Car or Bike?

A DCP/DOT report to better understand why NYC commuters shift from cars to bikes and how to encourage them to do so

Executive Summary

Purpose of the study: To understand why people shift modes from autos to bikes and to find opportunities for NYC government to encourage mode shift

Existing cycling data that this report relies on:

- Department of Health and Mental Hygiene (DOHMH) Community Health Survey
- Census Transportation Planning Package (CTPP)/American Community Survey (ACS)

This report largely relies upon two surveys carried out by DOT and DCP:

I. Commuter Survey, April 2019 (NYC Department of City Planning and Department of Transportation):

Goal: To gauge the willingness and ability of the commuting public to shift modes from auto to bike for commute trips

- Respondents who never rode a bike were found least likely to do so for any reason.
- Respondents who rode once a month said good weather was the primary factor in causing them to ride more.
- Respondents who rode often said safer streets and infrastructure was the primary factor causing them to ride more.

DCP team distributing cyclist survey in Jackson Heights, Queens

Executive Summary (continued)

<u>**II. Cyclist survey; Fall, 2019 (NYC DCP and DOT):**</u>

Goal: To find out what interventions would get existing cyclists to ride more and shift auto trips to bike trips.

- Summary statistics:
  - Over half the respondents fell into the 30-49 age group and earned more than $75,000 per year.
  - Over three-quarters of respondents lived near a Citi Bike station, which are all in or close to Manhattan.
  - *Survey respondents are not necessarily representative of the cycling population in New York City as a whole, largely due to challenges in reaching the city's diverse cycling community.*
- Survey results:
  - Respondents said more **protected bike lanes** and **safer traffic conditions** were prime factors influencing them to ride more.
  - Respondents with lower incomes often cycle because they **do not have access to a car** and for **economic reasons**.
  - Several hundred respondents provided valuable feedback that was not anticipated by the survey. The three most popular unanticipated issues raised were **bike lane blocking** and **lack of network connectivity** and **bridge access**.

<u>**Literature review summary:**</u>

Potential methods to induce mode shift that have been explored:

- Promote a mixed-use neighborhoods with shorter commutes
- Expand protected bike infrastructure
- Establish targeted campaigns to increase cycling

- Subsidize cycling as a commute mode
- Expand public transit, which tends to boost cycling

Policy Implications

<u>Implications for City policy:</u>

- A core mission of the Department of City Planning is to promote mixed-use development and ample open space in neighborhoods throughout New York City. The City should continue this approach and evaluate the impact of current zoning on mode choice, including transit.

    - Because transit use has been shown to be correlated with cycling, transit-oriented development can also encourage cycling.

- Continued investment in robust cycling infrastructure and traffic safety is key.

    - The NYC Department of Transportation has installed 169 lane miles of protected bike infrastructure since 2009 and plans to install up to 280 more in the next 6 years, as the budget allows.

    - Focusing on multi-modal systems with tie-ins to transit may result in the greatest return in mode shift.

- Cycling encouragement campaigns targeting existing, infrequent cyclists are more likely to succeed than general campaigns or campaigns targeting non-cyclists.

- The city should explore new ways to increase capacity for affordable and secure indoor bike parking in existing and new residential buildings as well as parking garages.
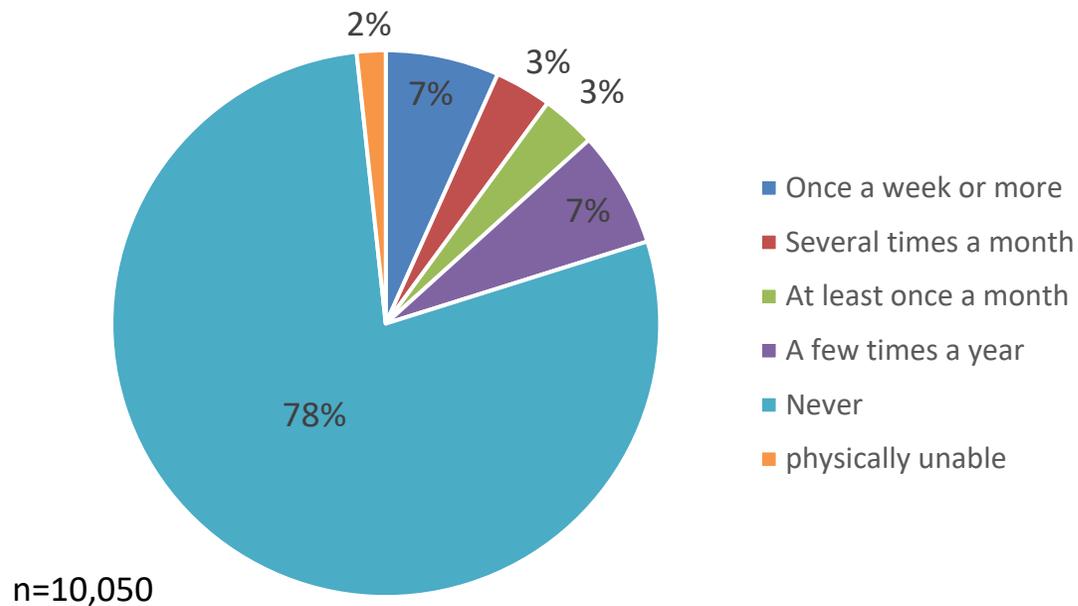
Community Health Survey 2018: Cycling Data

The Department of Health and Mental Hygiene conducts the Community Health Survey (CHS) every year by phone. Several health-related questions are posed as well as one question about respondents' cycling behavior.
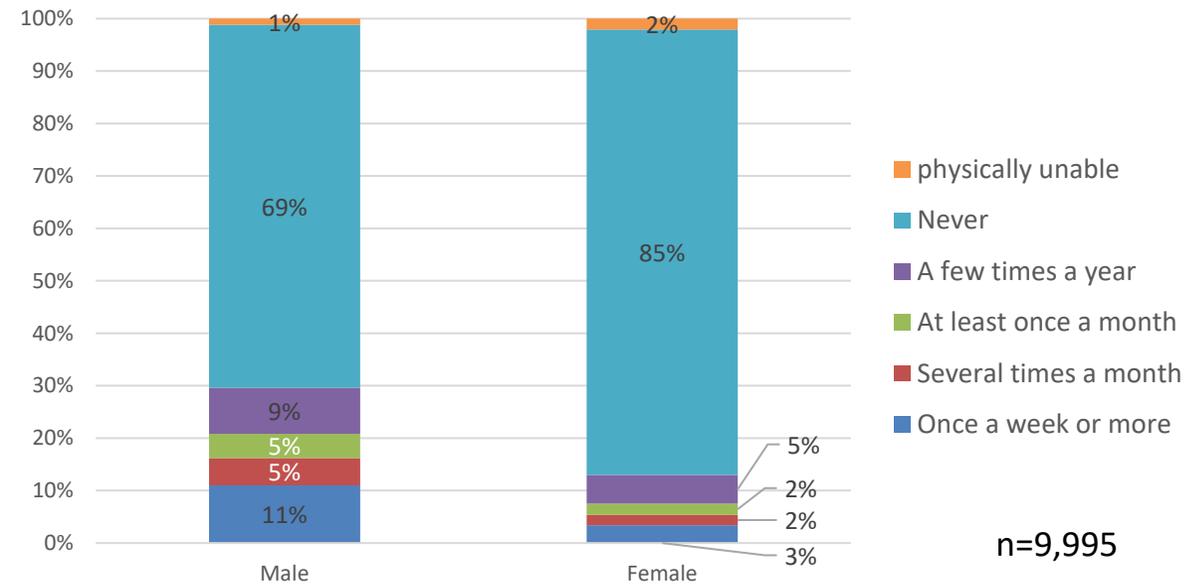
Survey results for the 2018 data set show:

- Around 20 percent of respondents ride a bike at least a few times a year;
- A significant gender difference exists in cycling habits, with 85 percent of women saying they never ride a bike compared to 69 percent of men.
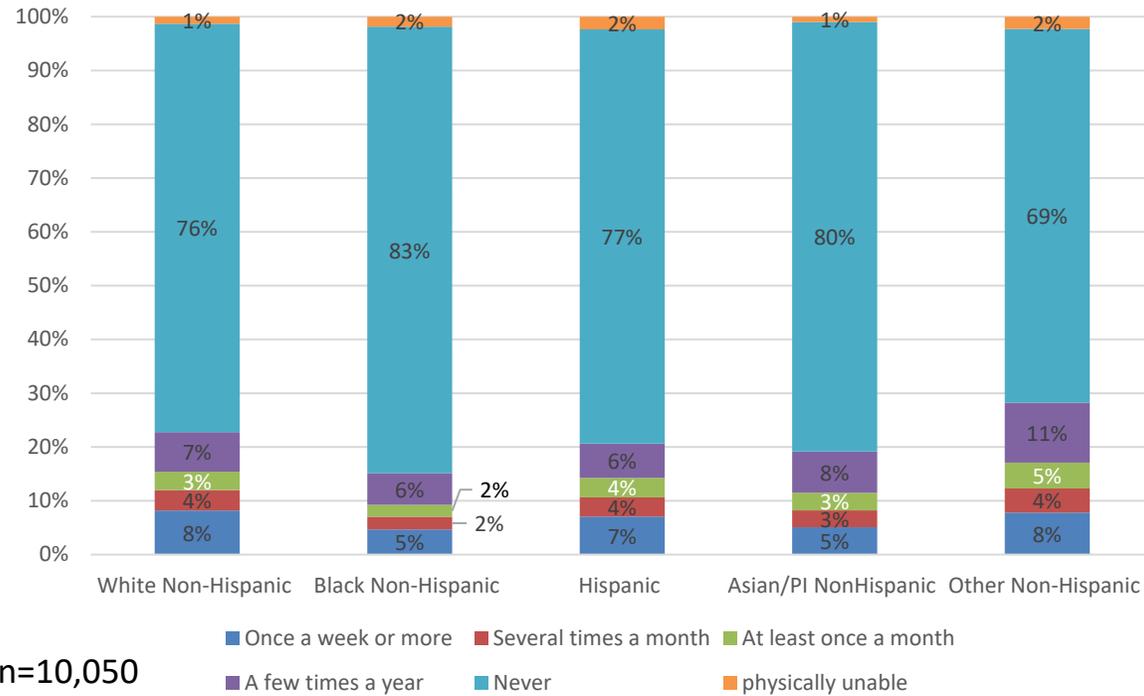

CHS Cycling Frequency*

- Once a week or more
- Several times a month
- At least once a month
- A few times a year
- Never
- physically unable

n=10,050

Cycling Frequency by Gender

- physically unable
- Never
- A few times a year
- At least once a month
- Several times a month
- Once a week or more

n=9,995

*Survey question: In the past 12 months, how often have you ridden a bicycle in one of the five boroughs of New York City? Would you say once a week or more, several times a month, at least once a month, a few times a year, or never?

Community Health Survey 2018: Cycling Data

Cycling Frequency by Race/Ethnicity

Cycling Frequency by General Health*
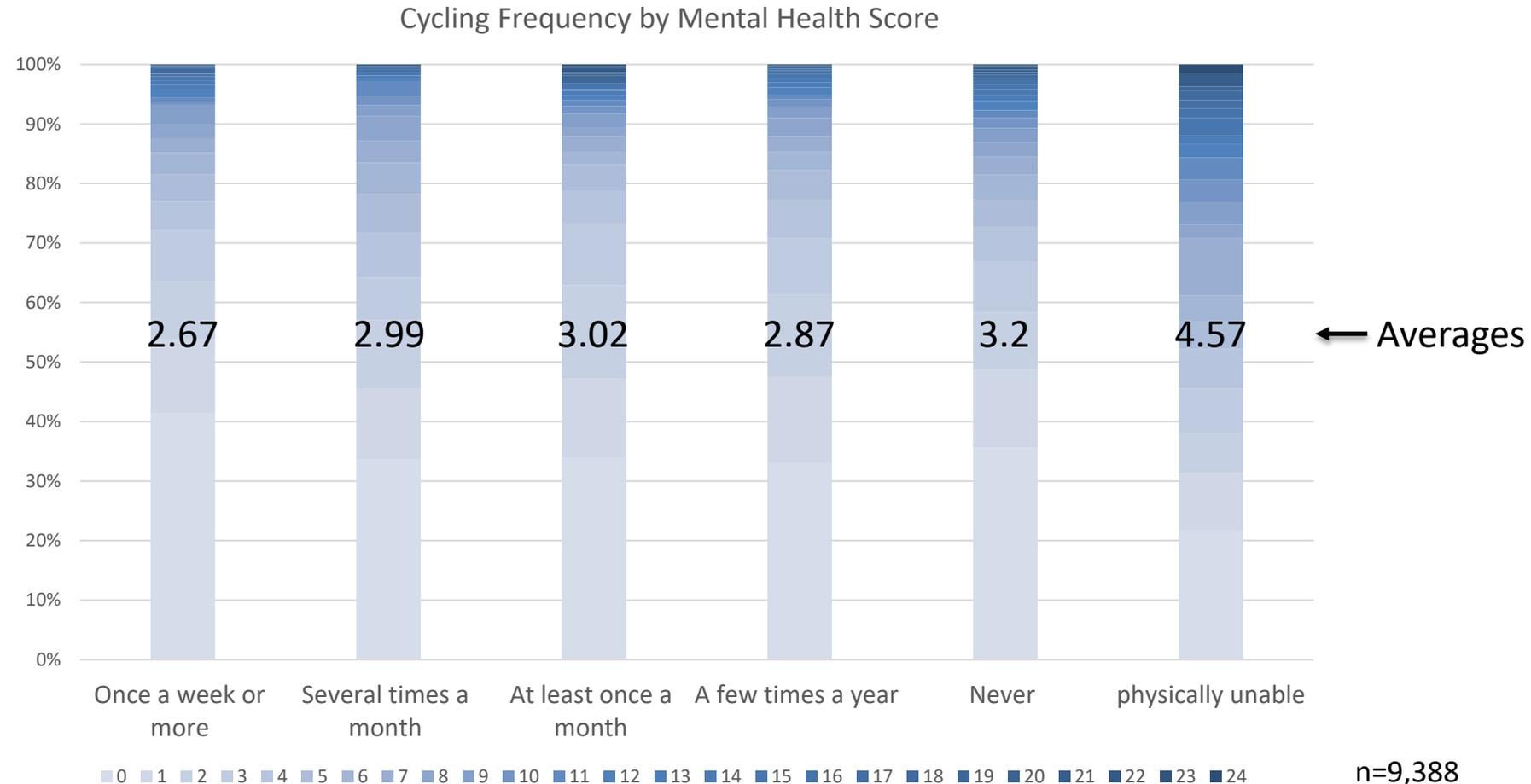
n=10,050

n=10,004
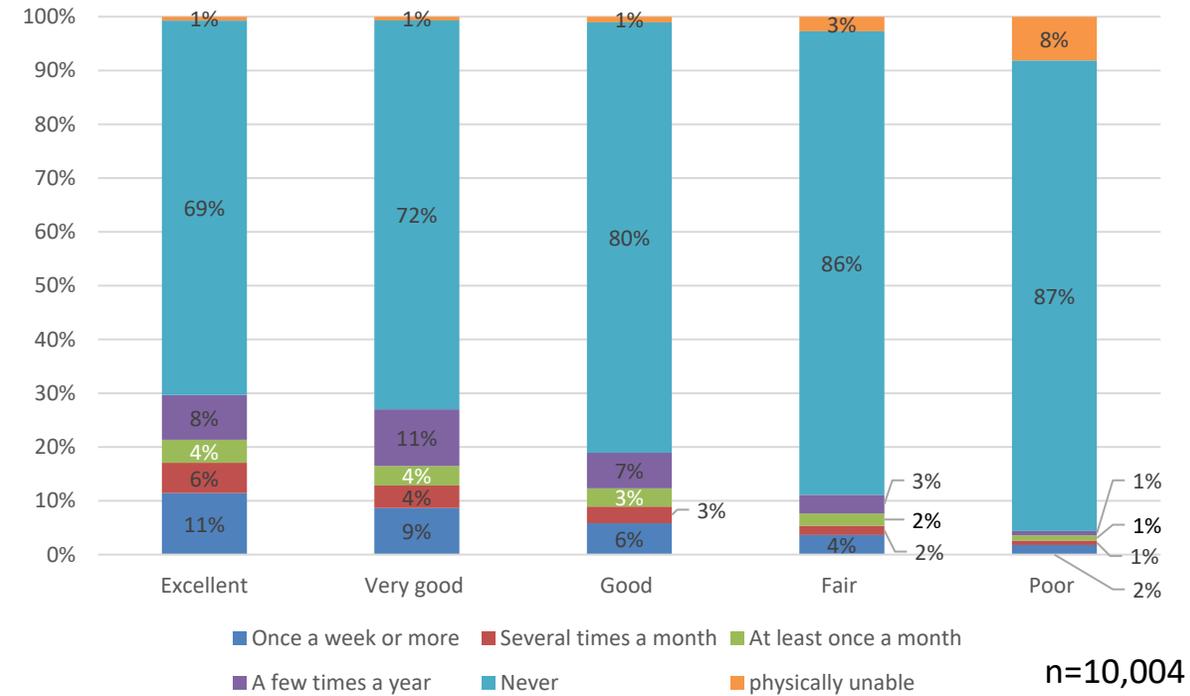
- There are significant racial differences in cycling habits, with 83 percent of black people saying they never ride a bike compared to 76 and 77 percent of whites and Hispanics.
- Cycling frequency is positively correlated with general health, with 11 percent of those in excellent health cycling often.

*Survey question: Would you say that in general your health is: excellent, very good…

Community Health Survey 2018: Cycling Data

While there is no clear overall correlation between cycling habits and mental health score, those who ride once a week or more assess themselves as significantly more mentally healthy than do those who never ride a bike.

Cycling Frequency by Mental Health Score

Once a week or more	2.67
Several times a month	2.99
At least once a month	3.02
A few times a year	2.87
Never	3.2
physically unable	4.57

← Averages

Legend: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

n=9,388

*Survey question: Patient Health Questionnaire depression scale – based on last 2 weeks; follows a series of questions about the respondent's mood. Higher scores indicate worse self-assessed mental health.

Short Commutes by PUMA/Community District

Legend

Travel Time to Work 5-20 Minutes by PUMA

Workers
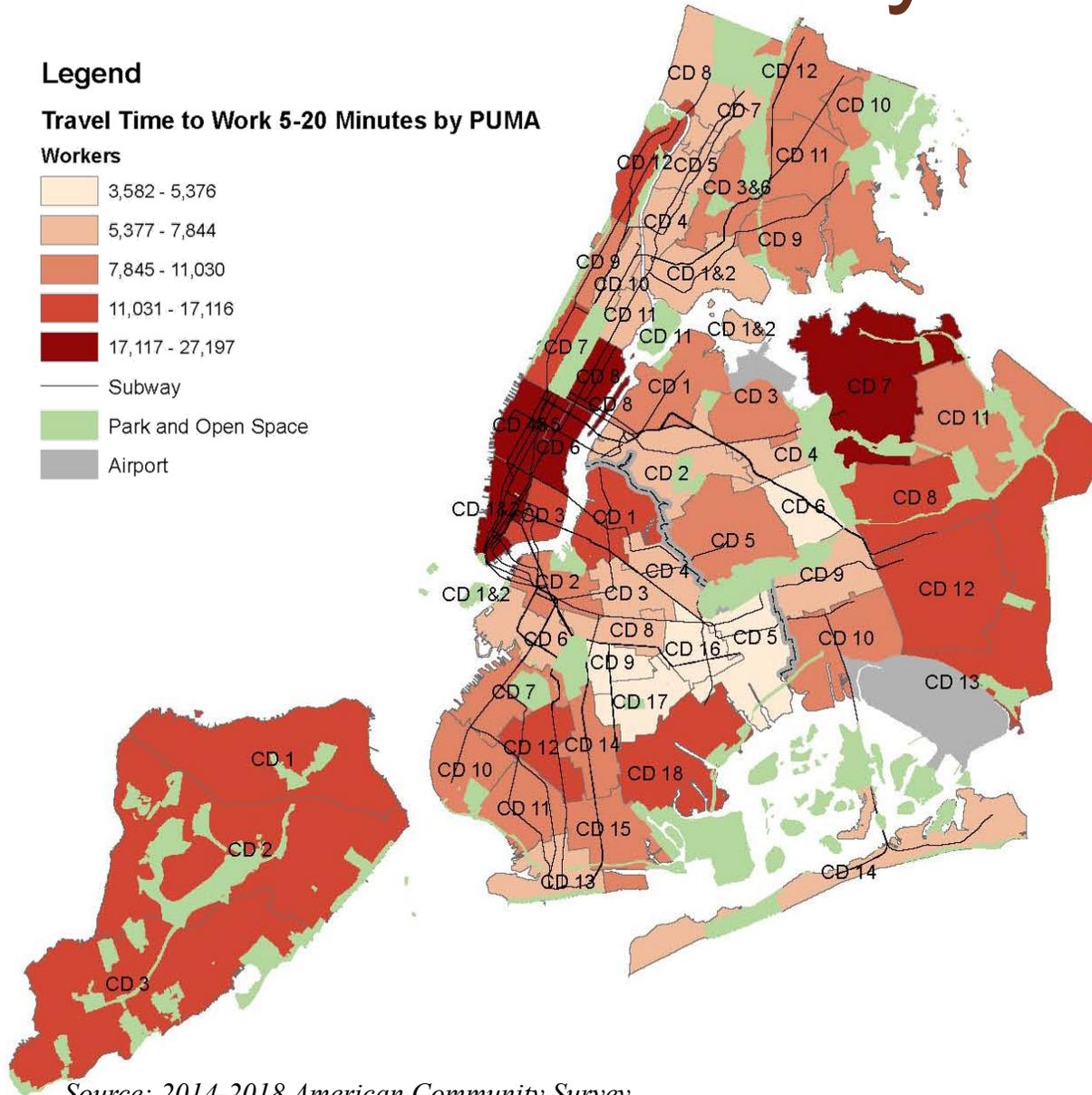
- 3,582 - 5,376
- 5,377 - 7,844
- 7,845 - 11,030
- 11,031 - 17,116
- 17,117 - 27,197
- Subway
- Park and Open Space
- Airport

Source: 2014-2018 American Community Survey

- Commutes of 5 to 20 minutes may be more likely to shift to bike because most bike trips are short distances. Census data indicates over 80 percent of NYC bike commute trips are shorter than 5 miles.*

- Travel time to work data from the American Community Survey shows that in addition to the Manhattan Core, several community districts in Brooklyn and Queens have high numbers of short commutes, particularly Queens CDs 7, 8 and 12 and Brooklyn CDs 1, 12 and 18.
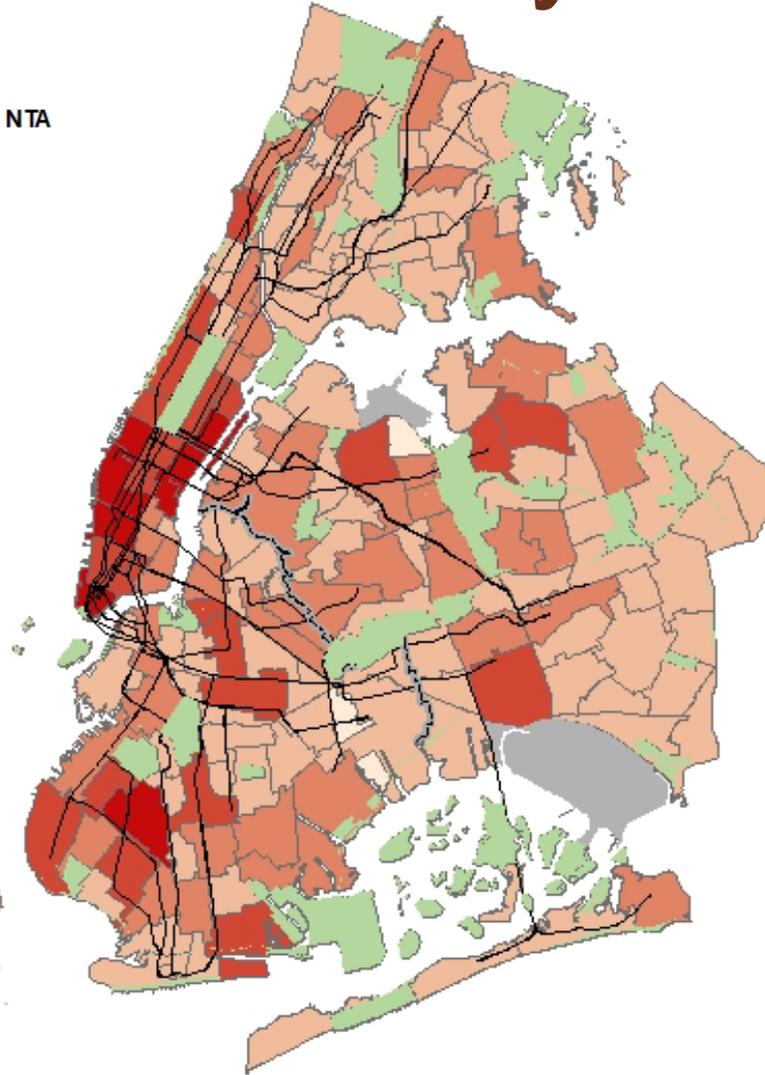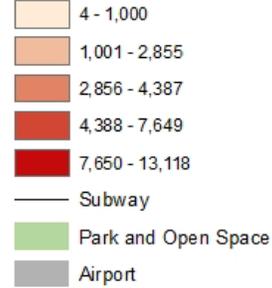
*Source: 2012-2016 Census Transportation Planning Product

Short Commutes by NTA

Legend

Travel Time to Work 5-20 Minutes by NTA

Workers
- 4 - 1,000
- 1,001 - 2,855
- 2,856 - 4,387
- 4,388 - 7,649
- 7,650 - 13,118
- — Subway
- Park and Open Space
- Airport

Source: 2014-2018 American Community Survey

- At the level of neighborhood tabulation areas, several additional areas have high concentrations of short trips including Jackson Heights, South Ozone Park, Flushing and Murray Hill in Queens; and Borough Park in Brooklyn.

- These are potential areas of focus for NYC government to encourage mode shift.

Commuter Survey Overview

- **Survey conducted by the NYC Department of City Planning and Department of Transportation in April 2019**

- **Goal:** Gauge the willingness and ability of the commuting public to shift modes from auto to bike for regular commute trips

- **Dates and locations:** Subway station entrances selected based on a combination of factors including socioeconomic and demographic conditions, mode split and proximity to large residential communities:
  - 4/9/19: Flatbush 2/5
  - 4/10/19: Jackson Heights E/F/M/R/7
  - 4/16/19: Canarsie L
  - 4/17/19: Tremont B/D
  - 4/23/19: Flushing 7
  - 4/24/19: Classon G
  - 4/30/19: Jamaica E/J/Z

- **Total Respondents:** 407

Classon Ave and Lafayette Ave, Brooklyn

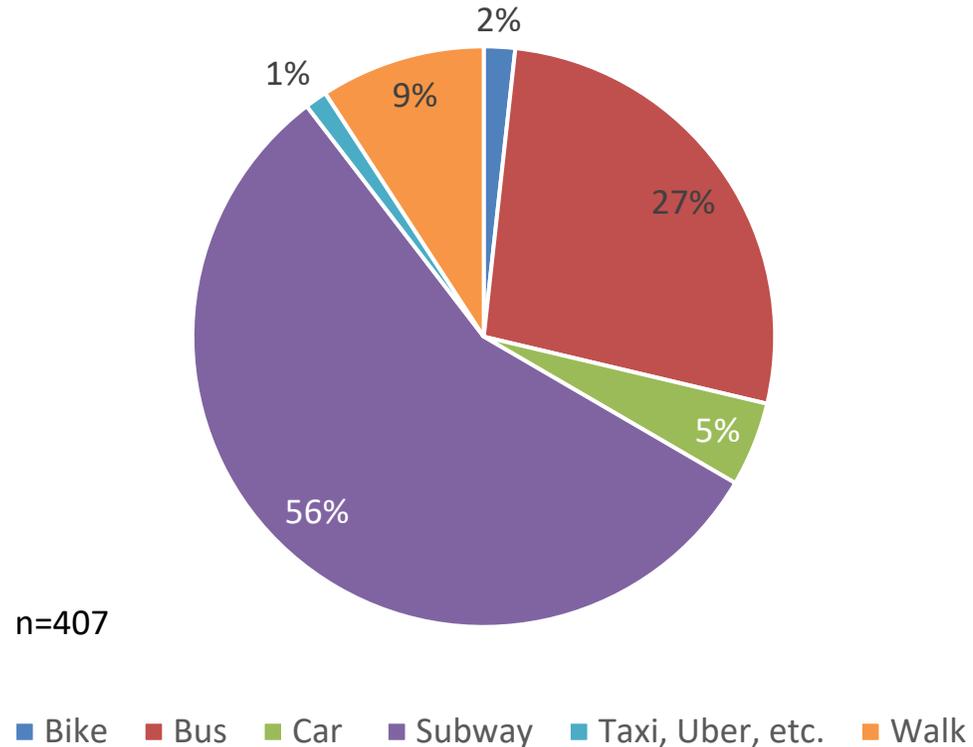Flatbush Ave and Nostrand Ave, Brooklyn
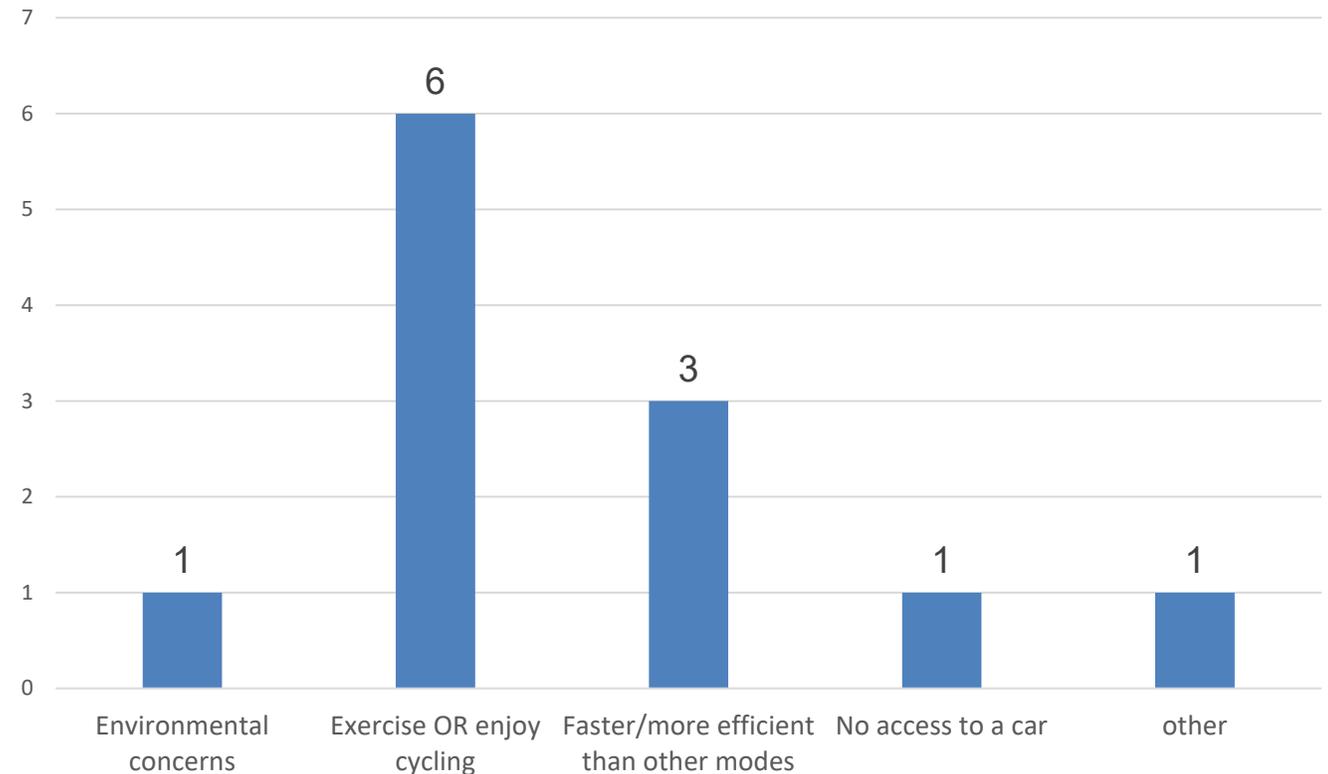

Main St and Roosevelt Ave, Queens

Commuter Survey Data Summary

- Most respondents rode either subway or bus
- 2.4 percent or 7 respondents rode bikes as their primary mode. The bike sample size was too small to determine respondents' reasons for cycling
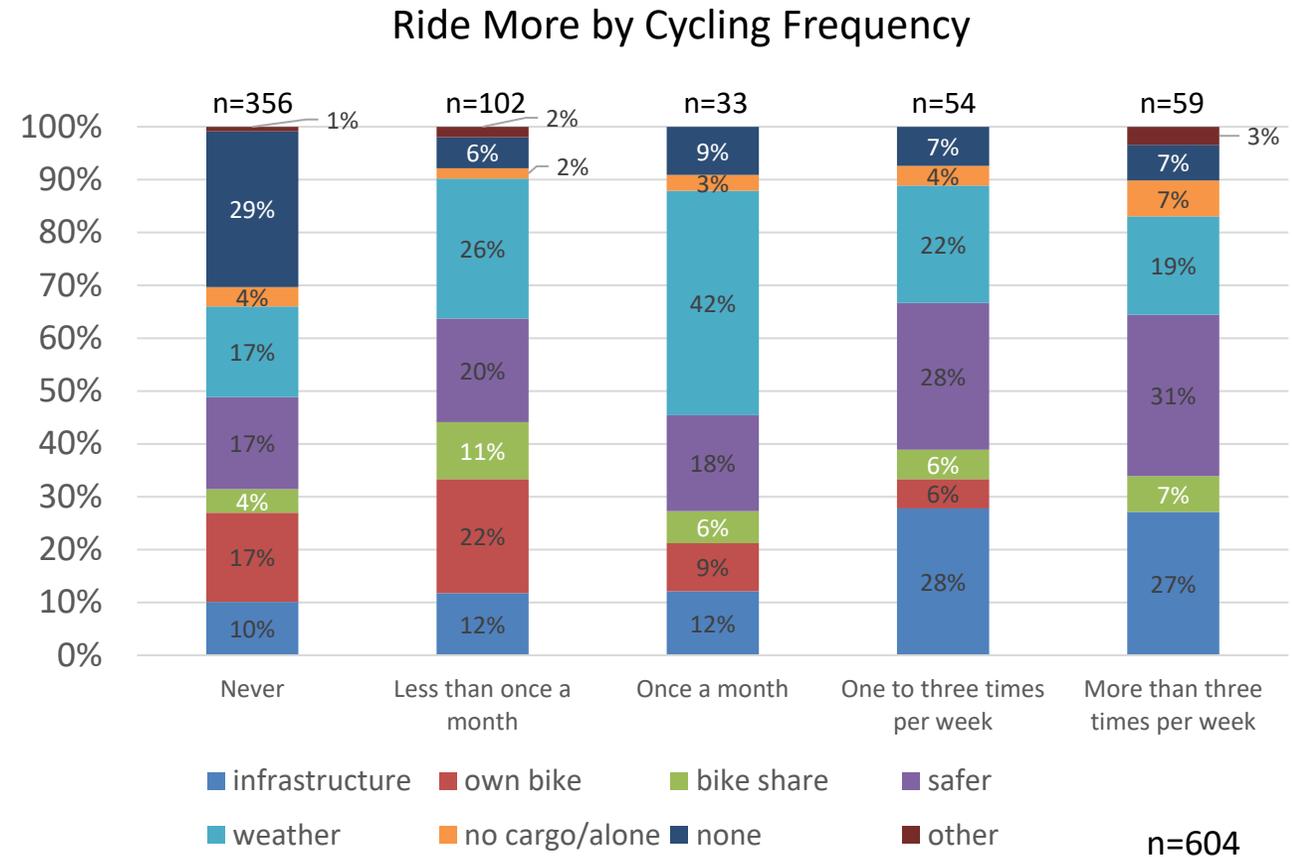
Mode Split (primary mode)

n=407

Legend: Bike, Bus, Car, Subway, Taxi, Uber, etc., Walk

- Bike: 2%
- Bus: 27%
- Car: 5%
- Subway: 56%
- Taxi, Uber, etc.: 1%
- Walk: 9%

Why respondents used bike for **any** portion of their trip

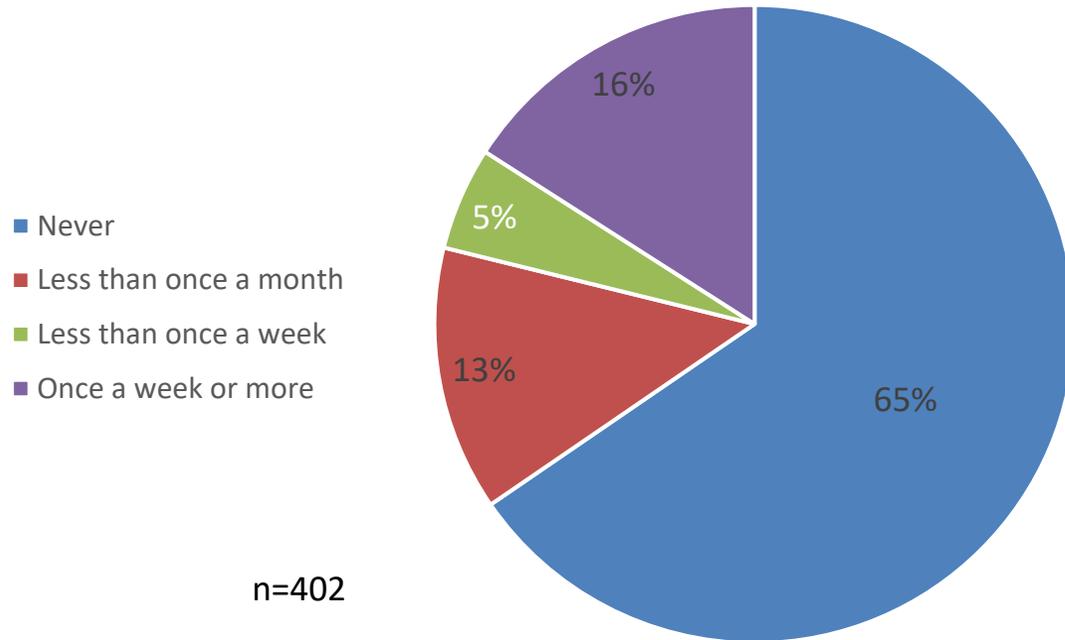| Reason	Count
Environmental concerns	1
Exercise OR enjoy cycling	6
Faster/more efficient than other modes	3
No access to a car	1
other	1

Commuter Survey Data Summary

- Most respondents were commuting to work or school or to take care of errands when they were interviewed.
- The importance of bike infrastructure increased as respondents reported more cycling.
- 29 percent of those who reported never cycling (105 people) said nothing would get them to ride a bike.
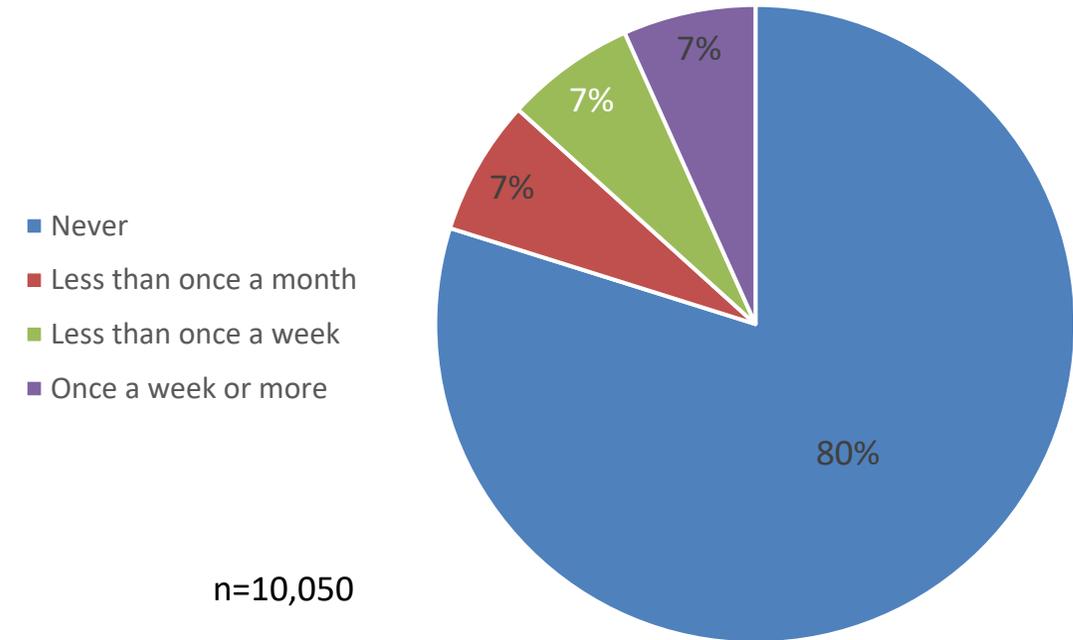
Trip Purpose

Legend:
- Errands
- other
- Pleasure/free time
- School
- Work

Pie chart values: 89, 9, 34, 77, 198

Ride More by Cycling Frequency

Category	Never (n=356)	Less than once a month (n=102)	Once a month (n=33)	One to three times per week (n=54)	More than three times per week (n=59)
infrastructure	10%	12%	12%	28%	27%
own bike	17%	22%	9%	6%	7%
bike share	4%	11%	6%	6%	31%
safer	17%	20%	18%	28%	31%
weather	17%	26%	42%	22%	19%
no cargo/alone	4%	2%	3%	4%	7%
none	29%	6%	9%	7%	7%
other	1%	2%			3%

Legend:
- infrastructure
- own bike
- bike share
- safer
- weather
- no cargo/alone
- none
- other

n=604

Question: Are there any factors that could get you to ride a bike more? (Check all that apply)

Commuter Survey and CHS 2018 compared

Cycling Frequency: DCP/DOT Commuter Survey

- Never
- Less than once a month
- Less than once a week
- Once a week or more

16%
5%
13%
65%

n=402

Cycling Frequency: Community Health Survey

- Never
- Less than once a month
- Less than once a week
- Once a week or more

7%
7%
7%
80%

n=10,050

- Majorities in both surveys said they never ride bikes.
- The Commuter Survey found that 21 percent of respondents ride a bike at least once a month compared to 14 percent for the CHS.
- Please note: the Commuter Survey interviewed people on the street who were actively commuting while the CHS contacted people by phone who may or may not have been regular commuters. This may account for some of the differences in the results.

Commuter Survey Conclusions

General conclusions:

- **Lower-income respondents took the bus more** at the expense of the subway than those in other income brackets.

- Lower-income respondents had shorter commutes than middle-income respondents.

- Cycling:
  - People who never ride a bike said they were least likely to increase their cycling frequency for any reason.
  - **People who cycle occasionally said good weather was the factor that would get them to ride more** in the greatest numbers.
  - **People who ride often said safer streets and infrastructure would get them to ride more** in the greatest numbers.

Rockaway Pkwy and Glenwood Rd, Brooklyn

153 St and Archer Ave, Queens

Cyclist Survey

- **Survey conducted by the NYC Department of City Planning and Department of Transportation in Fall, 2019**

- **Goal:** To find out what kinds of interventions would get existing cyclists to ride more and shift auto trips to bike trips.

- **Total respondents:** 3,113 (110 handlebar; 3,003 online)

- **The survey posted online:**
  - QR code on handlebar form
  - URL provided in NYCycles newsletter
  - Streetsblog article promoted survey

- **Handlebar distribution:** The survey team distributed approximately 700 surveys by attaching them to parked bikes in several neighborhoods. Respondents either mailed them in or used the information included to complete the survey online. Distribution locations included:
  - Corona
  - Downtown Brooklyn
  - Eastern Parkway
  - Flushing
  - Fordham University
  - Greenwich Village
  - Jackson Heights
  - Junction Boulevard
  - Mott Haven
  - Mt. Eden
 - St. George
  - Sunset Park

Handlebar survey on bike

Handlebar survey distribution, Jackson Heights, Queens

Survey Conclusions*

Top reasons for cycling in general were **exercise** or **enjoyment**, and the belief that cycling was **faster** and more **efficient** than other modes. **Environmental** and **economic** concerns were also said to be in important.

Frequent cyclists cited **economic** concerns and **efficiency** as most important in why they ride; and were most concerned with **bike lanes** and **safer** traffic condition in terms of riding more.

Prime motivations respondents cited for potentially cycling more were more **protected bike lanes** and **safer traffic conditions**.
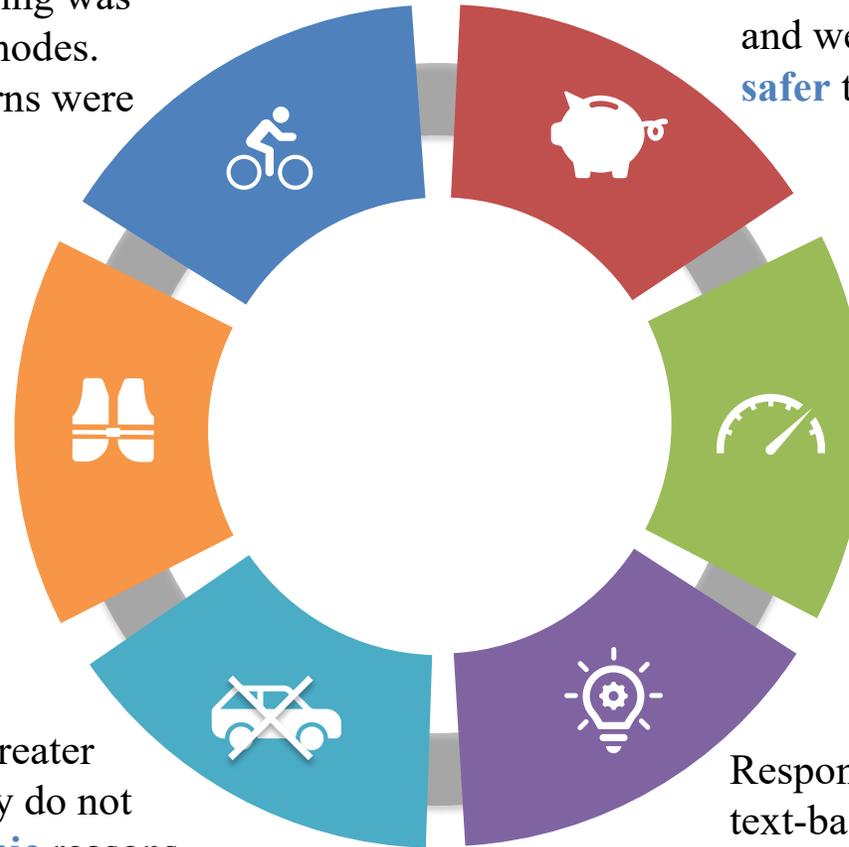
Bike share users placed more emphasis on **speed** and **efficiency** than cyclists who ride their own bikes.

Lower-income respondents said in greater numbers that they cycle because they do not have **access to a car** and for **economic** reasons

Respondents also provided valuable feedback in text-based responses.
- Conditions that could be improved included **bike lane blocking, network connectivity** and **bridge access.**

Survey respondents are not necessarily representative of the cycling population in New York City as a whole, largely due to challenges in reaching the city's diverse cycling community.
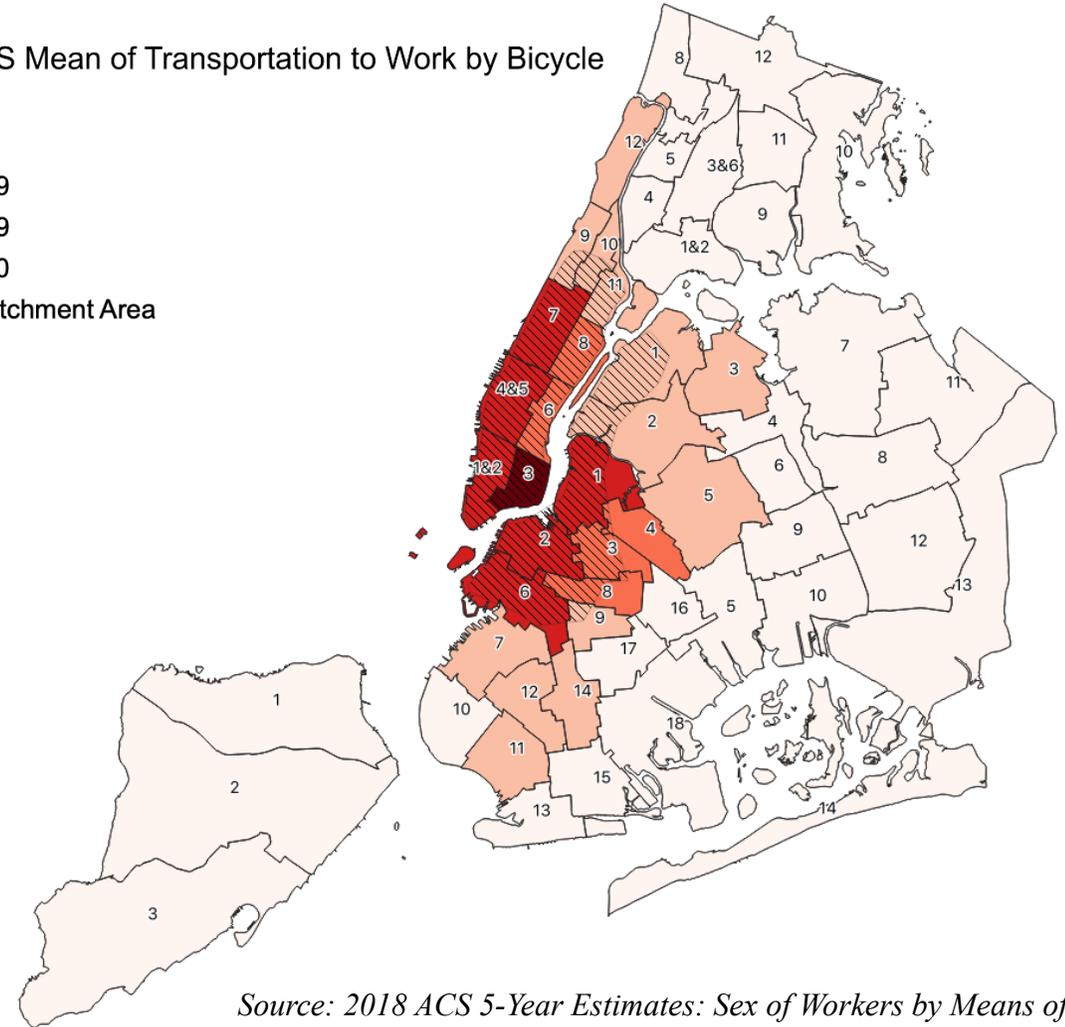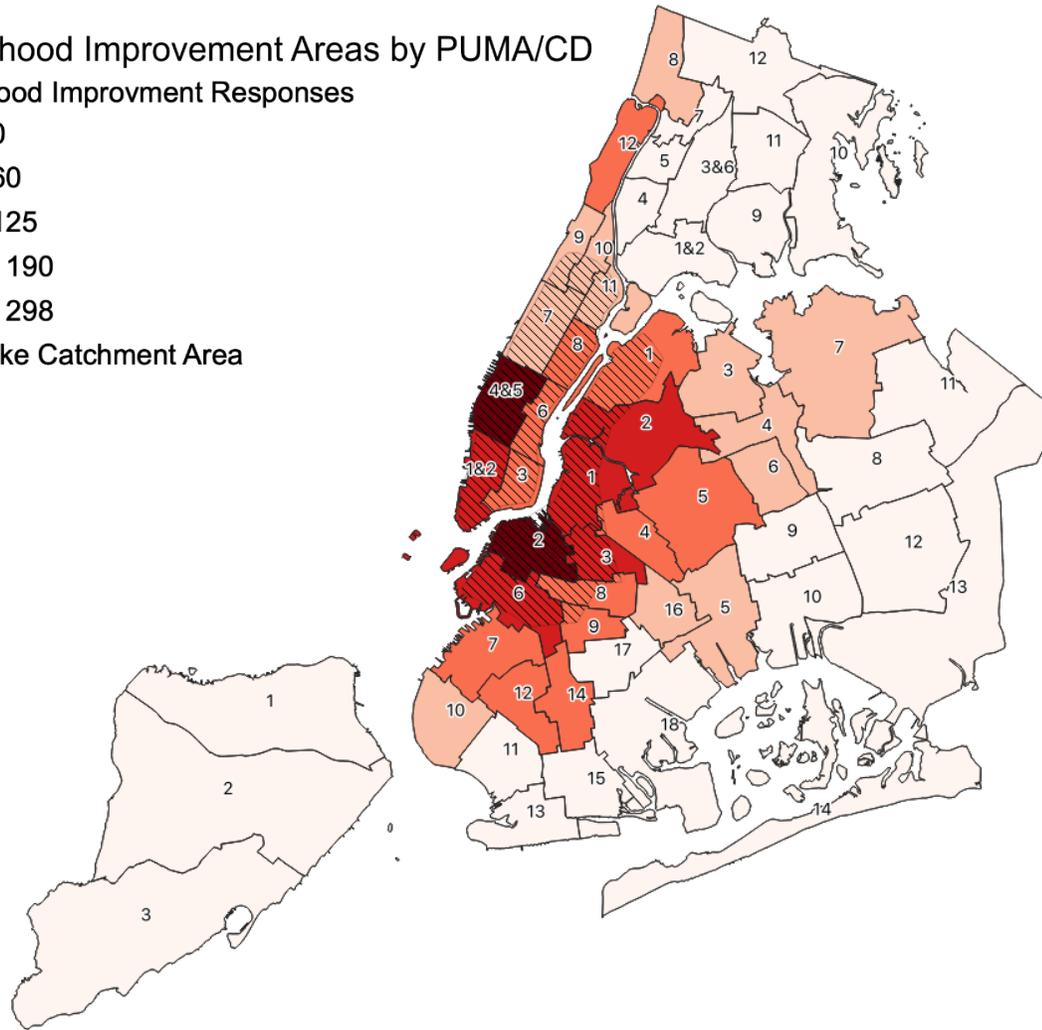
Requested Neighborhood Improvements
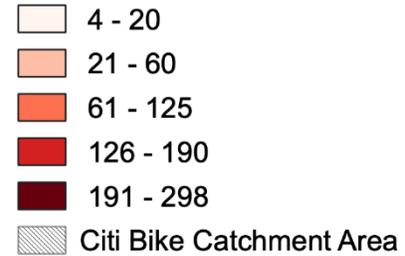
Areas with a high number of residents, whose primary mode to work is cycling, were also the areas with the most requests for improvements.

Literature Review

Studies over the past twenty years have shown that there are several potential methods to influence commuters to shift from autos to bikes:

- **Promote a mixed-land-use urban environment** that features residential and recreational land uses in close proximity with widespread street furniture. (Ton 2018; study done in the Netherlands)

- **Expand the bike path network.** This could be especially influential with those who do not cycle at all because they are most concerned with safety. (Rowangould et al 2016; study done in Albuquerque, New Mexico)

- However, Song 2017 indicates that **installation of bike infrastructure may only be effective at increasing ridership among those who already cycle.** This study showed that mere proximity to new infrastructure did not increase active mode share. (Song et al 2017; study done in England)

- **Cycling programs targeted at motivated groups can be effective** at increasing cycling, but publicity campaigns are often not. (Ogilvie 2004; assessed several studies in the U.S., Europe and Australia)
  - Denmark's Bikebusters and Australia's Travel Blending programs worked with groups who expressed desire to shift modes and had success in facilitating it with support such as travel subsidies and feedback.

- **Commuter subsidies and the building of new train stations can increase active mode share**. Increased transit mode share often goes together with increased active mode share. (Ogilvie 2004; Ton 2018)

Conclusions

Queens Boulevard, 2016

- **Literature Review Conclusions:**
  - Promote a mixed-use environment
  - Expand protected bike infrastructure
  - Establish targeted campaigns to increase cycling
  - Subsidize cycling as a commute mode
  - Expand public transit, which tends to boost cycling

- **Survey Conclusions:** Largely confirm existing knowledge about mode shift motivations and preferences.
  - **Those who do not ride a bike at all are least likely to shift modes** from auto to bike for any reason.
  - Existing cyclists are most likely to increase their cycling frequency and to mode shift if:
    - **Protected bike lane mileage is increased**
    - **Traffic conditions are made safer**
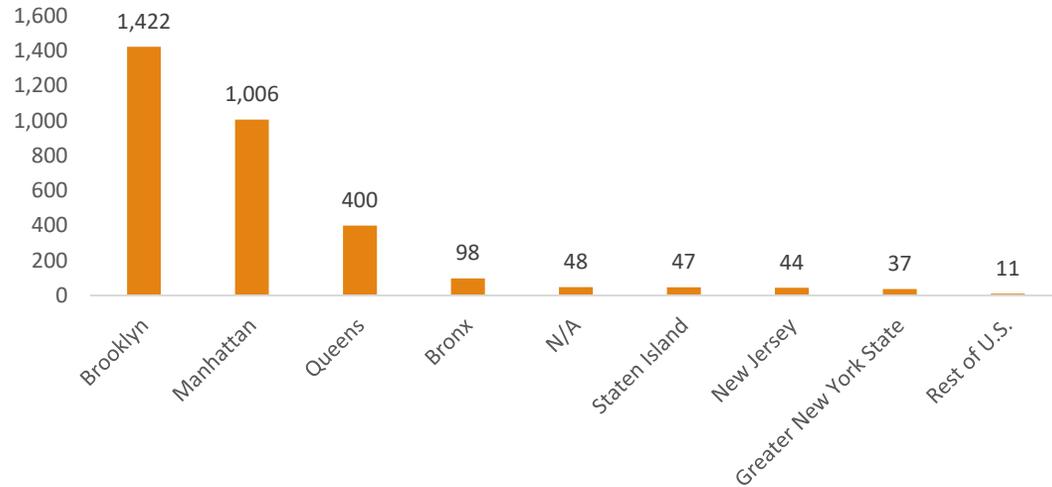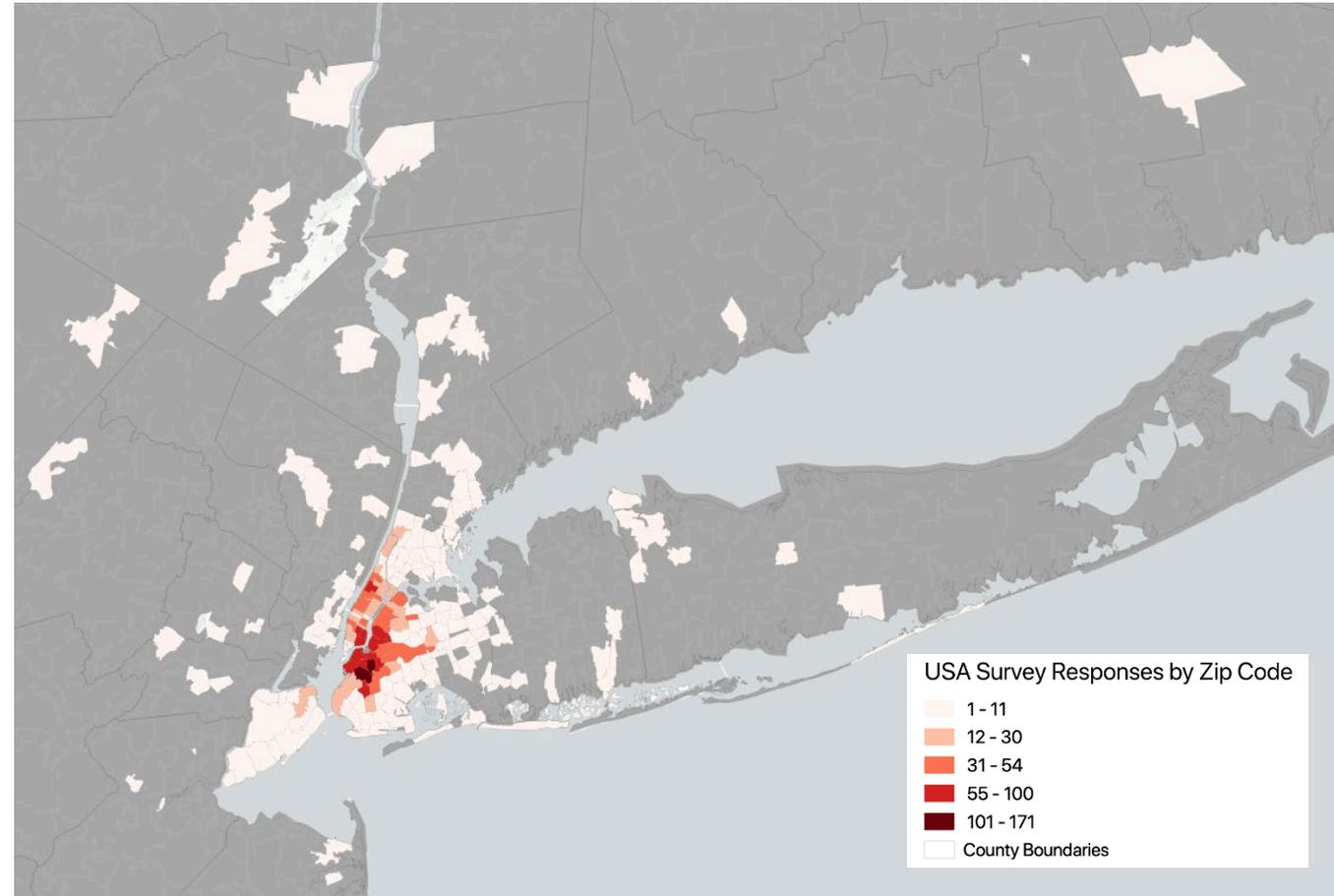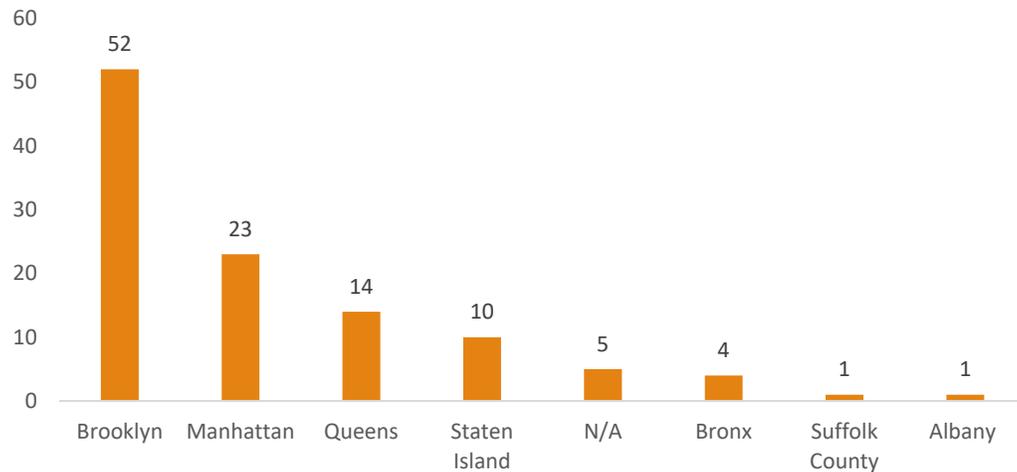   - **More bike parking is available**

Domino Park, Brooklyn

Appendix

Cyclist Survey: Where respondents live

All Responses by Location

Location	Responses
Brooklyn	1,422
Manhattan	1,006
Queens	400
Bronx	98
N/A	48
Staten Island	47
New Jersey	44
Greater New York State	37
Rest of U.S.	11

Mail-In Survey Responses

Location	Responses
Brooklyn	52
Manhattan	23
Queens	14
Staten Island	10
N/A	5
Bronx	4
Suffolk County	1
Albany	1

USA Survey Responses by Zip Code
- 1 - 11
- 12 - 30
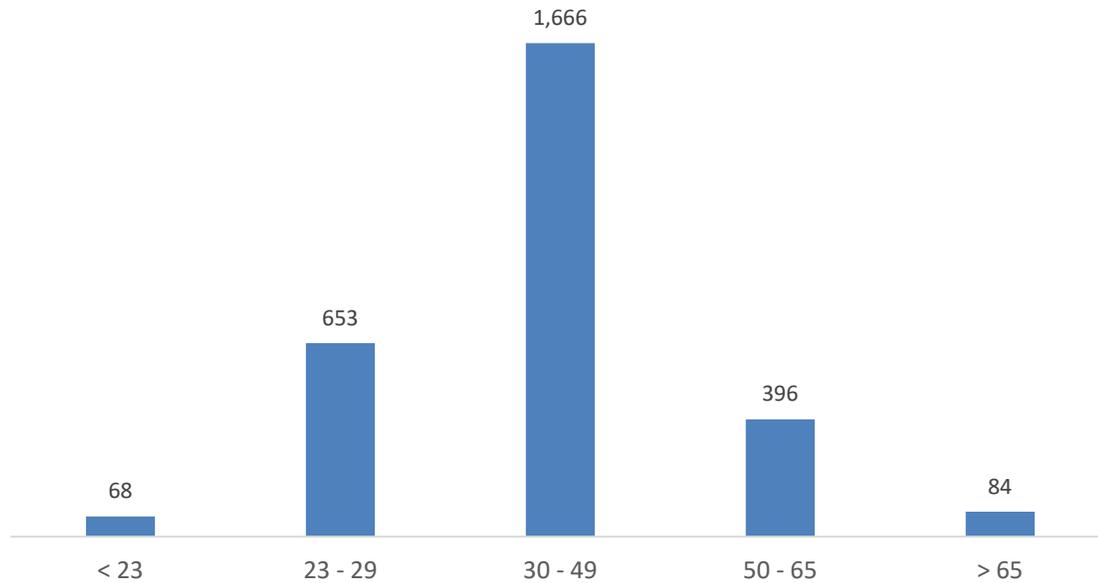- 31 - 54
- 55 - 100
- 101 - 171
- County Boundaries

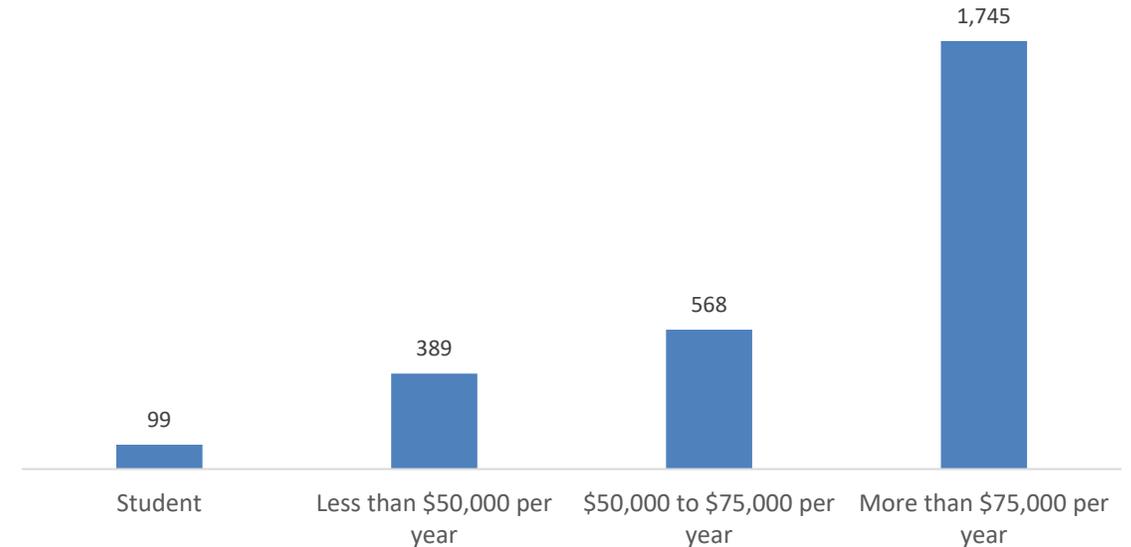*Four or less responses in Albany, California, Maryland, Texas, Washington, D.C.

- 3,021 responses from NYC residents
- 78 percent from Manhattan and Brooklyn

Cyclist Survey: Summary Statistics

What is your age?

Would you be willing to share your personal income to give us background on who tends to ride bikes?

- Respondents largely fell in the age range of 30 to 49 and earned over $75,000 per year.
- As the previous slide shows, respondents' home addresses were largely concentrated in the inner ring around Manhattan.
- Given the diverse ways different age, income and geographic groups answered survey questions, the results do not necessarily provide a representative cross section of the NYC cycling public. As the income chart above shows, the survey may have over-sampled cyclists at the higher end of the income spectrum. While the survey team made every effort to arrive at an equitable survey sample by, for example, distributing the handlebar survey at several locations throughout the city, there remain significant challenges to reaching this diverse population of cyclists.
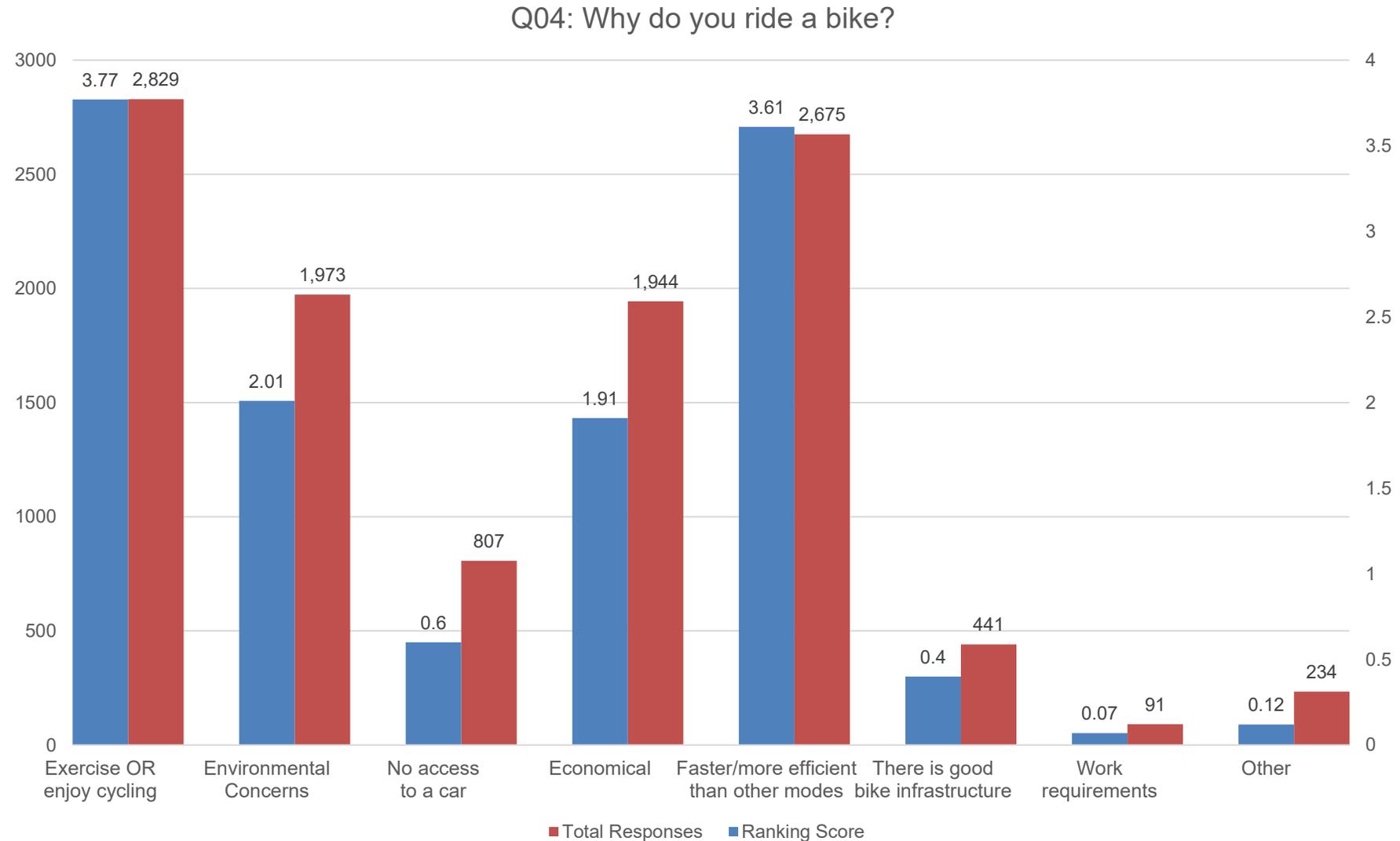
Cyclist Survey: Why do you ride a bike?

Top two responses:
- Exercise OR enjoy cycling
- Faster/more efficient than other modes

Ranking Score: Respondents ranked each response from 1 to 5 in order of importance. In these charts, the higher the score, the more important the item was considered by respondents. There is only one answer per respondent.

Total Responses: The total number of people who ranked this question. Respondents could choose multiple responses.

Q04: Why do you ride a bike?

Category	Ranking Score	Total Responses
Exercise OR enjoy cycling	3.77	2,829
Environmental Concerns	2.01	1,973
No access to a car	0.6	807
Economical	1.91	1,944
Faster/more efficient than other modes	3.61	2,675
There is good bike infrastructure	0.4	441
Work requirements	0.07	91
Other	0.12	234

■ Total Responses ■ Ranking Score

Cyclist Survey: What factors would get you to ride a bike more?

Top two responses:
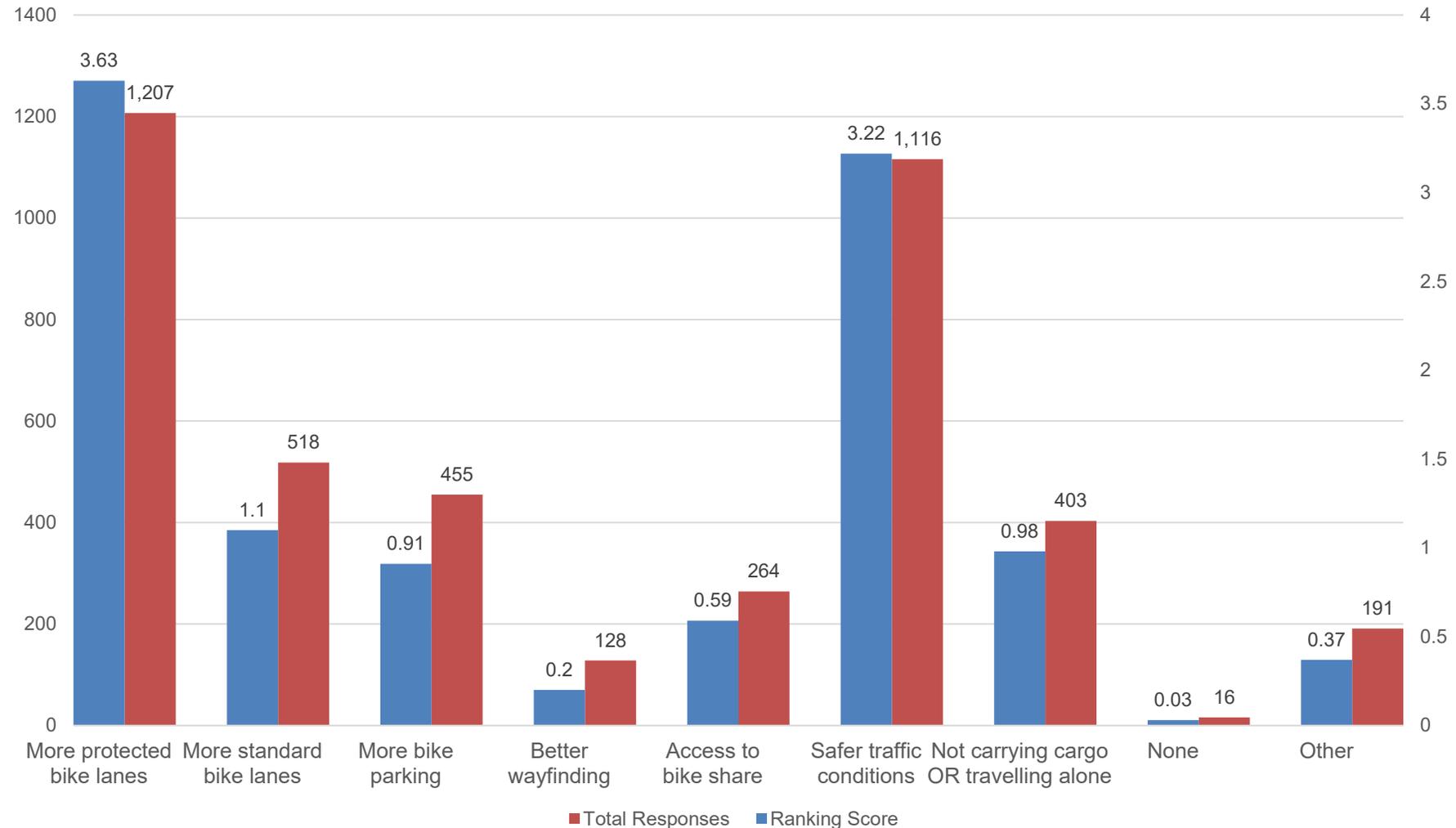
- More protected bike lanes

- Safer traffic conditions

Q06: What factors would get you to ride a bike more?

Legend: ■ Ranking Score ■ Total Responses

Factor	Ranking Score	Total Responses
More protected bike lanes	3.99	2,778
More standard bike lanes	1.39	1,320
More bike parking	1.28	1,467
Better wayfinding	0.34	473
Access to bike share	0.52	541
Safer traffic conditions	3.78	2,730
Other	0.55	619
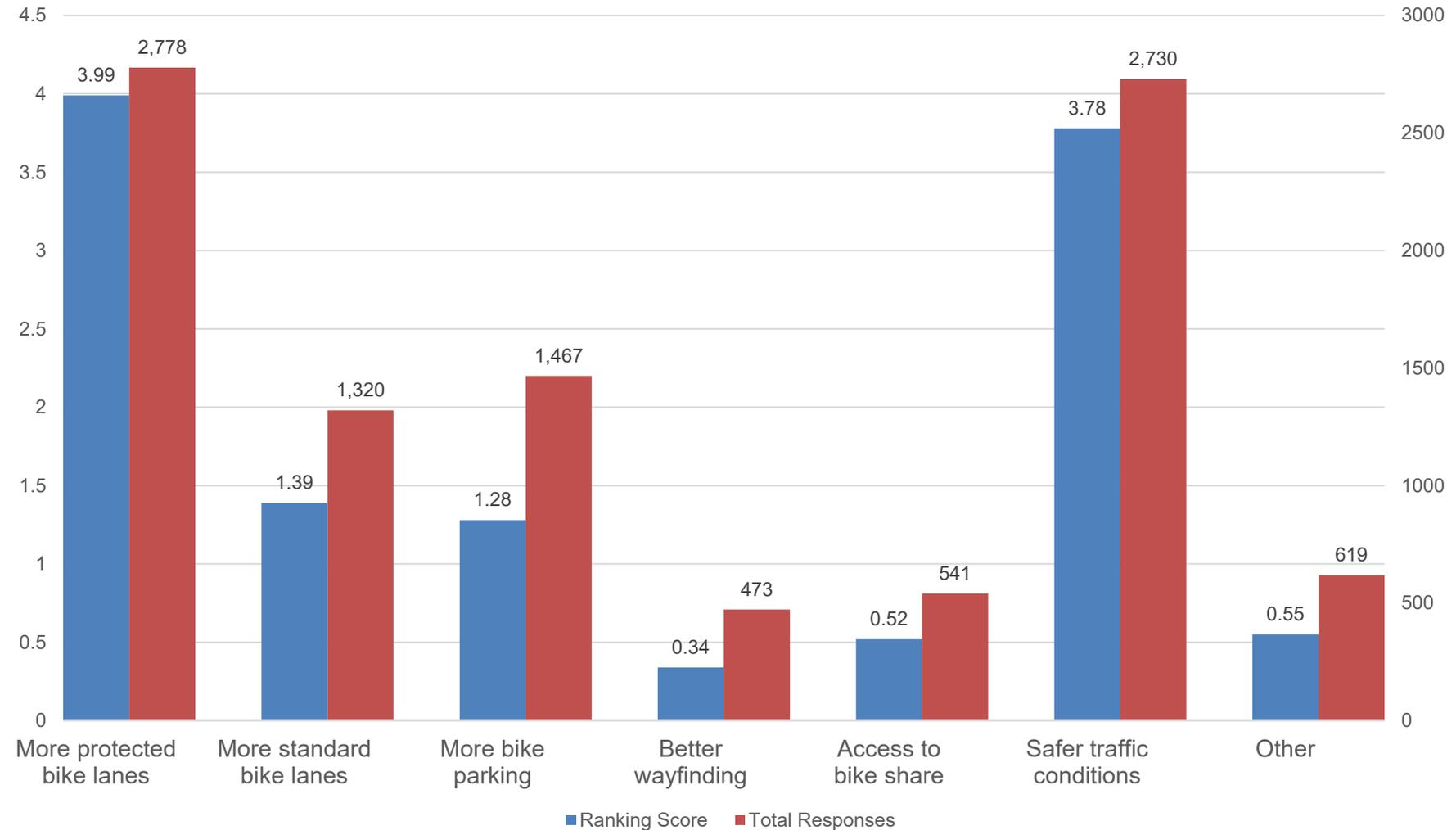
Cyclist Survey: For these trips, what factors would get you to ride a bike instead?

Respondents were asked what would get them to ride a bike instead of driving a car for a typical trip.

Top two responses:

- More protected bike lanes

- Safer traffic conditions

Q09: For these trips, what factors would get you to commute by bike instead?

Legend: Total Responses (red), Ranking Score (blue)

- More protected bike lanes: 3.63, 1,207
- More standard bike lanes: 1.1, 518
- More bike parking: 0.91, 455
- Better wayfinding: 0.2, 128
- Access to bike share: 0.59, 264
- Safer traffic conditions: 3.22, 1,116
- Not carrying cargo OR travelling alone: 0.98, 403
- None: 0.03, 16
- Other: 0.37, 191

Cyclist Survey: Why people ride by income

- All income groups generally had the same reasons for cycling.

- **Exercise OR enjoy cycling** and **Faster/more efficient than other modes** were more important for higher-income groups.

- **No access to a car** was more important for lower-income groups.

- **Economical** was less important for higher-income groups and students

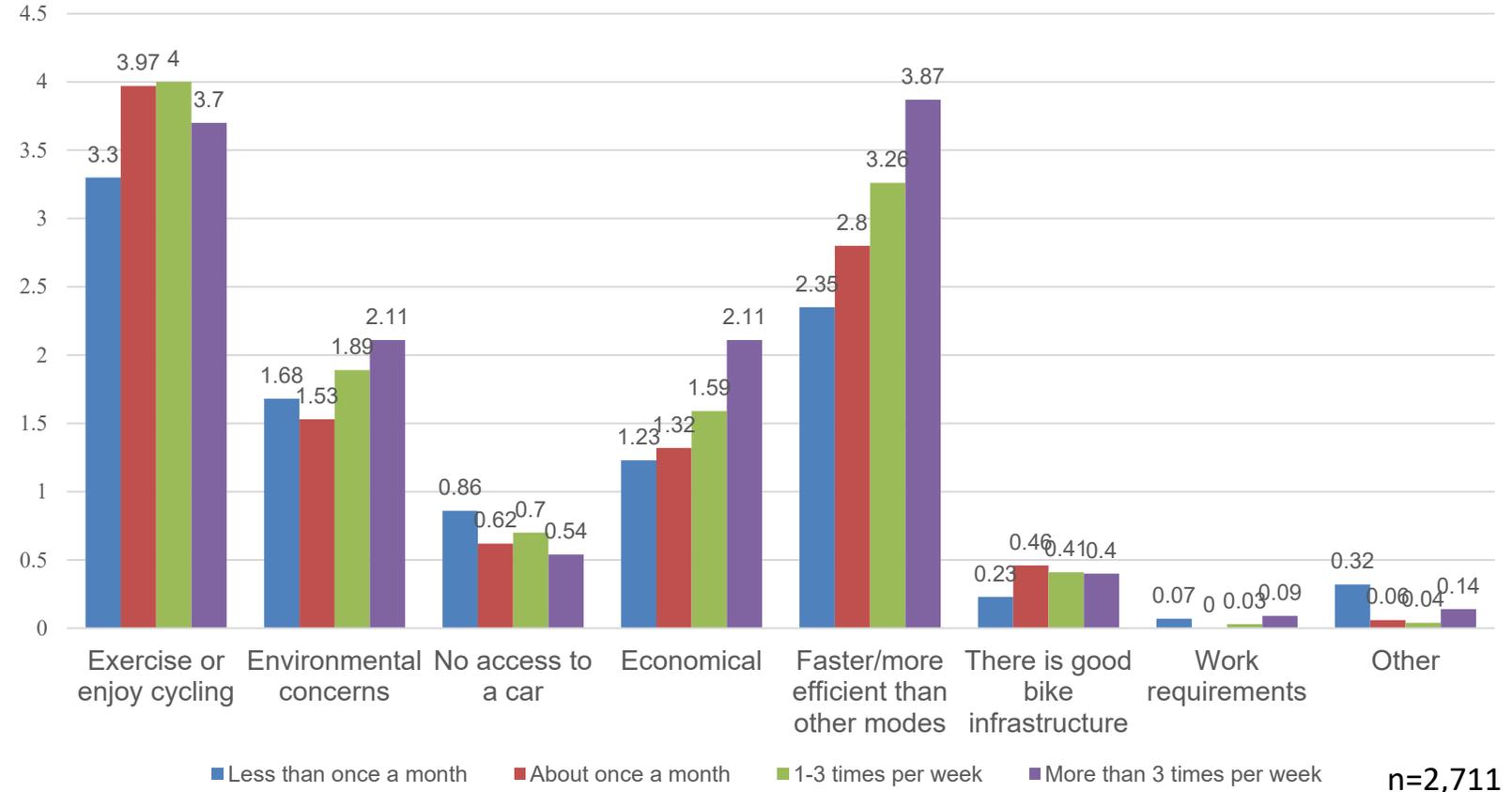

Weighted Score for "Why Ride" Reasons by Income Groups

■ Student ■ Less than $50,000 per year ■ $50,000 to $75,000 per year ■ More than $75,000 per year
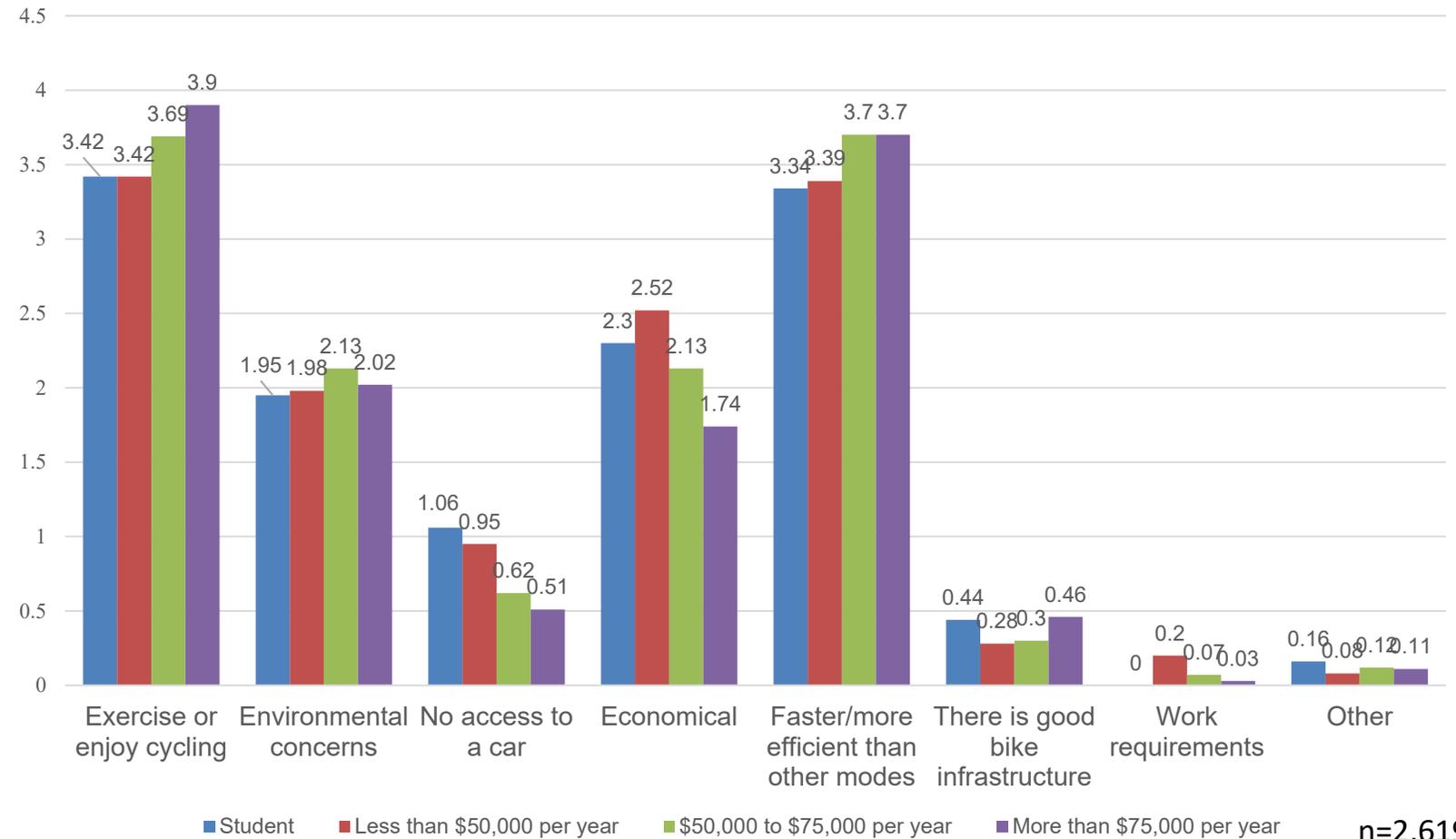
n=2,619

Cyclist Survey: Why people ride by cycling frequency

- As cycling frequency increased, respondents considered **Economical** and **Faster/more efficient than other modes** to be more important.

- Cycling frequency is somewhat correlated with **Environmental concerns**.

Weighted Score for "Why Ride" Reasons by Biking Frequency Groups

Legend: ■ Less than once a month ■ About once a month ■ 1-3 times per week ■ More than 3 times per week

n=2,711

Cyclist Survey: Why people ride by bike type

- Both bike types generally had the same reasons for cycling, but
  - **Faster/more efficient than other modes** was more important to bike share users and
  - **Exercise/enjoy cycling** was more important to personal bike users.

Weighted Score for "Why Ride" Reasons by Bike Types

n=2,826

Personal bike ■ Bike share ■
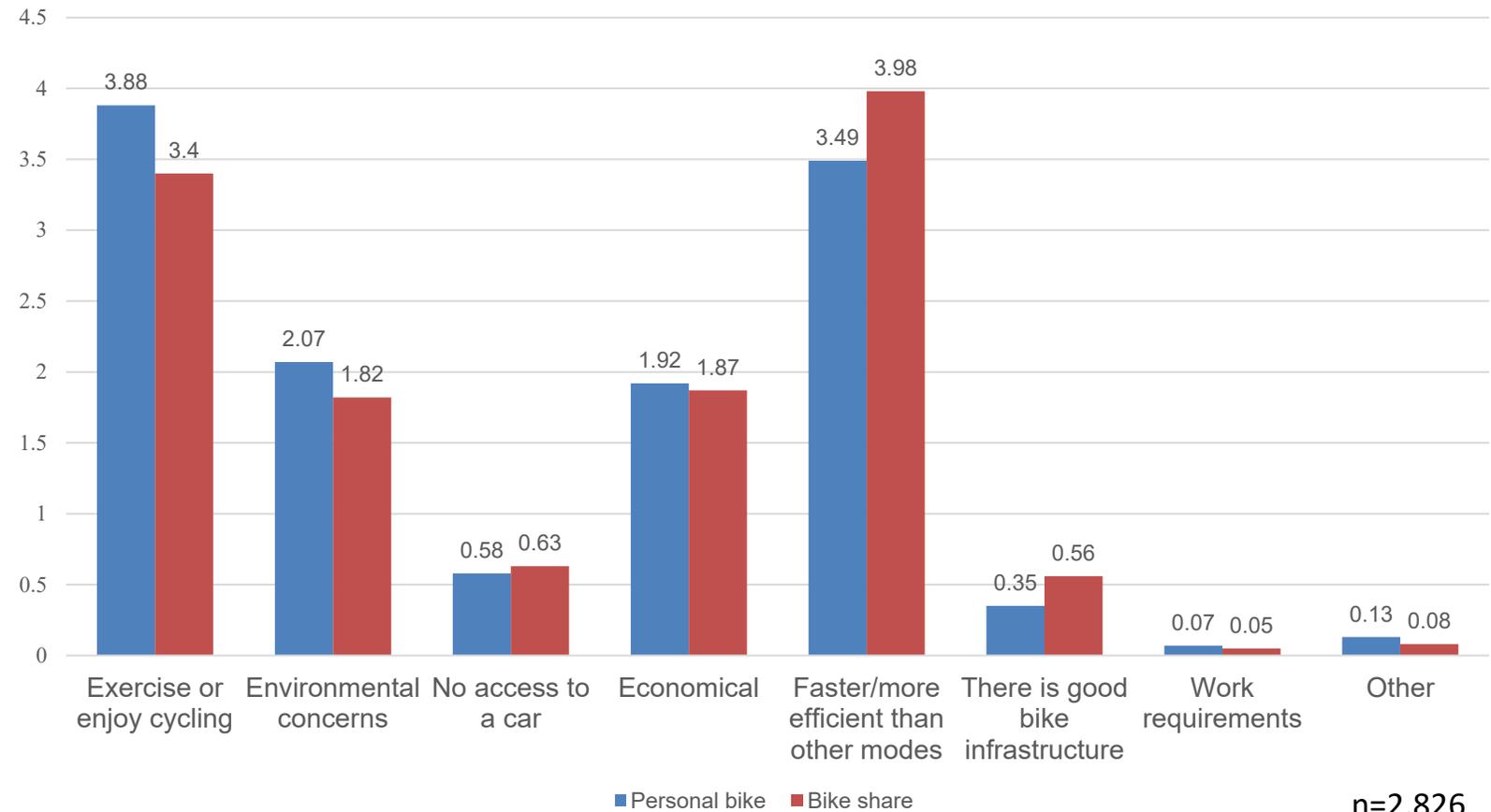
Cyclist Survey: Respondents' age distribution

Age Distribution (Excluding Invalid Inputs)
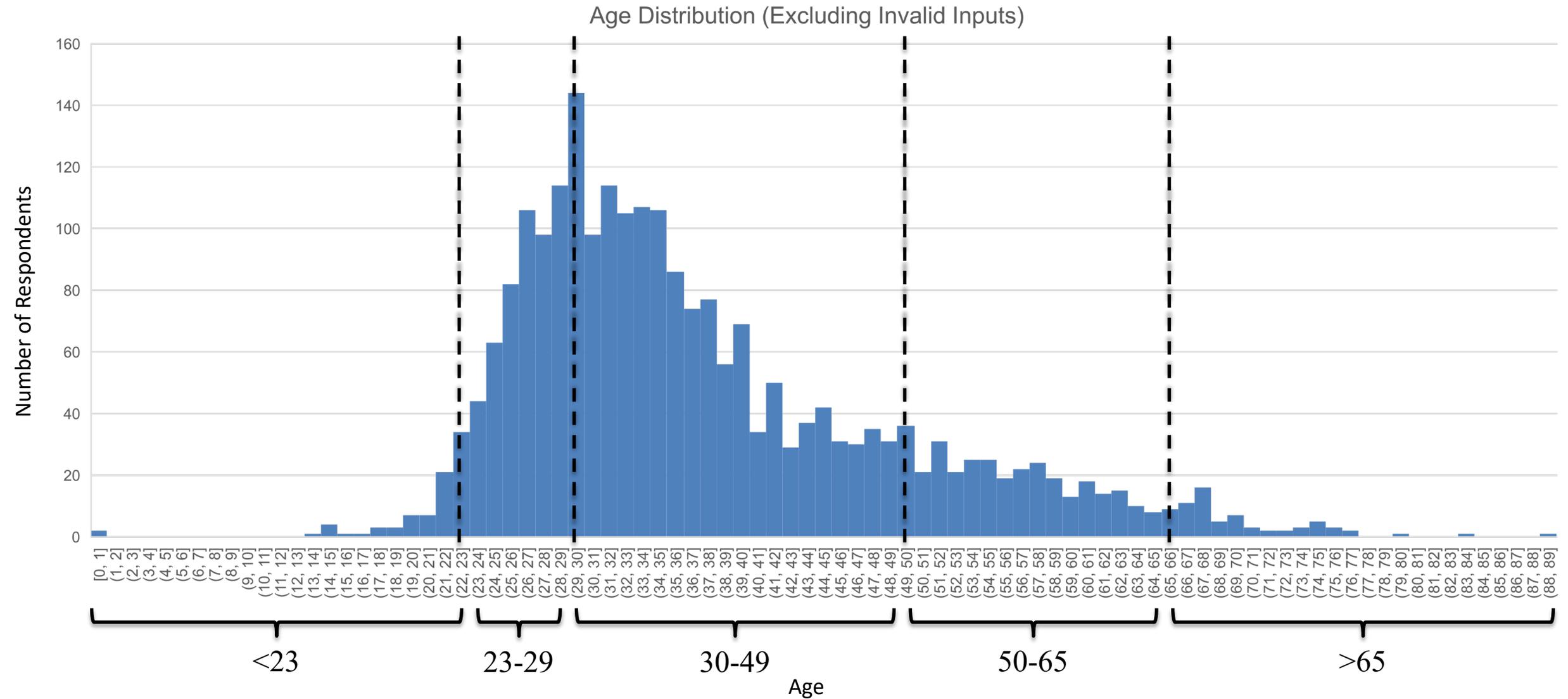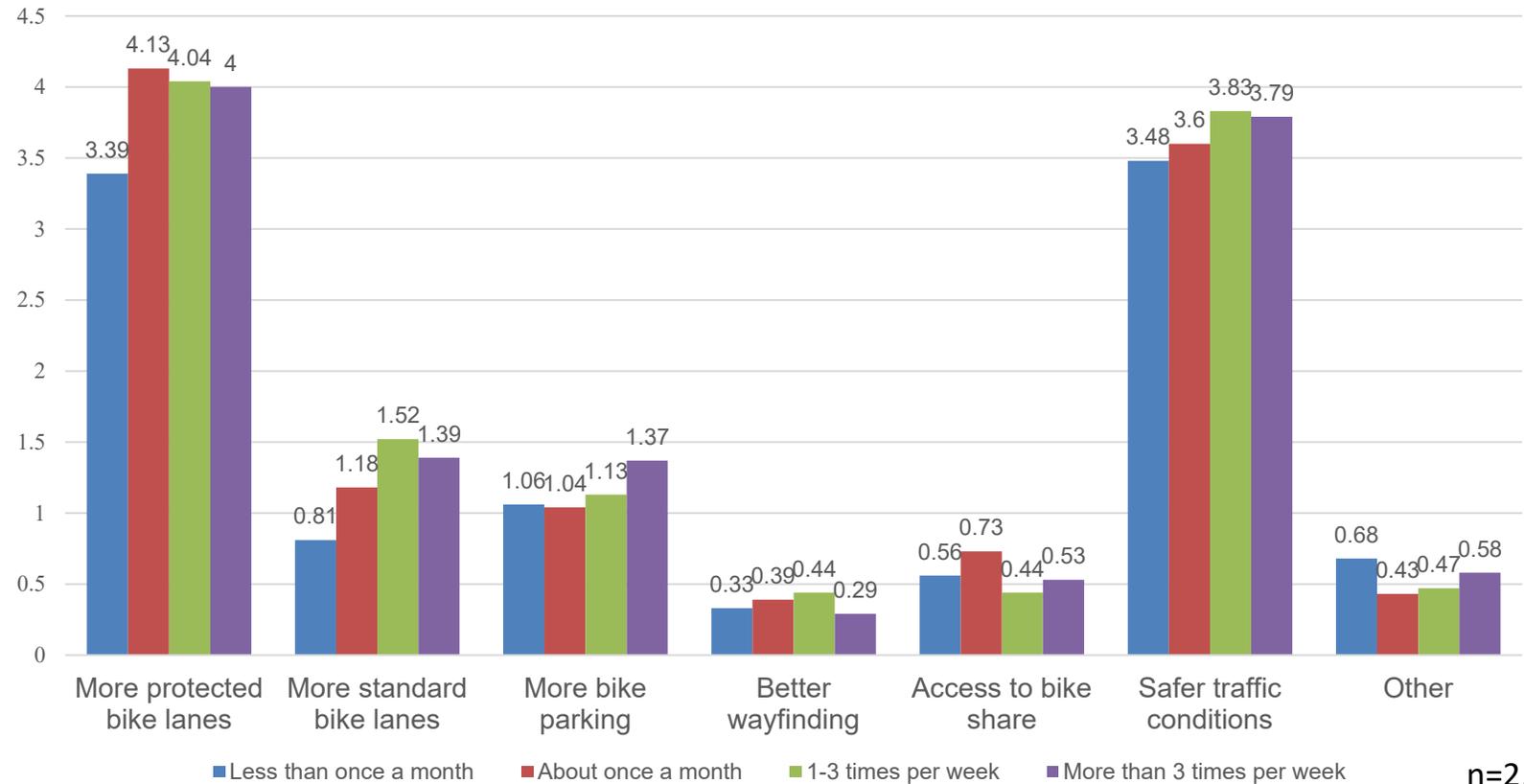
Cyclist Survey: Why people ride by age

- Several factors show correlation with age, with the "under 23" group as an exception.

- **Exercise OR enjoy cycling** was cited as increasingly important as age increases.

- **Environmental concerns, No access to a car, Economical** and **Faster/more efficient than other modes** generally became less important with increasing age.

Weighted Score for "Why Ride" Reasons by Age Groups

n=2,836

Legend: < 23 | 23 - 29 | 30 - 49 | 50 - 65 | > 65
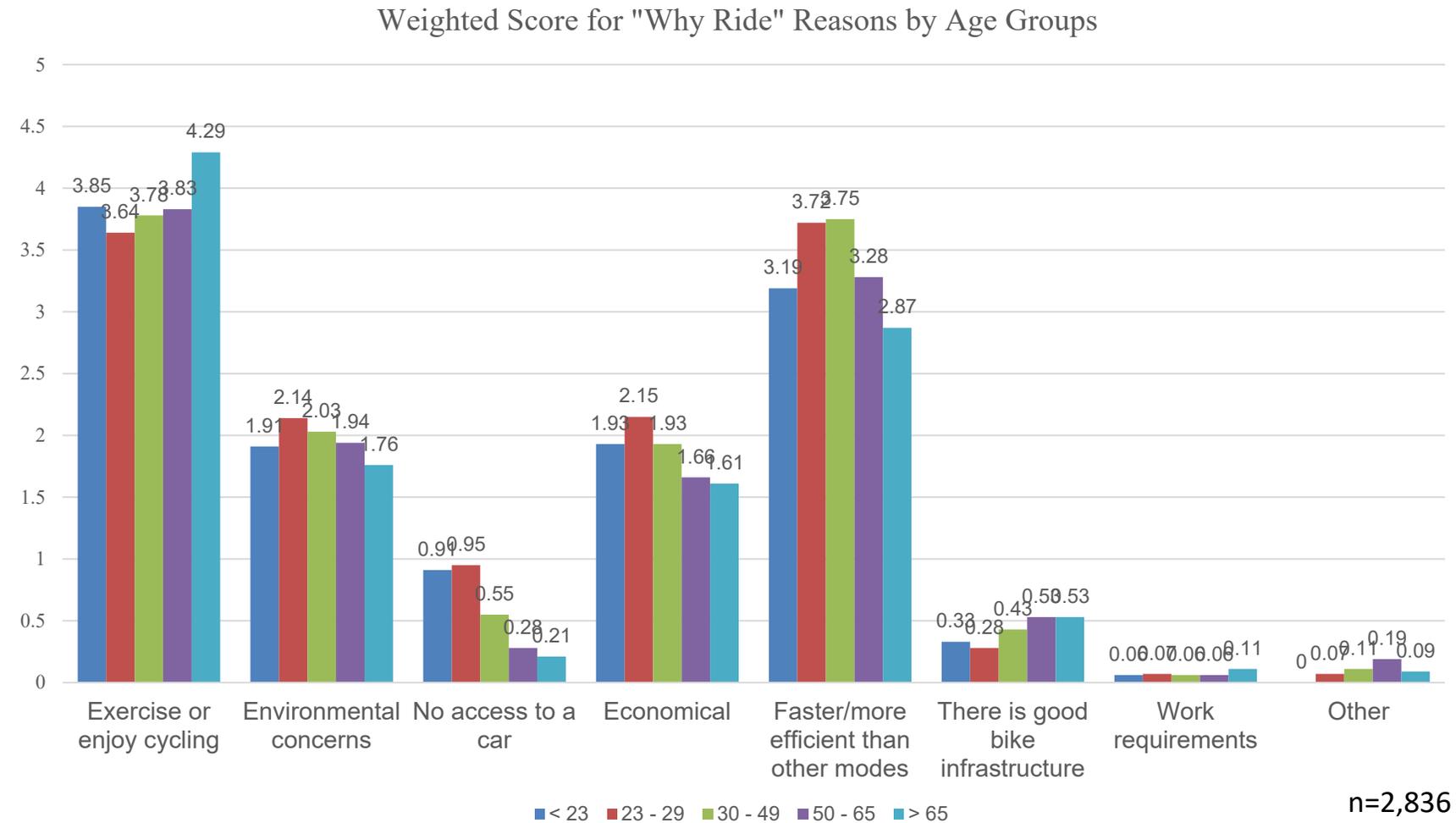
Cyclist Survey: Impetus to ride more by cycling frequency

- Generally, those who cycle more frequently said they would ride more if there were **more standard bike lanes** and **safer traffic conditions**.

- People who cycle less than once a month attached less significance to bike lanes than did those who cycled more frequently.
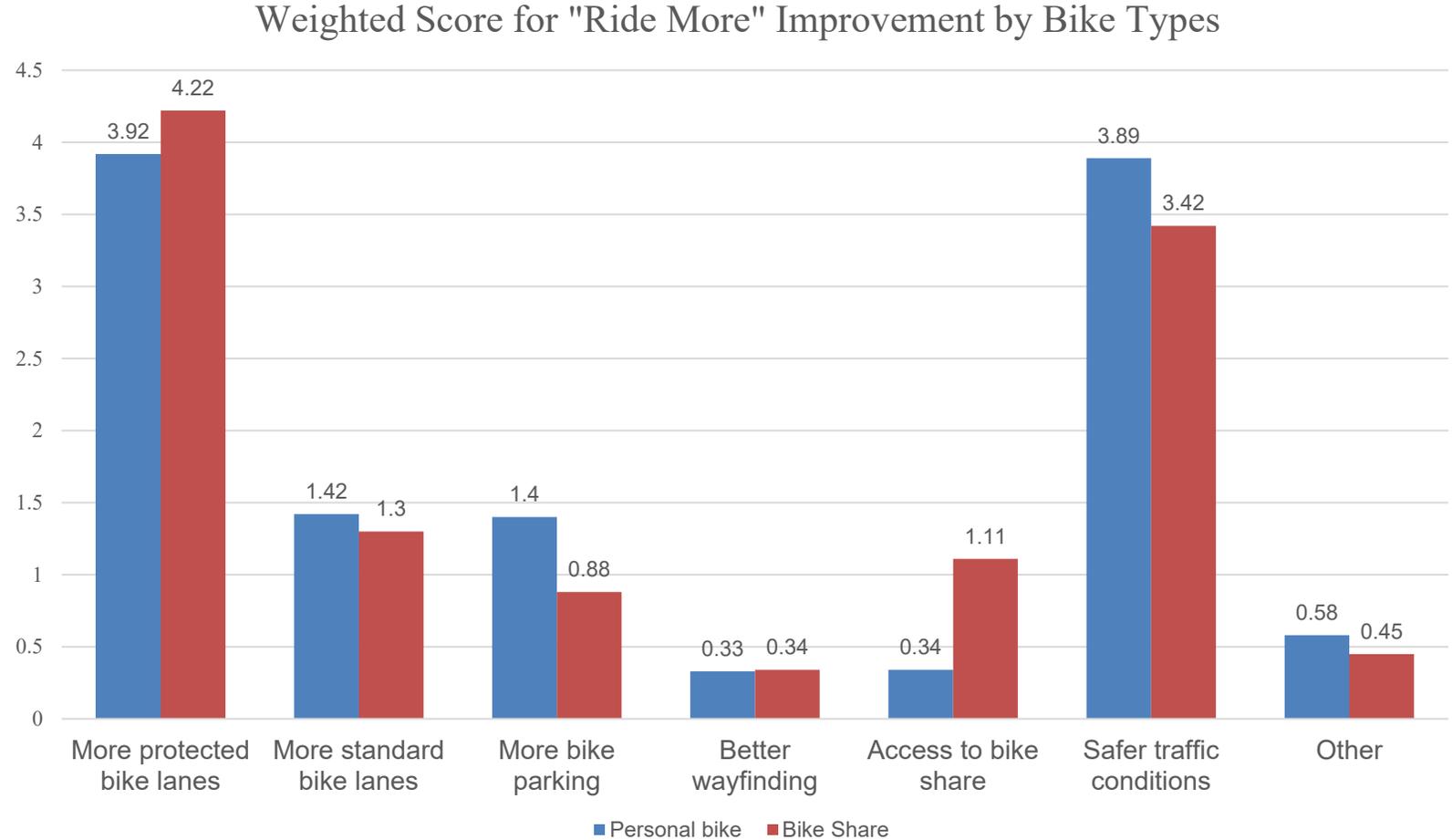
Weighted Score for "Ride More" Improvement by Biking Frequency Groups

|	More protected bike lanes	More standard bike lanes	More bike parking	Better wayfinding	Access to bike share	Safer traffic conditions	Other
Less than once a month	3.39	0.81	1.06	0.33	0.56	3.48	0.68
About once a month	4.13	1.18	1.04	0.39	0.73	3.6	0.43
1-3 times per week	4.04	1.52	1.13	0.44	0.44	3.83	0.47
More than 3 times per week	4	1.39	1.37	0.29	0.53	3.79	0.58

n=2,801

Cyclist Survey: Impetus to ride more by bike type

- Safer traffic conditions was cited as more important for cyclists who ride their own bikes compared to those who use bike share.

Weighted Score for "Ride More" Improvement by Bike Types

Improvement	Personal bike	Bike Share
More protected bike lanes	3.92	4.22
More standard bike lanes	1.42	1.3
More bike parking	1.4	0.88
Better wayfinding	0.33	0.34
Access to bike share	0.34	1.11
Safer traffic conditions	3.89	3.42
Other	0.58	0.45

Cyclist Survey: Impetus to ride more by age

- Generally, respondents saw more bike lanes as less of an impetus to ride more as age increased.

- The 30-49 age group said **Safer traffic conditions** was an important factor in cycling more compared with other age groups.
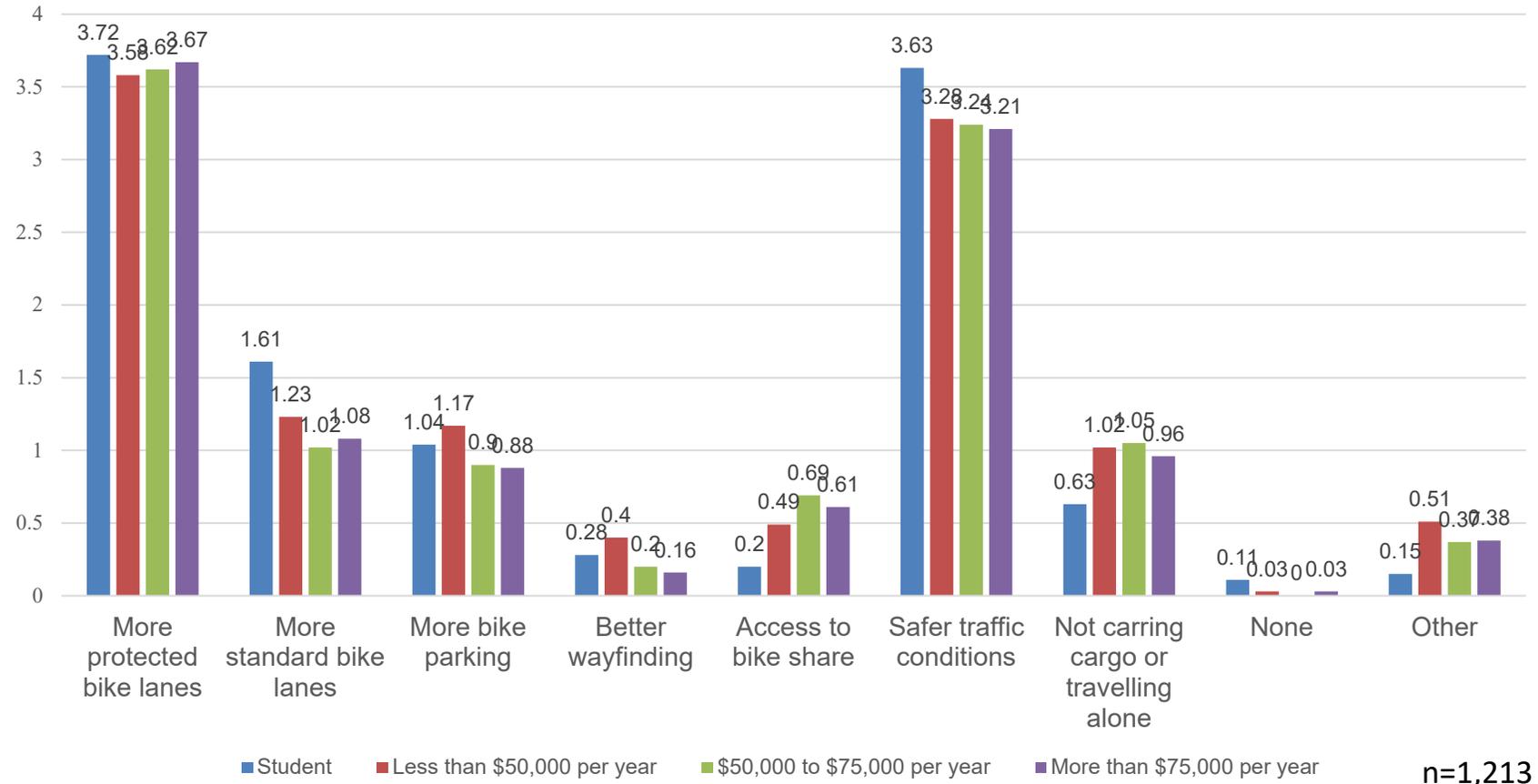

Weighted Score for "Ride More" Improvement by Age Groups
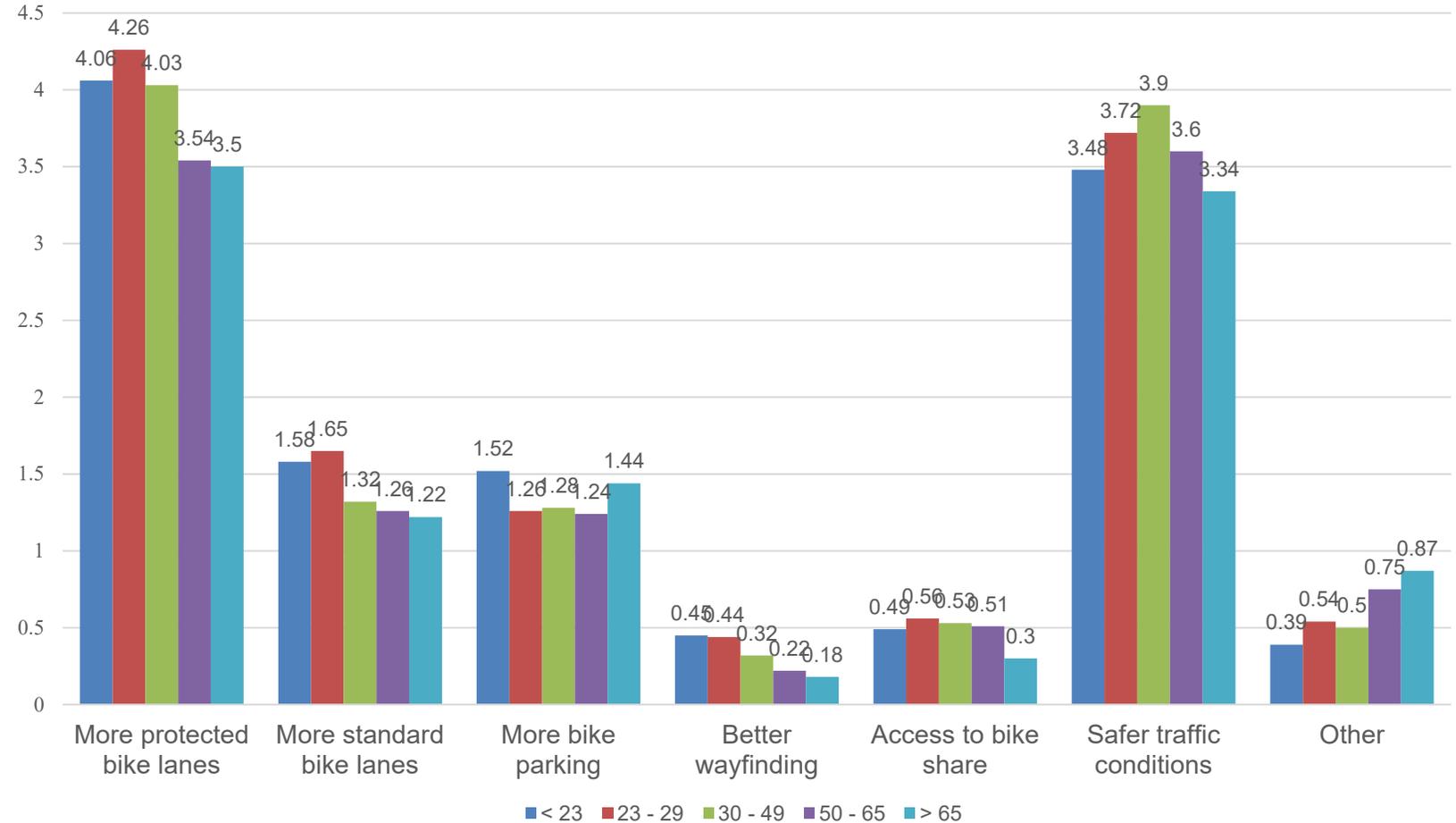
Cyclist Survey: Mode shift factors by income

- Students cited more bike lanes and **Safer traffic conditions** as more important to shifting modes than other age groups.
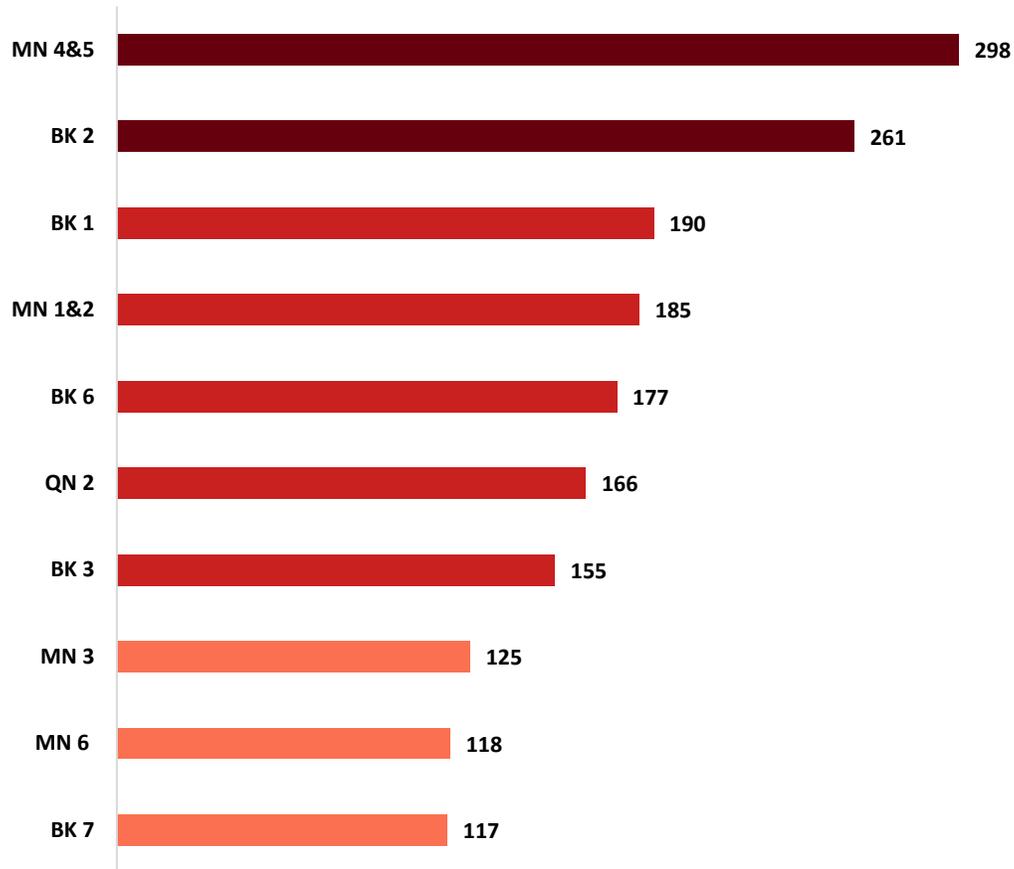
Weighted Score for "Bike Instead" Improvement by Income Groups

n=1,213

Legend: Student | Less than $50,000 per year | $50,000 to $75,000 per year | More than $75,000 per year
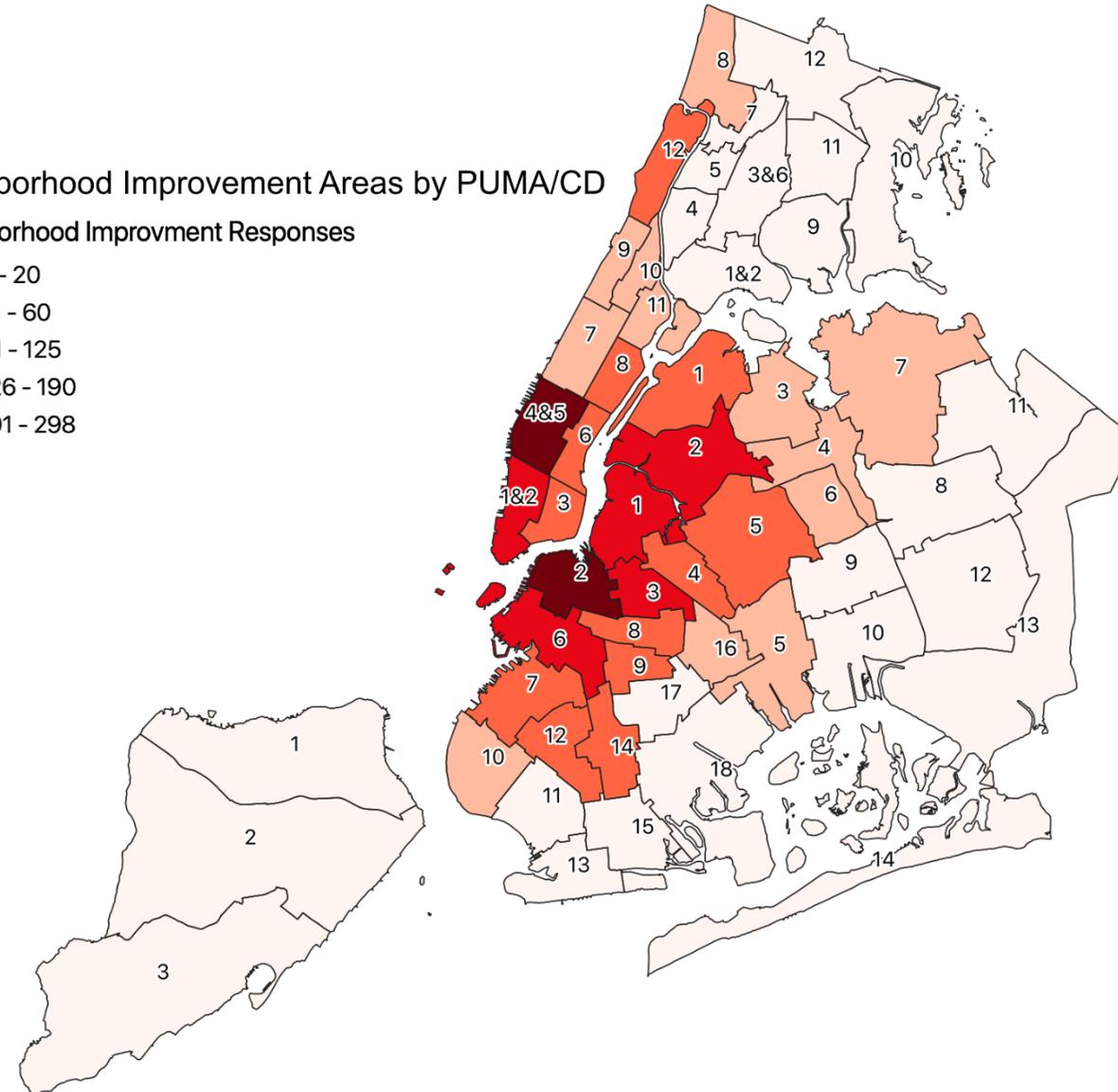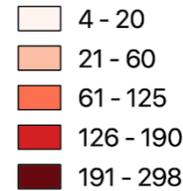
Cyclist Survey: Neighborhood Improvement Areas

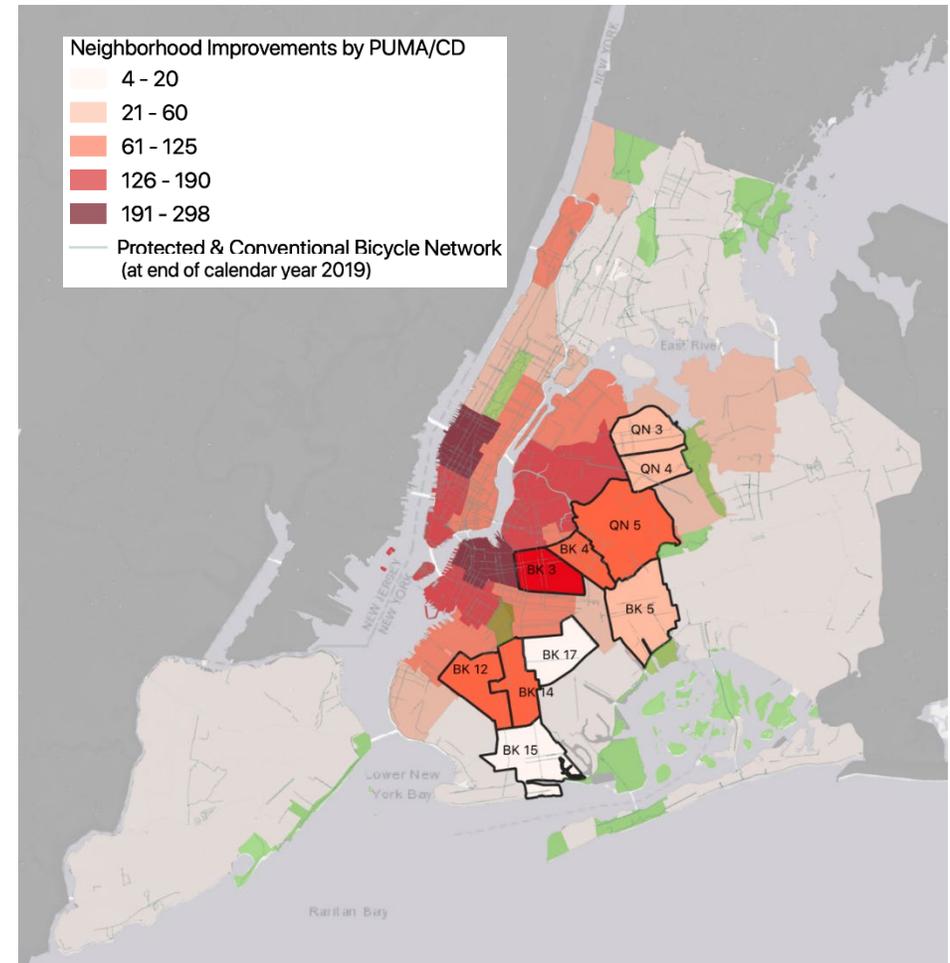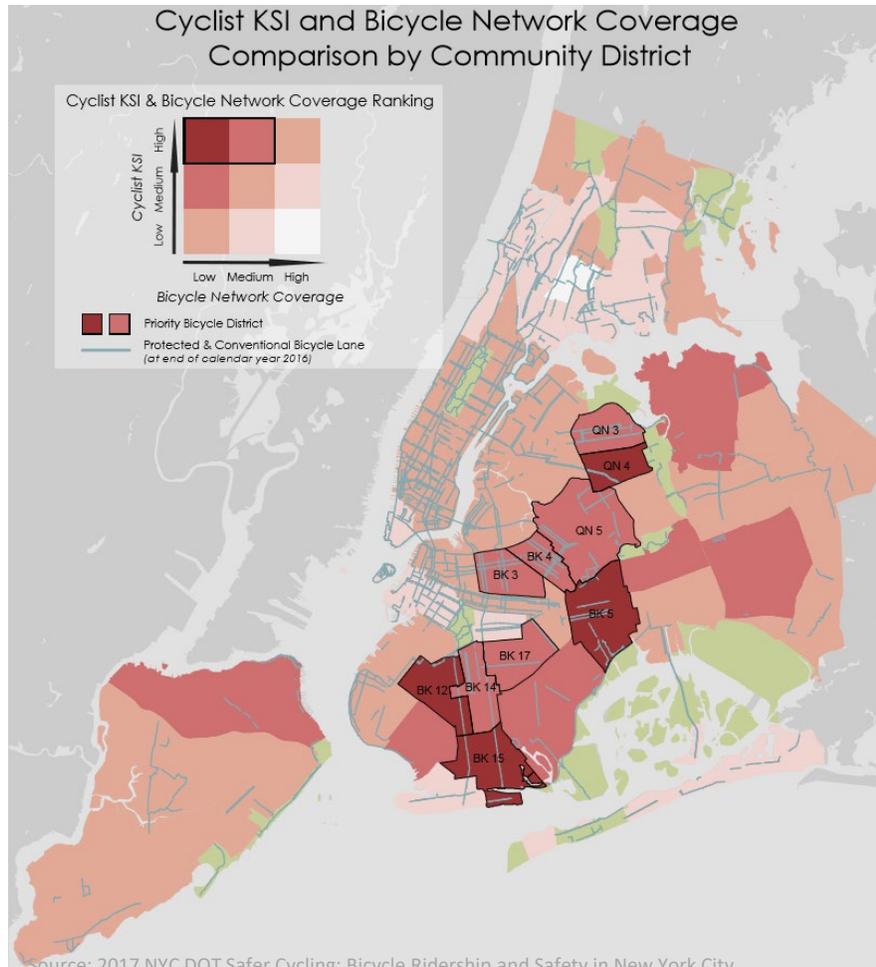**Neighborhoods where respondents believe increased bike infrastructure could increase cycling.**

Top Ten Neighborhood Improvement Areas by PUMA/CD

Area	Value
MN 4&5	298
BK 2	261
BK 1	190
MN 1&2	185
BK 6	177
QN 2	166
BK 3	155
MN 3	125
MN 6	118
BK 7	117

Neighborhood Improvement Areas by PUMA/CD

Neighborhood Improvment Responses

- 4 - 20
- 21 - 60
- 61 - 125
- 126 - 190
- 191 - 298

Cyclist Survey: Neighborhood Improvement Areas

Cyclist KSI and Bicycle Network Coverage Comparison by Community District

Source: 2017 NYC DOT Safer Cycling: Bicycle Ridership and Safety in New York City

Neighborhood Improvements by PUMA/CD

- 4 – 20
- 21 – 60
- 61 – 125
- 126 – 190
- 191 – 298
- Protected & Conventional Bicycle Network (at end of calendar year 2019)

- NYC DOT identified **Ten Priority Bicycle Districts** where **cyclist KSI is relatively high**, but **bicycle facilities are comparatively sparse.**
- Some of these districts correspond with improvement areas listed by respondents in the survey. The survey's data on improvement areas may complement DOT's metric for identifying Priority Bicycle Districts.

Trip Distance: Cyclist Survey

- Respondents were asked about their flexibility in shifting from auto to bike for certain trips or portions of trips. They were also asked the distance of the potential mode-shifted bike portion of such trips.*

- These answers provide insight into how far respondents are willing to cycle instead of drive if conditions are right.

- The plot of these responses shows that the **average trip length** for the potential bike portion of these trips is **6 miles**. Factoring in the standard deviation, most of these potential bike trips would range **from 1.2 miles to 10.7 miles**.
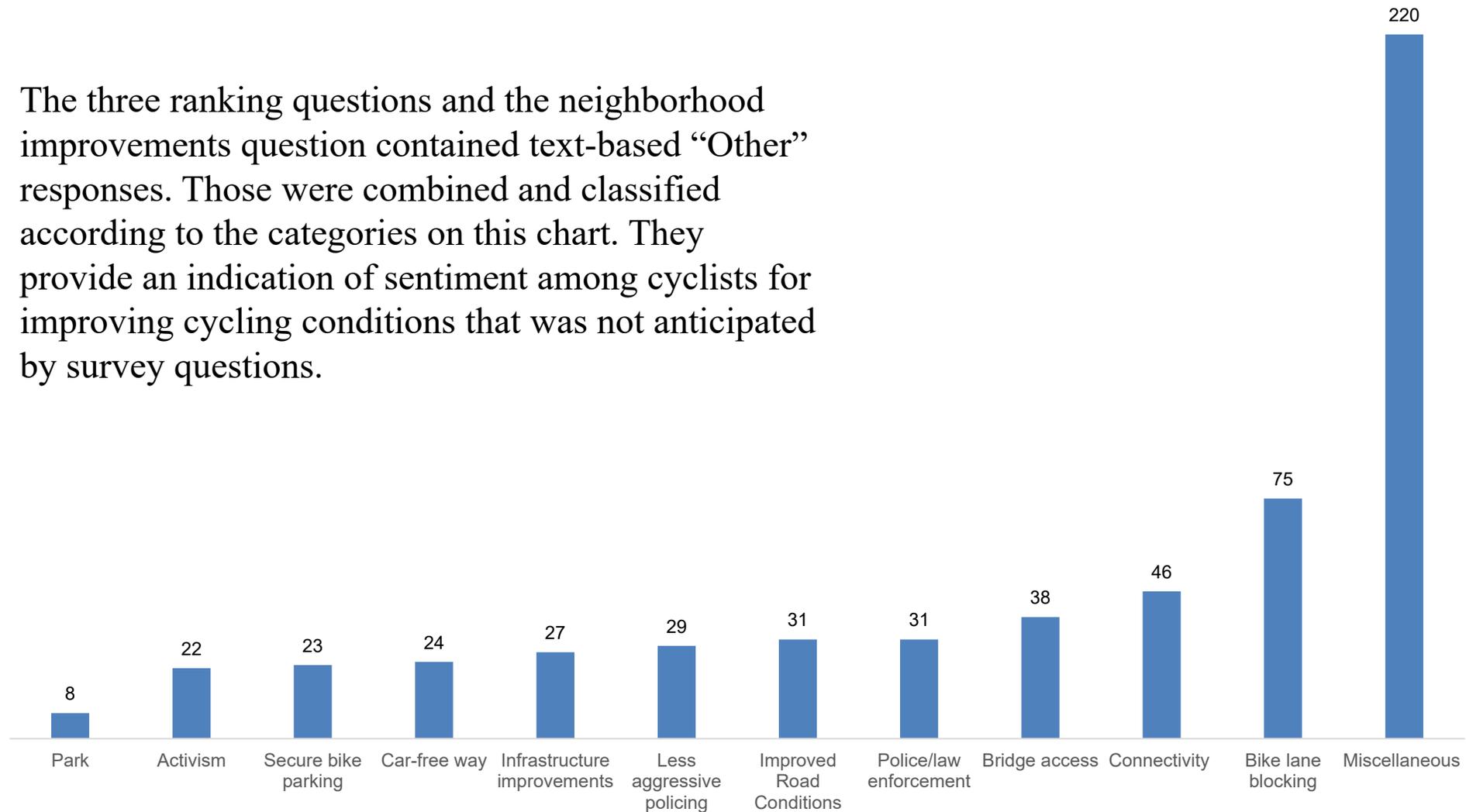

Normal Distribution - Distance of Potential Bike Trips
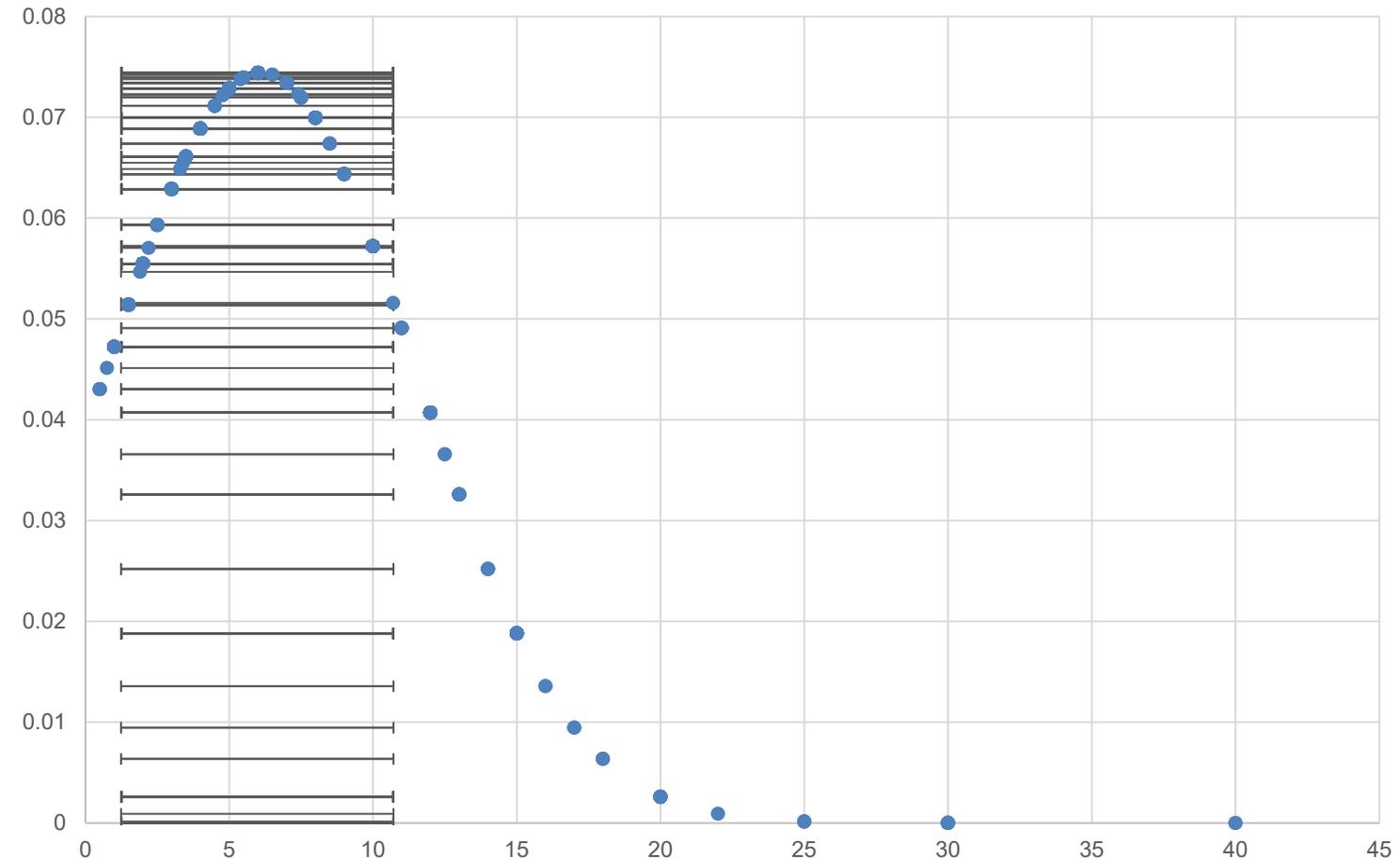
*Please see questions 6 through 9 on page 47 for exact phrasing.

Cyclist Survey: "Other" text-based responses

The three ranking questions and the neighborhood improvements question contained text-based "Other" responses. Those were combined and classified according to the categories on this chart. They provide an indication of sentiment among cyclists for improving cycling conditions that was not anticipated by survey questions.

Category	Value
Park	8
Activism	22
Secure bike parking	23
Car-free way	24
Infrastructure improvements	27
Less aggressive policing	29
Improved Road Conditions	31
Police/law enforcement	31
Bridge access	38
Connectivity	46
Bike lane blocking	75
Miscellaneous	220

Cyclist Survey: "Miscellaneous" text-based responses

Cyclist Survey "Miscellaneous" text-based responses

San Francisco MTA

NJ Transit

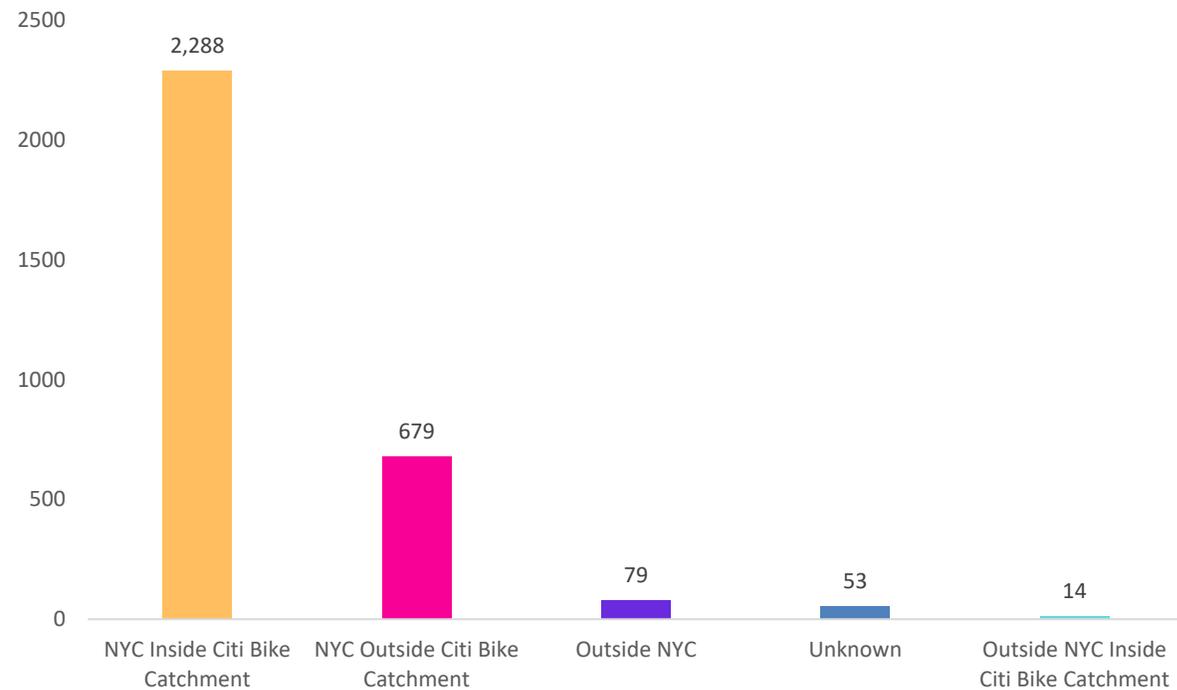Cycle highway, Netherlands

Shower Pod

Repair station, Boston

Water bike

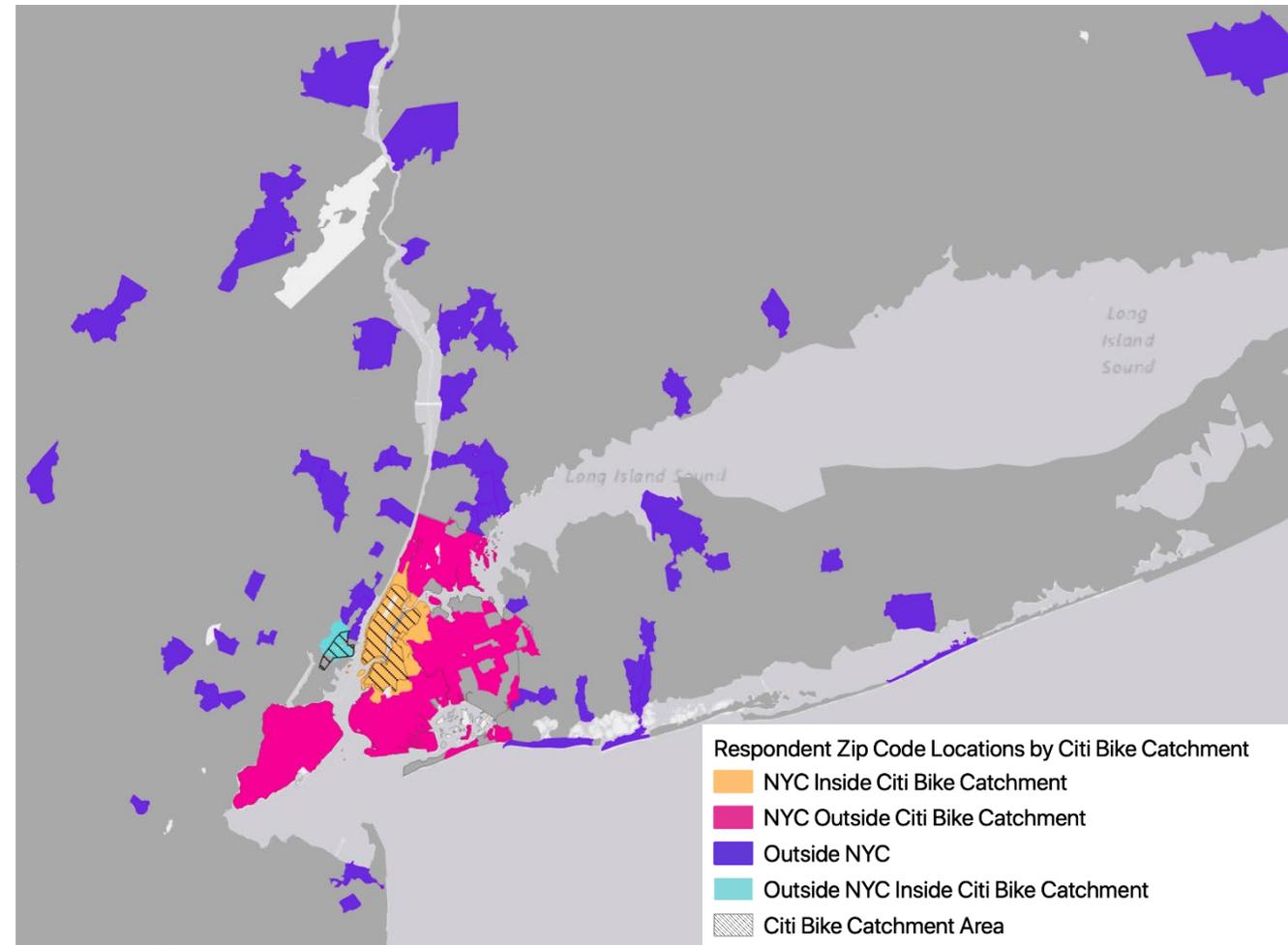# Cyclist Survey: Responses Inside/Outside Citi Bike Catchment Area

Where Respondents Live

Zip Codes Based on Citi Bike Catchment

2,288	679	79	53	14

Bar chart values:
- NYC Inside Citi Bike Catchment: 2,288
- NYC Outside Citi Bike Catchment: 679
- Outside NYC: 79
- Unknown: 53
- Outside NYC Inside Citi Bike Catchment: 14

Respondent Zip Code Locations by Citi Bike Catchment
- NYC Inside Citi Bike Catchment
- NYC Outside Citi Bike Catchment
- Outside NYC
- Outside NYC Inside Citi Bike Catchment
- Citi Bike Catchment Area

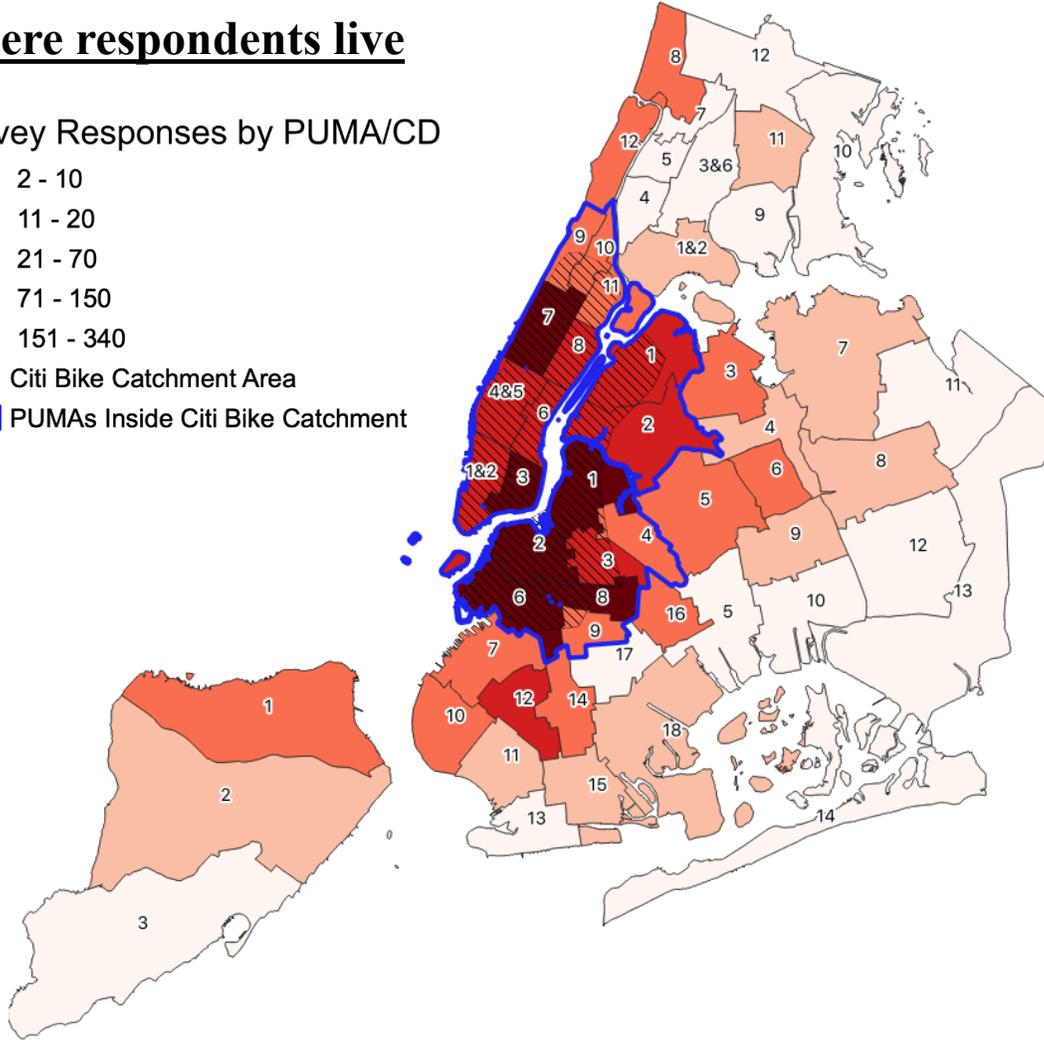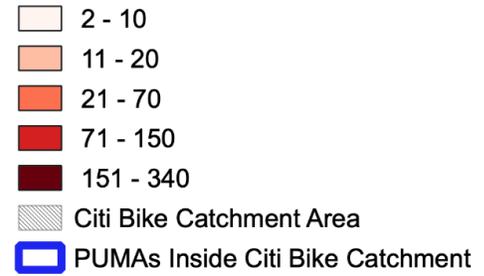**73 percent** of respondents were located in "NYC Inside Citi Bike Catchment"

22 percent of respondents were located in "NYC Outside Citi Bike Catchment"

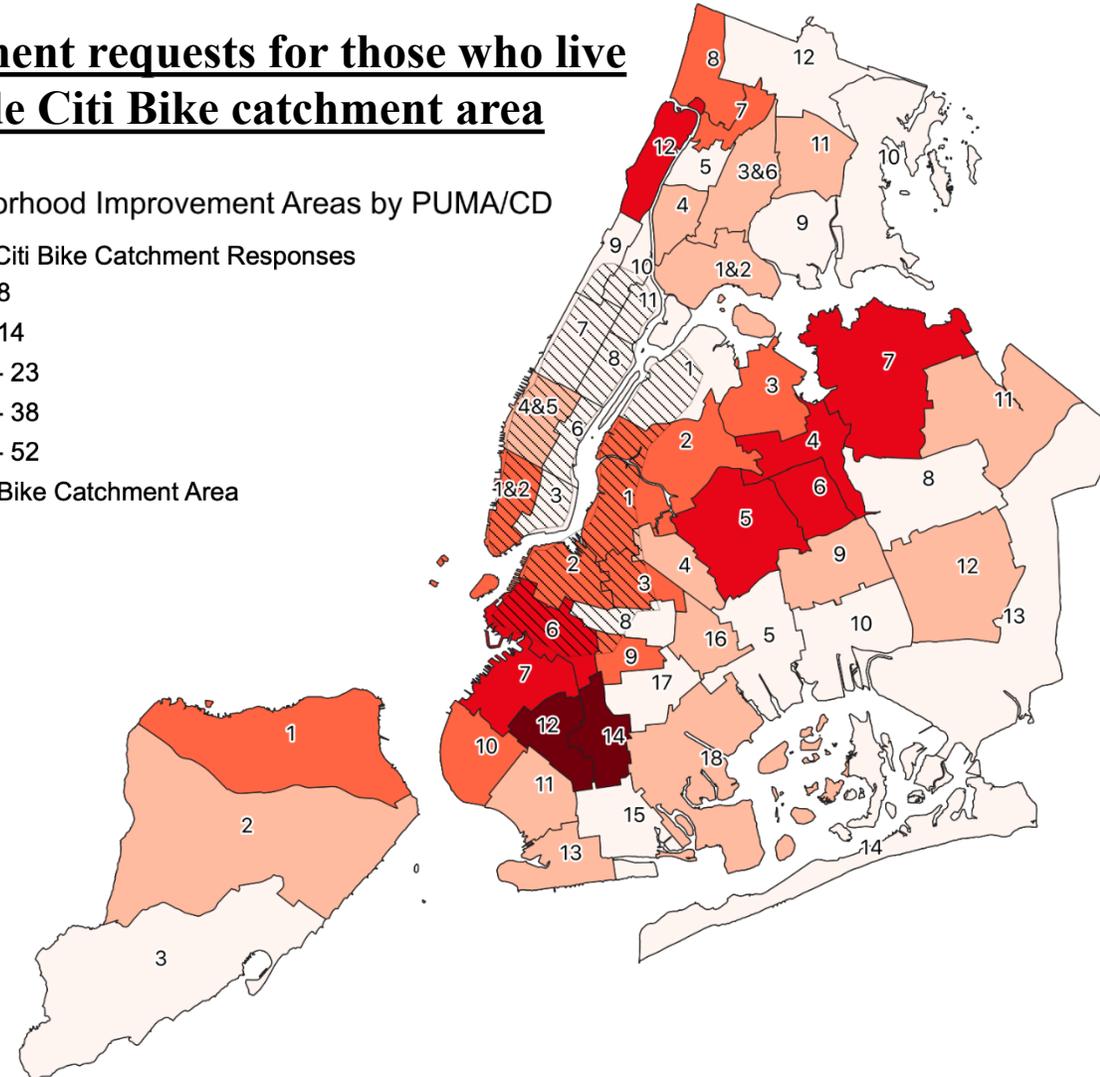# Cyclist Survey: Outside Citi Bike Catchment Area

Where respondents live

Survey Responses by PUMA/CD

- ☐ 2 - 10
- ☐ 11 - 20
- ☐ 21 - 70
- ☐ 71 - 150
- ☐ 151 - 340
- ▨ Citi Bike Catchment Area
- ▭ PUMAs Inside Citi Bike Catchment

Improvement requests for those who live outside Citi Bike catchment area

Neighborhood Improvement Areas by PUMA/CD

Outside Citi Bike Catchment Responses

- ☐ 2 - 8
- ☐ 9 - 14
- ☐ 15 - 23
- ☐ 24 - 38
- ▨ 39 - 52
- ▨ Citi Bike Catchment Area

- Survey respondents were highly concentrated within the Citi Bike catchment area.
- Respondents who reside Outside Citi Bike catchment area emphasized neighborhood improvements in areas that differed from the larger sample.

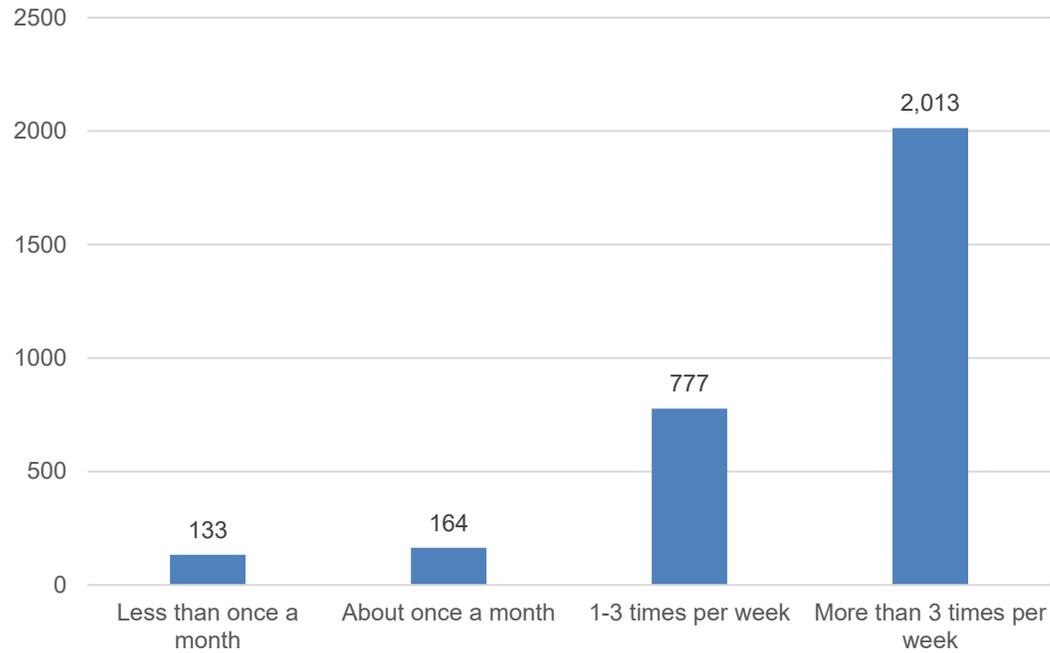# Cyclist Survey: Income inside/outside catchment area

Would you be willing to share your personal income to give us background on who tends to ride bikes?
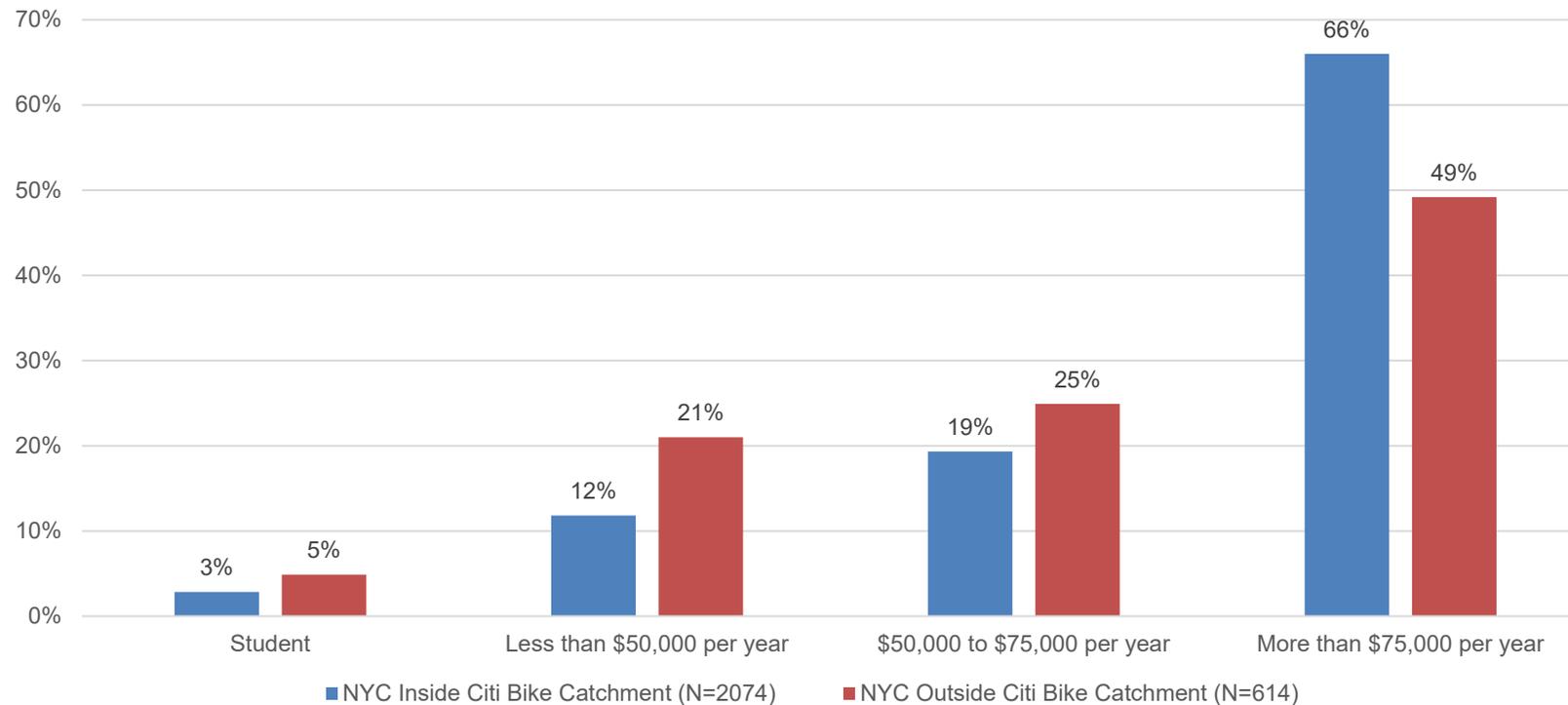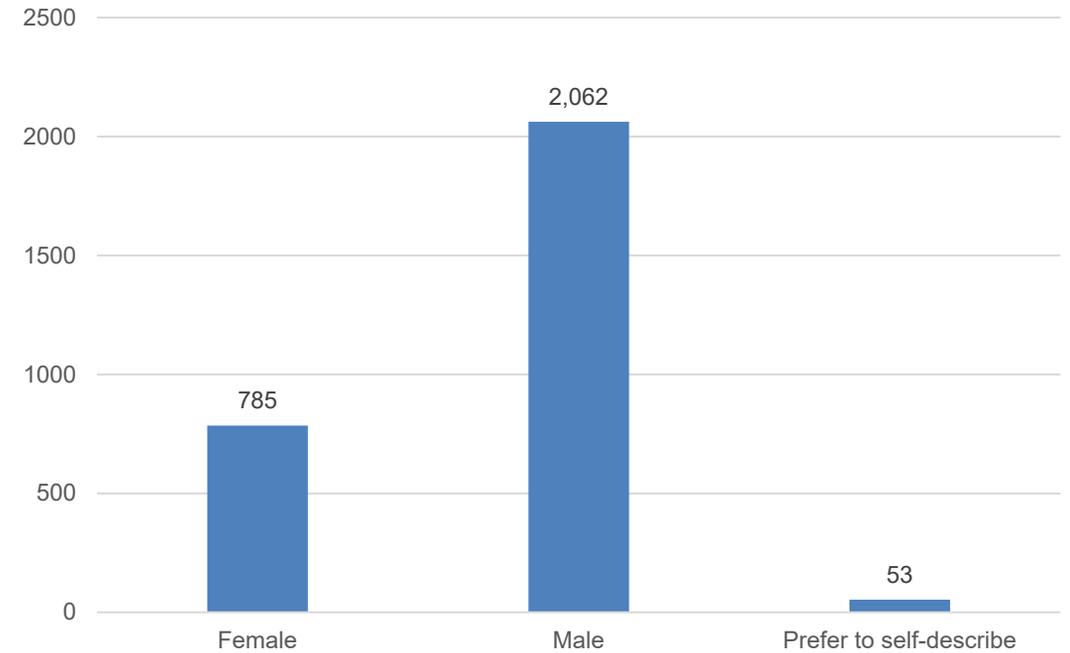

Respondents who lived inside the Citi Bike catchment area tended to have higher incomes than those who lived outside.

Cyclist Survey: Summary Statistics

How often do you ride a bike?

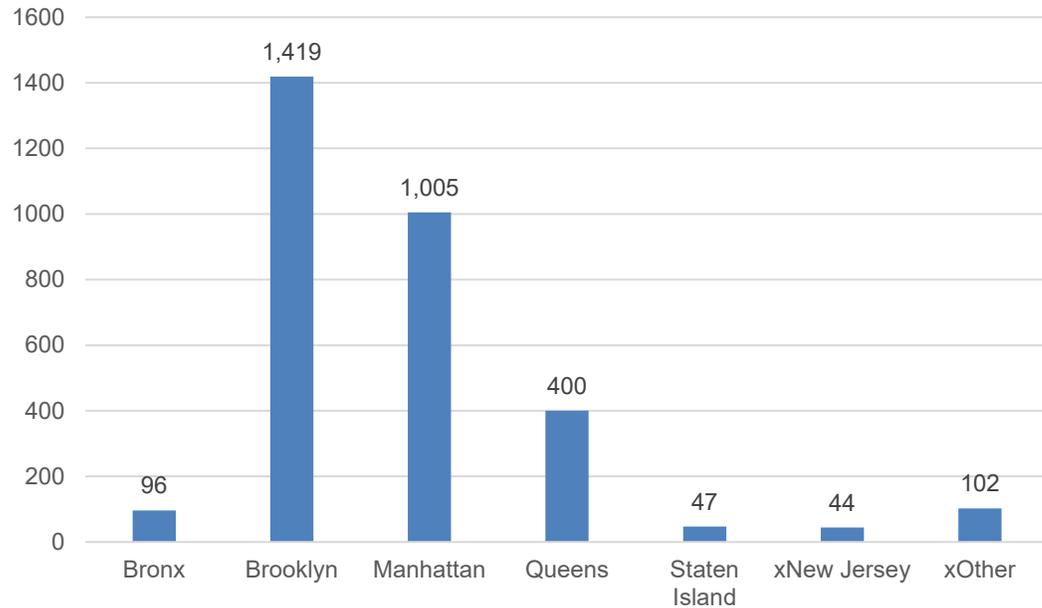How often do you ride a bike? — bar chart:
- Less than once a month: 133
- About once a month: 164
- 1-3 times per week: 777
- More than 3 times per week: 2,013

What is your gender? — bar chart:
- Female: 785
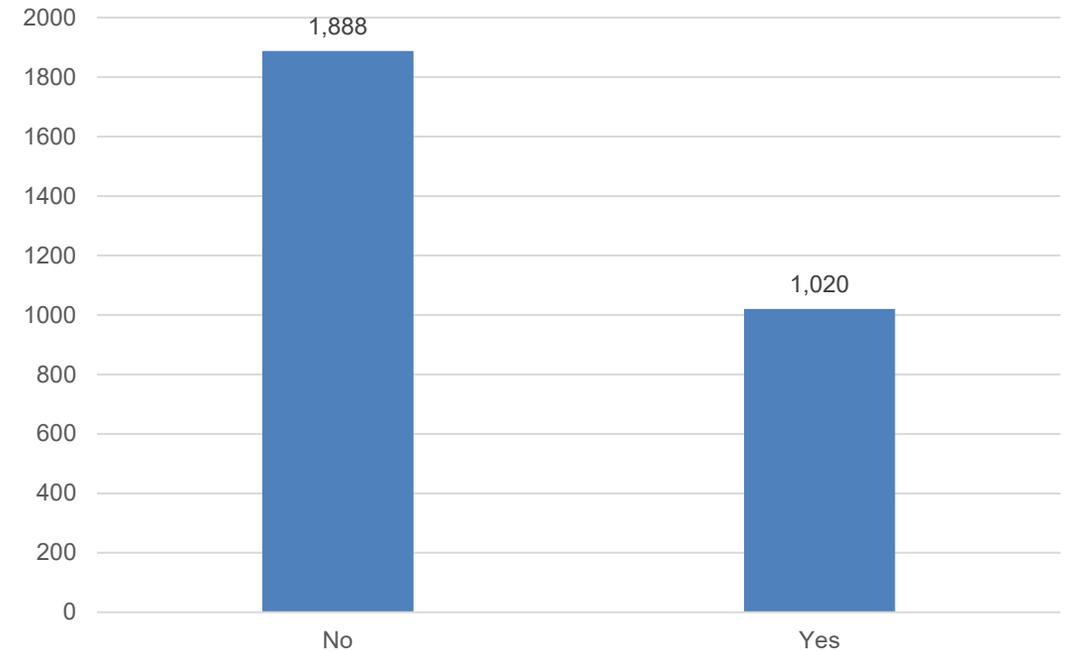- Male: 2,062
- Prefer to self-describe: 53

Cyclist Survey: Summary Statistics

What is your home zip code? (or neighborhood name)

Do you own a car?

Literature Review Bibliography

Ogilvie, David; Matt Egan, Val Hamilton, Mark Petticrew. "Promoting walking and cycling as an alternative to using cars: systematic review," BMJ, October 2, 2004. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC520994/

Rowangould, Gregory & Tayarani, Mohammad. (2016). Effect of Bicycle Facilities on Travel Mode Choice Decisions. Journal of Urban Planning and Development. 142. 04016019. 10.1061/(ASCE)UP.1943-5444.0000341.

Song, Yena; John Preston; David Ogilvie. "New walking and cycling infrastructure and modal shift in the UK: A quasi-experimental panel study," *Transportation Research Part A: Policy and Practice*, Vol. 95, January 2017. https://www.sciencedirect.com/science/article/pii/S0965856416301495

Ton, D., Transportation Research Part A (2018), https://doi.org/10.1016/j.tra.2018.08.23

Handlebar Survey Form

The individual results of this survey are 100% ANONYMOUS and CONFIDENTIAL. No names or any other private information will be collected. The purpose of this survey is to increase knowledge and understanding of bicycle use in New York City. The results of this survey are being used to make your community better for cycling. This survey is being conducted by the Department of City Planning. For more information, please contact BikeSurvey@planning.nyc.gov.

1. What is your home zip code? (or neighborhood name)
_____

2. How often do you ride a bike? **(Circle one)**
- Less than once a month
- About once a month
- 1-3 times per week
- More than 3 times per week

3. What kind of bike do you use for most of your trips? **(Circle one)**
- Personal bike
- Citi Bike
- Other bike share _____

For questions 4, 5 and 7, choose a maximum of five choices and rank them on a scale of 1 to 5, with 1 being most important and 5 being least important.

4. Why do you ride a bike? **(Rank 1 to 5)**
__ Exercise OR enjoy cycling
__ Environmental concerns
__ No access to a car
__ Economical
__ Faster/more efficient than other modes
__ There is good bike infrastructure
__ Work requirements
__ Other _____

5. What factors would get you to ride a bike more? **(Rank 1 to 5)**
__ More protected bike lanes
__ More standard bike lanes
__ More bike parking
__ Better wayfinding
__ Access to bike share
__ Safer traffic conditions
__ Other _____

Los resultados de esta encuesta son 100% ANÓNIMOS. No se colectarán información privada. El propósito de esta encuesta es aumentar el conocimiento de cómo se usan las bicicletas en la Ciudad de Nueva York. Los resultados de esta encuesta serán usados para mejorar su comunidad para montar en bicicleta. Esta encuesta está conducida por el Departamento de Planificación Urbana. Para más información, favor de contactar a BikeSurvey@planning.nyc.gov.

1. ¿En cuál código postal (o vecindario) vive Ud.?
_____

2. ¿Con qué frecuencia monta Ud. en bicicleta? **(escoja una opción)**
- Menos de una vez al mes
- Una vez al mes
- 1 a 3 veces a la semana
- Más de 3 veces a la semana

3. ¿Cuál variedad de bicicleta usa Ud. para la mayoría de sus viajes? **(escoja una opción)**
- Bicicleta personal
- Citi Bike
- Otra bicicleta compartida _____

Para las preguntas 4, 5, y 7, escoja cinco opciones y ordénelas en una escala de 1 a 5, en la que 1 es la más importante y 5 es la de menos importancia.

4. ¿Por qué monta Ud. en bicicleta? **(Ordene 1 a 5)**
__ Ejercicio o le gusta montar en bicicleta
__ Es mejor para el medio ambiente
__ No tiene acceso a un carro
__ Más barato
__ Más rápido o más eficiente
__ Hay buena infraestructura para bicicletas
__ Necesario para trabajo
__ Otra _____

5. ¿Cuáles factores le convencerían montar en bicicleta con más frecuencia? **(Ordene 1 a 5)**
__ Más carriles de bicicleta protegidos
__ Más carriles de bicicleta estándares (pintados)
__ Más estacionamiento para bicicletas
__ Mejores señales informativas
__ Acceso a bicicletas compartidas
__ Condiciones de tráfico más seguras
__ Otra _____

本次问卷的所有结果 100%匿名而且保密，将不会收集姓名及其他个人信息。本次问卷的主要目的是了解纽约市自行车使用情况，调查结果将用于创造更适宜自行车骑行的社区。本次问卷调查由纽约市规划局执行。欲了解更多信息，请联系 BikeSurvey@planning.nyc.gov。

1. 请问您家住址的邮政编码是？（或者社区名称）
_____

2. 请问您多久骑一次自行车？**（圈出一个最符合您情况的答案）**
- 少于每月一次
- 大约每月一次
- 每周一到三次
- 多于每周三次

3. 大部分情况下您使用什么样的自行车出行？**(圈出一个最符合您情况的答案)**
- 自己的自行车
- Citi Bike
- 其他共享自行车_____

第 4、5、7 题，请选择最多五个选项并在 1-5 的范围内根据重要性排序（1 代表最重要，5 代表最不重要）。

4. 请问您为什么选择自行车出行？**（按 1-5 排序）**
__ 锻炼身体或者喜欢骑车
__ 环保目的
__ 没有汽车可开
__ 经济节约
__ 相比于其他交通方式更快更有效率
__ 自行车设施很好
__ 工作需要
__ 其他_____

5. 请问以下哪个因素会鼓励您更多地骑自行车出行？**（按 1-5 排序）**
__ 更多的保护型自行车专道
__ 更多的标准型自行车专道
__ 更多的自行车停放点
__ 更好的导向路标
__ 能够使用共享单车
__ 更安全的交通条件
__ 其他_____

Handlebar Survey Form

6. Are there trips for which you commute by car (personal or other) instead of bike for all or part of the trip, but would rather use bike?
- Yes
- No **(Skip to question 10)**

7. If yes, for these trips, what factors would get you to commute by bike instead? **(Rank 1 to 5)**
__ More protected bike lanes
__ More standard bike lanes
__ More bike parking
__ Better wayfinding
__ Access to bike share
__ Safer traffic conditions
__ Not carrying cargo OR travelling alone
__ None
__ Other _____

8. What would be the distance of the bike portion of this typical trip?
___ miles

9. What is the distance of the entire trip?
___ miles

10. Are there any neighborhoods (including your own) where you believe increased bike infrastructure—including bike lanes, bike share, etc.—could increase cycling. Please list up to 5 by zip code or neighborhood name:
_____
_____

11. What is your gender?
- Female
- Male
- Prefer to self-describe _____

12. What is your age? ___

13. Would you be willing to share your personal income to give us background on who tends to ride bikes? **(Circle one)**
- Less than $50,000 per year
- $50,000 to $75,000 per year
- More than $75,000 per year
- Student

14. Do you own a car?
- Yes
- No

Thank you for your time!

---

6. ¿Hay veces en que Ud. viaja por carro (personal u otro) en vez de bicicleta para todo el viaje o sólo una parte del viaje, pero hubiera preferido viajar en bicicleta?
- Sí
- No **(Vaya a la pregunta 10)**

7. Si Ud. contestó "sí," ¿cuáles factores le convencerían montar en bicicleta en vez de viajar en carro? **(Ordene 1 a 5)**
__ Más carriles de bicicleta protegidos
__ Más carriles de bicicleta estándares (pintados)
__ Más estacionamiento para bicicletas
__ Mejores señales informativas
__ Acceso a bicicletas compartidas
__ Condiciones de tráfico más seguras
__ Viajar solo(a), sin carga
__ Nada
__ Otra _____

8. ¿Cuál es la distancia de la porción de este viaje en que montas en bicicleta?
___ millas

9. ¿Cuál es la distancia del viaje entero?
___ millas

10. ¿Hay vecindarios (incluso el suyo) donde Ud. cree que más o mejor infraestructura de bicicleta—como carriles de bicicleta, bicicletas compartidas, etc.—podría aumentar el uso de bicicletas? Seleccione hasta 5 por código postal o nombre:
_____
_____

11. ¿Cuál es su género?
- Feminino
- Masculino
- Otro _____

12. ¿Cuántos años tiene Ud.? ___

13. ¿Desea indicar su sueldo para que sepamos más sobre la gente que montan en bicicleta? **(Escoja una)**
- Menos de $50,000 al año
- $50,000 a $75,000 al año
- Más de $75,000 al año
- Estudiante

14. ¿Tiene Ud. un carro?
- Sí
- No

¡Gracias por su tiempo!

---

6. 请问您在日常出行中是否有某段路程希望全部或者部分使用自行车，却不得已使用汽车？
- 是
- 否 **(跳至第 10 题)**

7. 如果在上一题中选择"是"，请问对于这些行程，哪些因素会鼓励您用自行车来代替汽车出行？**（按 1-5 排序）**
__ 更多的保护型自行车专道
__ 更多的标准型自行车专道
__ 更多的自行车停放点
__ 更好的导向路标
__ 能够使用共享单车
__ 更安全的交通条件
__ 未携带行李或者独自出行
__ 没有因素可以影响
__ 其他_____

8. 在题 6 描述的行程中，假如您选择自行车来完成全部或部分的路程，那么**自行车**骑行的部份大概是多长距离？
___ 英里

9. 在题 6 描述的行程中，假如您选择自行车来完成全部或部分的路程，那么**整个行程**大概是多长距离（包括所有交通方式）？
___ 英里

10. 请问您认为在哪些社区（包括您自己的社区）优化自行车设施（包括自行车道，共享单车等）可以提高自行车出行。请写下五个以内的社区名字或者邮政编码：
_____
_____

11. 请问您的性别是？
女性　　男性　　其他_____

12. 请问您的年龄是？ ___

13. 您愿意分享您的个人收入范围以便我们了解自行车出行人群的特征吗？**（圈出一个最符合您情况的答案）**
- 年收入低于$50,000
- 年收入在$50,000 - $75,000 之间
- 年收入多于 $75,000
- 学生

14. 请问您拥有汽车吗？
- 有
- 没有

谢谢您的合作！