

Citywide Mobility Survey: Transportation Impacts of COVID-19

October 2020 Panel Results - Prepared for NYC DOT by RSG



SURVEY OBJECTIVES

1

Develop a longitudinal panel of participants from the 2019 Citywide Mobility Survey (CMS) to understand the impacts of COVID-19 on citywide travel behavior.

2

Compare panel participants' behavior in spring 2019 to their behavior after the COVID-19 outbreak from spring 2020 through fall 2020.

3

Measure attitudes toward current transportation issues and topics.

COVID-19 PANEL SURVEY DESIGN

Invitation criteria for the COVID-19 fall panel survey:

1. Completed the 2019 CMS conducted from May 2019 through June 2019.
2. Agreed to participate in future NYC DOT surveys.
3. Completed at least one COVID-19 panel survey (spring and/or summer).

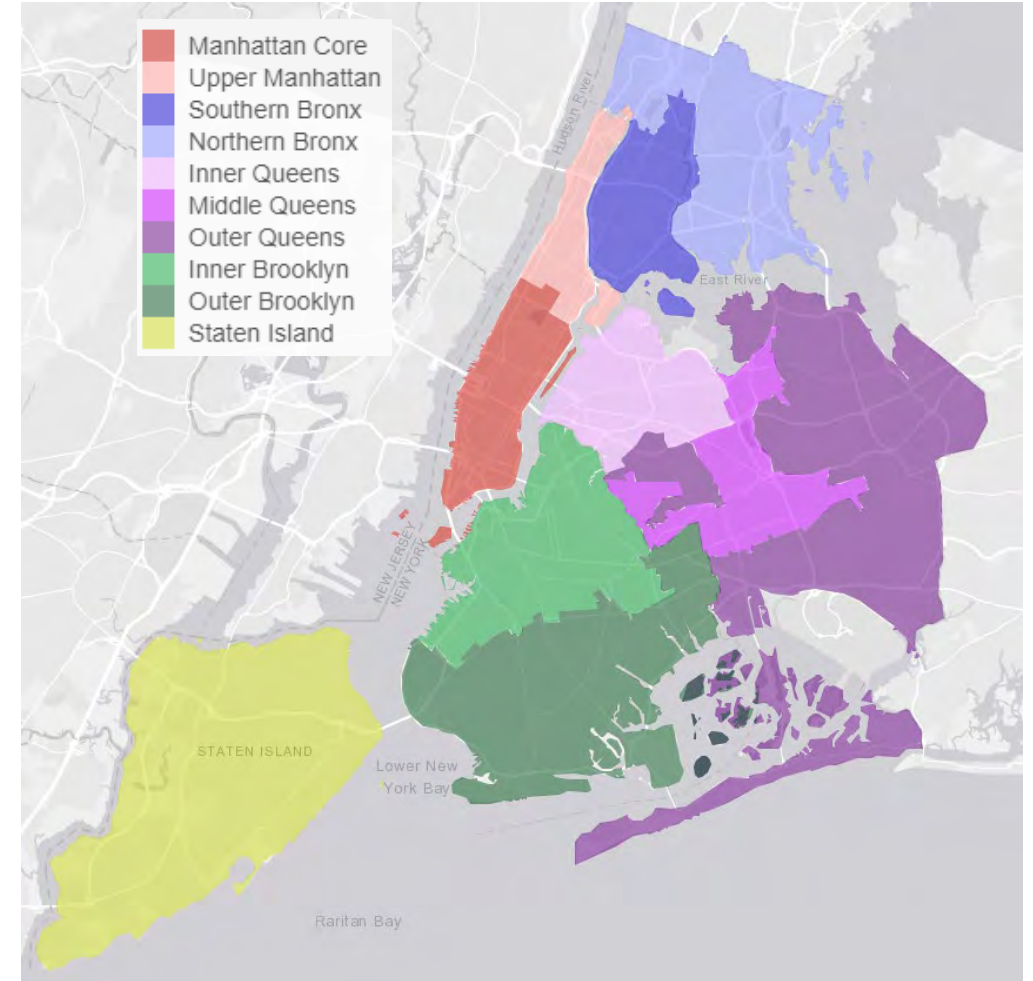
Fall panel fielding period began on October 19, 2020 and concluded on November 2, 2020.

STUDY	COMPLETE PARTICIPANTS	FIELDING DATES
2019 CMS	3,346	May 22 – June 30, 2019
2020 Spring Panel	1,063	May 4 – May 8, 2020
2020 Summer Panel	959	July 16 – July 31, 2020
2020 Fall Panel	905	October 19 – November 2, 2020

FALL SURVEY RESPONSE

CMS ZONE	INVITED	COMPLETED	COMPLETE RATE ¹
Manhattan Core	134	90	67.2%
Upper Manhattan	124	77	62.1%
Inner Brooklyn	131	103	78.6%
Outer Brooklyn	110	77	70.0%
Inner Queens	104	71	68.3%
Middle Queens	115	94	81.7%
Outer Queens	127	92	72.4%
Southern Bronx	116	81	69.8%
Northern Bronx	149	105	70.5%
Staten Island	133	95	71.4%
Outside of New York City	--	20	--
Total	1,243	905	72.8%

¹Complete Rate = Completed / Invited



WEIGHTING METHODOLOGY

Following data collection, the survey data was weighted to match the population of New York City across key sociodemographic dimensions.

- Respondents were weighted to the 2017 American Community Survey Public Use Microdata Sample (ACS PUMS) data.
- Six household and seven person-level characteristics were chosen as targets for weighting the survey data to the PUMS data.
 - Household characteristics: household size, number of workers, income, number of children, age of participant, number of household vehicles
 - Person characteristics: gender, age, employment status, student status, typical commute mode, race, ethnicity
- Income, gender, race, and ethnicity questions where participants could respond with “prefer not to answer,” were imputed where missing for the purpose of weighting.

WEIGHTING “PREFER NOT TO ANSWER” RESPONSES

For the purpose of weighting:

- Household income was imputed where missing using a model-based approach. Independent variables in the model included the income distribution of the respondent’s home census block group, the number of working adults in the household, the educational attainment of the household, the number of children in the household, the age of the survey respondent, and homeownership.
- Gender was imputed where missing based on the gender distribution in the survey sample within the respondent’s age category.
- Race and ethnicity were imputed where missing based on the race and ethnicity distributions of the respondent’s home census block group.

We often see that many respondents with missing demographic information are imputed to underrepresented categories and assigned higher weights. This is why the weighted share of “prefer not to answer” responses is sometimes larger than the unweighted share. The race and ethnicity distributions shown in the Sample Profile summary on slide 9 are an example of this.

EXECUTIVE SUMMARY OVERVIEW

- | | | | |
|---|---------------------------------------|---|-----------------------|
| 1 | Sample Profile | 5 | Use of Outdoor Spaces |
| 2 | Employment and School Information | 6 | Attitudinal Questions |
| 3 | Travel Behavior Over Last 7 Days | 7 | Vehicle Ownership |
| 4 | Travel Behavior Changes Since Phase 4 | | |

WEIGHTING KEY:

All figures are weighted to represent the population of New York City unless noted otherwise.



Sample Profile

SAMPLE PROFILE

Demographic Breakdown		Unweighted Sample	Weighted Sample	ACS 5-Year Average (2013-2017)
Age	18 – 24	6%	11%	12%
	25 – 44	47%	42%	40%
	45 – 64	34%	30%	31%
	65 and older	13%	17%	17%
Gender	Female	56%	46%	53%
	Male	41%	39%	47%
	Non-binary	1%	5%	-
	Prefer not to answer	2%	11%	-
Race	American Indian or Alaska Native	0%	1%	0%
	Asian	16%	16%	14%
	Black or African American	15%	15%	24%
	Native Hawaiian or other Pacific Islander	0%	0%	0%
	White	50%	34%	43%
	Two Races or More	3%	4%	3%
	Other	7%	8%	15%
	Prefer not to answer	9%	22%	-
Ethnicity	Hispanic, Latino, or Spanish Origin	19%	22%	29%
	Not of Hispanic, Latino, or Spanish Origin	76%	62%	71%
	Prefer not to answer	5%	16%	-
Household Income	Under \$25,000	12%	14%	25%
	\$25,000-\$49,999	16%	18%	19%
	\$50,000-\$100,000	28%	27%	26%
	\$100,000-\$199,999	26%	25%	20%
	\$200,000 or more	8%	10%	9%
	Prefer not to answer	10%	7%	-
Borough	Manhattan	19%	25%	21%
	Brooklyn	20%	22%	30%
	Queens	28%	28%	28%
	Bronx	21%	17%	16%
	Staten Island	11%	6%	5%
	Outside of New York City	2%	2%	-
Employment Status	Employed	62%	56%	64%
	Not employed	38%	44%	36%
Disability	Any disability	8%	14%	13%
	Ambulatory – Difficulty walking or climbing stairs	4%	7%	8%
	Vision disability – Blind or have difficulty seeing	1%	1%	3%
	Hearing disability – Deaf or have difficulty hearing	2%	4%	3%

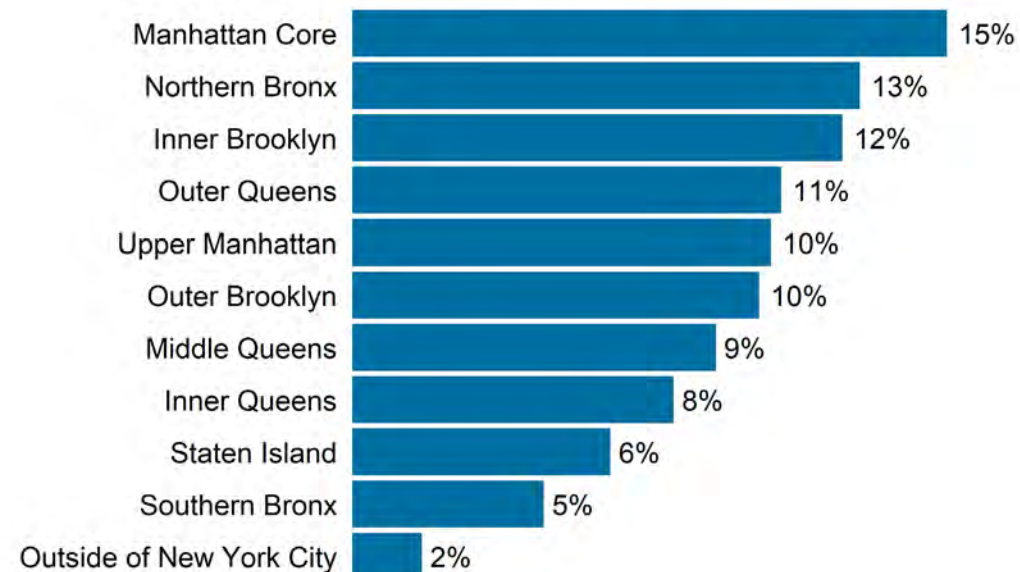
CURRENT RESIDENCE

11% of New Yorkers plan to move outside of New York City in the next 12 months. An additional 12% do not know yet.

Of the 11% of New Yorkers who plan to move outside of New York City, 19% plan to move somewhere within the New York City metropolitan region.

CURRENT HOME CMS ZONE

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417



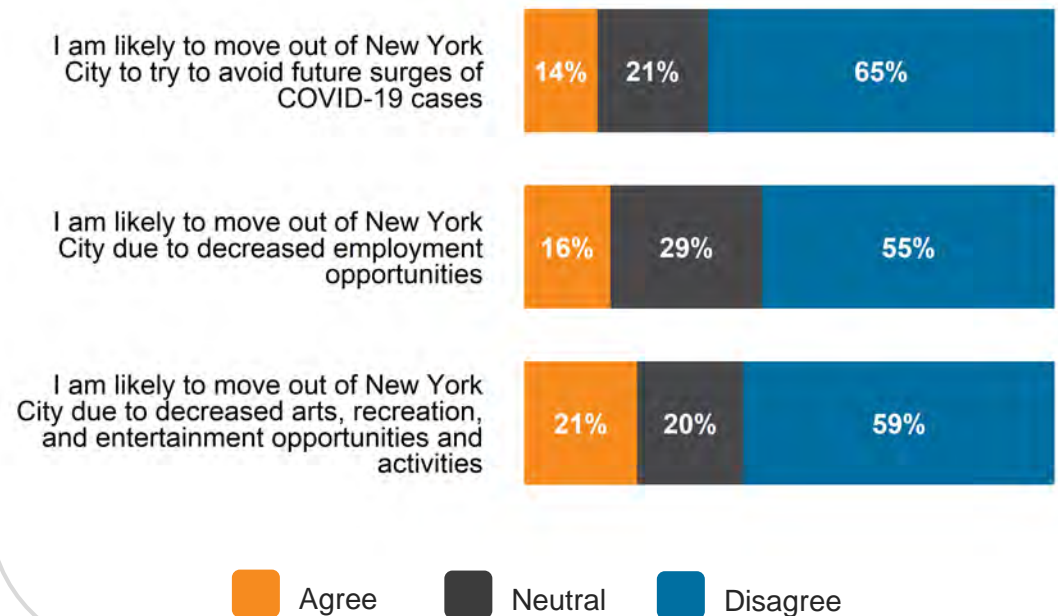
ATTITUDES TOWARD LEAVING NEW YORK CITY

14% of New Yorkers agree that they are likely to move out of New York City to avoid future surges of COVID-19 cases, an increase from 7% in the summer survey.

16% of New Yorkers agree that they are likely to move out of New York City due to decreased employment opportunities, an increase from 8% in the summer survey.

ATTITUDES TOWARD LEAVING NEW YORK CITY

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417

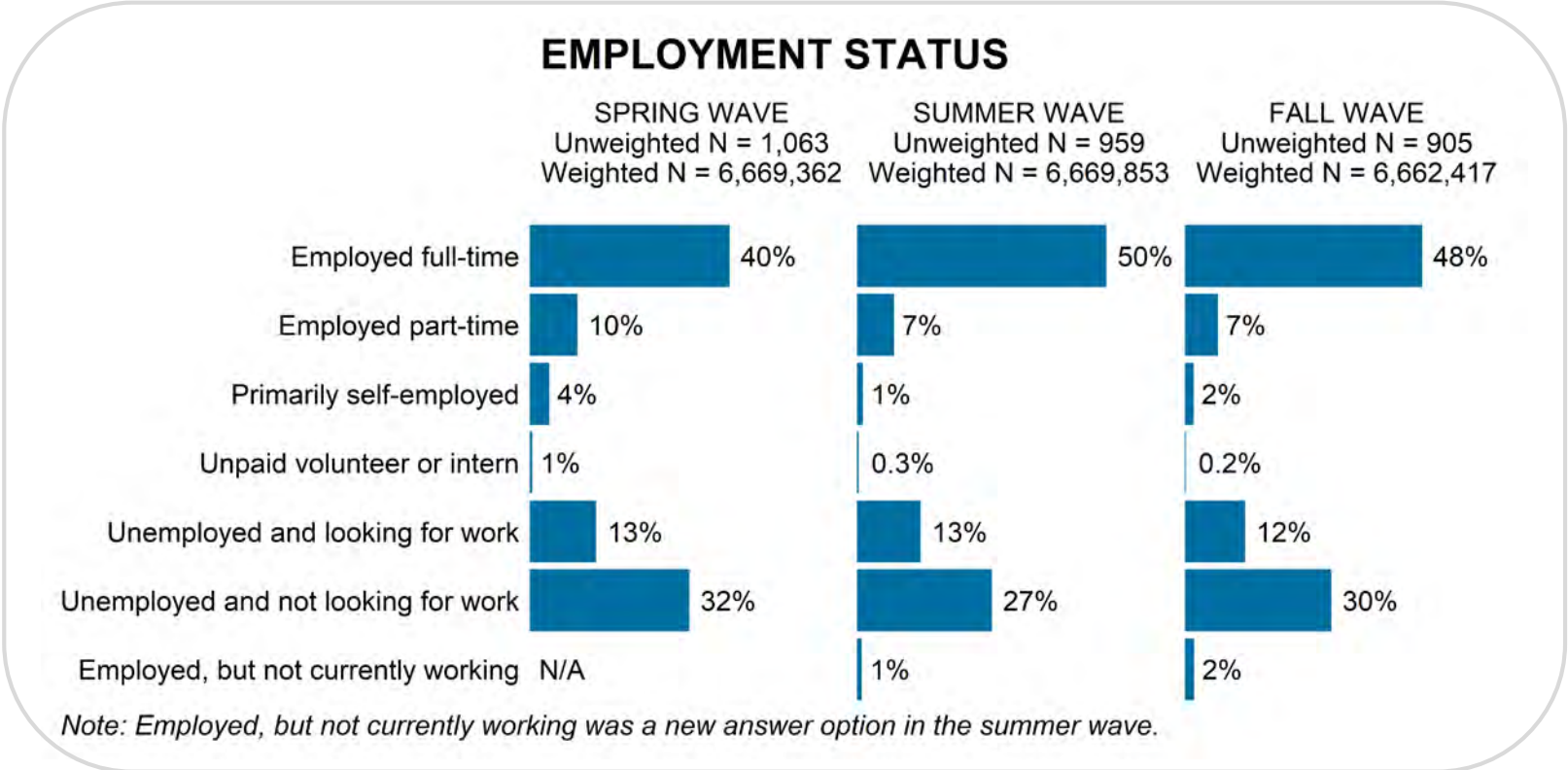




Employment and School Information

EMPLOYMENT STATUS

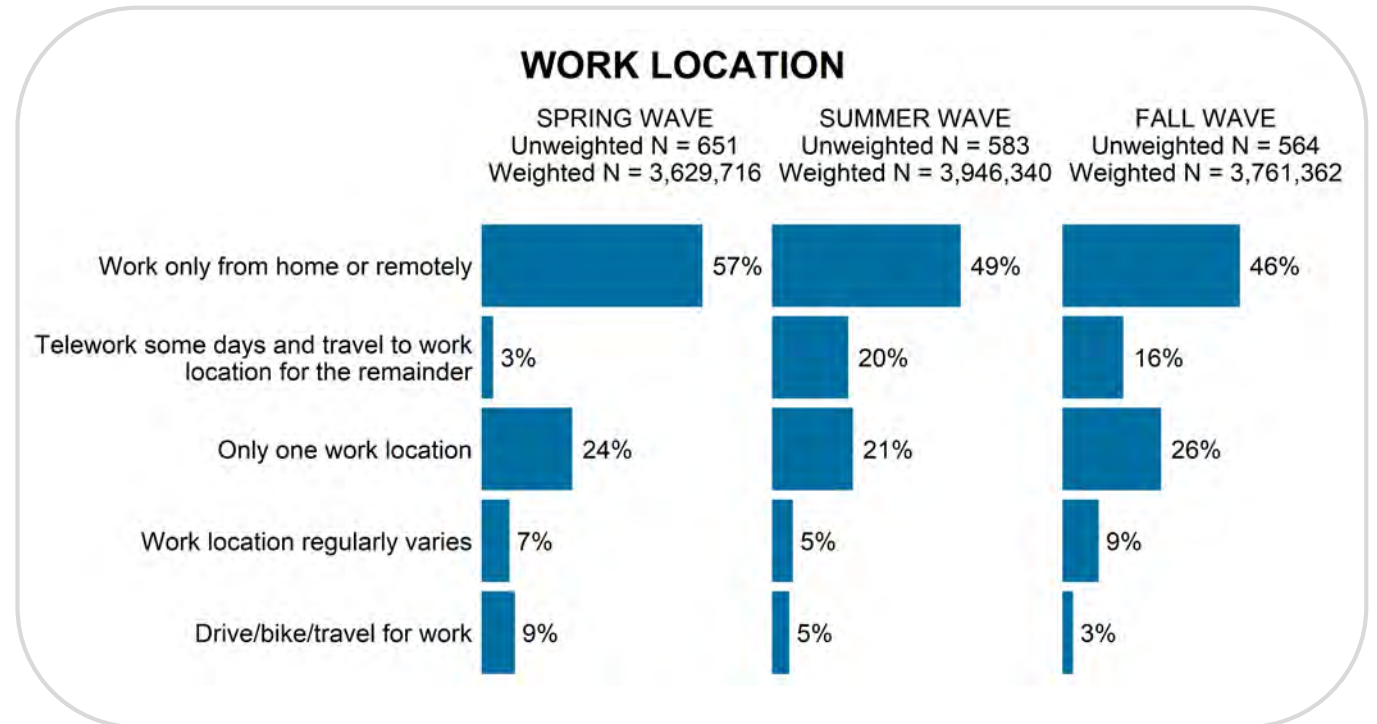
Employment rates in New York City have not changed significantly since the summer survey.



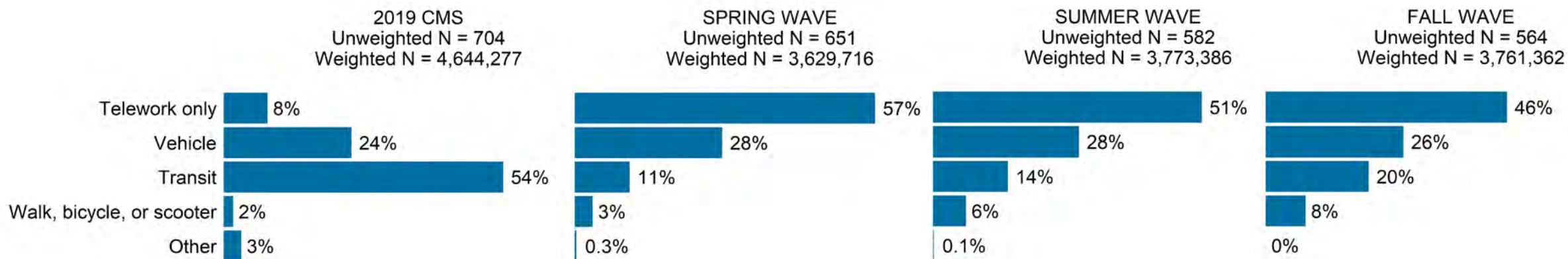
WORK LOCATION

62% of workers work only from home or telework some days each week, down from 69% in the summer survey.

26% of workers commute to one work location, compared to 21% in the summer survey.



WORK MODE



Note: Respondents who completed at least one panel survey and reported a work mode in the 2019 CMS are included in the 2019 CMS distribution. One respondent who selected scooter has been removed from this figure due to a high weight.

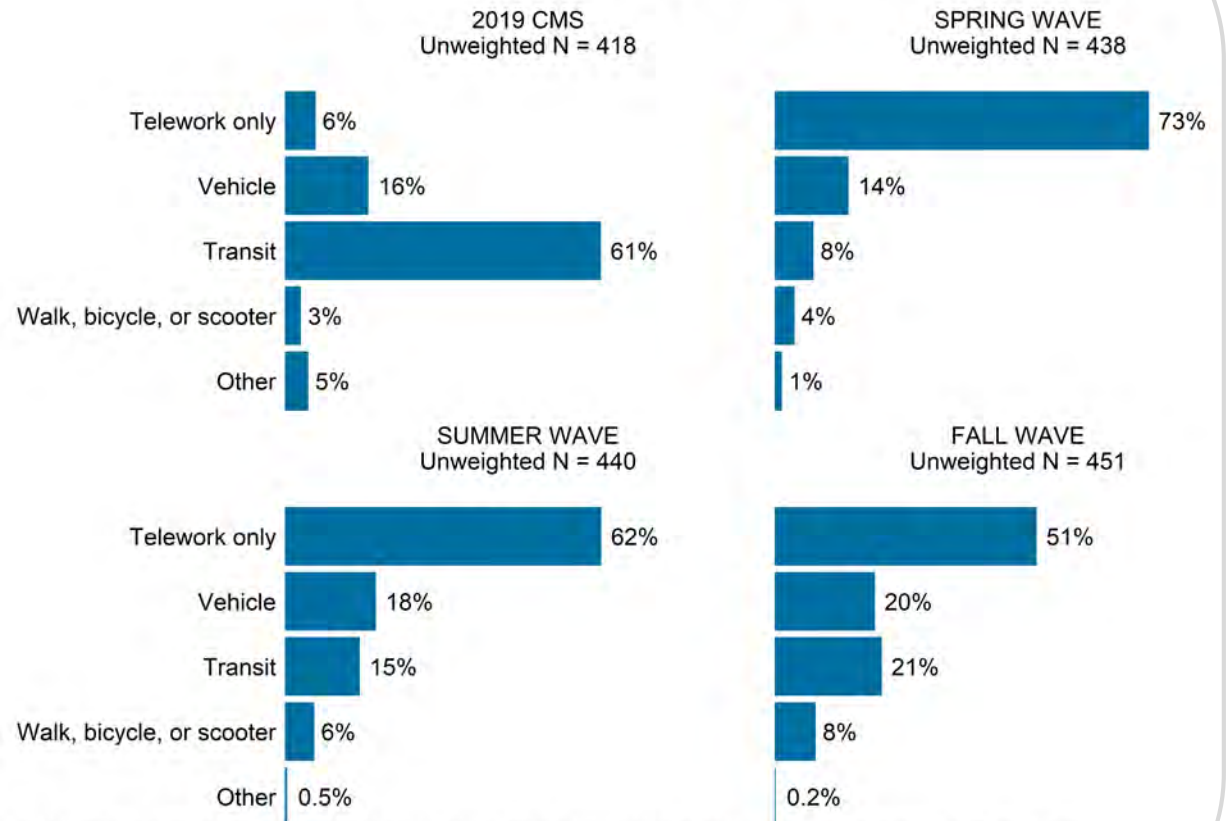
WORK MODE FOR RESPONDENTS WHO COMPLETED ALL THREE PANEL SURVEYS

This figure is unweighted and only includes participants who completed the spring, summer, and fall COVID-19 panel surveys.

In this sample, the share of workers who telework only has decreased from 73% to 51% since the spring survey.

The share of workers commuting by vehicle, transit, and walk, bicycle, or scooter have all increased since the spring survey.

RESPONDENTS WHO COMPLETED ALL THREE PANEL SURVEYS: WORK MODE

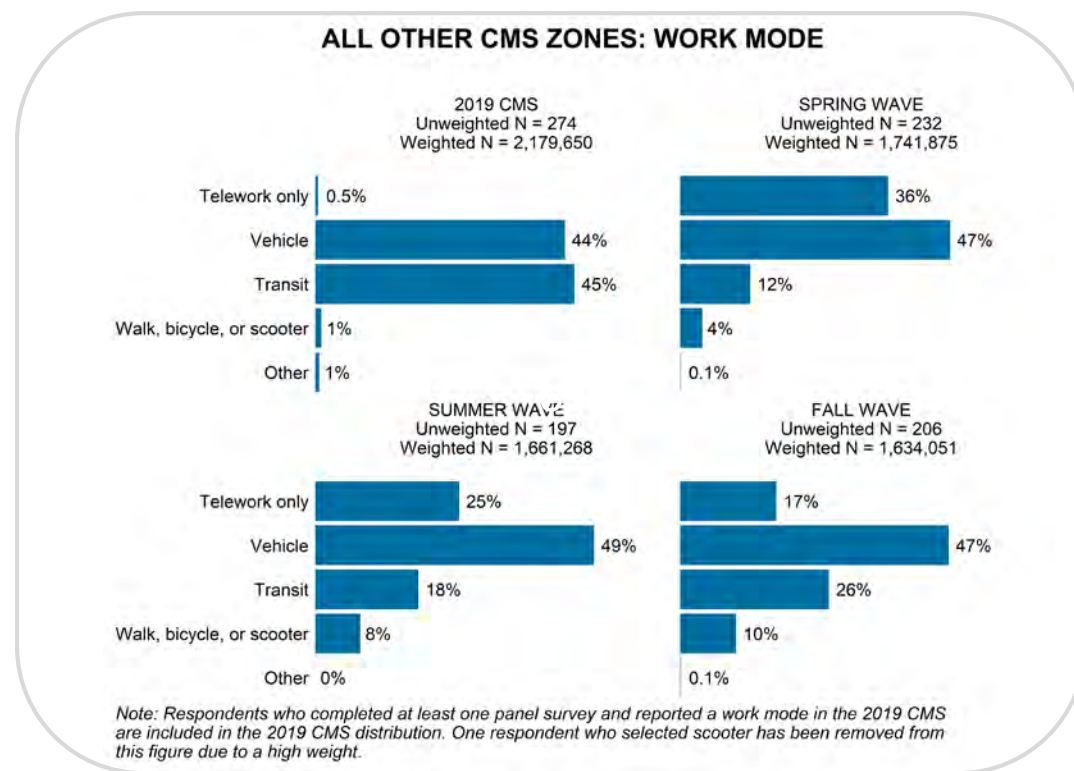
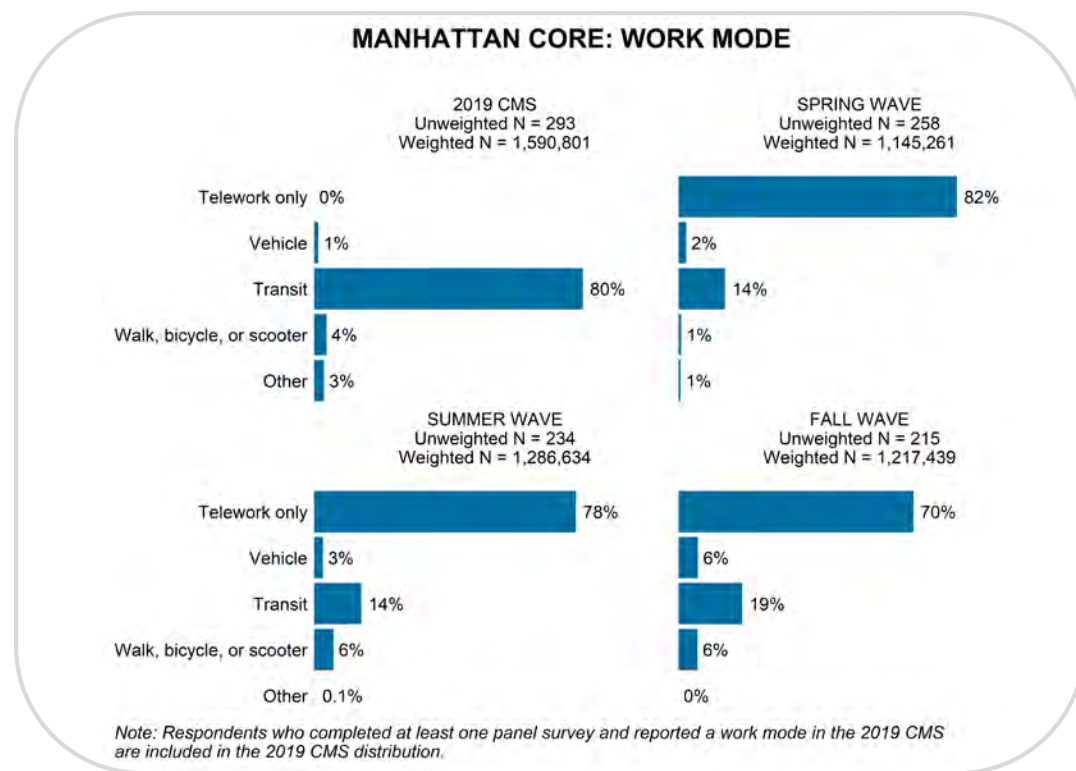


Note: This figure is unweighted. Respondents who completed all three panel surveys and reported a work mode in the 2019 CMS are included in the 2019 CMS distribution.

WORK MODE BY WORK LOCATION

New Yorkers who worked in the Manhattan Core at the time of the 2019 CMS are more likely to telework only during the COVID-19 pandemic than New Yorkers who worked in other CMS zones.

Note: Some respondents may have changed their work location since the 2019 CMS. Respondents missing a work location in the 2019 CMS are not included in the figures below.



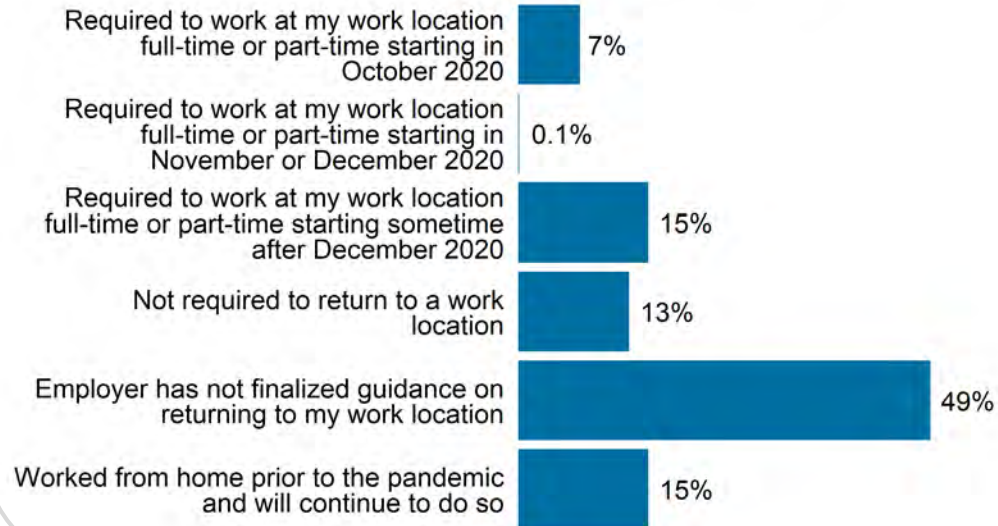
RETURN TO WORKPLACE

49% of workers who started teleworking due to the COVID-19 pandemic and continue to telework only have not received guidance from their employer on returning to the workplace.

70% of remote workers identified at least one barrier to returning to work.

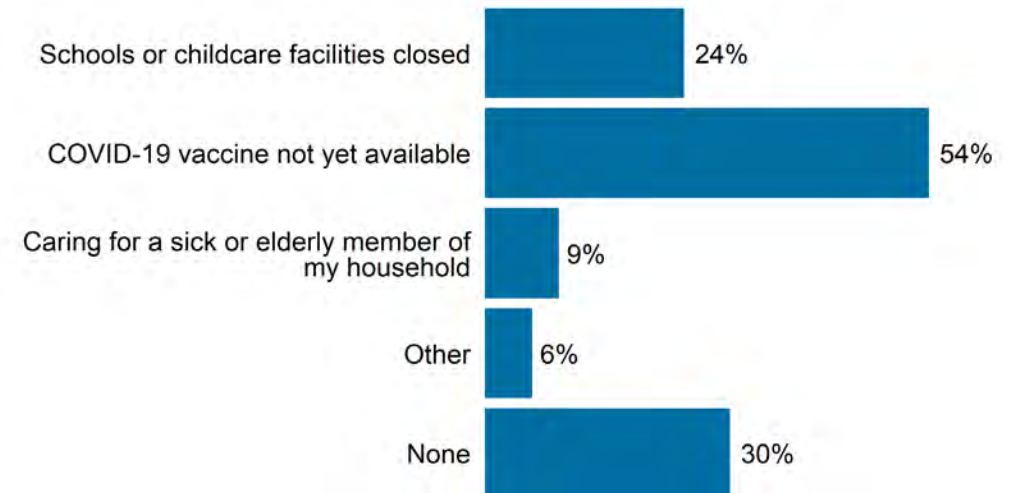
RETURN TO WORKPLACE

UNWEIGHTED N = 274, WEIGHTED N = 1,737,066



BARRIERS TO RETURNING TO WORK

UNWEIGHTED N = 241, WEIGHTED N = 1,469,709



Note: Respondents could select more than one answer to this question.

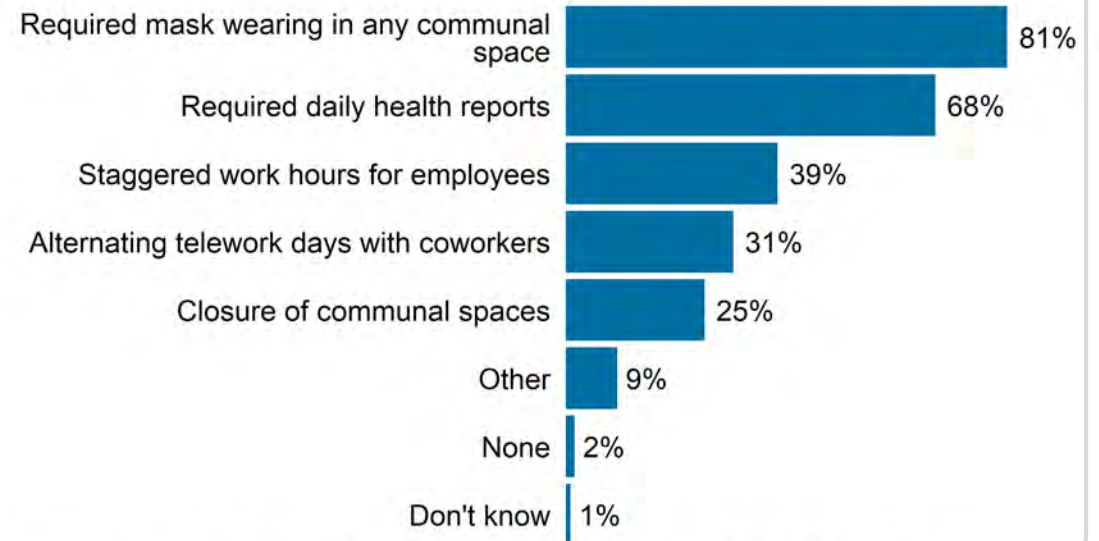
EMPLOYER SAFETY MEASURES

97% of workers who currently commute to a workplace report that their employer has put in place at least one safety measure as a result of the COVID-19 pandemic.

81% of workers are required by their employer to wear a mask in communal spaces, an increase from 64% in the summer survey.

EMPLOYER SAFETY MEASURES

UNWEIGHTED N = 290, WEIGHTED N = 2,024,296



Note: Respondents could select more than one answer to this question.

TELEWORK BEHAVIOR

Respondents who telework at least one day a week and did not only work from home before the COVID-19 pandemic were asked:

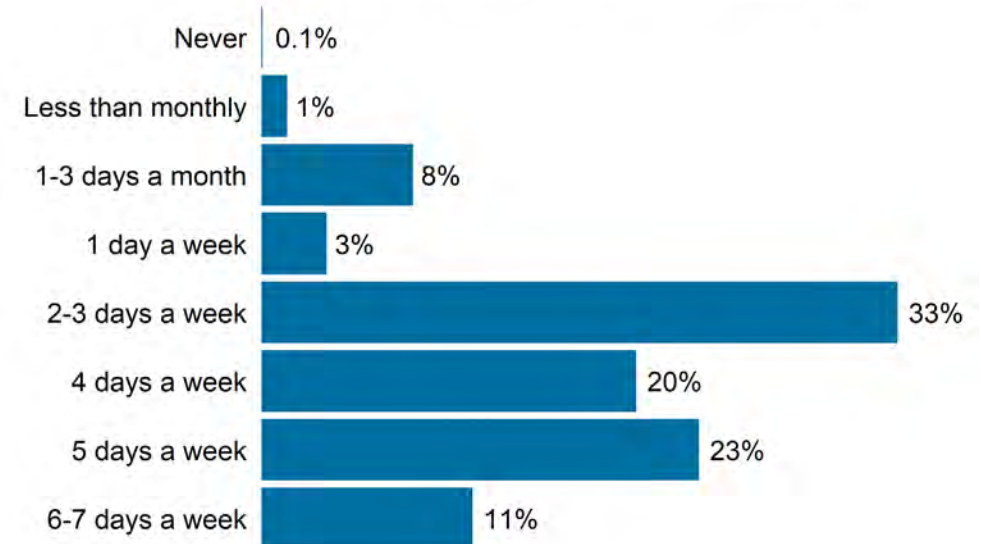
Assuming that your employer allows you to continue to work from home as the city reopens, how often would you choose to work from home?

54% would prefer to continue to telework 4 days a week or more as the city reopens.

90% would prefer to continue to work from home at least 1 day a week as the city reopens.

PREFERRED TELEWORK FREQUENCY

UNWEIGHTED N = 337, WEIGHTED N = 2,068,211



SCHOOL TRAVEL BEHAVIOR

About one third of New Yorkers with children in their household attending elementary school, middle school, or high school reported that the children in their household attend some or all classes in person.

This share is 38% for New Yorkers with elementary school students in their household (N = 98), 34% for those with middle school students in their household (N = 69), and 33% for those with high school students in their household (N = 78).

Note: The figure on the right is unweighted due to the small sample size.

SCHOOL MODE FOR ELEMENTARY, MIDDLE, AND HIGH SCHOOL STUDENTS

UNWEIGHTED N = 87



Note: This figure is unweighted. Respondents reported school mode for children in elementary, middle, and high school separately. More than one response has been included in this figure for respondents with children attending more than one school type.



**CITYWIDE
MOBILITY**
S U R V E Y

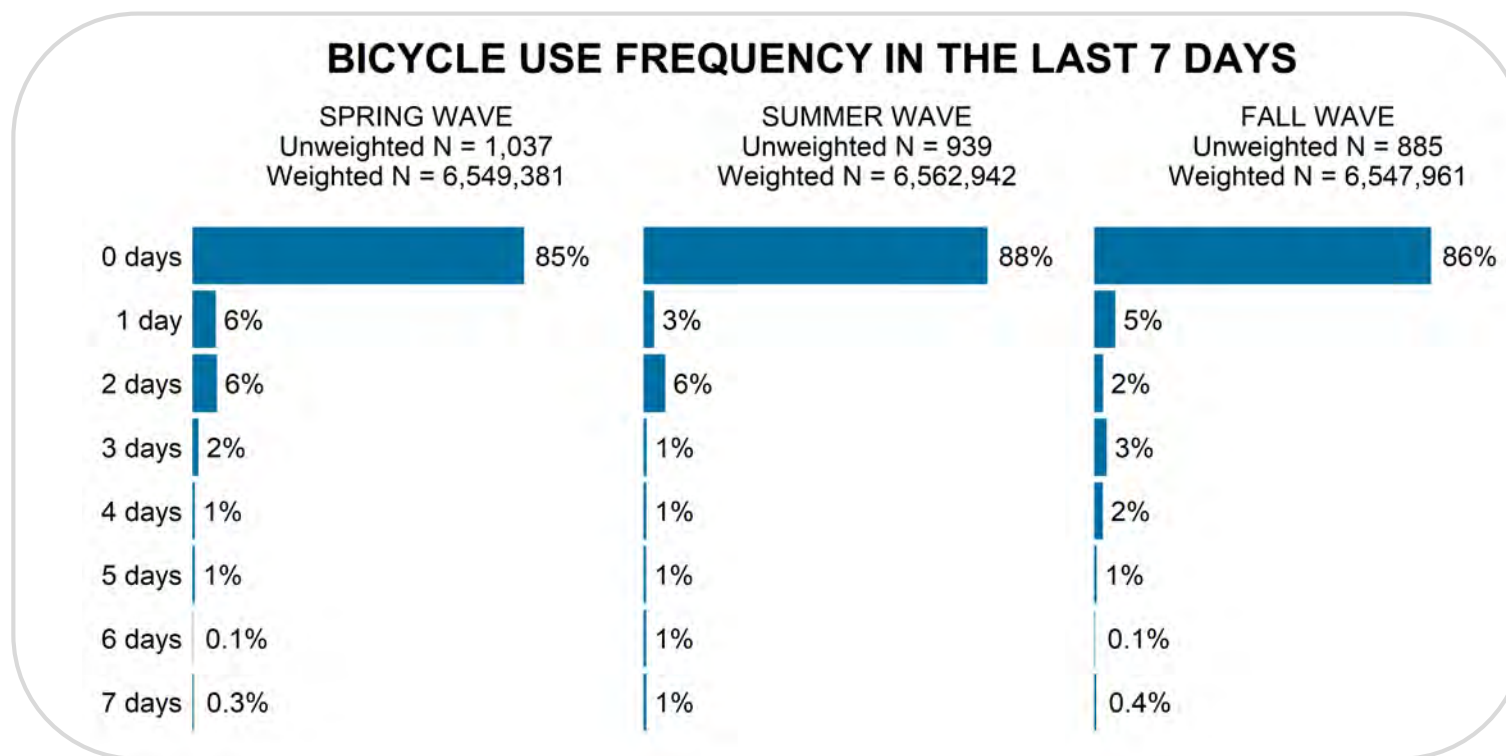
Travel Behavior Over the Last 7 Days

*The fall panel fielding period began on October 19, 2020 and concluded on November 2, 2020.
The “Last 7 Days” refers to October 13, 2020 through November 2, 2020.*

BICYCLE FREQUENCY

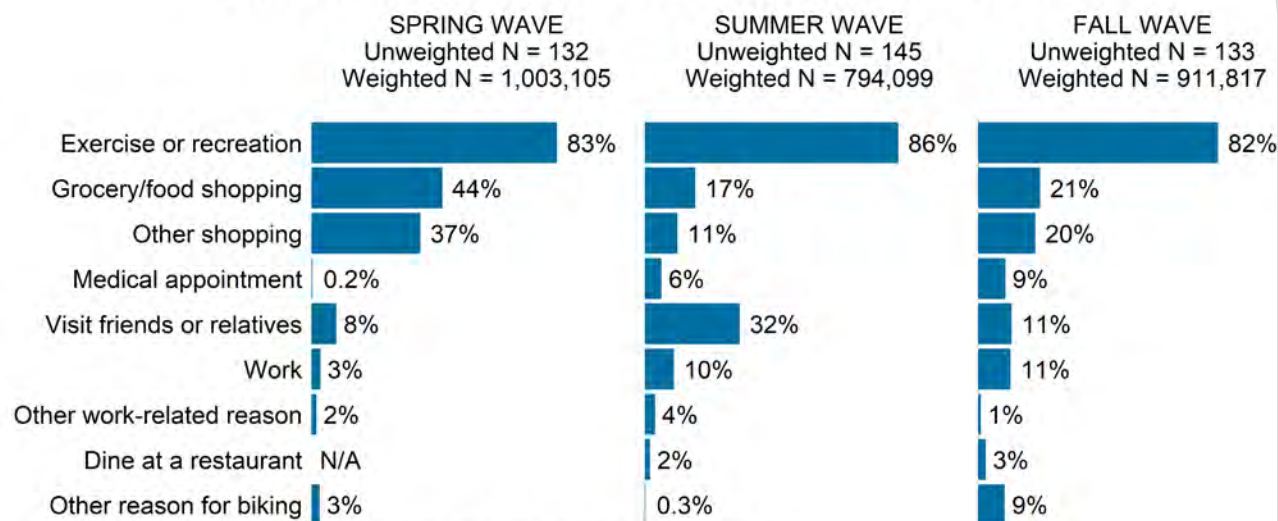
14% of New Yorkers rode a bike in the last 7 days.

In the 2019 CMS, 11% of New Yorkers had ridden a bike in the last 7 days.



BICYCLE TRIP PURPOSES

BICYCLE TRIP PURPOSE IN THE LAST 7 DAYS



Note: Respondents could select more than one answer to this question.
 Note: Dine at a restaurant was a new answer option in the summer wave.

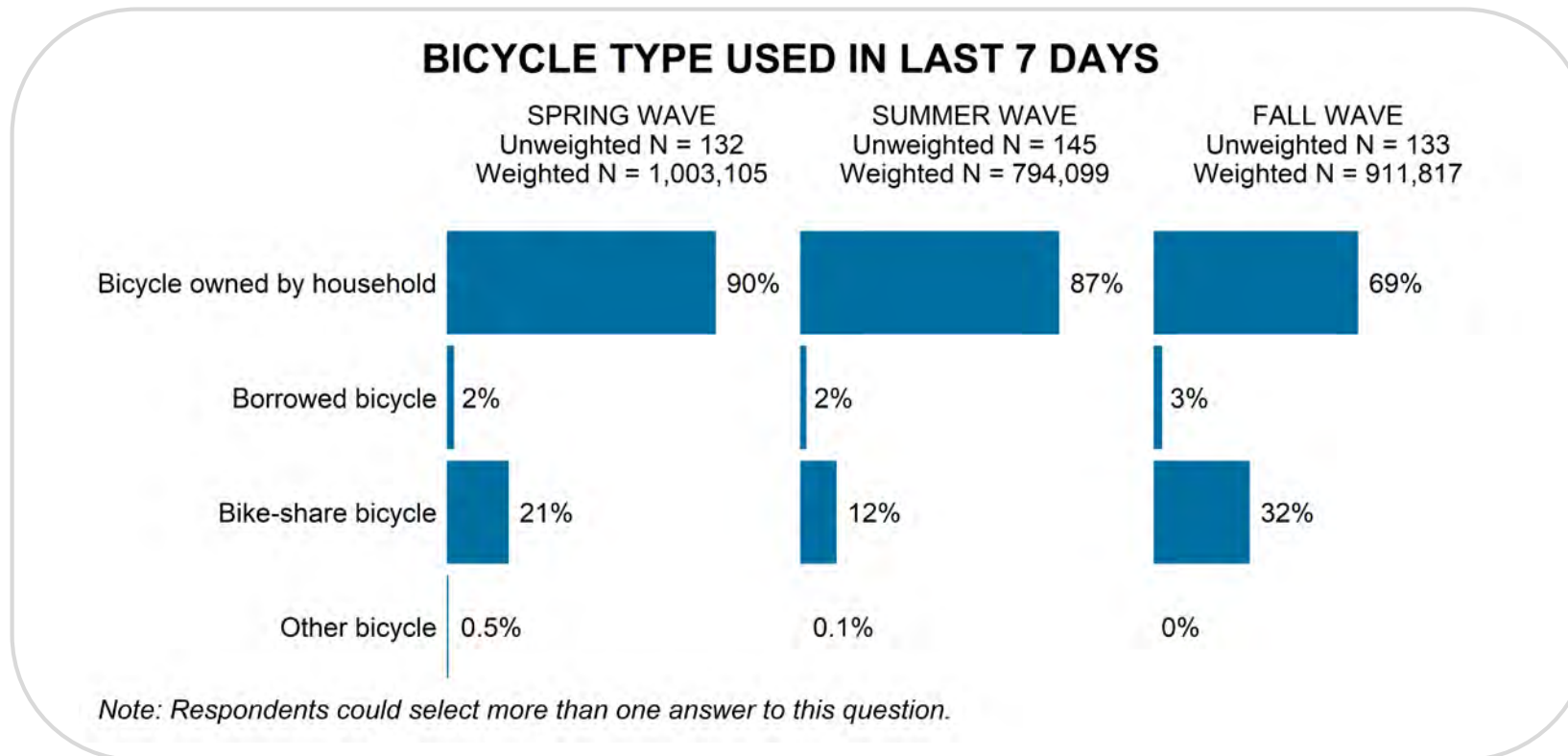
In the 2019 CMS:

- 89% of New Yorkers who used a bicycle in the city made exercise or recreation trips by bicycle.
- 44% of New Yorkers who used a bicycle in the city ran errands using a bicycle.

Based on 2019 CMS question: “Why do you ride your bicycle in New York City? Select all that apply.” which was asked of anyone who reported riding a bike in the city.

BICYCLE TYPE

While the share of bicycle riders who used a shared bicycle increased from 12% to 32% since the summer survey, this change is not statistically significant.

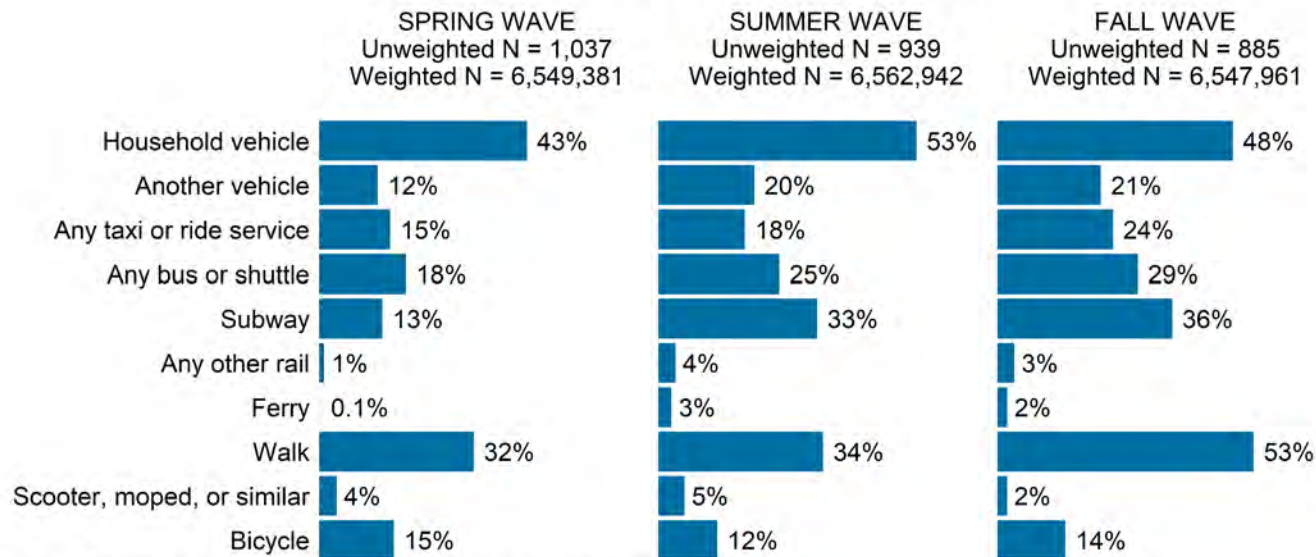


MODES USED IN THE PAST WEEK

The shares of New Yorkers who traveled by taxi or ride service, bus, and subway in the last 7 days all increased since the summer survey.

Note: Walking and jogging for exercise was asked in a separate question in the spring and summer waves, but not the fall wave. This may explain the increased walk share in the fall wave.

MODES USED IN THE LAST 7 DAYS

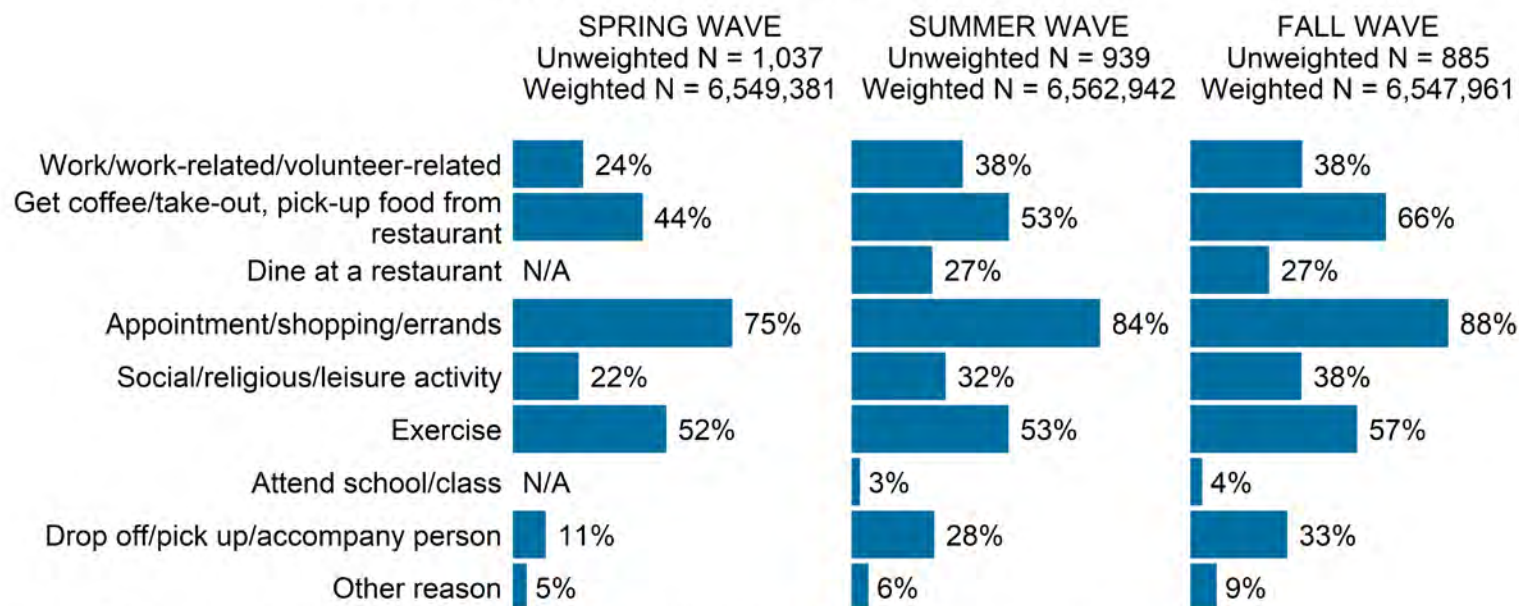


Note: Respondents could select more than one answer to this question.

TRIP PURPOSES IN THE PAST WEEK

66% of New Yorkers picked up food from a restaurant in the last 7 days, compared to 53% in the summer survey. The share of New Yorkers who dined at a restaurant in the last 7 days did not change since the summer survey.

TRIP PURPOSES IN THE LAST 7 DAYS



Note: Respondents could select more than one answer to this question.

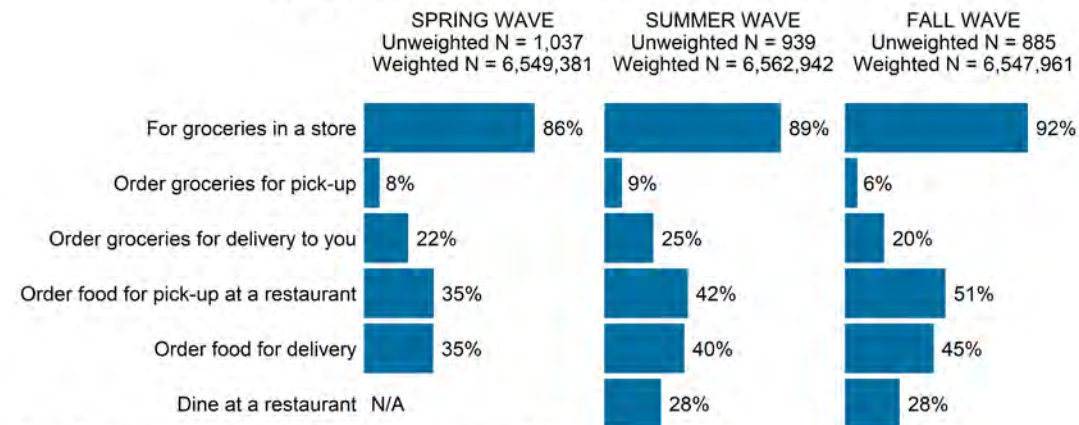
Note: Dine at a restaurant and attend school/class were new answer options in the summer wave.

SHOPPING FOR FOOD OR GROCERIES IN THE PAST WEEK

28% of New Yorkers dined at a restaurant in the last week.

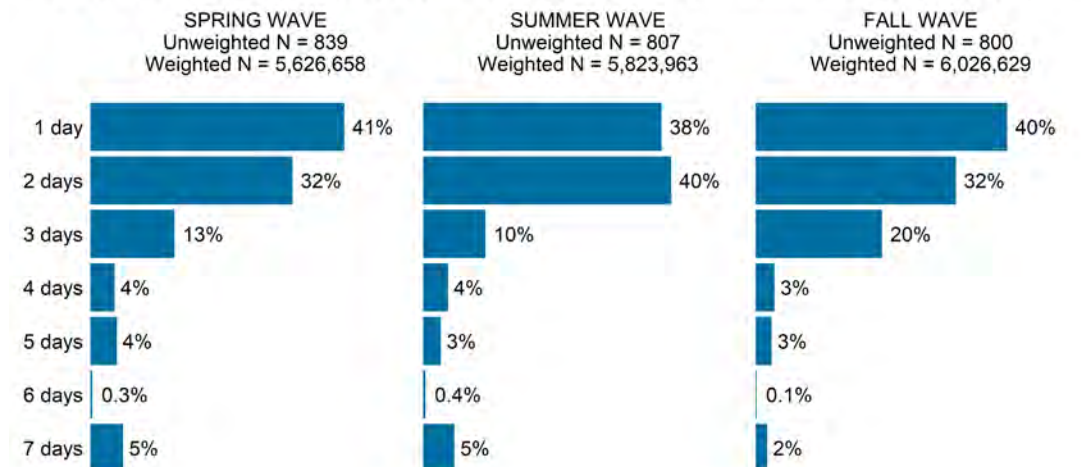
Grocery shopping frequency has remained consistent since the spring panel survey.

FOOD SHOPPING IN THE LAST 7 DAYS



Note: Respondents could select more than one answer to this question.
Note: Dine at a restaurant was a new answer option in the summer wave.

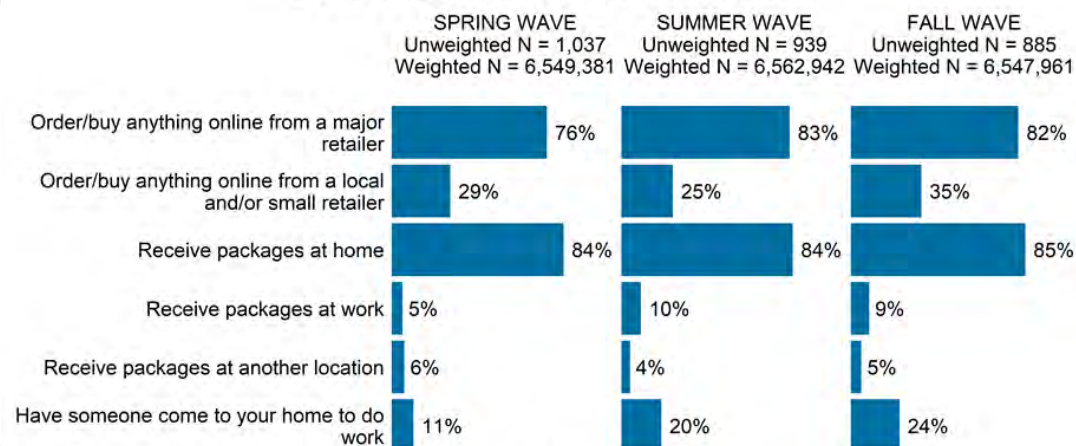
IN-STORE GROCERY SHOPPING FREQUENCY IN THE LAST 7 DAYS



ONLINE PURCHASES AND DELIVERIES IN THE PAST WEEK

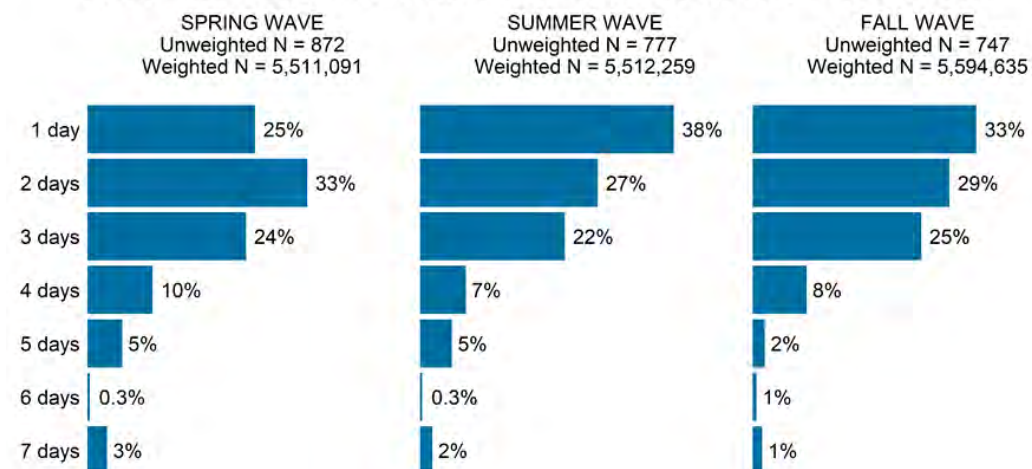
Of the 82% of New Yorkers who received a package at home in the last 7 days, 12% received packages on four days or more.

DELIVERIES IN THE LAST 7 DAYS



Note: Respondents could select more than one answer to this question.

HOME PACKAGE DELIVERY FREQUENCY IN THE LAST 7 DAYS





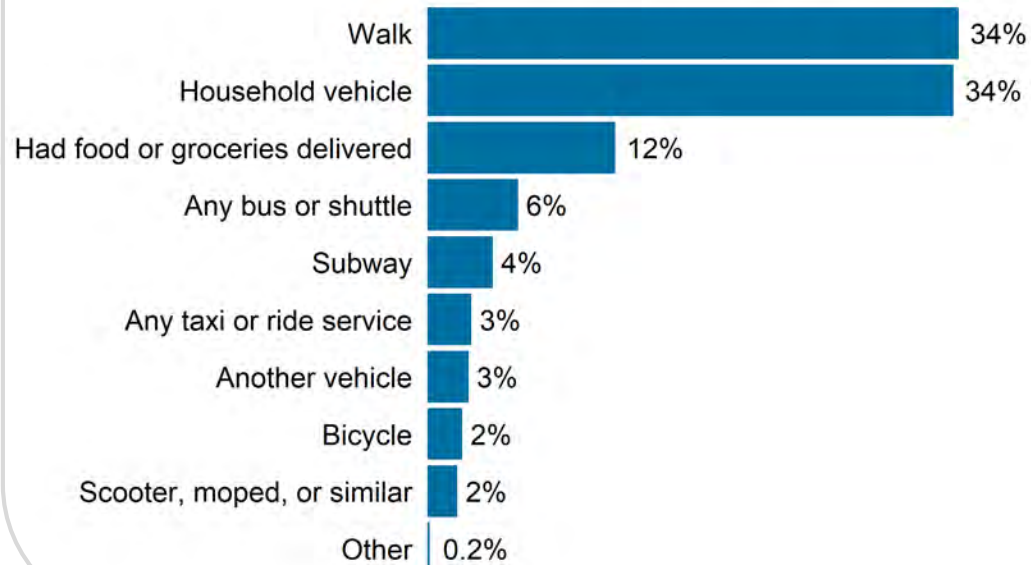
Travel Behavior Since Phase 4 of Reopening

MODES USED FOR FOOD OR GROCERY SHOPPING

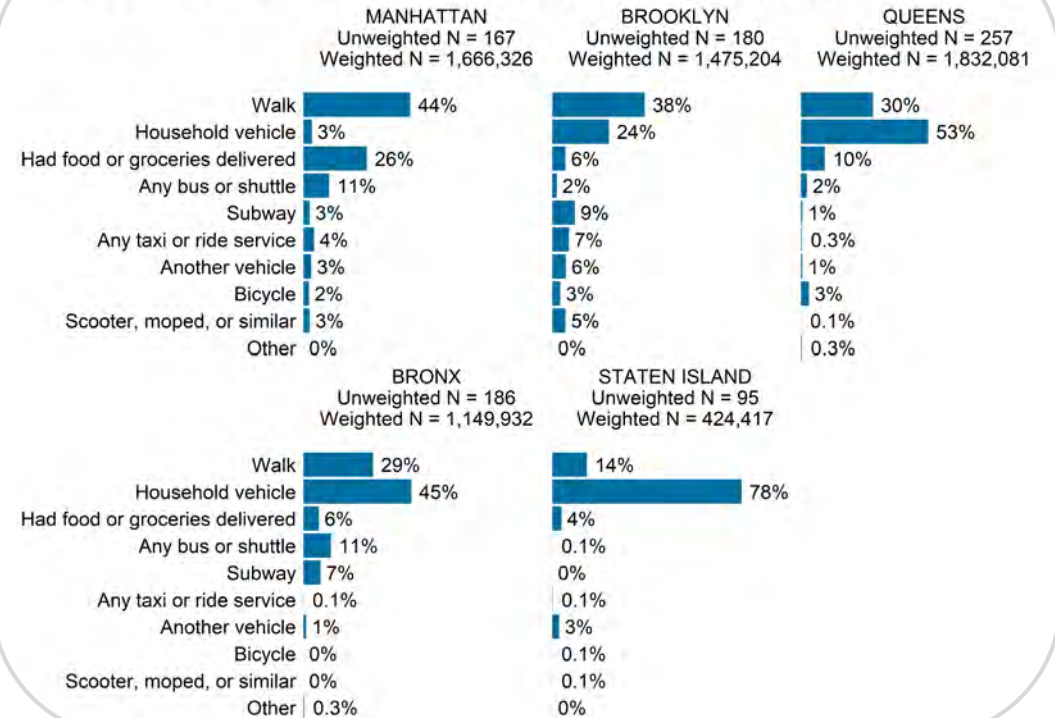
Most New Yorkers walked or traveled in a household vehicle the last time they shopped for food. 12% of New Yorkers had food or groceries delivered the last time they shopped for food.

MODE LAST USED TO SHOP FOR OR PICK UP FOOD

UNWEIGHTED N = 885, WEIGHTED N = 6,547,961



MODE LAST USED TO SHOP FOR OR PICK UP FOOD BY BOROUGH

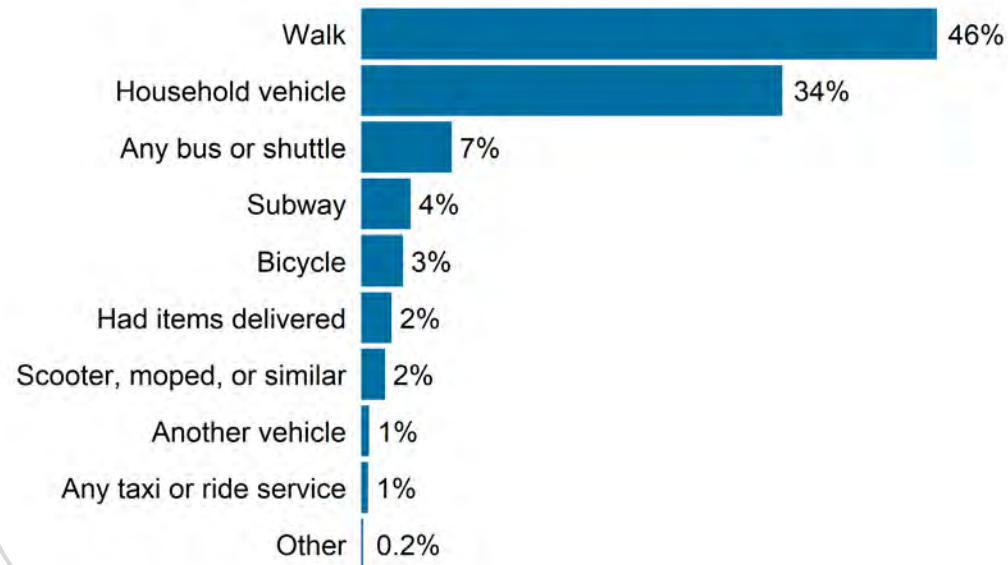


MODES USED FOR RUNNING ERRANDS

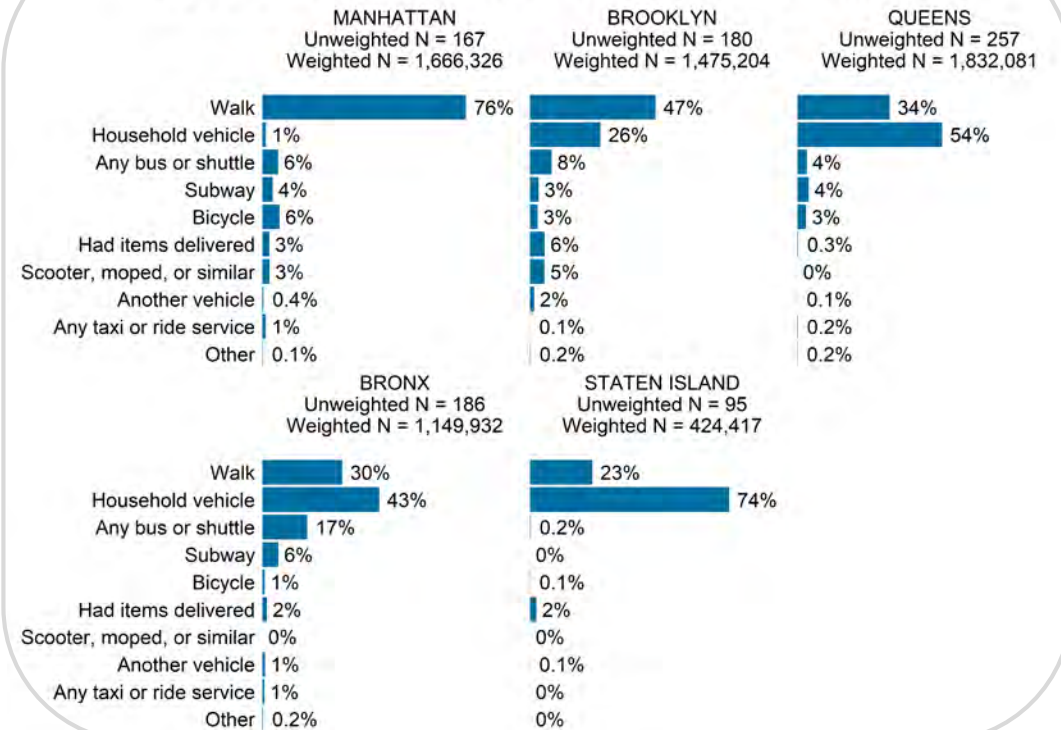
76% of Manhattan residents walked the last time they ran an errand, while 74% of Staten Island residents used a household vehicle.

MODE LAST USED TO RUN ERRANDS

UNWEIGHTED N = 885, WEIGHTED N = 6,547,961



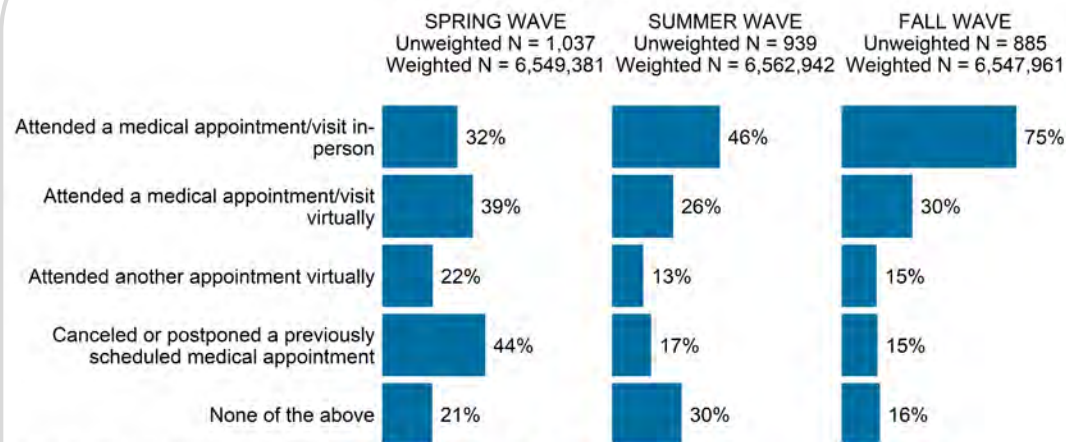
MODE LAST USED TO RUN ERRANDS BY BOROUGH



MEDICAL APPOINTMENTS SINCE JULY 20, 2020

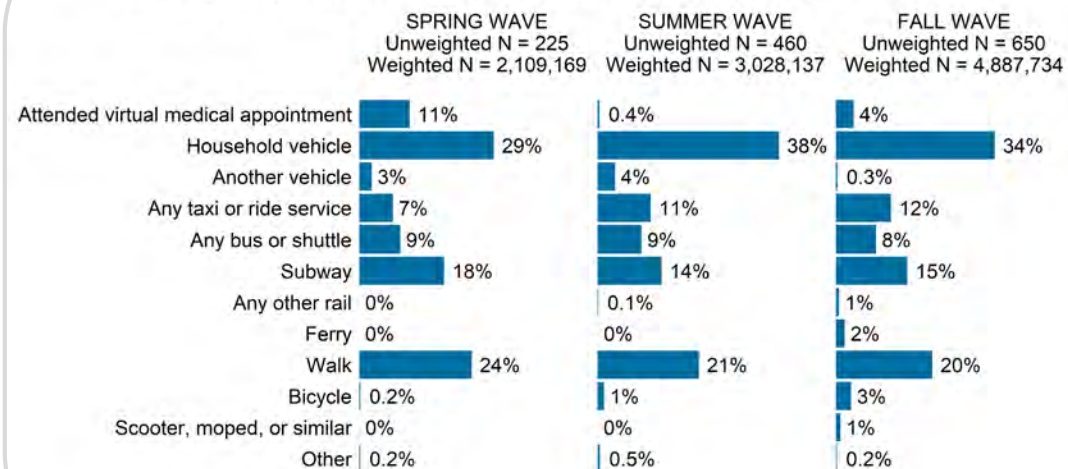
More New Yorkers are attending medical appointments in person and virtually compared to the summer wave.

MEDICAL ACTIVITY



Note: Respondents could select more than one answer to this question.

MODE LAST USED TO ATTEND MEDICAL APPOINTMENT



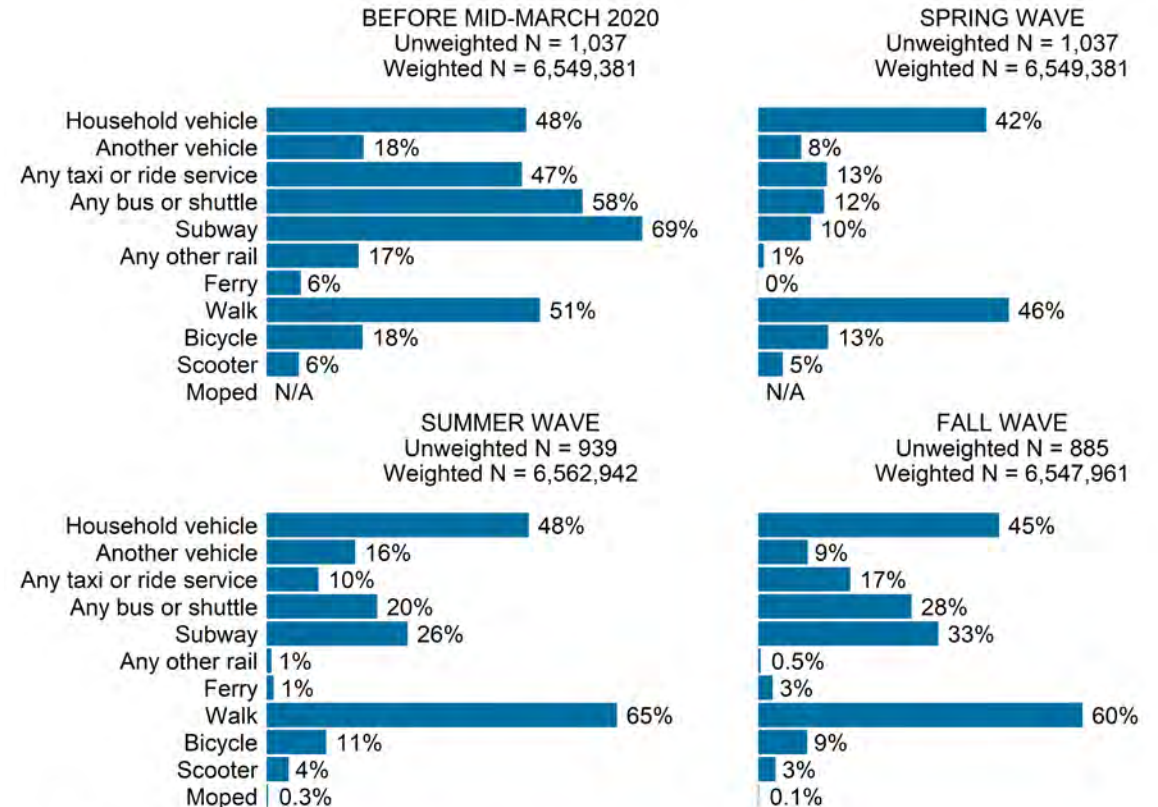
MODES USED BEFORE AND DURING THE COVID-19 PANDEMIC

56% of New Yorkers who have used a personal vehicle in a typical week since July 20, 2020 are using a personal vehicle to make trips they previously would have made using another mode, a decrease from 61% in the summer survey.

The share of New Yorkers who use the bus in a typical week increased from 20% to 28% since the summer survey.

The share of New Yorkers who use the subway in a typical week increased from 26% to 33% since the summer survey.

MODES USED IN A TYPICAL WEEK



Note: Respondents could select more than one answer to this question.
Note: Moped was a new answer option in the summer wave.



Use of Outdoor Spaces

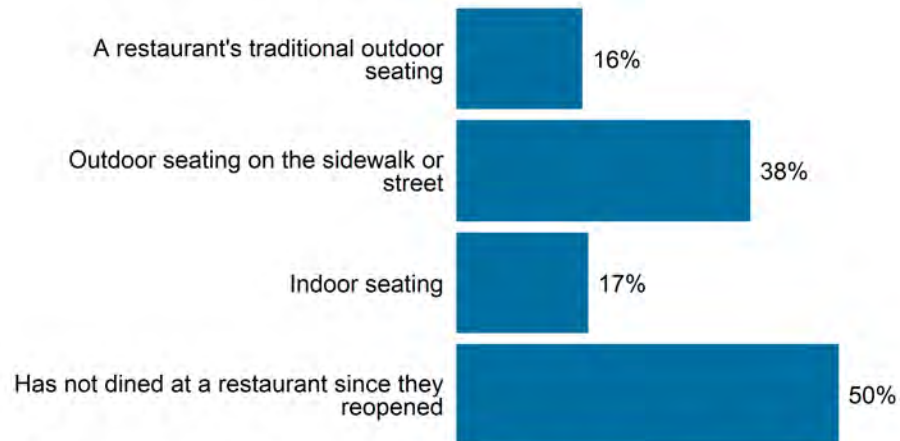
DINING AT RESTAURANTS

38% of New Yorkers have dined outside at a restaurant on the sidewalk or street since restaurants reopened.

50% of New Yorkers have not dined at a restaurant since they reopened.

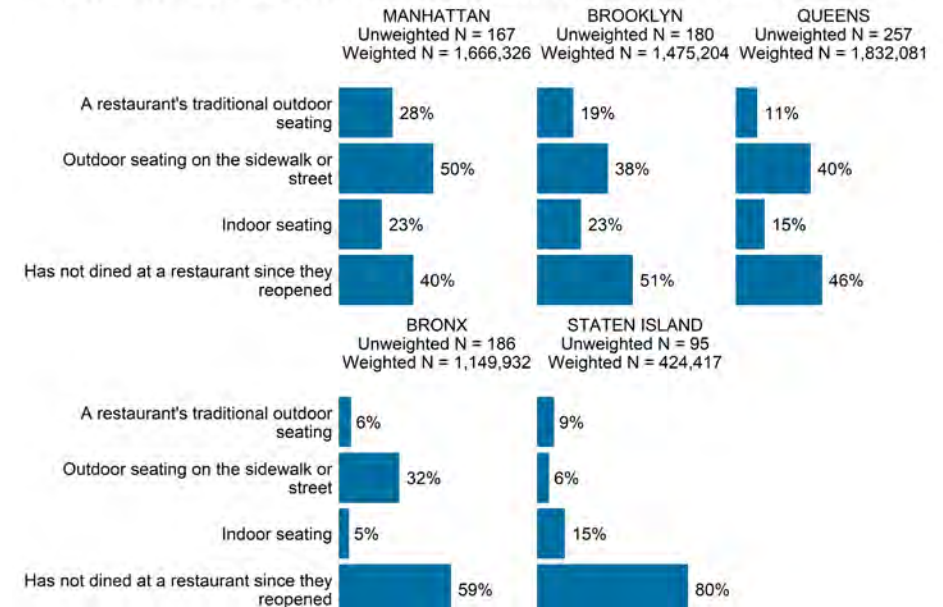
DINE LOCATION SINCE RESTAURANTS REOPENED

UNWEIGHTED N = 885, WEIGHTED N = 6,547,961



Note: Respondents could select more than one answer to this question.

DINE LOCATION SINCE RESTAURANTS REOPENED BY BOROUGH



Note: Respondents could select more than one answer to this question.

ATTITUDES TOWARD STREET SPACE ALLOCATION

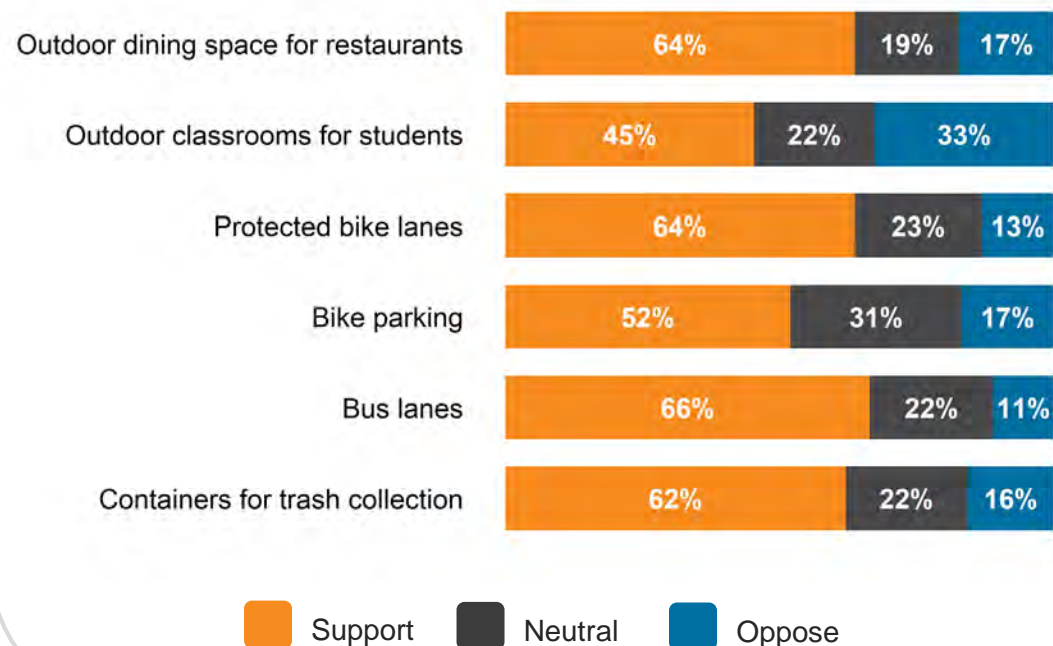
Using street space for bus lanes has the most support from New Yorkers, followed by outdoor dining space for restaurants and protected bike lanes.

84% of Manhattan residents support using street space for outdoor dining, the highest share of any borough.

Brooklyn residents are the most likely of any borough to support using street space for protected bike lanes, with 79% of residents of supporting this use.

ATTITUDES TOWARD STREET SPACE ALLOCATION

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417





Attitudinal Questions

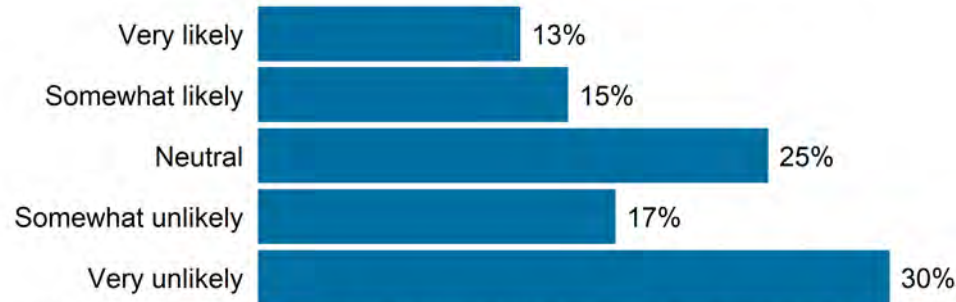
CURRENT ATTITUDES TOWARD USING PUBLIC TRANSIT

28% of New Yorkers who have not used public buses in a typical week since July 20, 2020 are likely to use the bus now that the MTA's Action Plan for a Safe Return is in place, and 47% are unlikely to.

30% of New Yorkers who have not used the subway in a typical week since July 20, 2020 are likely to use the subway now that the MTA's Action Plan for a Safe Return is in place, and 50% are unlikely to.

LIKELIHOOD TO USE PUBLIC BUSES

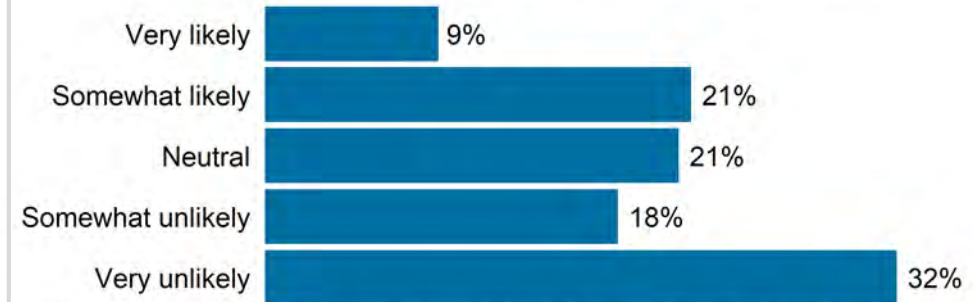
UNWEIGHTED N = 671, WEIGHTED N = 4,726,174



Note: This figure only includes respondents who have not used public buses in a typical week since July 20, 2020.

LIKELIHOOD TO USE THE SUBWAY

UNWEIGHTED N = 610, WEIGHTED N = 4,436,087



Note: This figure only includes respondents who have not used the subway in a typical week since July 20, 2020.

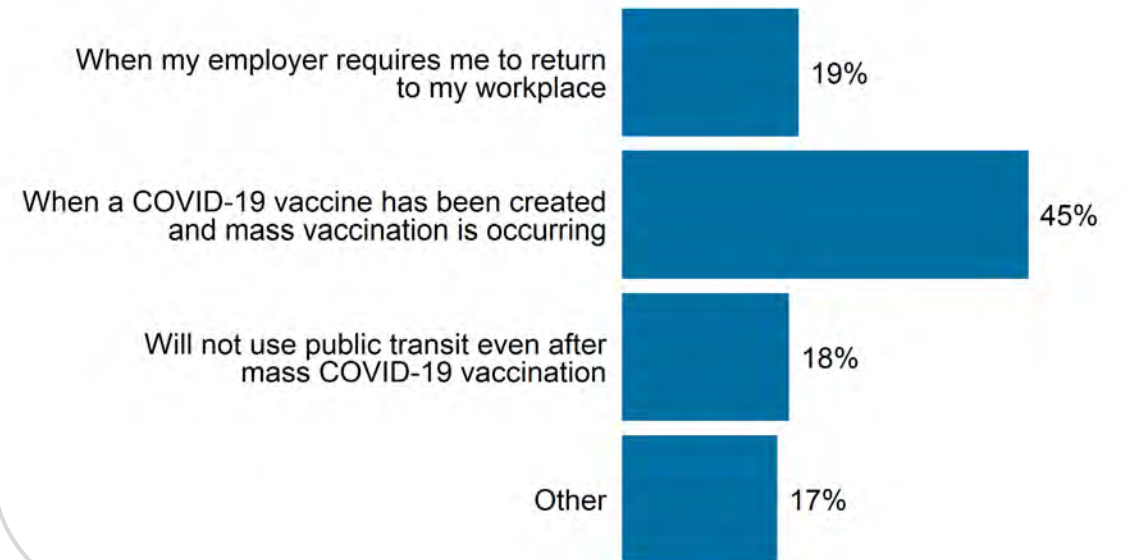
FUTURE PUBLIC TRANSIT USE

45% of New Yorkers who are unlikely or neutral to use the bus or subway state that they will begin to use public transit regularly when a COVID-19 vaccine has been created and mass vaccination is occurring.

18% of New Yorkers will not use public transit in New York City, even after mass COVID-19 vaccination is occurring.

FUTURE PUBLIC TRANSIT USE

UNWEIGHTED N = 547, WEIGHTED N = 3,957,734



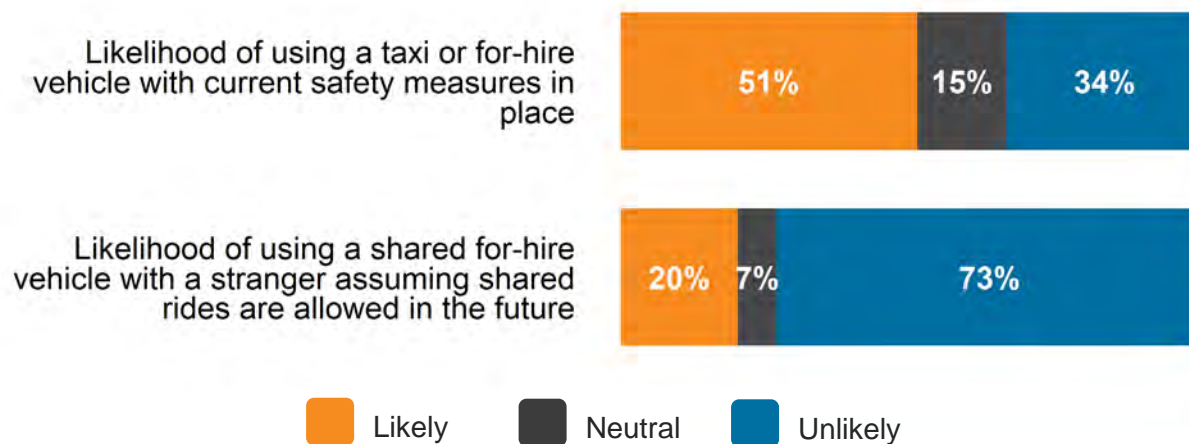
CURRENT ATTITUDES TOWARD FOR-HIRE VEHICLES

51% of New Yorkers are likely to use a for-hire vehicle with current safety measures in place, an increase from 43% in the summer wave.

73% of New Yorkers are unlikely to share a for-hire vehicle with a stranger if shared rides are allowed in the future.

ATTITUDES TOWARD FOR-HIRE VEHICLES

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417



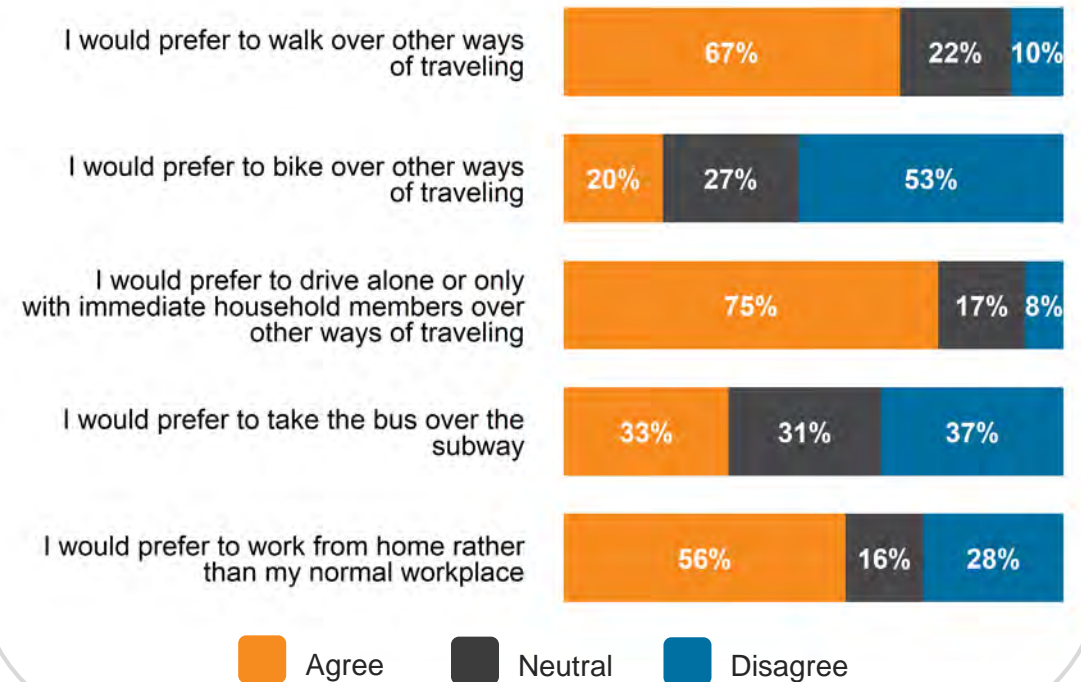
CURRENT ATTITUDES TOWARD TRAVEL

The share of New Yorkers who would prefer to drive alone over other ways of traveling increased by 7 percentage points since the summer survey.

The share of New Yorkers who would prefer to take the bus over the subway increased by 8 percentage points since the summer survey.

ATTITUDES TOWARD TRAVEL

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417



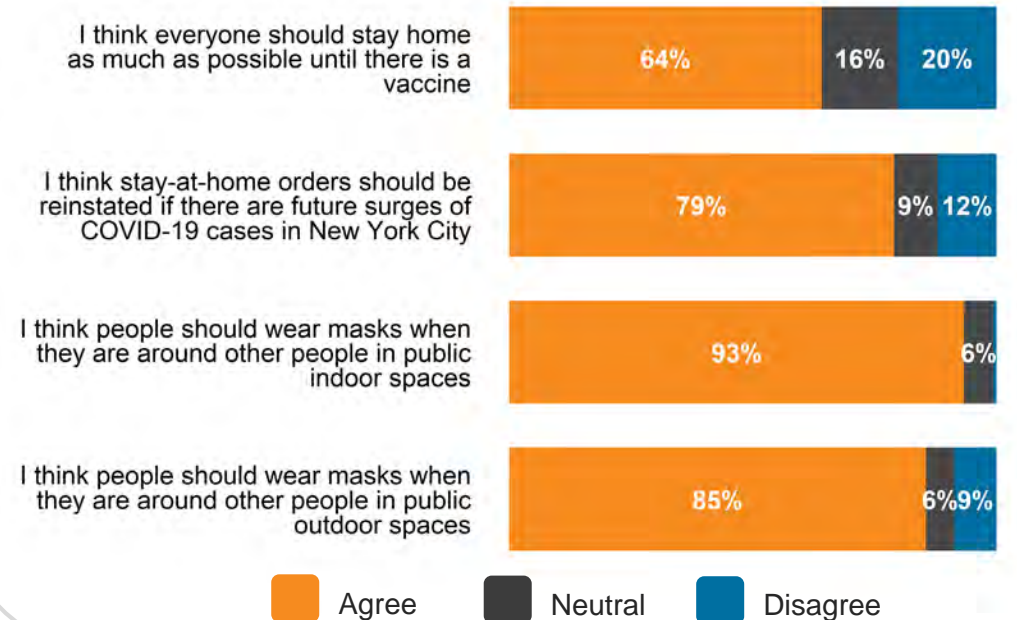
ATTITUDES TOWARD COVID-19 SAFETY MEASURES

64% of New Yorkers agree that everyone should stay at home as much as possible until there is a vaccine, an increase from 59% in the summer survey.

In the spring survey, 68% of New Yorkers agreed that everyone should stay at home as much as possible until there is a vaccine.

ATTITUDES TOWARD COVID-19 SAFETY MEASURES

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417





**CITYWIDE
MOBILITY**
SURVEY

Vehicle Ownership

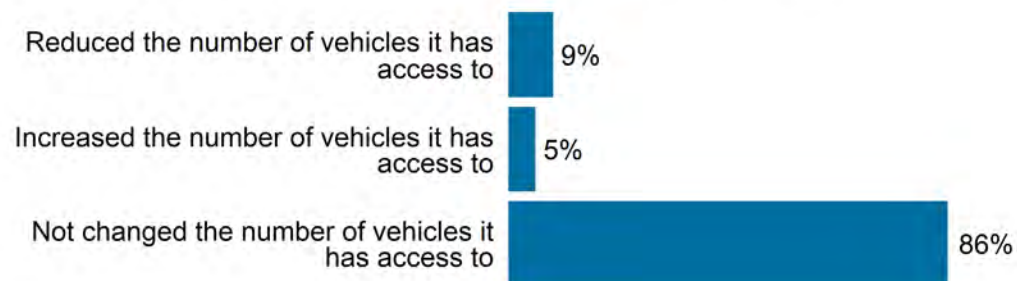
CHANGE IN VEHICLE OWNERSHIP

9% of New Yorkers have reduced the number of vehicles their household has access to during the COVID-19 pandemic.

5% have increased the number of vehicles they have access to.

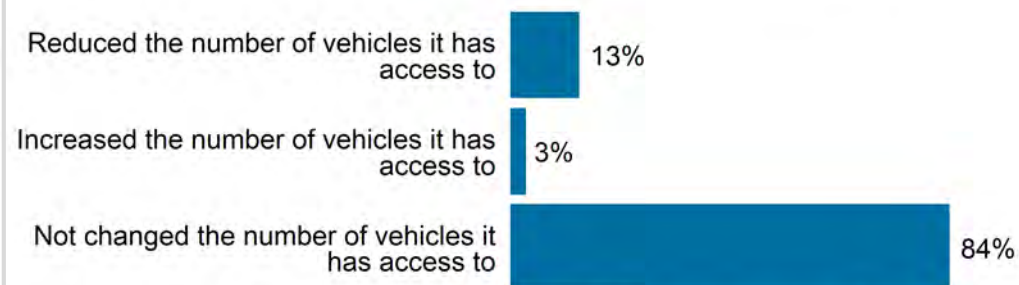
CHANGE IN NUMBER OF HOUSEHOLD VEHICLES SINCE THE BEGINNING OF THE COVID-19 PANDEMIC

UNWEIGHTED N = 905, WEIGHTED N = 6,662,417



CHANGE IN NUMBER OF HOUSEHOLD VEHICLES IN THE PAST TWO YEARS (2019 CMS)

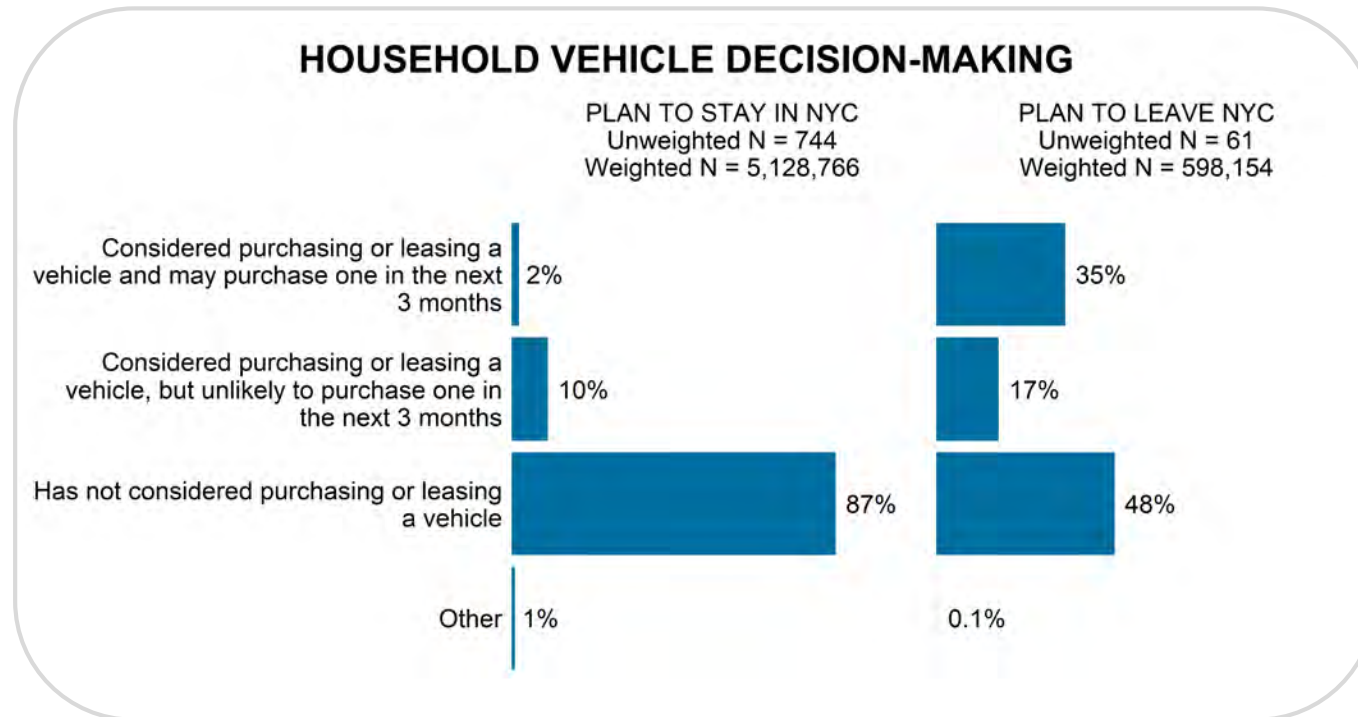
UNWEIGHTED N = 896, WEIGHTED N = 6,646,692



Note: The sample size for this figure is smaller due to non-response in the 2019 CMS.

VEHICLE OWNERSHIP DECISION-MAKING

87% of New Yorkers who do not plan to move outside of New York City and have not changed the number of vehicles they have access to during the COVID-19 pandemic have not considered purchasing or leasing a vehicle.





Contacts

www.rsginc.com

JOANN LYNCH
Project Manager

Rachel Schmidt
Lead Analyst