COVID19 IMPACTS ON TRANSPORTATION

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

September 22, 2020





Introduction

- The NYC Department of City Planning's Transportation Division is compiling data to help understand the effects of COVID19 on the transportation network. We began reporting weekly in April 2020. After pausing the weekly reports in August, we're resuming with an intent to update bi-weekly. This report and past reports can be found at https://www1.nyc.gov/site/planning/planning-level/transportation/transportation-overview.page
- This week's report includes the following information:
 - 1. Executive Summary
 - 2. Citywide Trends
 - 3. MTA: Subway and Bus
 - 4. MTA: Metro North Railroad, Long Island Rail Road, Access-A-Ride
 - 5. Ferry
 - 6. Traffic
 - 7. Citi Bike
 - 8. DMV Registrations
 - 9. Timeline
- 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.



Executive Summary

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- Travel across all modes is up substantially over mid-April volumes.
- An increase in travel has been observed since the end of August, apart from bus and NYC Ferry, but general gains were less than expected as public schools generally remain closed for in-person learning and office re-occupancy has been slow.
- Bus ridership fell with the resumption of fare collection on September 1st.
- Gains in travel across different modes have been distributed unevenly since the mid-April low, and skewed more towards weekend travel.
- Still, weekday subway ridership during the week of September 14 was up 16 percent over the previous week a stronger increase than most week-over-week changes through the summer.
- The **city's business districts** in midtown and lower Manhattan, downtown Brooklyn, and Long Island City continue to see less than a quarter of their PM peak subway entries, indicating a **very limited return to work in those areas**.
- Year over year, the greatest ridership differences are currently seen in neighborhoods with the strongest likelihood of having telework-capable populations, including much of Manhattan, Downtown Brooklyn, Williamsburg, Long Island City, and Astoria.
- Since the start of September, the Staten Island Ferry has recovered an average of 36 percent of its daily ridership, compared to 2019 levels.
- Total average weekday daytime inbound vehicles to Manhattan and the Manhattan central business district are comparable to pre-pandemic levels, while evening traffic volumes remain lower.
- From June through early September 2020, Citi Bike ridership has been fairly consistent with ridership patterns during the same months in 2019. Citi Bike ridership on East River bridge crossings has been very slowly increasing, with peak travel occurring on weekends.
- Car registrations in NYC fell throughout the spring when spending was very low, most car dealerships were closed, and the DMV was
 only open for essential operations. There has been a modest uptick in cars registered to the city since the summer, though
 total registrations remain lower than the past several years.

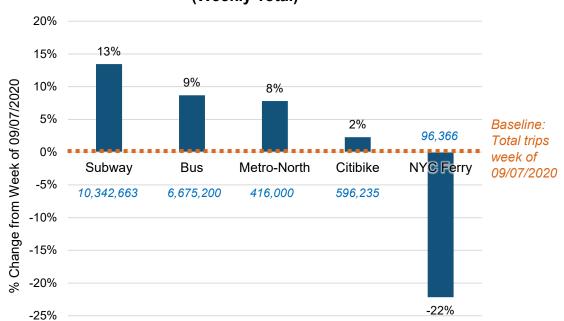
Citywide Trends



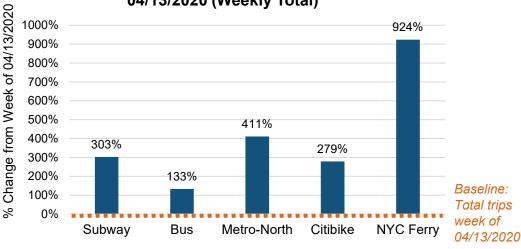
Citywide Trends

- Travel across all modes is up substantially over mid-April volumes.
- An additional uptick in travel has been observed since the end of August, though gains were less than expected, as public schools remain closed for in-person learning, and office re-occupancy has been slow.
- Bus ridership fell between August and September, likely due to the resumption of fare collection on buses, but was up the week of September 14 over the previous week.

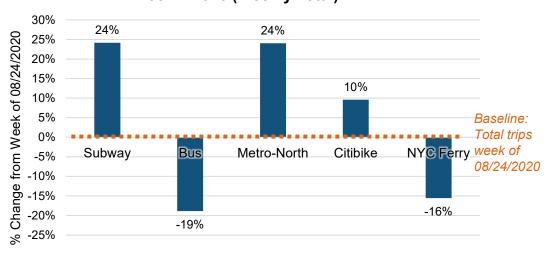
Week of 09/14/2020 Compared to Previous Week (Weekly Total)



Week of 09/14/2020 Compared to Week of 04/13/2020 (Weekly Total)



Week of 09/14/2020 Compared to Week of 08/24/2020 (Weekly Total)



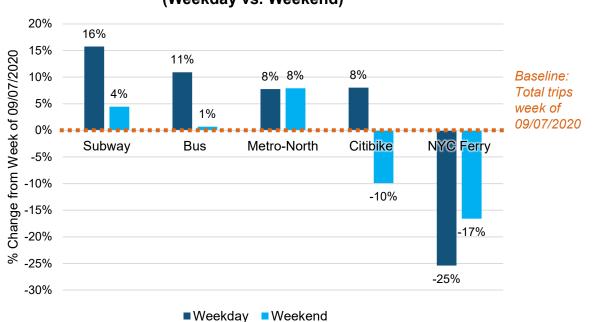


Data sources: MTA (Subway, Bus, Metro North), EDC (NYC Ferry), DOT (Citi Bike).

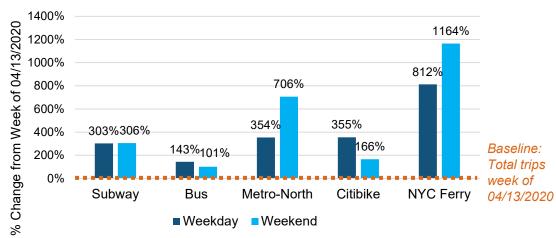
Citywide Trends: Weekday vs Weekend

- Gains in travel across different modes have been distributed unevenly since the mid-April low, and skewed more towards weekend travel.
- This indicates a growing willingness to leave home, but perhaps not a return to places of work for many people who would typically be commuting.

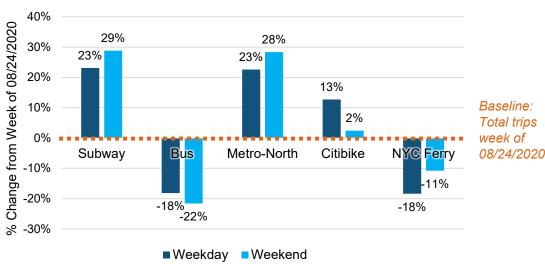
Week of 09/14/2020 Compared to Previous Week (Weekday vs. Weekend)



Week of 09/14/2020 Compared to Week of 04/13/2020 (Weekday vs. Weekend)



Week of 09/14/2020 Compared to Week of 08/24/2020 (Weekday vs. Weekend)



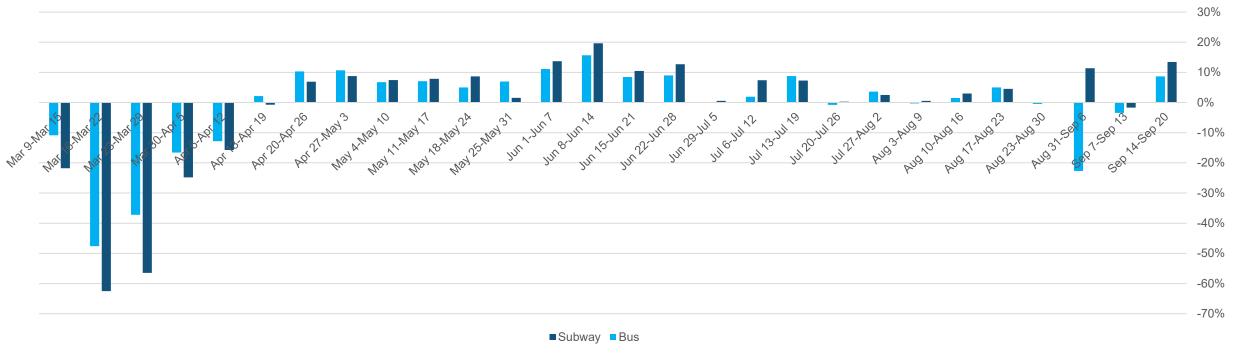


MTA data: Subway and Bus



MTA Subway & Bus System-wide Ridership Changes

Percent Change of Estimated* MTA Subway & Bus Weekly Ridership (March 1- September 20, 2020)



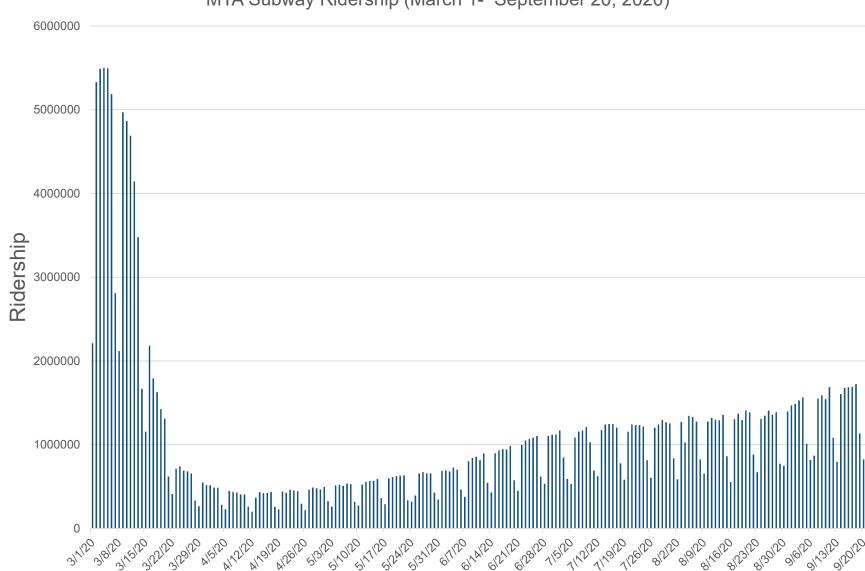
- Both subway and bus ridership have generally been increasing week-over-week since mid-April.
- On September 1, the MTA resumed fare collection on buses, after suspending collection on March 23, 2020. Bus ridership dropped by more than 22 percent that week, while subway ridership increased by more than 11 percent. The drop in bus riders and increase in subway riders during the first week of September likely reflects a resulting mode shift.



MTA Subway System-wide Ridership Changes







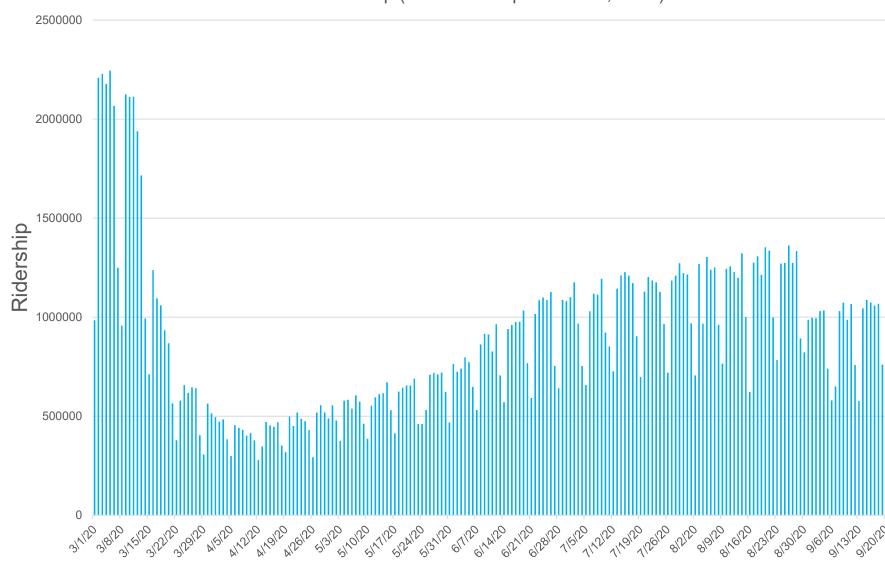
- Weekday subway ridership during the week of September 14 was up 16 percent over the previous week, while weekend ridership was up 4 percent over the previous week.
- Weekday subway ridership is now at nearly 30 percent of 2019 averages.



MTA Bus System-wide Ridership Changes







- Weekday bus ridership was up 11 percent during the week of September 14 from the previous week, while weekend ridership was up 0.7 percent.
- Weekday bus ridership is now at nearly half of 2019 averages.

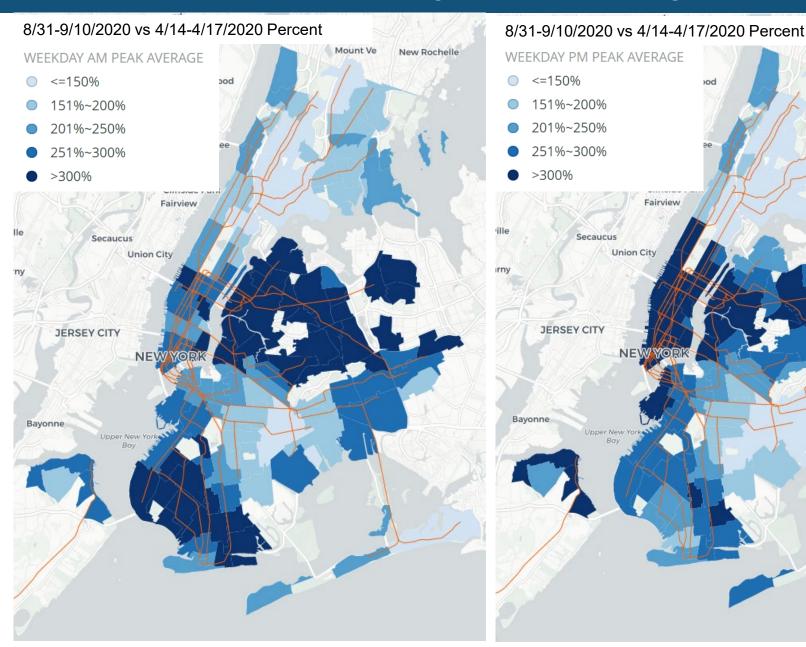


From the MTA: Current bus ridership figures are estimated from models that use MetroCard and OMNY swipes and taps and Automatic Passenger Counter data that is available on a portion of our bus fleet. These figures are indicative of ridership but not a precise count. Figures from recent days may be revised as reconciliation processes are carried out. Data sources: MTA (https://new.mta.info/coronavirus/ridership)

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Weekday AM and PM Peak Turnstile Data – Comparisons with April 2020

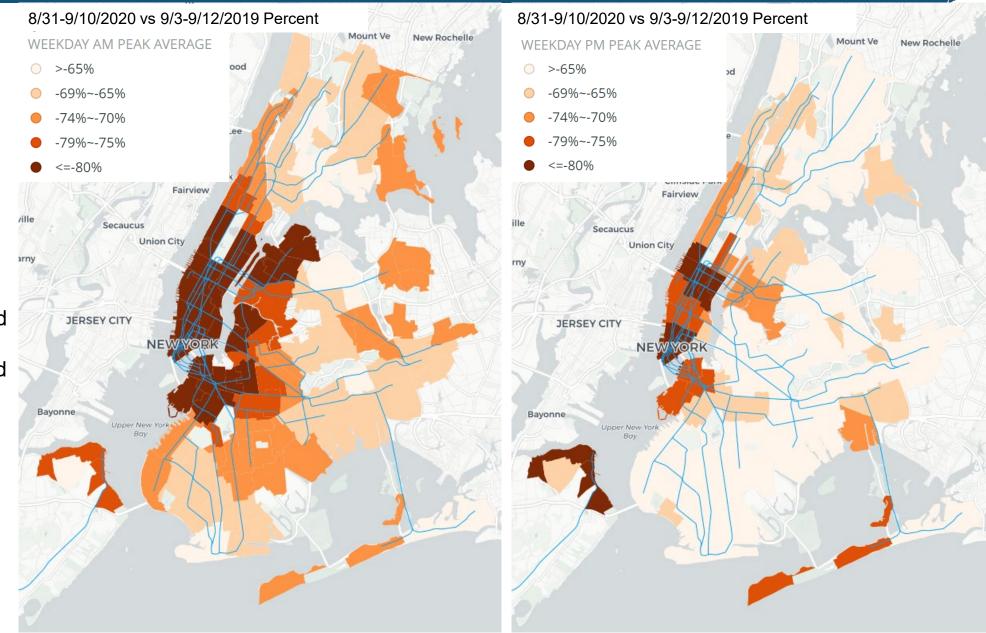
- In mid-April, subway travel was at its lowest.
 Ridership has been increasing since then, to varying degrees across the city.
- The AM peak hour map may indicate where commuters are returning to the subway system, while the PM peak hour map may indicate where people are commuting home from.
- Much of Queens and south Brooklyn are seeing strong AM peak hour gains. The city's business districts have gained substantial PM peak ridership since mid-April.





Weekday AM and PM Peak Turnstile Data – Comparisons with Sept 2019

- While subway ridership has been increasing in recent months, AM and PM peak hour trips in early September 2020 remain substantially off from their volumes during the same weeks in 2019.
- The city's business districts in midtown and lower Manhattan, downtown Brooklyn, and Long Island City continue to see less than a quarter of their PM peak subway entries, indicating a very limited return to work in those areas.

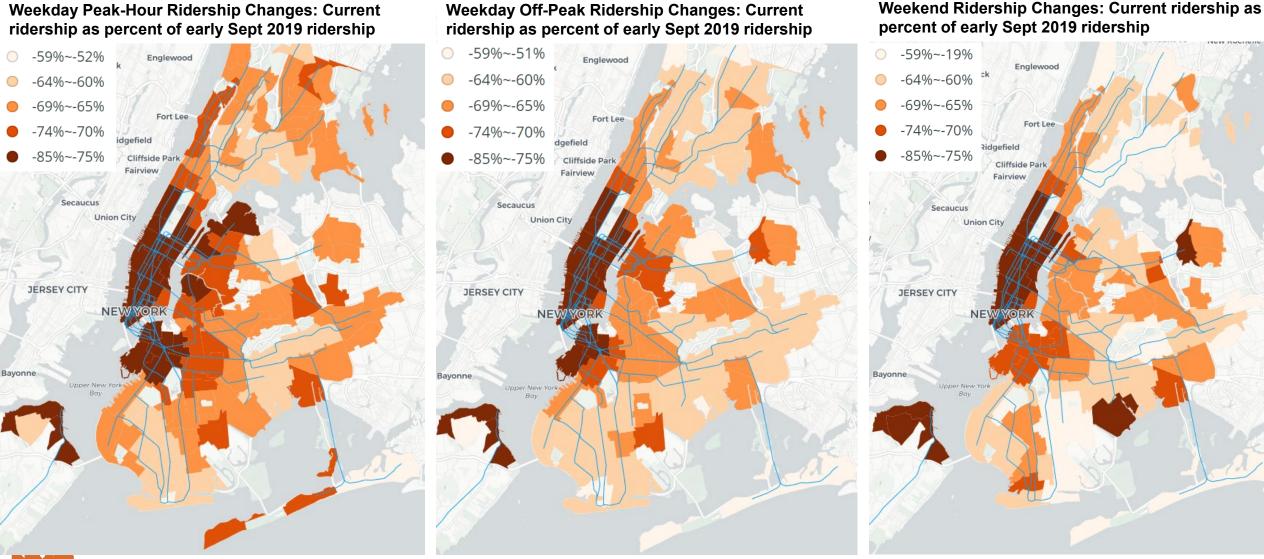




Weekday Off Peak and Weekend Subway Turnstile Data



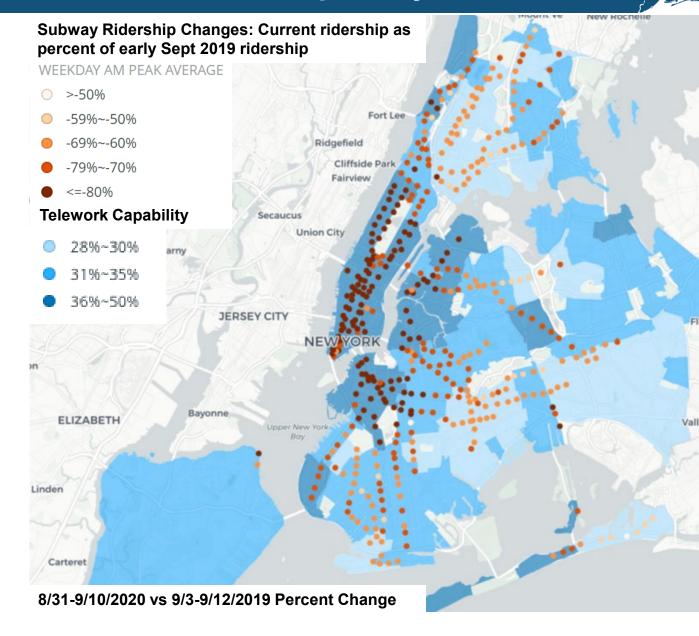
• The recovery of weekday peak hour trips (left) lags compared to off-peak weekday (middle) and weekend (right).



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Weekday AM Peak Subway Turnstile Data and Telework Capability

- A University of Chicago study estimated the "telework capability" of workers in different economic sectors.
 The map to the right shows the proportion of the residential labor force in a neighborhood that is able to work remotely from home based on these estimates.
- By mapping AM peak subway entries during the first two weeks of September 2020 and comparing them to entries over the same period in 2019, the greatest ridership differences are seen in neighborhoods with the strongest likelihood of having teleworkcapable populations, including much of Manhattan, Downtown Brooklyn, Williamsburg, Long Island City, and Astoria.
- Neighborhoods with the lowest share of residents able to work remotely show AM peak subway ridership at levels closer to the previous year as compared to other parts of the city. These areas include much of the Bronx, eastern Queens, and central Brooklyn, where larger proportions of the city's nonoffice-oriented and essential workers live.





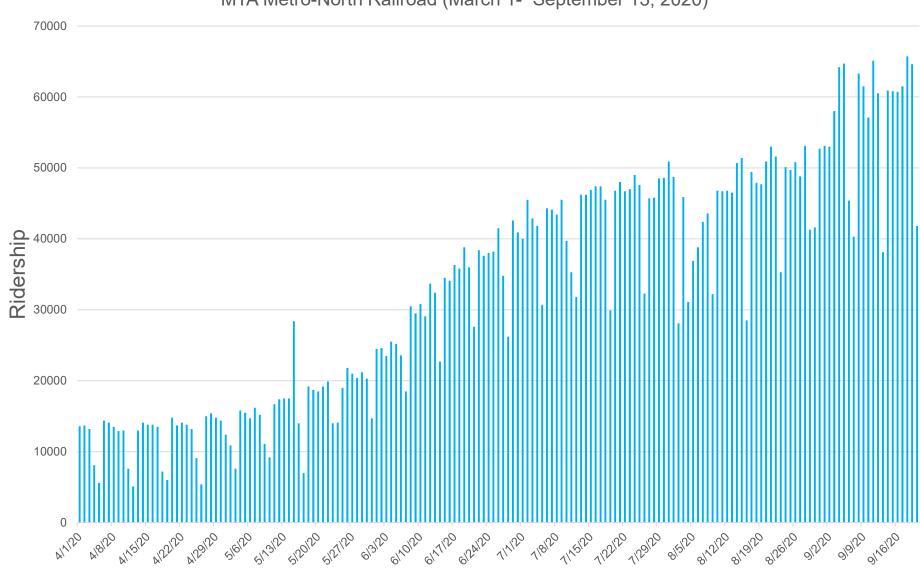
MTA data: Metro North Railroad, Long Island Rail Road, Access-A-Ride



Metro-North Railroad Ridership Changes







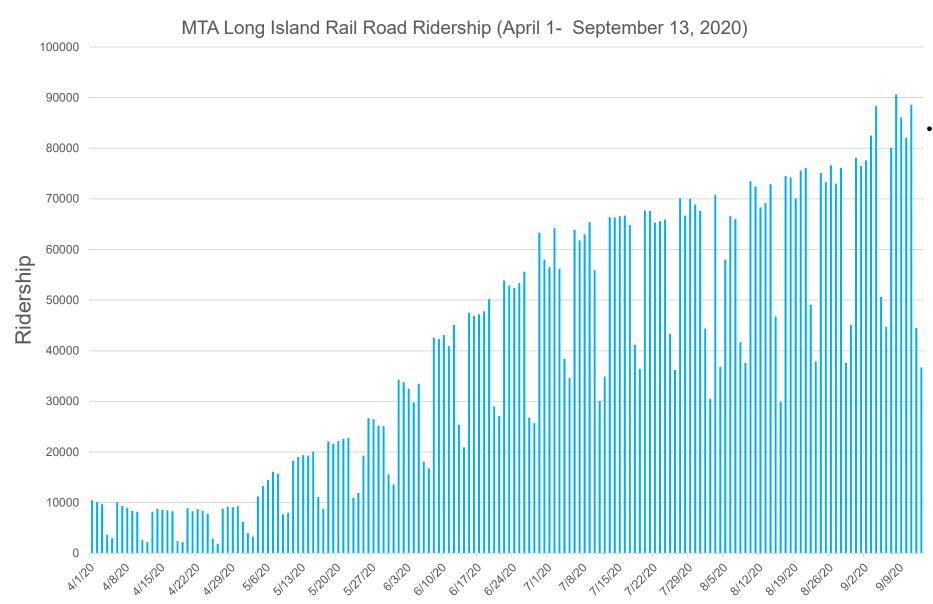
Weekday and weekend MNR ridership for the week of September 14 were both up 8 percent over the previous week.



From the MTA: Metro-North ridership is estimated by a model using monthly, weekly, ten-trip, and daily ticket sales. Percent change is calculated based on 2019 monthly average weekday/Saturday/Sunday ridership figures. Data sources: MTA (https://new.mta.info/coronavirus/ridership)

Long Island Rail Road Ridership Changes





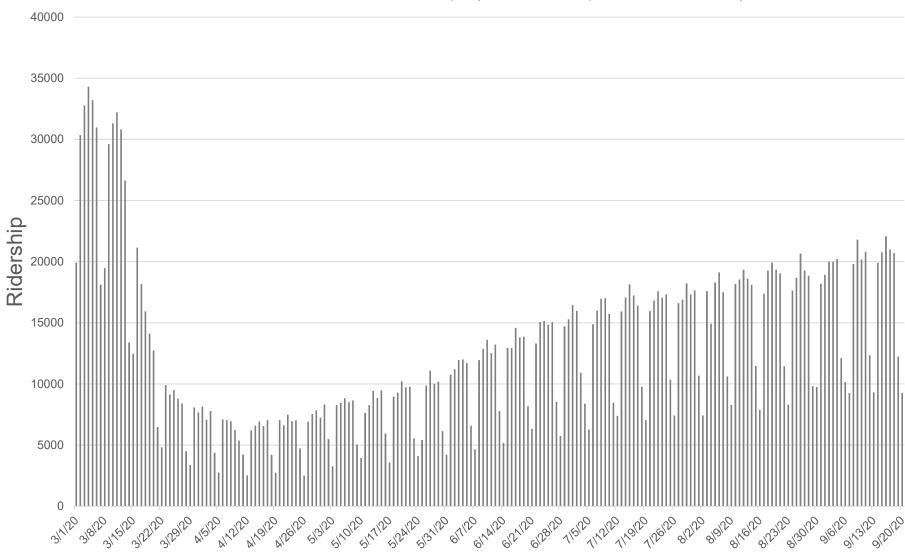
Weekday LIRR ridership for the week of September 7 (the latest date for which data are available) was up 6 percent compared to the previous week, while weekend ridership was down 15 percent.



Access-A-Ride Scheduled Trip Changes







Weekday Access-A-Ride scheduled trips for the week of September 14 were up 14 percent compared to the previous week, while the weekend scheduled trips were down 0.7 percent.



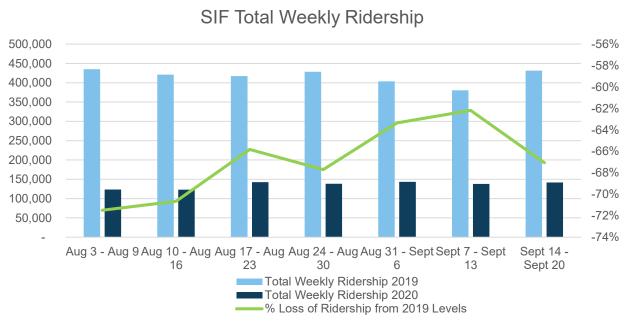
From the MTA: To provide timely updates, this data presents scheduled Access-A-Ride trips as an indicator of demand, rather than completed trips. The process to reflect completed trips, including adjusting for on-demand trips, cancelations, no shows, and on-street issues, would delay release of data for several weeks.. Data sources: MTA (https://new.mta.info/coronavirus/ridership)

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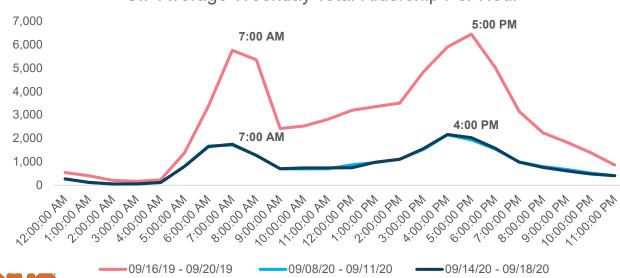
Ferry



The Staten Island Ferry and NYC Ferry

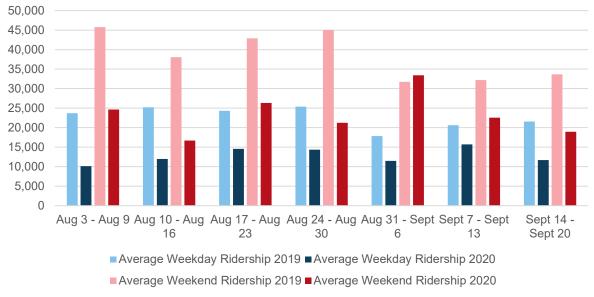






- The week of September 14 saw about 141,500 Staten Island Ferry riders. Since the start of September, the Staten Island Ferry has recovered an average of 36 percent of its daily ridership, compared to 2019 levels.
- For SIF, weekday peak hour ridership is **7:00 am for the morning** and **4:00 pm for the afternoon**, for the week of September 14.
- The week of September 14 saw NYC Ferry weekly ridership decrease by 22 percent compared to the week of September 7.
- NYC Ferry average weekday ridership decreased by 25 percent, while average weekend ridership increased by 16 percent, compared to the week of September 7.

NYC Ferry Weekly Ridership Weekday vs. Weekend Averages



*Excludes Labor Day ridership in averages

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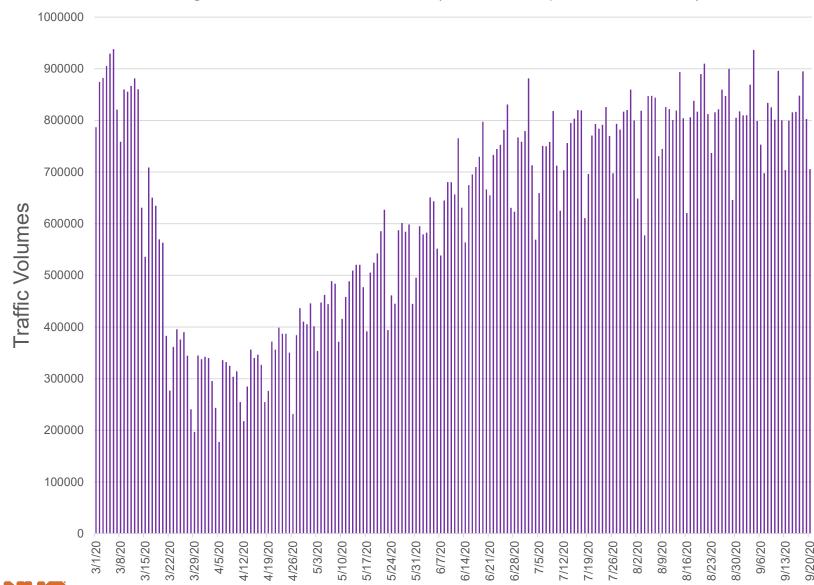
Traffic



MTA Bridge and Tunnel Traffic Volumes



MTA Bridge and Tunnel Traffic Counts (March 1 - September 20, 2020)



 Total weekday traffic counts on MTA bridges and tunnels during the week of September 14 was up 3 percent compared to the previous week. Weekend traffic counts remained steady.

MTA crossings include:

- Bridges: Robert F. Kennedy, Throgs Neck, Verrazzano Narrows, Bronx-Whitestone, Henry Hudson, Marine Parkway-Gil Hodges Memorial, and Cross Bay Veterans Memorial bridges.
- Tunnels: the Hugh L. Carey Tunnel and the Queens Midtown Tunnel.



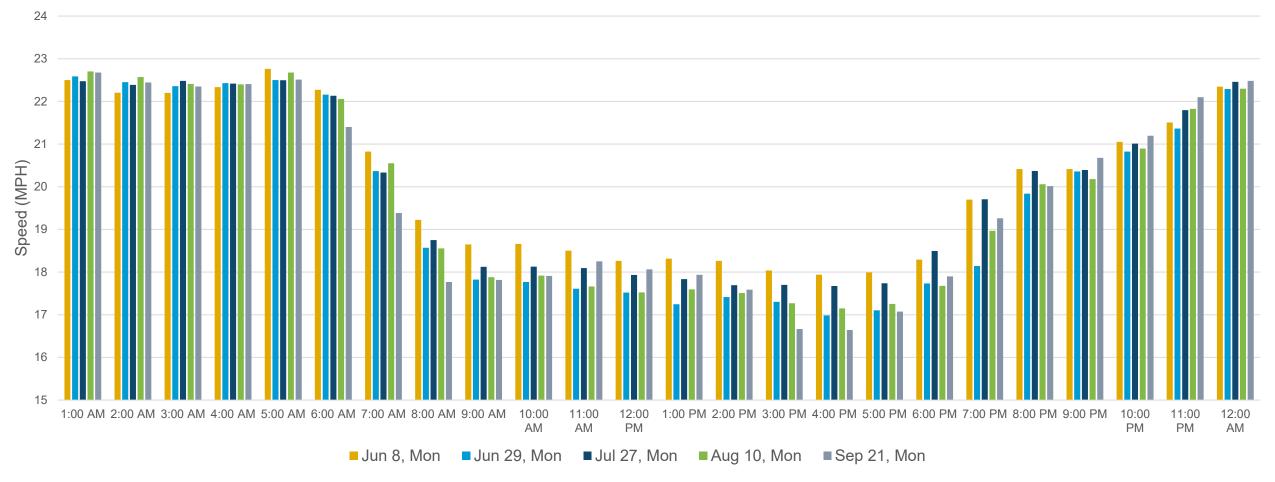


*Data sources: MTA (https://new.mta.info/coronavirus/ridership)

NYC Traffic Speeds



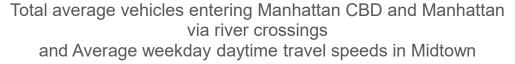
Real-time Traffic Flow Speed by Hour in NYC (Jun 8, Jun 29, Jul 6, Jul 13, Jul 27, Aug 10, Sep 21 2020)

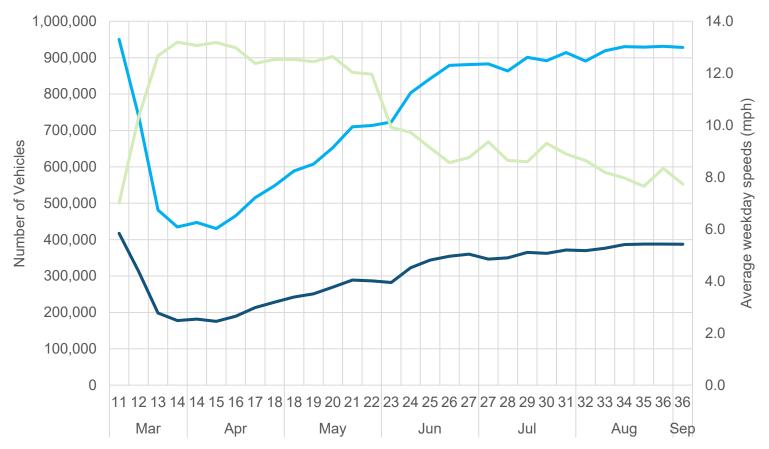


• Compared to earlier weeks, average hourly traffic flow speeds on Monday, September 21st were generally consistent with early August, with slower speeds occurring during the afternoon hours in recent weeks.



Manhattan Inbound Traffic





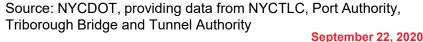
- Total average weekday daytime inbound vehicles to Manhattan and the Manhattan central business district are comparable to pre-pandemic levels.
- Evening traffic volumes (not shown here) remain lower.
- After peaking in early April at about 13 mph, average Midtown Manhattan speeds dropped sharply in early June and have continued to slowly decline. They currently average about 7.5 mph, close to their early March 2020 average.

Week of Year: March 10-September 11, 2020





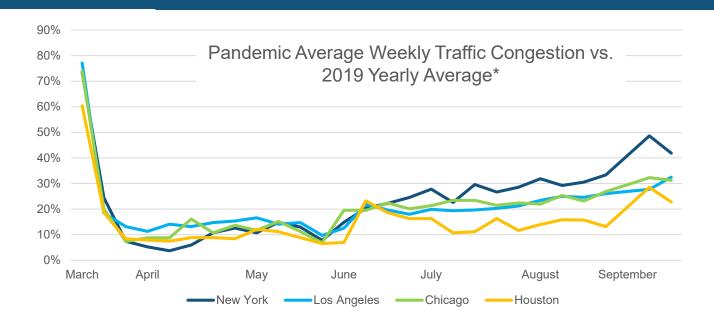
Average Midtown Speed

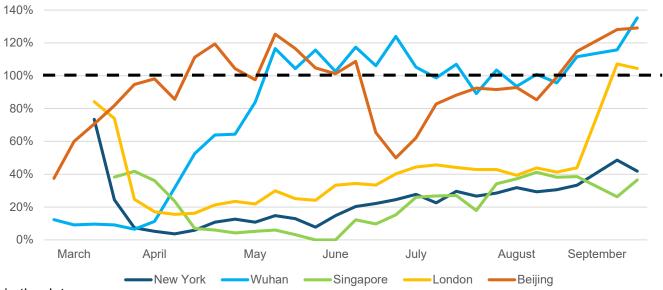




Traffic Congestion

- Congestion is a measure of the average amount of additional travel time needed to get to a destination anywhere in a city compared to free flow conditions.
 Zero percent represents free flow speeds; 100 percent represents 2019 yearly average congestion for each city.
- After a significant initial decline in congestion in March, congestion in NYC has been slowly increasing since June.
- Internationally, Beijing, Wuhan and London are currently seeing higher than normal levels of congestion.







Some weeks contain less than five days due to holidays and gaps in the data.

Citi Bike

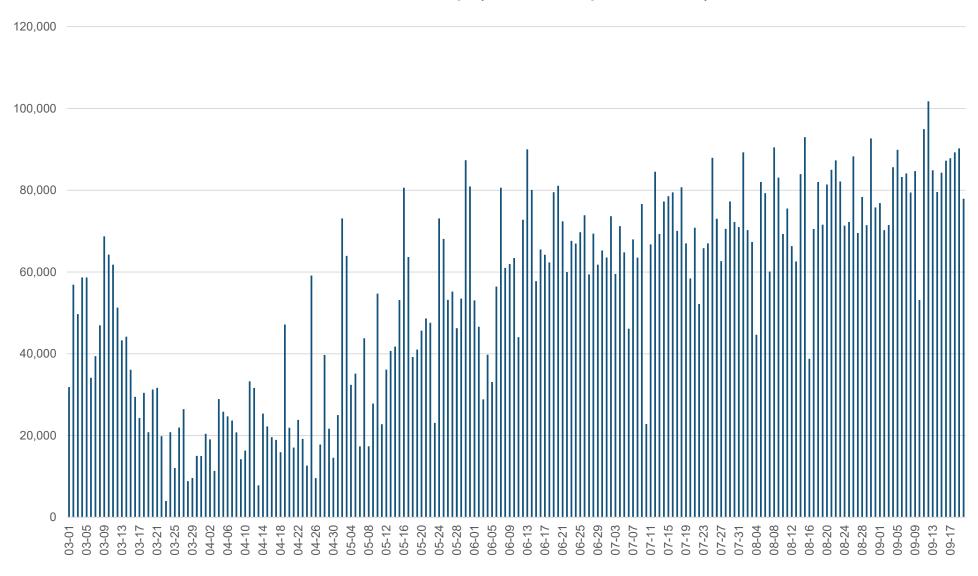


Citi Bike Ridership Changes

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Citi Bike Ridership (Mar 1- Sep 20, 2020)



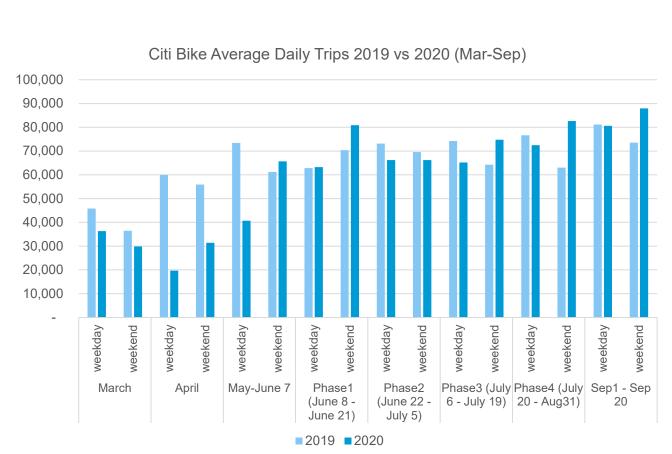
- Citi Bike ridership has been trending up since early March 2020, and ridership is highly correlated with weather.
- More than 100,000 trips were taken on Saturday, Sep 12 – the highest number recorded during the pandemic.

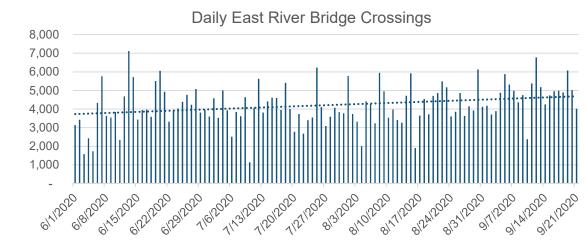


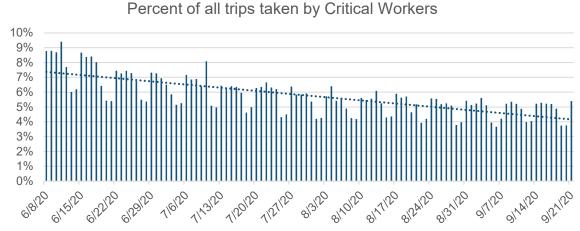
Data sources: DOT Citi Bike Data

Citi Bike Ridership

- From June through early Sep 2020, Citi Bike ridership has been fairly consistent with ridership patterns during the same months in 2019.
- Citi Bike ridership on East River bridge crossings has been very slowly increasing, with peak travel occurring on weekends.
- The percentage of trips taken by Critical Workers has been declining, but nearly 18,000 members are part of the Critical Worker program.





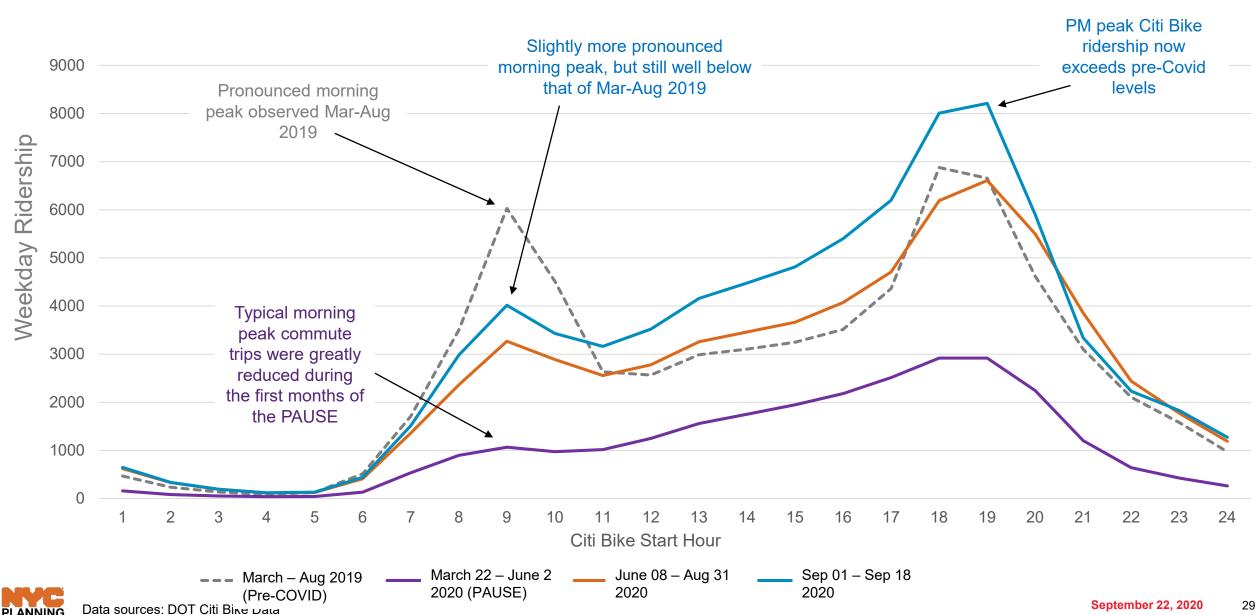




Data sources: DOT Citi Bike Data

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Citi Bike Weekday Daily Ridership by Time of Day



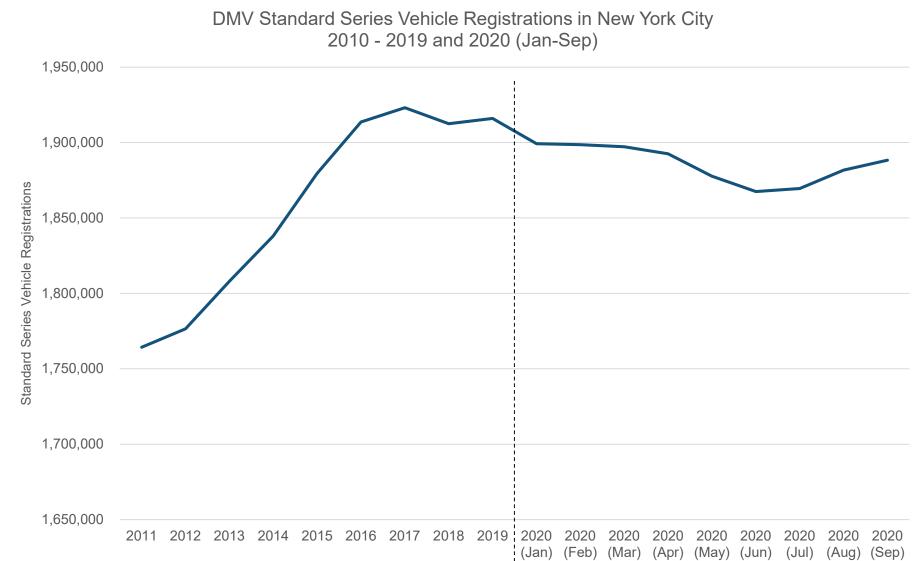


DMV Registration Data



DMV Car Registrations

- Total cars registered in New York
 City have been increasing over
 the past decade, along with total
 population.
- Car registrations in NYC fell throughout the spring when economic spending was very low, most car dealerships were closed, and the DMV was only open for essential operations.
- Statewide, the total number of standard series vehicle registrations is also slightly down from Jan to Sep 2020.
- There has been a modest uptick in cars registered to the city since the summer, though total registrations remain lower than the past several years.

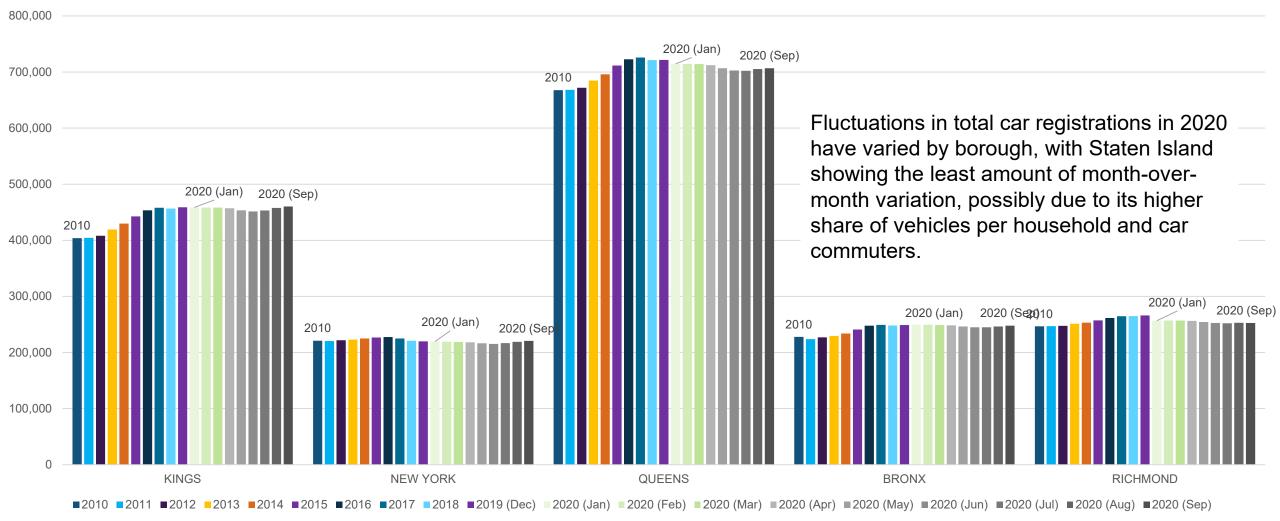




DMV Car Registrations



DMV Standard Series Vehicle Registrations by County 2010 - 2018 vs 2019 (Dec) vs 2020 (Jan-Sep)





Timeline



New York COVID19 Pandemic Timeline: First Case to End of PAUSE

- 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/
- May 26th: New York Stock Exchange reopens trading floor after 2 month closure. https://www.npr.org/sections/coronavirus-live-updates/2020/05/26/862082828/new-york-stock-exchange-reopens-trading-floor-after-2-month-closure
- May 29th: Governor Cuomo announces that New York City is expected to **begin Phase 1 of reopening on Monday, June 8th**. https://www.nytimes.com/2020/05/29/nyregion/coronavirus-new-york-live-updates.html
- 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/



New York COVID19 Pandemic Timeline: Phase 1 to Phase 4

- 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
- June 18th: Mayor de Blasio announces guidance for the City's **Open Restaurants program**, which allows qualifying restaurants and bars to expand outdoor seating on sidewalks, curb lanes, backyards, patios, plazas, and Open Streets. https://www1.nyc.gov/office-of-the-mayor/news/449-20/open-restaurants-new-york-city-prepares-phase-2-reopening-mayor-de-blasio-announces
- June 19th: Governor Cuomo holds his **final daily coronavirus briefing**, saying "We have done the impossible." He will continue to monitor the situation and hold press conferences as needed. https://www.cbsnews.com/news/andrew-cuomo-new-yorkers-united-coronavirus-pandemic-crisis/
- June 22nd: New York City begins Phase 2 of re-opening, including in-store retail, offices, hair salons and barbershops, house of worship, and car sales. Social distancing and hygiene guidelines remain in place. https://www.ny1.com/nyc/all-boroughs/news/2020/06/21/what-exactly-does-phase-two-reopening-mean-for-new-york-city-
 - Governor Cuomo says he is actively talking to Governor Murphy of NJ and Governor Lamont of Connecticut, and that the three governors are "seriously considering" implementing a 14-day isolation protocol for visitors from Florida, which could be extended to travelers from Arizona, Texas, and several other stats who are experiencing a rapid rise in Covid cases.
 https://nypost.com/2020/06/22/gov-cuomo-talks-to-nj-connecticut-about-florida-quarantine-rules/
- According to a survey conducted by the Partnership for New York City, while Phase 2 allows office workers to return to their offices, respondents from 60 companies predicted that only 10% of their employees would return to the office by August 15th. Rudin Management Company said that, across its 14 offices in New York that reopened on Monday, it reached a collective 5.2 percent occupancy rate. https://www.nytimes.com/2020/06/22/nyregion/nyc-phase-2-reopening-coronavirus.html
- June 24th: The state governments of New York, New Jersey, and Connecticut issue self-quarantine restrictions on **travelers returning from a list of 9 states** with high infection rates, with the ability to add more as the situation changes. https://coronavirus.health.ny.gov/system/files/documents/2020/06/interimguidance_traveladvisory.pdf
- June 29th: Mayor de Blasio announces that, while outdoor dining is "working" in New York City and that the city is moving on track for Phase 3 of reopening on July 6th, the reopening of indoor dining may be delayed due to ongoing coronavirus concerns. Governor Cuomo echoed these concerns. https://abc7ny.com/indoor-dining-in-nyc-new-york-city-reopen-coronavirus/6280941/
- July 6th: New York City **begins Phase 3** of re-opening. Originally, this was to include indoor dining at restaurants, but this element has been postponed in light of outbreaks in other states.
 - The Staten Island Ferry resumes regular rush-hour service, with boats running every 15 minutes from 7:00 am 9:00 am and 5:00 pm 7:00 pm. https://mms.tveyes.com/PlaybackPortal.aspx?SavedEditID=ea13aec9-00c3-46cf-998e-a31fa521b891
- July 20th: New York City **enters Phase 4** of re-opening, which includes outdoor activities like zoos and botanical gardens, as well as professional sports without spectators. Indoor dining, originally part of Phase 3, is still prohibited. https://www.nytimes.com/2020/07/20/nyregion/nyc-phase-4-reopening-coronavirus.html
- August 7th: Governor Cuomo announces that schools in New York State can reopen in the fall, though it will be up to local districts to determine if and how to do so. https://www.nytimes.com/2020/08/07/nyregion/cuomo-schools-reopening.html



New York COVID19 Pandemic Timeline: September

- Aug 31st: MTA restarts front door bus loading and fare collection <a href="https://www.ny1.com/nyc/all-boroughs/transit/2020/08/18/mta-bringing-back-front-door-bus-boarding-and-fare-collection#:~:text=On%20August%2031%2C%20the%20MTA,the%20%242.75%20fare%20once%20again.
- Sep 9th: Governor Cuomo announces that restaurants can accommodate indoor dining a 25% capacity starting September 30th https://www.governor.ny.gov/news/governor-cuomo-announces-indoor-dining-new-york-city-allowed-resume-beginning-september-30-25
- Sep 12th: Citi Bike records over 100,000 rides in a single day, setting a record for the service
- Sep 16th: Mayor De Blasio announces that Open Restaurants will expand to weekdays citywide: https://www1.nyc.gov/office-of-the-mayor/news/660-20/mayor-de-blasio-open-streets-restaurants-will-expand-weekdays-40-locations-citywidet
- Sept. 21st: 3-K, Pre-K and District 75 schools reopen, and all students who opted into the all-remote program start their first full day of instruction.
- Sept. 29th: K-5 and K-8 schools scheduled to reopen
- Oct. 1st: Middle and high schools, as well as secondary schools and transfer/adult education, scheduled to reopen

