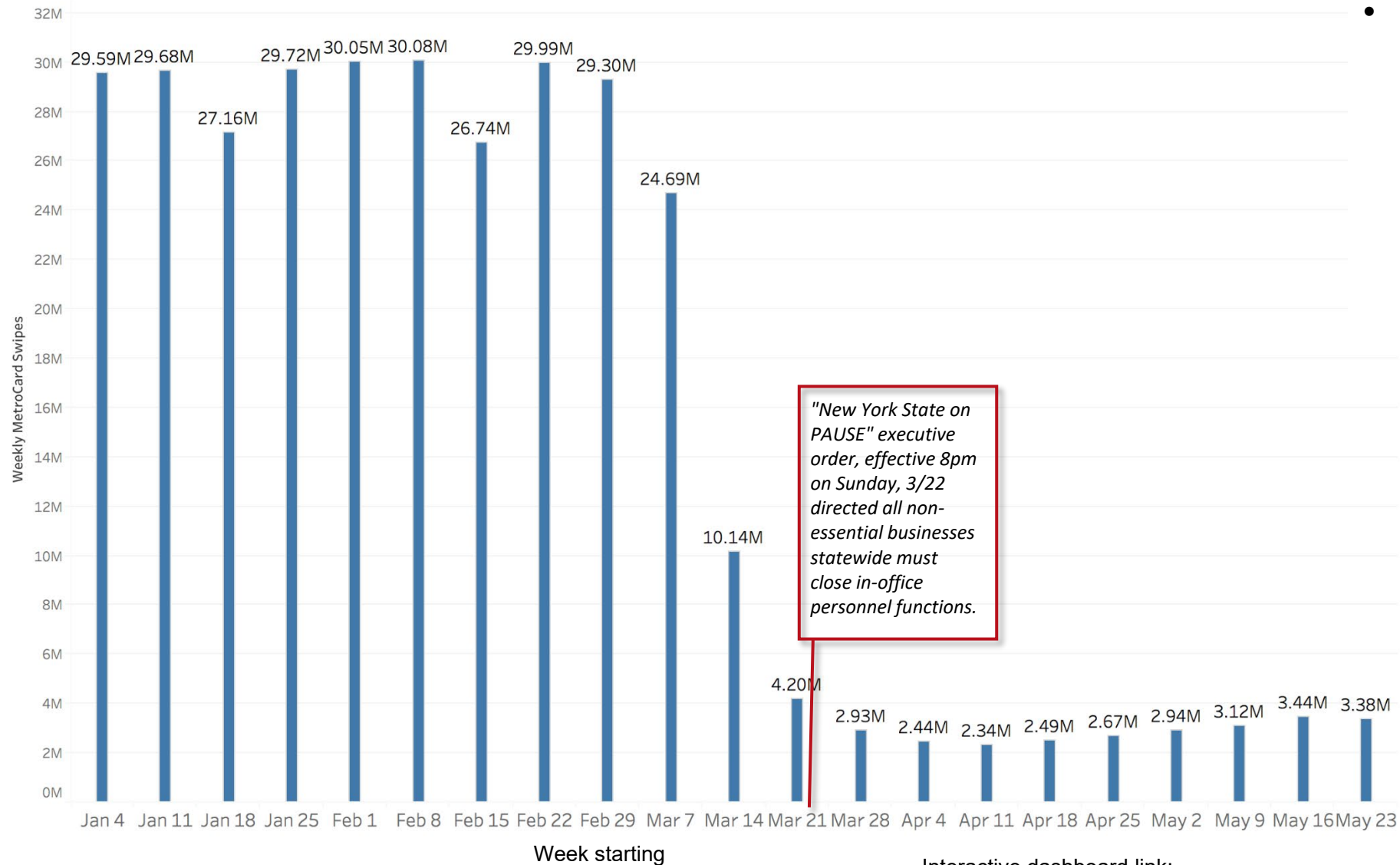
Number of Workers by Arrival Time at Work by Industry



Subway

Subway System-wide Ridership Changes

Weekly MetroCard Swipe Trends (Jan 4 - May 29)



- Total MetroCard swipes during the week of May 23-29 was slightly lower than the previous week, perhaps due to the Memorial Day holiday on May 25.

"New York State on PAUSE" executive order, effective 8pm on Sunday, 3/22 directed all non-essential businesses statewide must close in-office personnel functions.

Interactive dashboard link:

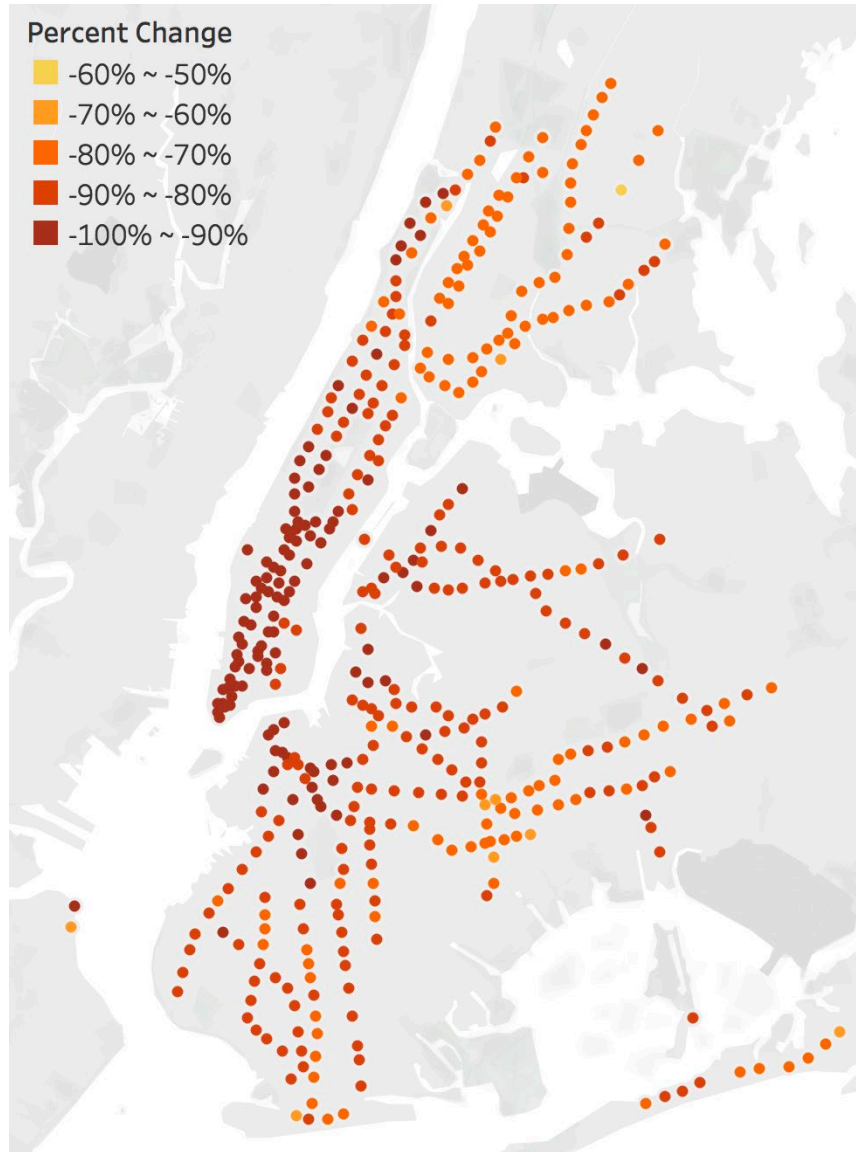
<https://public.tableau.com/profile/dcptransportation#!/vizhome/MetroCardSwipes/PercentChange>

Data sources: MTA Fare Data (<http://web.mta.info/developers/fare.html>)

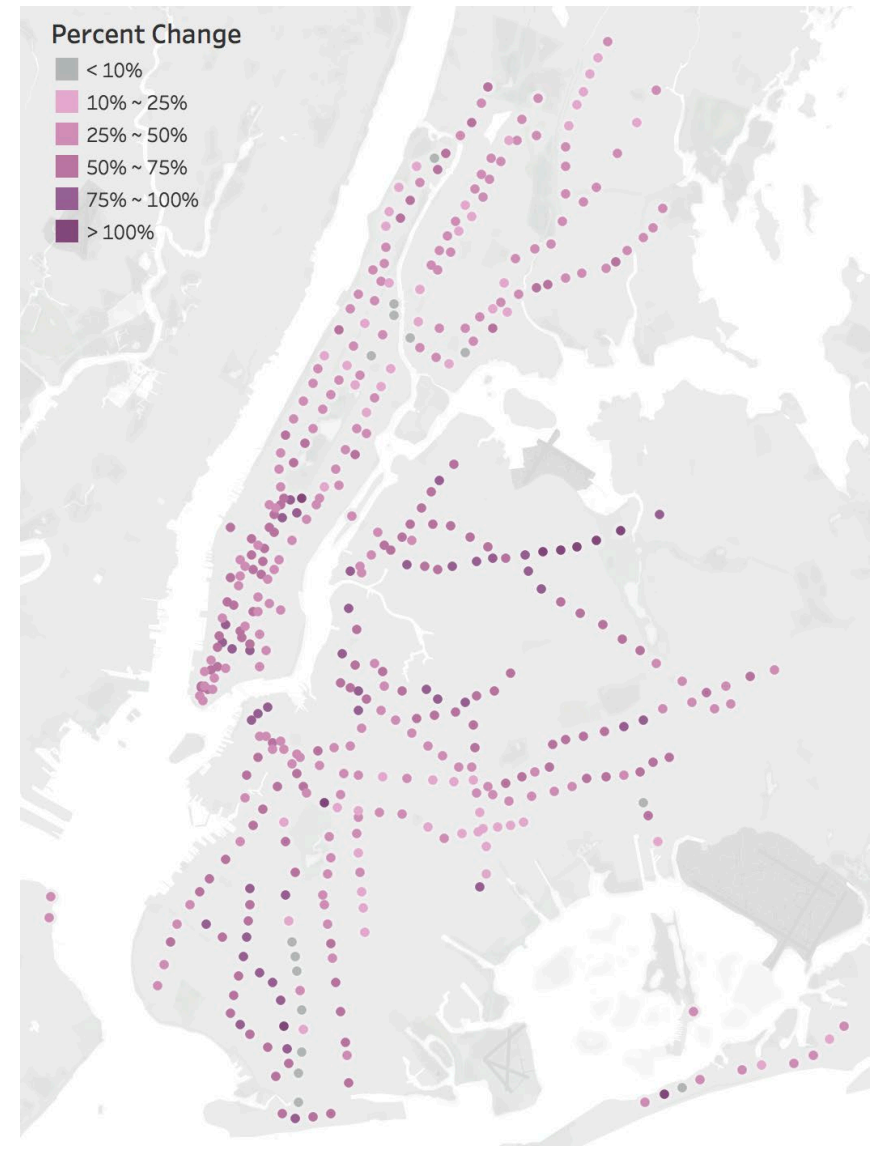
June 9, 2020 10

MetroCard Swipe Changes by Station

Percent Change of Swipes (May 23-29 2020 vs. Weekly Average of Jan 4 to Feb 28 2020)



Percent Change in MetroCard Swipes (May 23-29 2020 vs April 11-17 2020)

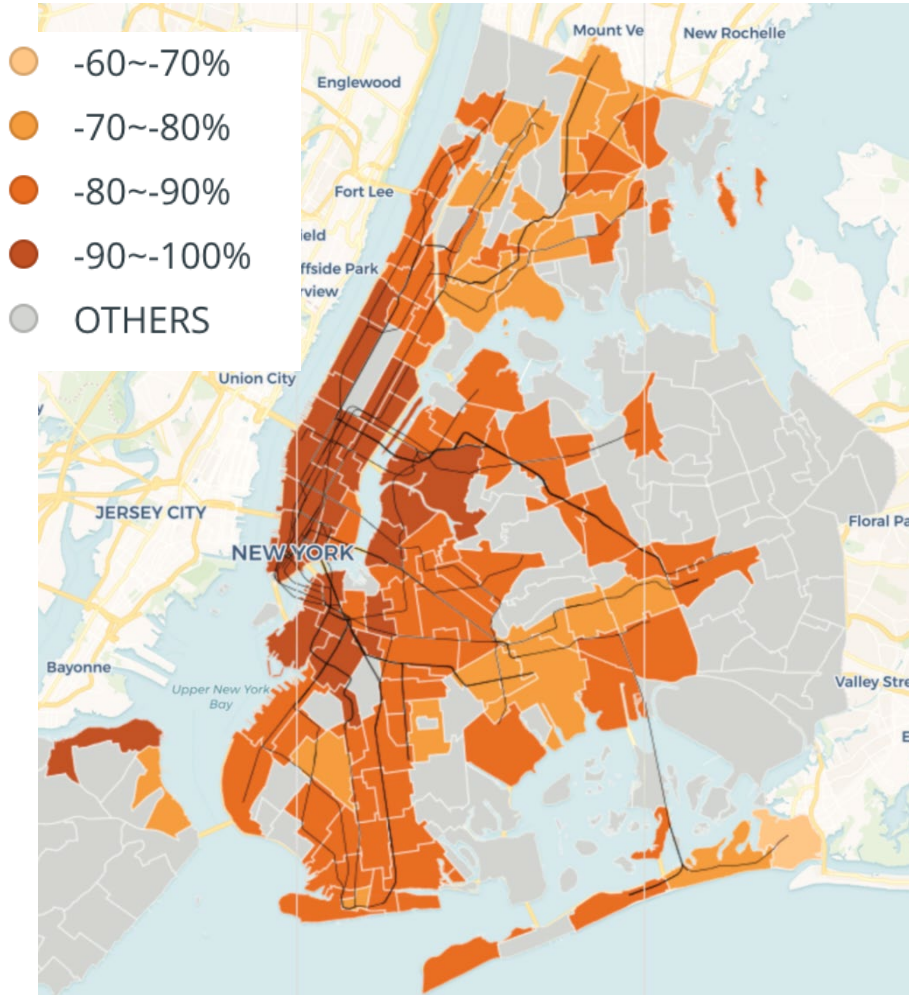


- The first map illustrates how station-level ridership is still dramatically down compared with the pre-pandemic baseline average.
- The second map shows the degree to which stations have recovered from the system-wide low ridership week of April 11. A 100% change means ridership has doubled since the week of April 11 – something observed across many stations in south Brooklyn and in Queens.

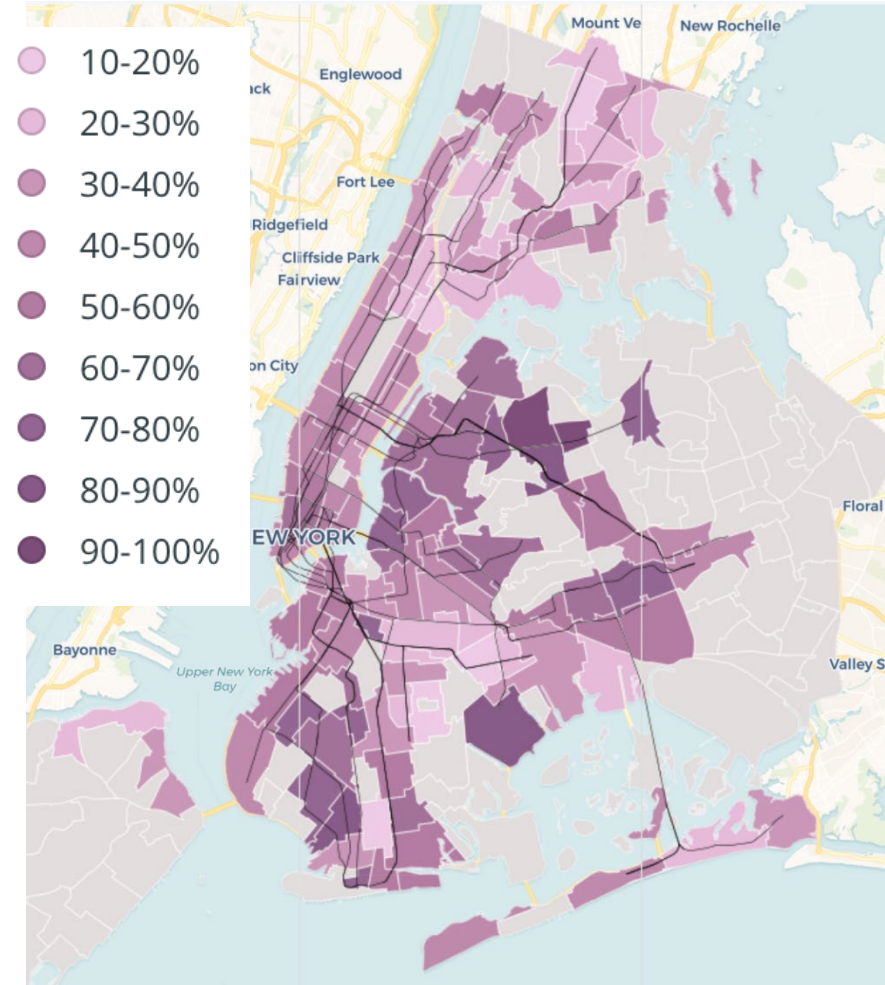
Interactive dashboard link:
<https://public.tableau.com/profile/dcptransportation#!/vizhome/MetroCardSwipes-IncreasingTrends/IncreaseTrends>

MetroCard Swipe Changes by Neighborhood

Percent Change of MetroCard Swipes by Neighborhood
(May 23-29, 2020 vs. Weekly Average of May 04-31, 2019)



Percent Change of MetroCard Swipes by Neighborhood
(May 23-29, 2020 vs. Apr 11-17, 2020)



- As seen by aggregating station-level changes to the neighborhood (NTA) level, Queens and South Brooklyn experienced the greatest increases in ridership since the system's lowest ridership week of April 11-17.
- Much of the Bronx, southern and eastern Brooklyn, and southeastern Queens continue to show the lowest percentage reduction in riders over pre-COVID19 values.

Interactive dashboard links:

<https://public.tableau.com/profile/dcptransportation#!/vizhome/MetroCardSwipes-NTAs/NTAmap>

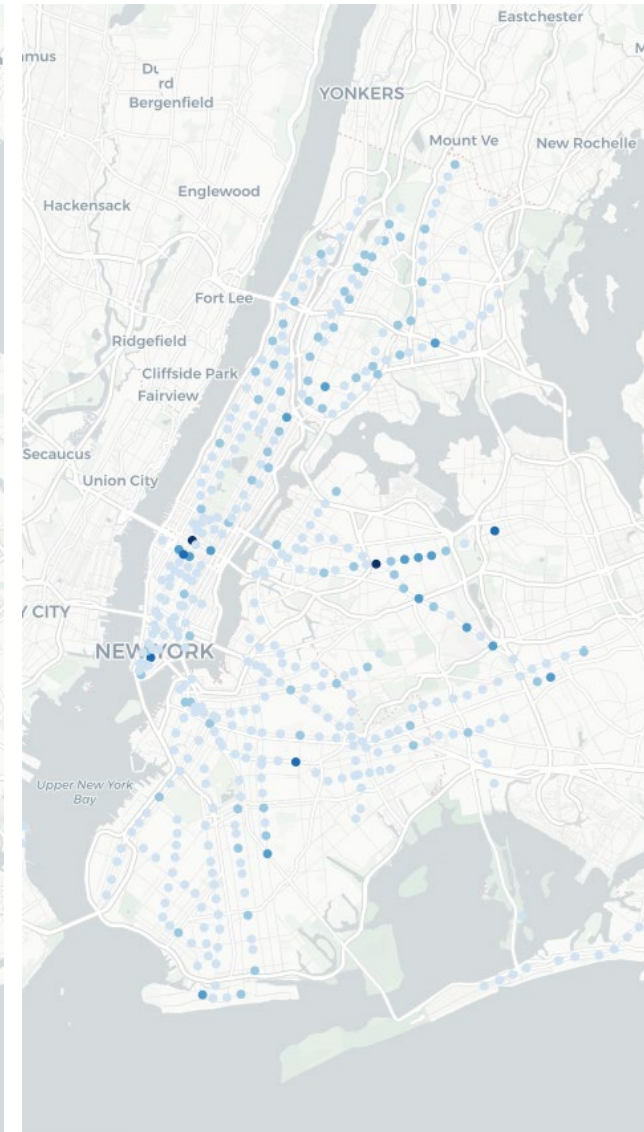
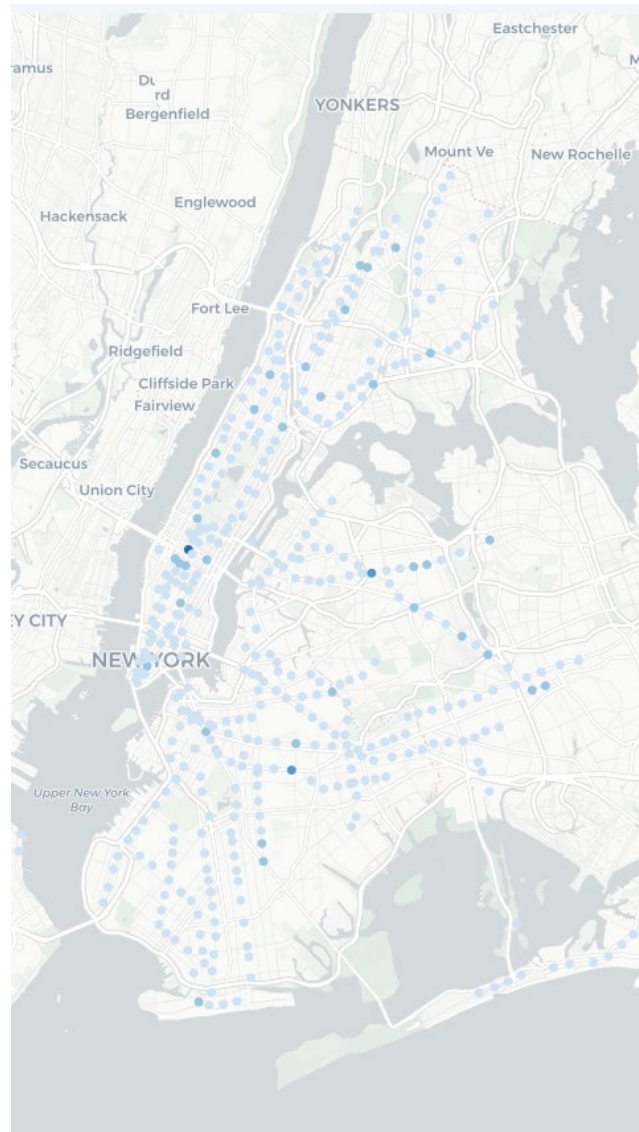
Data sources: MTA Fare Data
(<http://web.mta.info/developers/fare.html>)

Weekday AM Peak Turnstile Data

03/11-05/31 2019

04/14-04/17 2020

06/01-06/04 2020



AM peak hour trips generally indicate where people are commuting from:

- The peak low week of April 14th shows only a handful of stations with AM peak ridership of more than 1000 people.
- The week of June 1st, the most recent data available, shows increases across the city and especially in Queens.

WEEKDAY AM PEAK AVERAGE

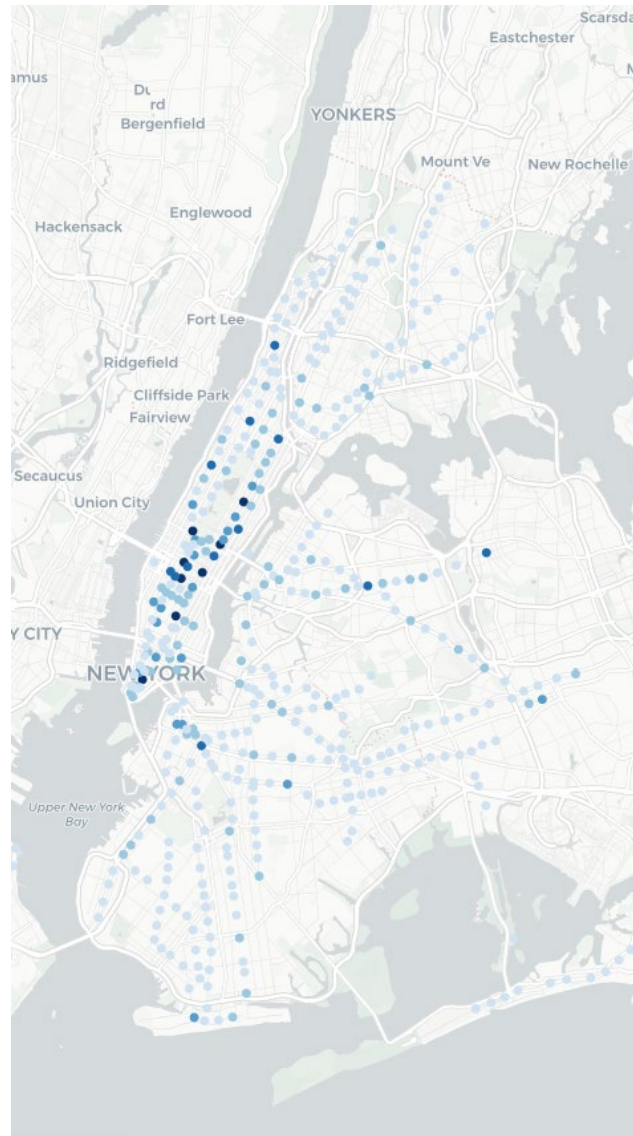
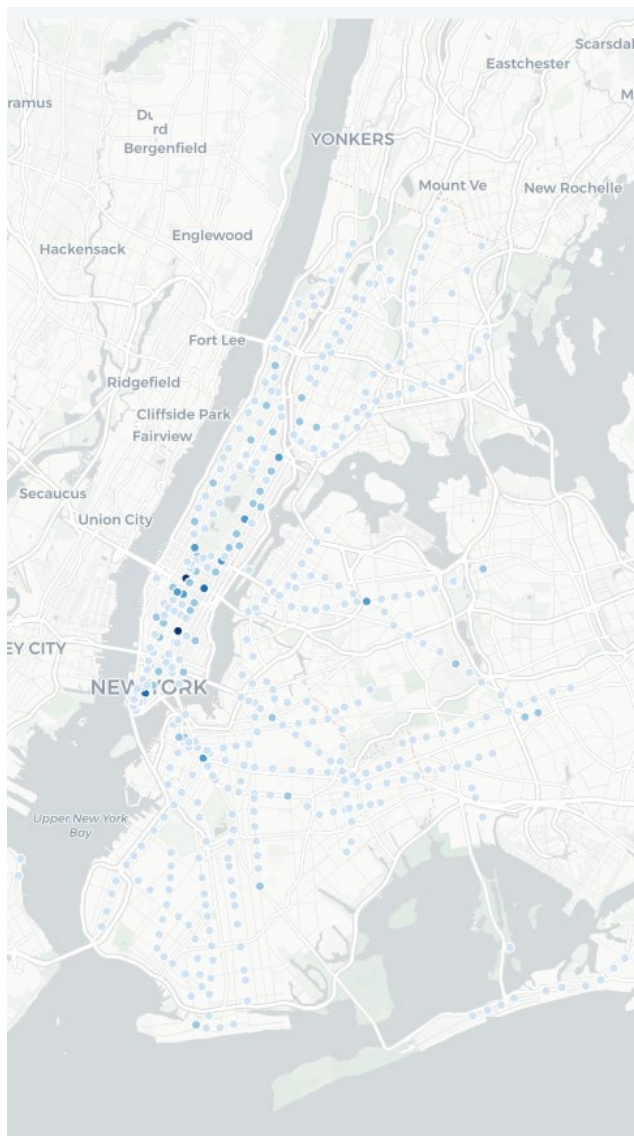
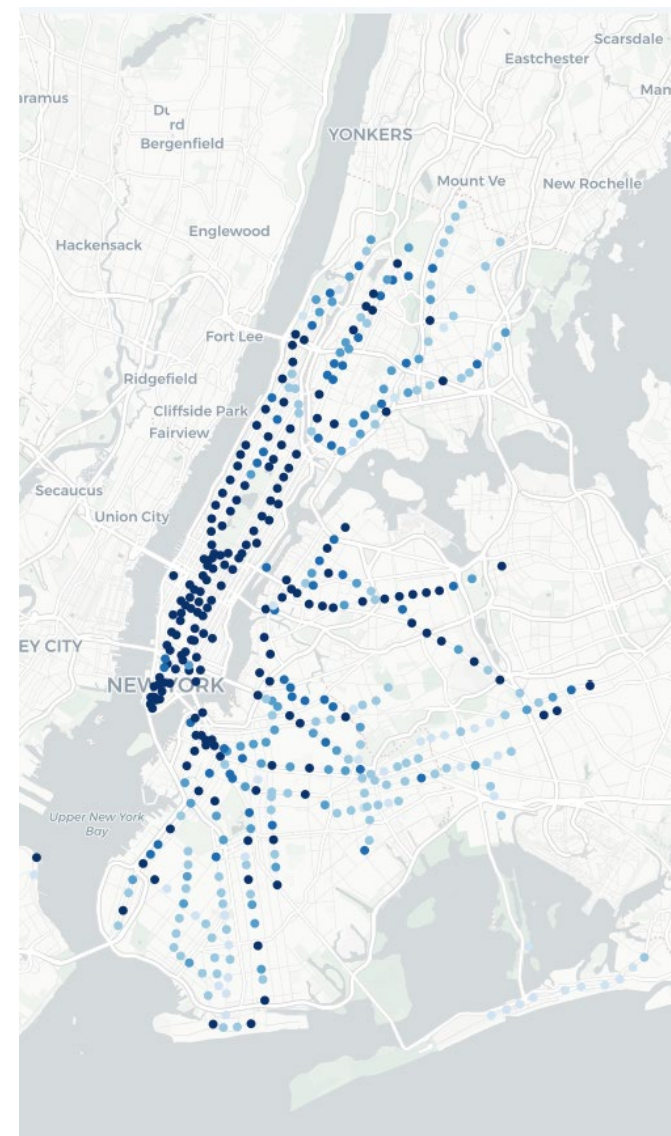
- 0-500
- 501-1000
- 1001-1500
- 1501-2000
- >2000

Weekday PM Peak Turnstile Data

03/11-05/31 2019

04/14-04/17 2020

06/01-06/04 2020



PM peak hour trips generally indicate where people are commuting to:

- The week of June 1st shows substantial ridership in Manhattan, indicating a potential increase in the number of people reporting to work in Manhattan.

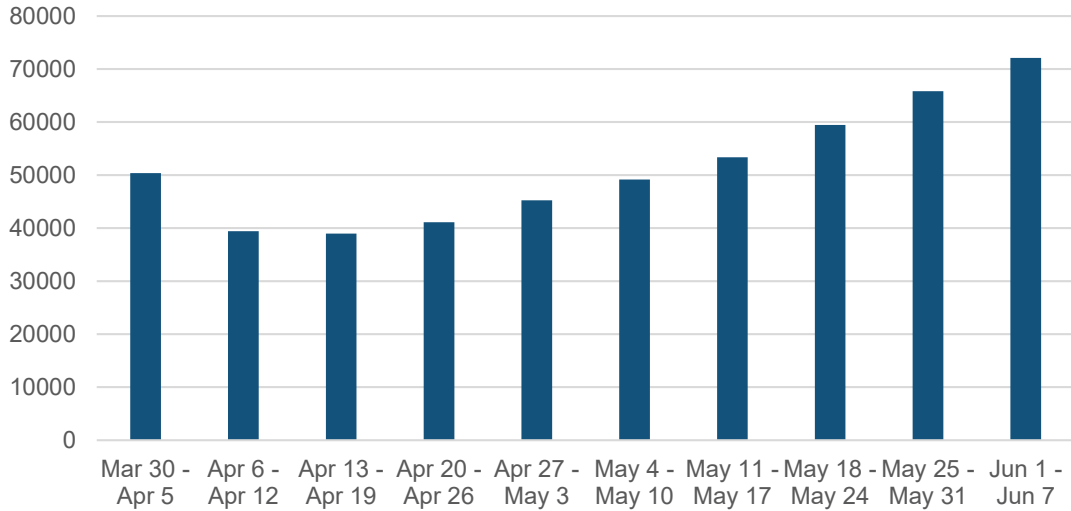
WEEKDAY PM PEAK AVERAGE



Ferries

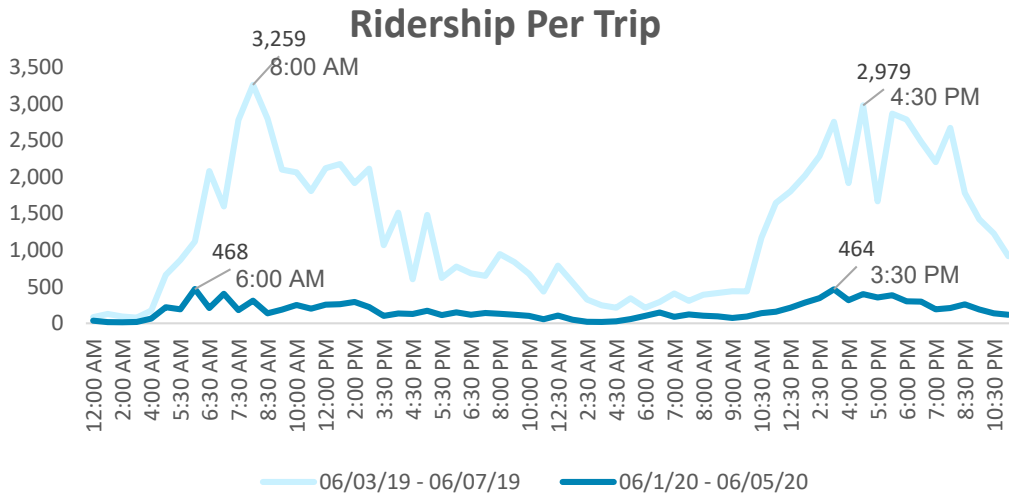
The Staten Island Ferry

The Staten Island Ferry -Total Weekly Ridership

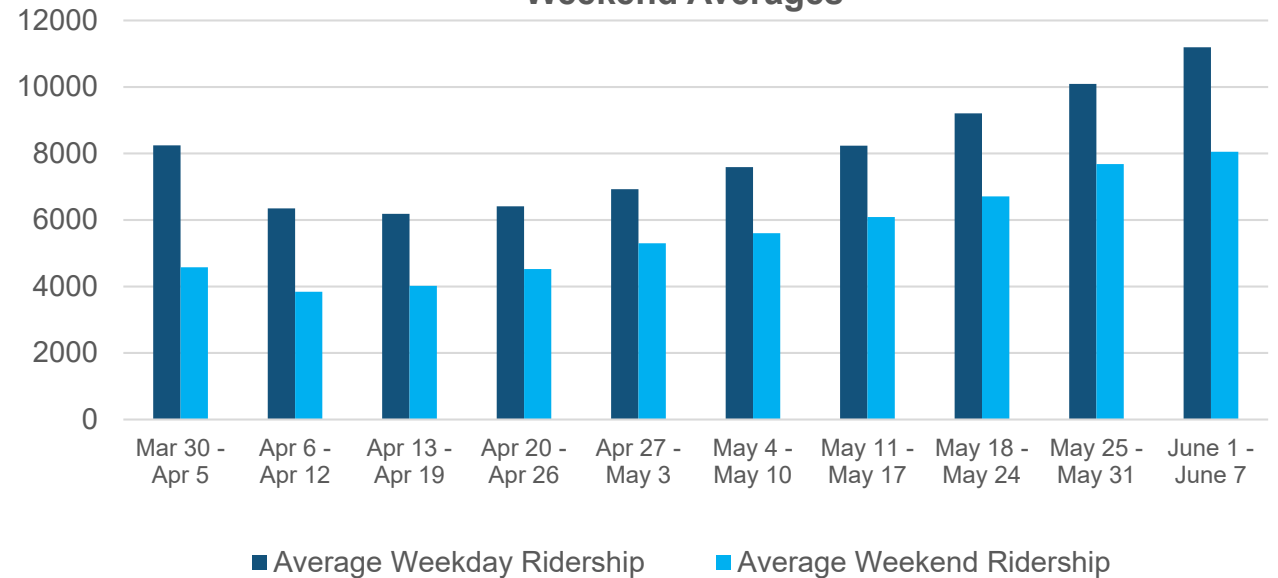


- June 8th: the Staten Island Ferry moved to a 20 minute schedule at during morning and evening peak hours.
- Total weekly ridership started increasing on the week of April 20, and there has been an average weekly increase of 8 percent in total ridership.
- The Staten Island Ferry ridership peak travel time was 6:00 AM the week of June 1, compared to 8:00 AM during the same time last year.
- Weekday and weekend ridership patterns have been consistent with one another.

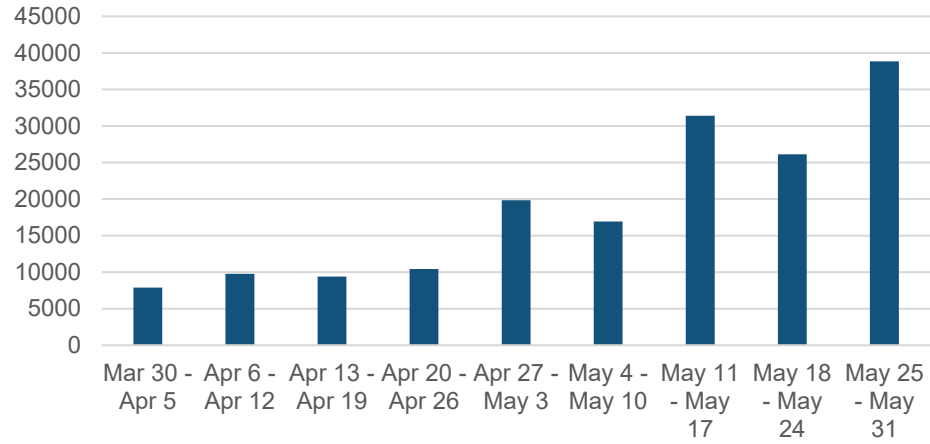
The Staten Island Ferry Average Weekday Ridership Per Trip



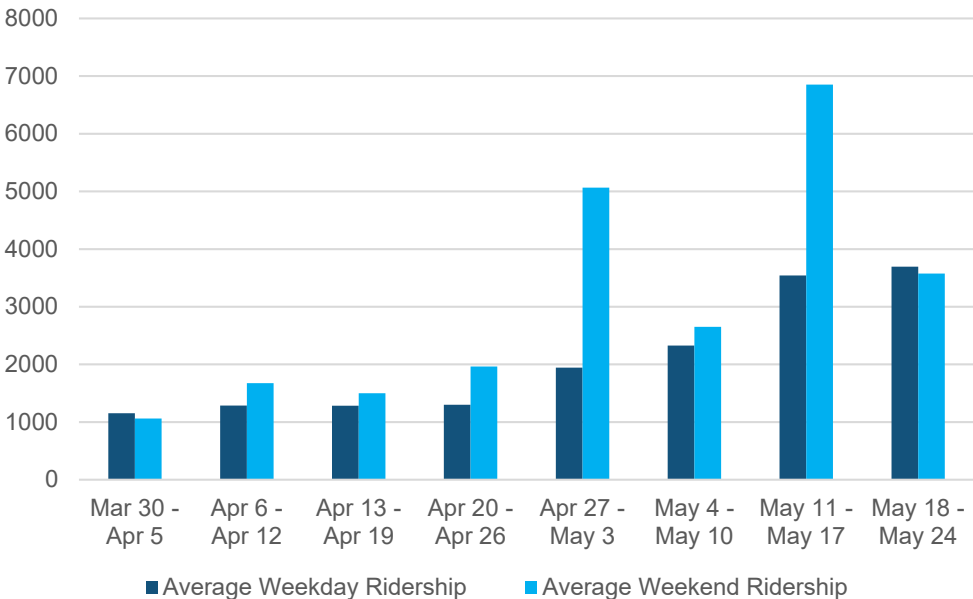
The Staten Island Ferry Weekly Ridership - Weekday vs. Weekend Averages



NYC Ferry - Total Weekly Ridership 2020



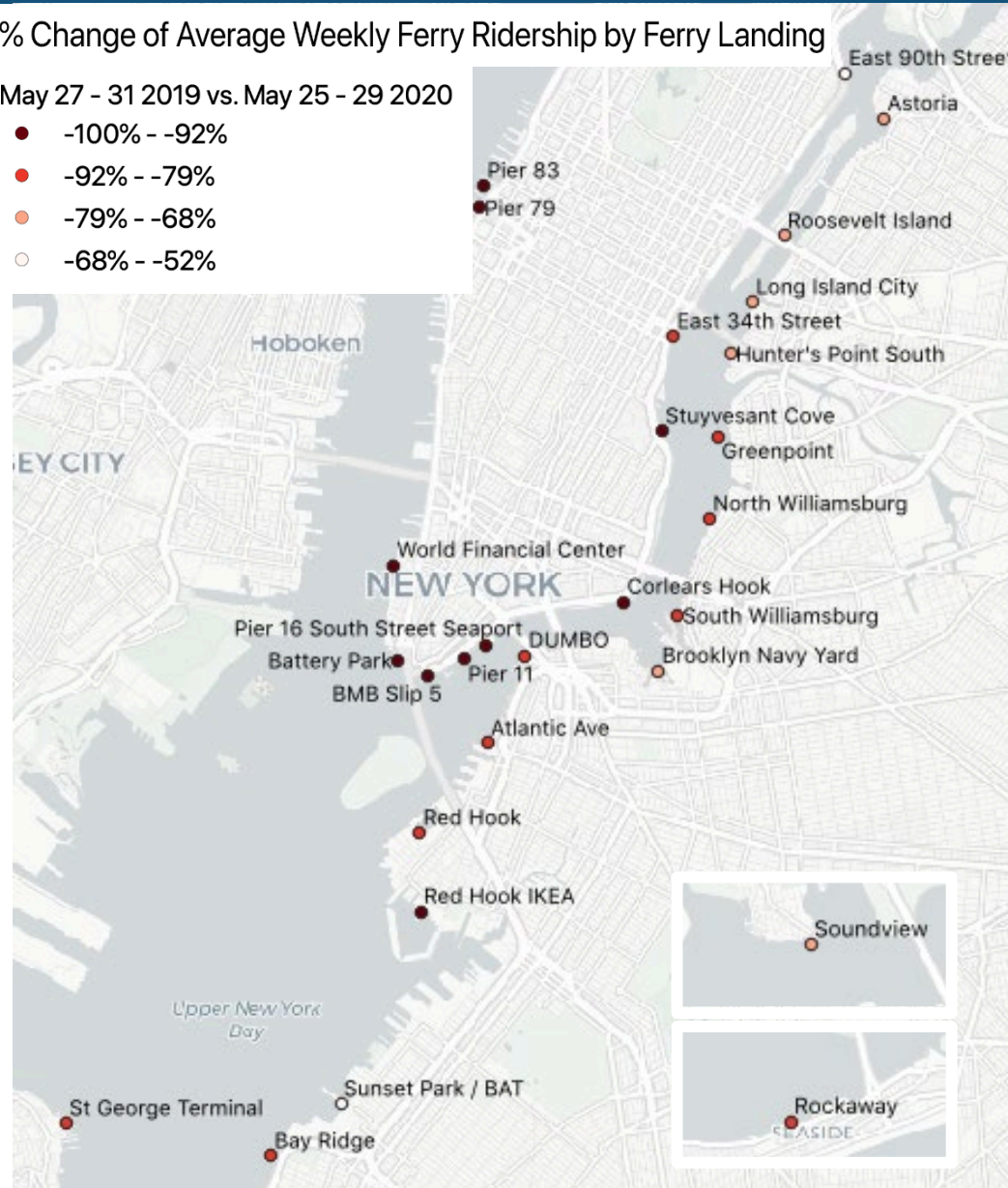
NYC Ferry Weekly Ridership - Weekday vs. Weekend Averages



% Change of Average Weekly Ferry Ridership by Ferry Landing

May 27 - 31 2019 vs. May 25 - 29 2020

- -100% - -92%
- -92% - -79%
- -79% - -68%
- -68% - -52%



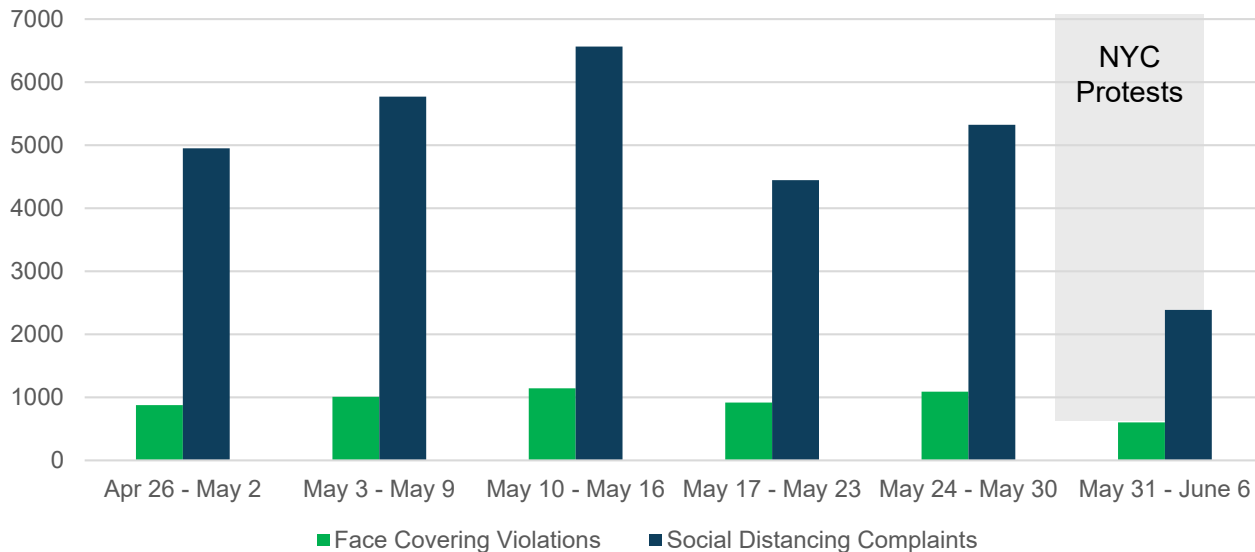
- NYC Ferry ridership has been increasing since early April.
- Sunset Park/BAT ferry landing saw the lowest percent change (-52%) in weekly ridership compared to the same time last year.
- Unlike ridership on the Staten Island Ferry, NYC Ferry ridership has been highest on the weekends.
- Weather greatly influences ridership. Dips in ridership were mainly during weeks that were rainy with cooler temperatures.

311 Social Distance Complaints: Street and Sidewalk

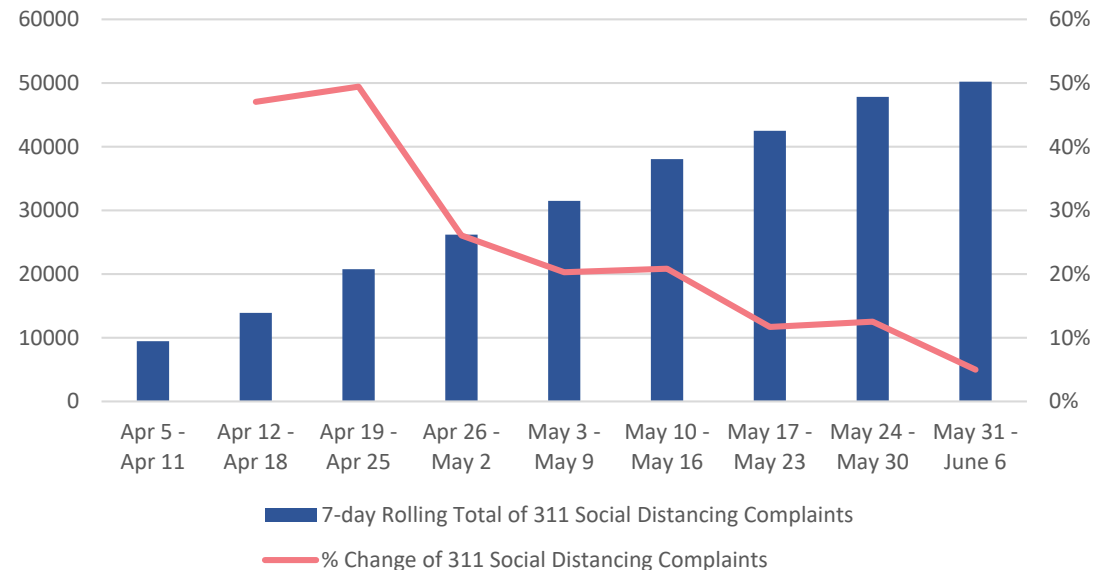


- “Social Distancing” is the second most common 311 service complaint (50,205 records) after “Loud Music/Party,” out of all 311 service complaints between March 28, 2020 and June 6, 2020. However, total calls per week has been declining in recent weeks.
- 311 face covering complaints started on April 26.
- Face covering violations and social distancing complaints had their lowest number of total weekly complaints during the week starting May 31, which was also a week of widespread protests across NYC.

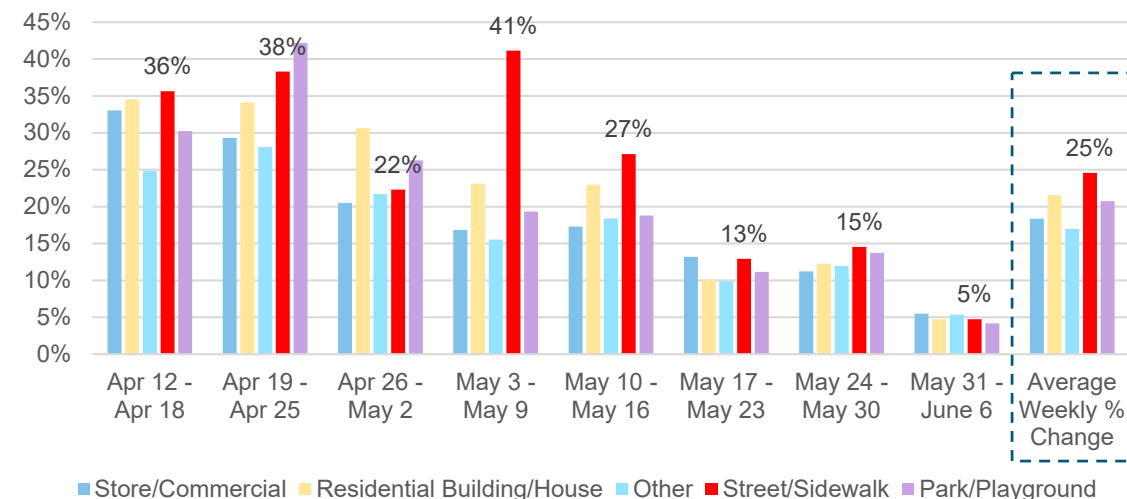
Face Covering Violations vs. Social Distancing Complaints



311 Social Distancing Complaints - Rate of Increase



311 Social Distancing Complaints by Location Type - Rate of Increase



Citi Bike

Citi Bike Expansion and Ridership Trends

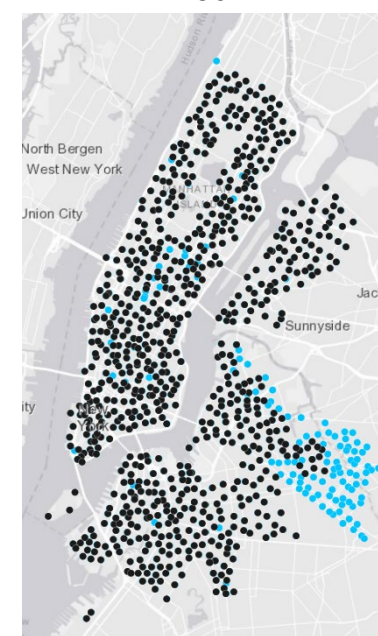
- At the end of April 2020, Citi Bike announced the expansion of an additional 100 stations in Northern Manhattan and the Bronx.
- While ridership in 2019 exceeded ridership in 2020 for both weekdays and weekends in March and April, weekend ridership in May 2020 exceeded ridership in May 2019.
- The first week of June 2020 saw fairly consistent weekday ridership with May 2020. Due to protests throughout NYC during this period, there was a citywide curfew that included shutting down the Citi Bike system from 6pm until 5am for 4 nights, starting on June 3.

- stations as of 6/2019
- stations added 12/2019
- stations added 6/2020

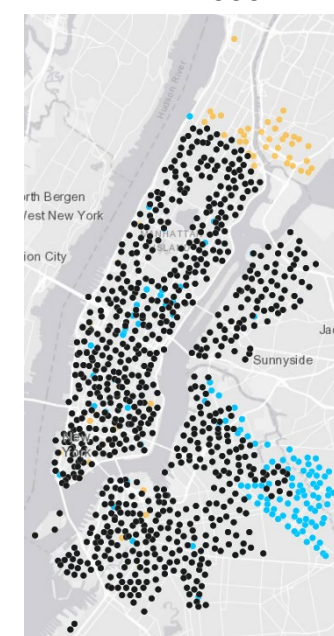
June 2019
Stations: 759



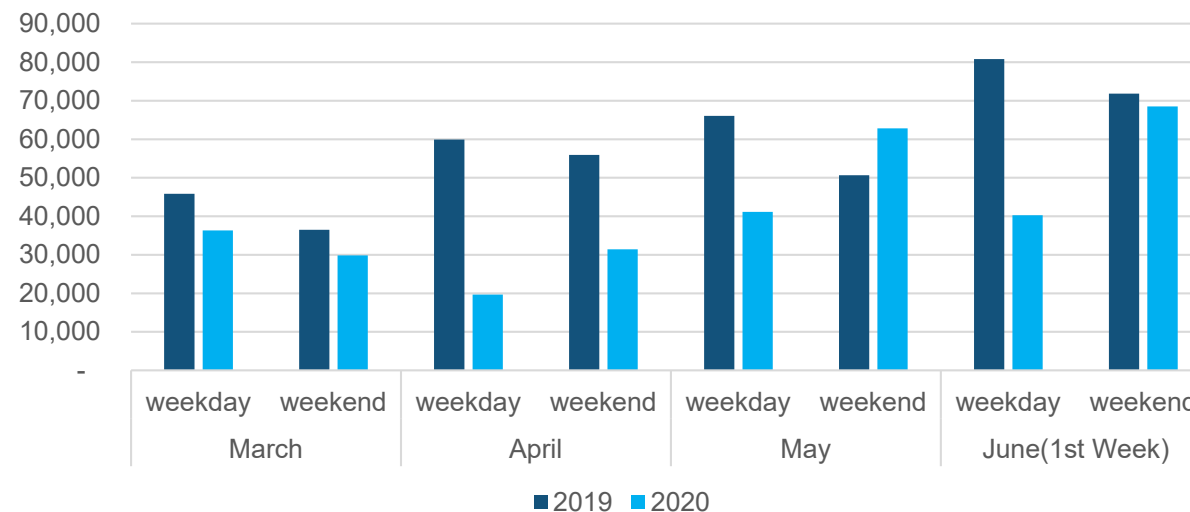
December 2019
Stations: 864



June 2020
Stations: 885

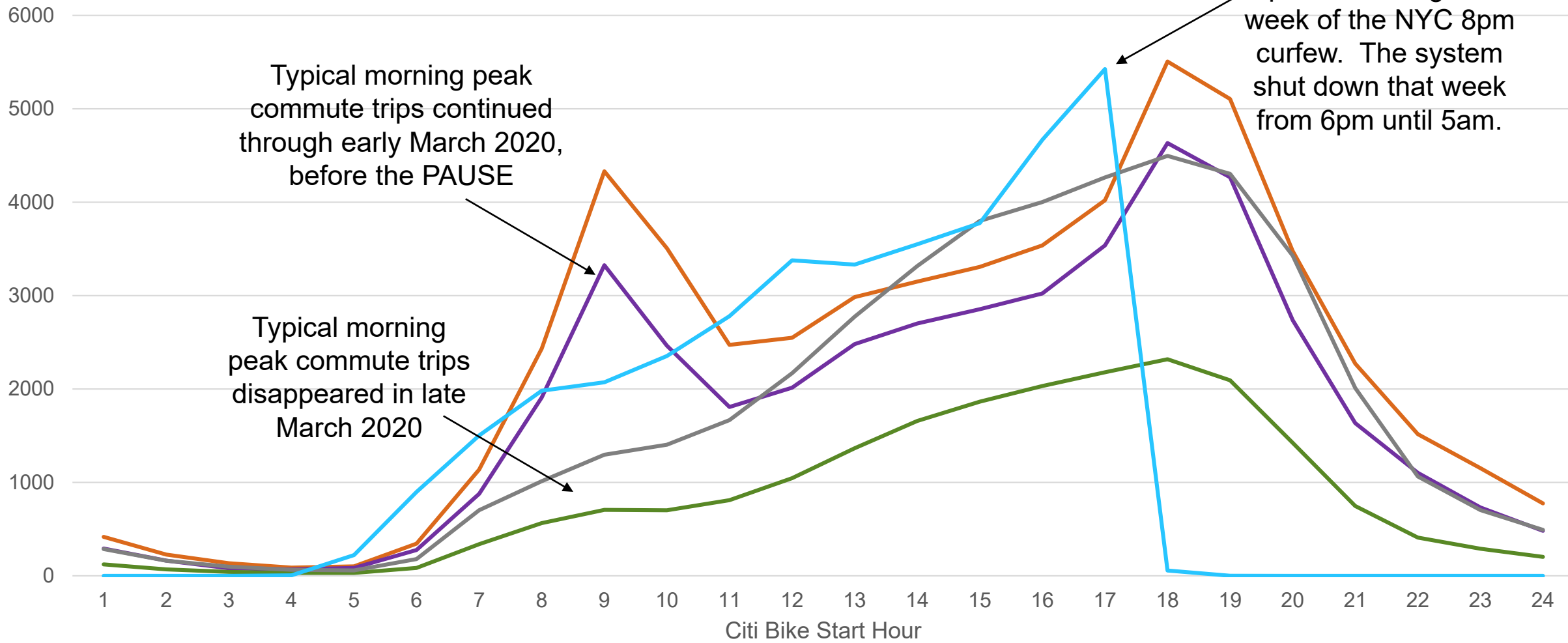


Citi Bike Average Daily Trips 2019 vs 2020 (March-June)



Citi Bike Ridership by Time of Day

Time of Day Comparison



Typical morning peak commute trips continued through early March 2020, before the PAUSE

Typical morning peak commute trips disappeared in late March 2020

Late afternoon trips peaked during the week of the NYC 8pm curfew. The system shut down that week from 6pm until 5am.

March-May 2019 March 01-21 2020 March 22-May 10 2020 2020 May 06-03 ~ 06-06 curfew

Timeline



New York COVID19 Pandemic Timeline

- March 1st, 2020: **First confirmed case** in New York <https://www.wsj.com/articles/first-case-of-coronavirus-confirmed-in-new-york-state-11583111692>
- March 7th, 2020: Governor Cuomo **declares state of emergency** <https://www.nytimes.com/2020/03/07/nyregion/coronavirus-new-york-queens.html>
- March 12th, 2020: Governor Cuomo announces **restrictions on mass gatherings**, directing events with more than 500 people to be cancelled or postponed and any gathering with less than 500 people in attendance to cut capacity by 50 percent. <https://www.governor.ny.gov/news/during-novel-coronavirus-briefing-governor-cuomo-announces-new-mass-gatherings-regulations>
- March 15th, 2020: **NYC school closures announced.** <https://www.nytimes.com/2020/03/15/nyregion/nyc-schools-closed.html> DeBlasio announces the **closure of schools, bars, and restaurants** (except takeout/delivery) effective the morning of the 17th <https://www.nytimes.com/2020/03/15/nyregion/new-york-coronavirus.html>
- March 18th: Governor Cuomo announces that **50% of non-essential employees** must work from home
- March 20th: Governor Cuomo announces **statewide stay at home rules**, effective the evening of the 22nd. **100% of non-essential workers** must stay home. <https://www.npr.org/sections/coronavirus-live-updates/2020/03/20/818952589/coronavirus-n-y-gov-cuomo-says-100-of-workforce-must-stay-home>, travel on transit only when necessary
- March 25th: MTA announces service reduction to **Essential Service** plan <https://abc7ny.com/6047040/>
- March 27th: The Governor halts **non-essential construction** <https://thecity.nyc/2020/03/cuomo-calls-off-non-essential-construction-statewide.html>
- May 1st: Mayor de Blasio announces first seven miles of streets in **Open Streets NYC** program. <https://gothamist.com/news/de-blasio-reveals-first-batch-open-streets-primarily-centered-parks>
- May 6th: Governor Cuomo enacts nightly 1am-5am subway shutdowns: <https://www.nytimes.com/2020/04/30/nyregion/subway-close-cuomo-coronavirus.html>
- May 22nd: Mayor de Blasio announces 45 miles of **open streets**, the most in the nation, with the City to eventually reach 100 miles. <https://www.6sqft.com/nyc-full-list-of-open-streets-summer-2020/>
- June 1st: Governor Cuomo announces overnight curfew in NYC after a weekend of protests due to the death of George Floyd. No-non local vehicles permitted in Manhattan below 96th street, and Citi Bike is shut down during curfew hours. <https://deadline.com/2020/06/new-york-city-curfew-andrew-cuomo-george-floyd-protests-1202948548/>
- June 5th: The MTA lays out its 13-point **“Action Plan For a Safe Return”** in preparation for New York City’s reopening. <https://new.mta.info/document/17751>
- June 7th: Mayor de Blasio announces the end of protest-related curfews ahead of schedule, effective immediately. <https://www.cbsnews.com/news/nyc-mayor-announces-curfew-has-ended-ahead-of-schedule-2020-06-07/>
- June 8th: New York City begins **Phase 1 of re-opening**. Manufacturing, non-essential construction, and non-essential retail via curbside pickup can resume operations <https://www.nytimes.com/2020/06/08/nyregion/coronavirus-nyc-reopen-phase-1.html>
 - The Staten Island Ferry begins moving to a 20-minute rush hour schedule beginning with the 3:30 PM trip from St. George. <https://www1.nyc.gov/html/dot/html/ferrybus/siferryschedule.shtml#SISchedule>
 - Mayor De Blasio announces **five new busways** to be created throughout the city, modeled after the 14th Street Busway, which will be made permanent. More bus lanes will be added along major corridors. <https://www.politico.com/states/new-york/albany/story/2020/06/08/as-city-reopens-de-blasio-expands-transit-options-1291796> |