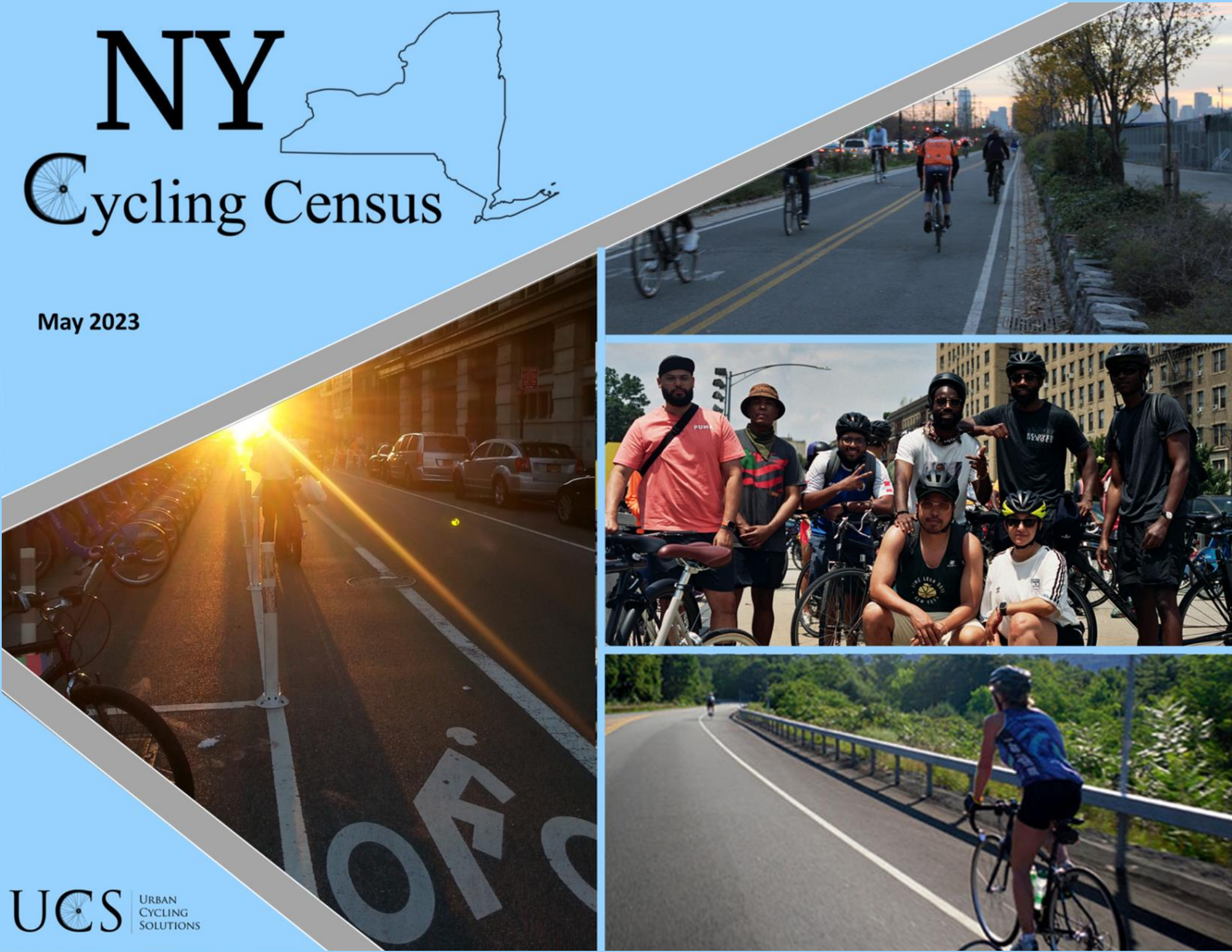
NY Cycling Census



May 2023

UCS Urban Cycling Solutions

Contents

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"Las correcciones a la traducción y la gramática de la encuesta en Español fueron realizados por Claudia Corcino - Co-Founder Ciclistas Latinoamericanos de New York @ciclistasny"

The inaugural New York Cycling Census was led by Urban Cycling Solutions in collaboration with the University Transportation Research Center at the City University of New York with support from New York State Energy Research and Development Authority (NYSERDA).

The Cycling Census would not have been possible without the support of dozens of organizations and agencies across the public, private and nonprofit sectors throughout New York State. We would like thank our colleagues at national organizations - such as the League of American Bicyclists, People for Bikes and the Adventure Cycling Association - as well as New York State agencies - including the NYS Department of Environmental Conservation (NYSDEC), NYS Department of Health (NYSDOH), NYS Energy Research and Development Authority (NYSERDA), and NYS Department of Parks, Recreation and Historic Preservation; and local and regional organizations such as - Bike New York, GOBike Buffalo, the Albany Bicycle Coalition, Bike Friendly Kingston, Bike Walk Tarrytown, Transportation Alternatives, CLIMB, and Reconnect Rochester - for sharing the Cycling Census survey on their social media platforms, websites and email newsletters. We would also like to thank the many Metropolitan Planning Organizations (MPOs), tourism promotion agencies, bike clubs, environmental justice and green groups, and the extensive network of grassroots community bike shops across the state and individual advocates who generously helped spread the word and make this first ever New York Cycling Census a success.

1. Introduction

1.1— Why a Cycling Census

With rising rates of bicycle ridership - a socially distanced mode of transportation that accelerated during the Covid-19 pandemic - the steady proliferation of electric bikes; growing interest in bicycle tourism across New York State (NYS) as an engine of local and regional economic development; the opening of major active transportation assets such as the Empire State Trail, the Mario Cuomo Bridge Shared Use Path; and expanding local bicycle networks, both on and off road - this is a turning point for bicycling in New York State.

As of 2019, transportation accounted for the second largest share of carbon emissions (28%)[1] in New York State. The majority of those emissions are the result of single occupancy vehicle trips, which account for 53% of all commuting trips.[2] In 2020, the Covid pandemic brought about a fundamental shift in transportation patterns as New Yorkers transitioned to working from home and limiting nonessential trips. When faced with limited or nonexistent transit service – particularly in dense urban areas with lower rates of car ownership – more New Yorkers discovered cycling as a tool for escape, fitness, and mental health, as well as a transportation solution.

In Buffalo, for example, as of 2016, nearly 30% of all households did not own a car. In New York City the rate is even higher, with more than 50% of households without a vehicle.[10] According to data from “People for Bikes,” retailers across the country reported the number of bicycles sold increased 40.5% between 2019 and 2020 despite extensive supply chain issues.

In addition, the frequency of bicycle riding for transportation and recreation increased 15% between 2018 and 2020.[3] In tandem, the sudden growth in bicycle ridership, and reduction in car trips (resulting from lockdowns) provided dramatic insight into the impact of transportation on air quality. These two factors are particularly important as New Yorkers continue to emerge into a post-covid era with new transportation preferences and in the face of an increasingly urgent global climate crisis. In addition, recent legislation (bill S.3897/A.8936-A)) provides increased funding for "Complete Streets" projects across New York State.

NYS “COMPLETE STREET” LEGISLATION (S.3897/A.8936-A)

S.3897/A.8936-A was signed by Governor Kathy Hochul in 2022 to “Complete Streets” - a holistic approach to street design that supports bicyclists, walkers, transit riders of all ages and abilities. This legislative package provides increased funding for “Complete Street” projects. Specifically this increases the state's contribution to the non-federally funded portion of Complete Street projects to 87.5 percent. [17]

Prioritizing this holistic approach to street design represents a tremendous opportunity for New York State communities to expand equitable mobility options with more robust cycling infrastructure. In tandem, other programs are actively supporting growing demand for cycling such as NYSERDA's 2022 Clean Transportation Prizes which funded e-bikeshare and e-bike library programs in Westchester and Buffalo.

1.2— About the Census

The New York Cycling Census is an initiative led by Urban Cycling Solutions, with assistance from the University Transportation Research Center, Region II, and supported by the New York State Energy Research and Development Authority (NYSERDA), to investigate changing attitudes about cycling in New York via an unprecedented statewide survey. The volume of responses - 13,740 in total - represents a raw indicator of the tremendous interest across New York State in cycling and provides unprecedented insights into the preferences, behaviors, and motivators for cyclists at both the local, regional, and statewide levels.

Until now, lack of data - beyond traditional indicators such as crash statistics, traffic volume, and vehicular speed - has presented a major barrier to the accelerated implementation of appropriate cycling infrastructure in any given roadway context. Relying solely on these traditional metrics has led to an over-emphasis on bike lanes and other on-road design solutions. As a result, features like bike parking and bike safety training -- for cyclists, educators, and law enforcement -- haven't received adequate attention or funding. Additionally, the reliance on "grim statistics" (such as traffic fatalities), and punitive indicators (such as moving violations), shifts the discourse from positive to negative. Instead of focusing on greenhouse gas (GHG) reductions, economic development, and better public health outcomes, it only focuses on traffic safety. Meanwhile, while anecdotal assumptions about the needs of cyclists are valuable in the planning process, a lack of empirical data may limit funding sources and stifle political will. With the release of this report, planners and policy-makers now have a robust set of tangible data points to draw on when making decisions and investments around active transportation infrastructure and related education and enforcement programs.

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1.3—Contextualizing the Census Results

The Cycling Census provides data that confirms many anecdotal assumptions about bicycling in New York State down to the County level. such as the dramatic increase in cycling rates – including traditional pedal bikes, electric bikes (ebikes), and shared bikes (micromobility) – noted above and accelerated by reduced transit service as well as social distancing protocols adopted during the pandemic. The vast majority of respondents (88.7%) reported that they bike just as much or more as they did before the Covid-19 pandemic, with nearly 50% of respondents indicating that they are biking somewhat or a lot more. While the pandemic facilitated a shift to cycling as a healthier, lower-impact mode, at the same time, NYS has also seen a corresponding increase in bicycle fatalities and injuries. Between 2020 and 2021 there was a 16.6% increase in crashes. This data is reflected in the Cycling Census as nearly half (48.28%) of respondents reported having been involved in some type of crash.[4] In addition to safety and ridership insights, the Census also provides concrete data on the importance of bike lanes and safe routes, as well as the great need for secure bike parking in urban areas, especially in proximity to transit (see section 7.3).The Cycling Census also provides new insights into the importance of mental health and wellness as a motivation for more bicycling (see section 7.1); the growing interest in bike-based tourism throughout the state (see section 7.4); the potential impact of electric bikes on ridership (see section 7.4); demand for bike maintenance training, particularly among women; and bike ownership as a barrier to cycling on a regular basis (see section 7.4).

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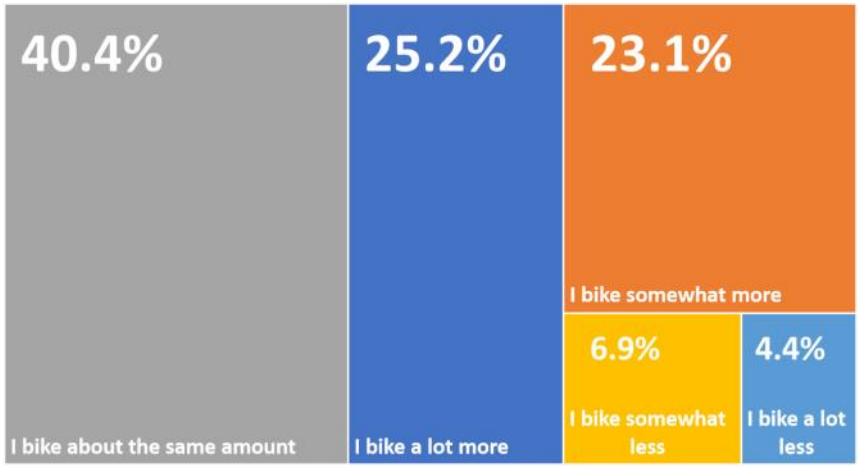


Figure 1. Cycling Census respondents overwhelmingly indicated that they bike just as much or more than before the Covid-19 pandemic.

2. Executive Summary & Key Findings

2.1—Methodology & Distribution

On February 2, 2022, Urban Cycling Solutions launched the NY Cycling Census - an online questionnaire on the Qualtrics platform - to investigate consumer attitudes about bicycling across New York State. The survey included twenty eight questions pertaining to demographics, cycling preferences, perceptions of infrastructure, and a wide variety of other factors that impact New Yorkers biking patterns. Please see Appendix A for a copy of the Cycling Census Survey.

2.2—Response & Respondents

In less than four months, the survey received a very strong response, with 13,740 participants across all 62 counties in New York State. The majority of respondents consider themselves "enthused and confident" riders who typically bike two to three times per week. Interpretations of the results presented in this report should consider these predominant demographic characteristics. Respondents were fairly evenly distributed across age groups with the exception of respondents 18-24 and those over 75 years old (See Cycling Census Snapshot: Age).

While expansive, the dataset is nonrepresentative geographically; urban areas in New York State have a significantly higher response rate than rural counties. While the data does have strong representation across gender and age groups, respondents skew toward higher income individuals identifying as white, despite a concerted effort to reach other demographics (See Cycling Census Snapshot: Race).

In addition to the quantitative data points, the survey included an open-ended question for respondents to provide additional thoughts or ideas. This question garnered more than 13,000 comments from respondents - another indicator that New Yorkers think seriously about cycling! Many comments focused on the need for protected bike infrastructure, underscored by concerns about dangerous interactions with cars.

2.3—Key Findings

The New York Cycling Census offers quantitative insights on a wide variety of topics ranging from key motivators and barriers to cycling in NYS, to ebikes, regional infrastructure ratings, bicycle tourism, and trip purposes. Specifically, the Cycling Census indicates that:

- The three biggest motivators for cycling in the state, across all geographies, are: 'exercise and fitness', 'fun,' and 'mental health and wellness'.
- 'Recreation' and 'exercise' are the two most frequent trip purposes amongst respondents. 'Commuting trips' are 30% less prevalent from 'exercise' amongst cycling respondents.
- 'Lack of safe routes', 'weather', and 'fear of conflict with cars' are the biggest barriers to cycling amongst respondents.
- 88% of respondents indicated some level of interest in bicycle tourism.
- 54.3% of respondents say bike parking is an important factor in their decisions to link bike trips with transit services.
- Demand for bicycle maintenance training is higher among female than male respondents.
- 55% of respondents indicated that an ebike would definitely or potentially make them bike more.
- Male respondents were 1.5 times more likely to have been involved in a crash.

These and selected data points and statewide infrastructure ratings are illustrated on the following page.

TOP 5 REASONS WHY NEW YORKERS BIKE*

- 92% Exercise & Fitness
- 88% Fun
- 80% Mental Health & Wellness
- 63% Less Environmental Impact
- 54% Cost-Effectiveness

*consistent across geographies, gender, age, race, and income

TOP 5 BARRIERS TO BIKING IN NEW YORK*

- 74% Lack of Bike Lanes & Safe Routes
- 63% Weather
- 56% Fear of Conflicts with Cars
- 44% Lack of Bike Parking
- 21% Geography

*consistent across geographies, gender, age, race, and income

STATEWIDE INFRASTRUCTURE RATINGS

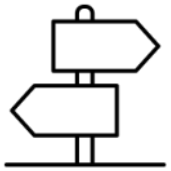
0 (nonexistent) — 5 (Excellent)

TRAILS **2.38**

BIKE PARKING **1.93**

BIKE LANES **2.32**

BIKESHARE **2.75**



WAYFINDING **1.97**

54.3%

of respondents say bike parking is an important driver for biking to transit.

31.8%
Secure Bike Parking

22.5%
Open-Air Bike Racks

The need for secure bike parking was higher amongst respondents.

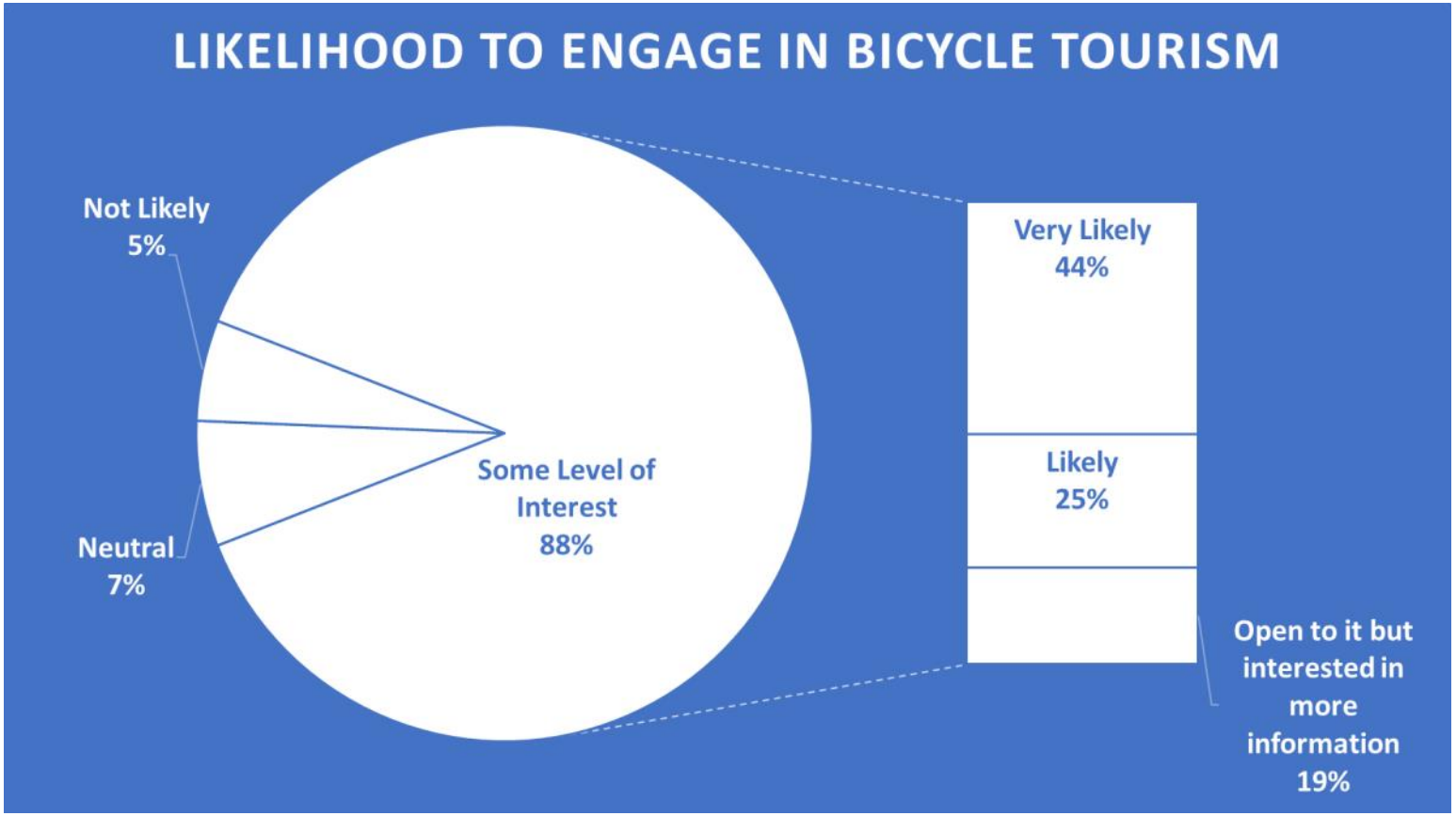
51%

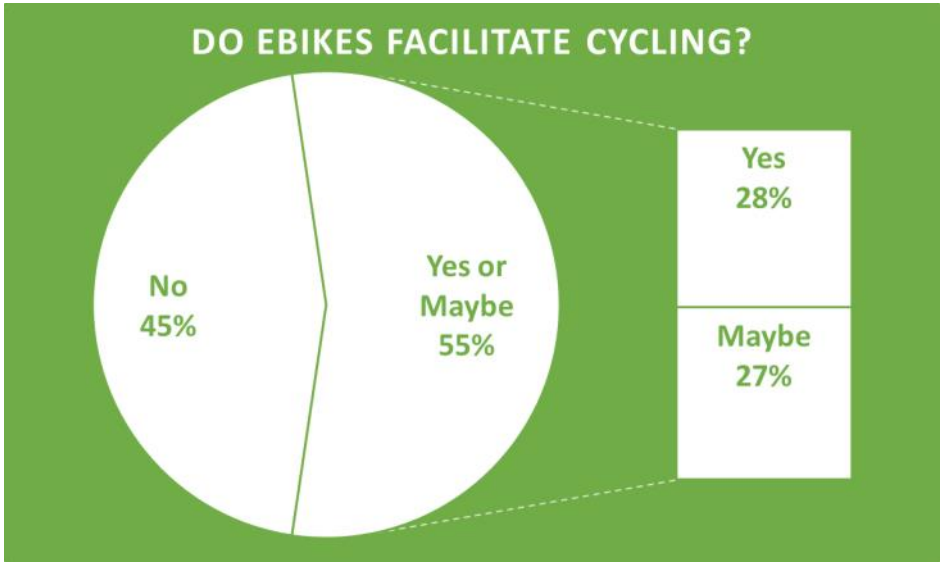
Of female respondents indicated a demand for basic bicycle maintenance training versus 38% of male respondents.

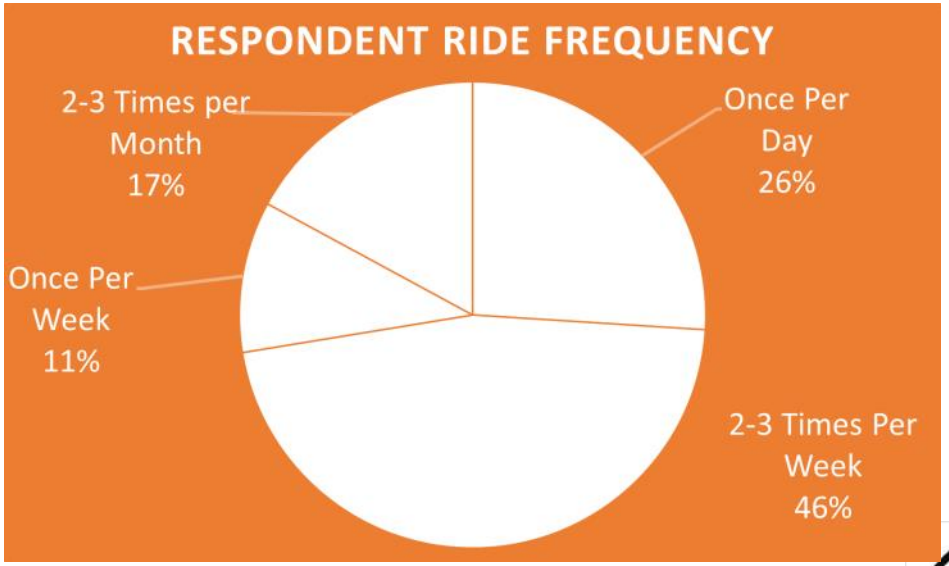
WHAT DO NEW YORKERS DO WITH BIKES

- 90% Recreation
- 87% Exercise
- 57% Commuting
- 44% Shopping
- 36% Tourism

Bike commuting is more common amongst younger riders. Frequency of bicycle commuting reduces incrementally with increasing age.


LIKELIHOOD TO ENGAGE IN BICYCLE TOURISM
Not Likely
5%
Neutral
7%
Some Level of Interest
88%
Very Likely
44%
Likely
25%
Open to it but interested in more information
19%


DO EBIKES FACILITATE CYCLING?
No
45%
Yes or Maybe
55%
Yes
28%
Maybe
27%


RESPONDENT RIDE FREQUENCY
2-3 Times per Month
17%
Once Per Day
26%
Once Per Week
11%
2-3 Times Per Week
46%

2.4—Opportunities

The Cycling Census data informs opportunities across four categories: infrastructure, economic development, bicycle education, and future iterations of the Cycling Census. While the majority of opportunities are directly tied to key findings from the Cycling Census data analysis, others are more generalized, and aimed at drawing on motivators and reducing barriers to cycling. Key opportunities include:

Infrastructure and Implementation: Build More Bicycle Infrastructure on New York's Roadways

- Expand Local Open Street Events to expose more New Yorkers to Complete Street principles and to develop preliminary data for future investments.
- Streamline coordination between state, county, and local jurisdictions to create a consistent experience for cyclists on roadways and trails transecting NYS communities.
- Maximize transitions with New York's trail facilities, with protected bike infrastructure as well as high visibility crossings, based on the importance of trails according to Cycling Census respondents.
- Prioritize bike parking at priority destinations, especially in urban areas.
- Codify bicycle infrastructure into the comprehensive planning process for NYS communities.
- Identify nontraditional funding sources for bike infrastructure and other Complete Street projects.
- Integrate bicycling with public transit systems.

Facilitate Local Economic Development with Bicycle Tourism

- Reevaluate New York's designated bike routes and integrate into the U.S. Bike Route System, which is administered by Federal Highway Administration (FHWA).
- Bolster Empire State Trail route sections to enhance safety.
- A statewide economic impact study on the value of bike tourism would help state agencies and local jurisdictions better understand how their communities can capitalize on bicycling.
- Increase access to bike touring resources so that it's easier for New Yorkers and visitors from all over the world to learn about where to bike and how.
- Incentivize third-party applications to aid riders in navigation and roadway conditions.
- Expand the bicycle-friendly business program administered through the League of American Bicyclists.

Catalyze Electric Mobility

- Establish policies and programs that promote ebike utilization at the local and regional level.
- Subsidize the purchase of ebikes in NYS.

Expand Bicycle Safety Education

- More bike maintenance and defensive cycling courses tailored to different audiences.
- Mandatory driver education on cycling [as well as other roadway users].
- Institutionalize bike education based on existing statutes.
- Integrate bike education with the New York State Police training curriculum and identify opportunities for community collaboration.

Repeating the New York Cycling Census

- A series of recommendations to enhance representation, accuracy, and insights from future iterations of the Cycling Census.

In addition to design, policy, and programmatic opportunities across these thematic categories, this section of the report includes case studies from ongoing initiatives throughout the state. Case studies include the Electric Mobility Project, ebike libraries in Buffalo, and the City of Kingston's Educational Citation Collaboration with the local police department.

Summer Streets, Park Ave

New York, NY

3. Methodology

3.1—Survey Structure & Launch

On February 2, 2022, Urban Cycling Solutions launched the NY Cycling Census - a 28 question online survey - to investigate consumer attitudes about bicycling across NYS. Questions spanned a variety of topics pertaining to bicycling preferences, barriers, skill-level and inclinations, as well as demographic details from respondents. The survey was distributed to more than 150 distinct entities including MPOs, government agencies at the state, county and local levels; tourism and economic development agencies; bike retailers; bike clubs; grassroots community bike shops; people of color; environmental justice organizations; and green groups across the state.

3.2—Outreach & Distribution

To distribute the survey, UCS Senior Advisor Paul Winkeller leveraged his decades of professional relationships in multiple networks across the public, private, and nonprofit sectors to conduct extensive outreach to every corner of New York State. It included MPOs; government agencies at the state, county and local levels; tourism and economic development agencies, bike retailers, bike clubs, grassroots community bike shops, people of color, environmental justice organizations, and green groups with an interest in bicycling and small-scale sustainable transportation modes. More than one hundred and fifty distinct entities shared the survey in newsletters, websites, various social media platforms, and other constituency communication channels.

In addition to email outreach, UCS conducted additional follow-up via phone and social media. The Cycling Census Survey was subsequently picked up by a variety of traditional media outlets including Streetsblog NYC, Rockland News, and a number of other regional news websites. To ensure that those responding to the Cycling Census Survey represented a complete cross-section of New York's demographics, our outreach efforts included targeting black, Indigenous and people of color (BIPOC) bike clubs and grassroots community bike shops, as well as organizations focused on environmental justice and transportation equity. No paid advertising was used in the distribution of the New York Cycling Census Survey.

3.3—Response & Analysis

The survey received a very strong response, with 13,740 participants across all 62 counties in New York State. Following the completion of the survey in the summer of 2022, Urban Cycling Solutions partnered with the University Transportation Research Center (UTRC) at the City University of New York to assist with the analysis of the results. Despite the large organic response rate and geographic diversity, the Cycling Census data does have some limitations. While expansive, the dataset is nonrepresentative. For example, rural counties have a much lower response rate than those with major metropolitan centers, especially in the New York City Metro area. While the data does have strong representation across gender and age groups, respondents skew toward higher-income individuals identifying as white, despite a concerted effort to reach other demographics.

4. Cycling Census Snapshot

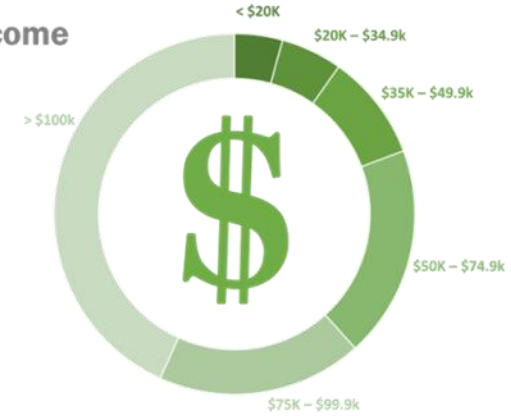
Gender*

36%
Female

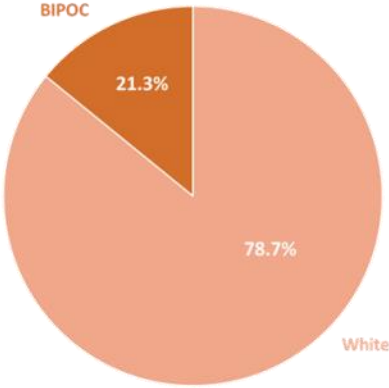
60%
Male

*Approximately 4% of respondents identify as nonbinary, and prefer to self-describe or prefer not to answer.

Income



Race



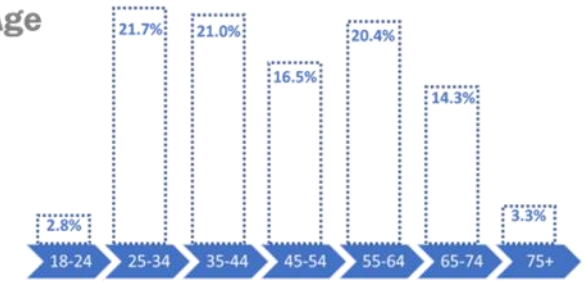
13,740 Cycling Census Respondents

62 ALL Counties Represented

Cycling Skill Level

The majority of respondents (61.69%) consider themselves enthused and confident riders who bike 2-3 times per week.

Age



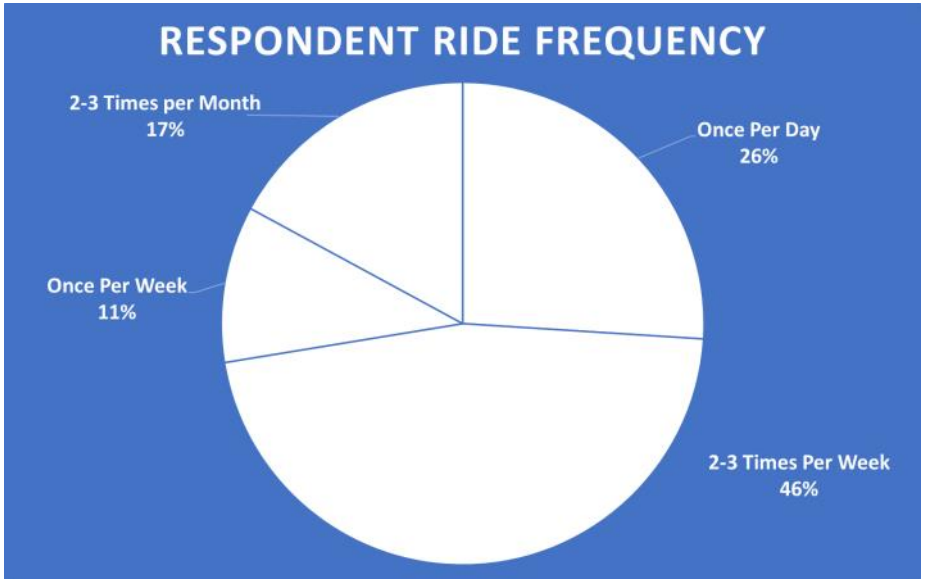
Cycling Frequency

5. Environmental Impacts of Cycling

The 2022 Inflation Reduction Act earmarked an unprecedented $370 billion to address climate and energy emissions, which included considerable funding for electric vehicle subsidies and supply chain enhancements. While it's anticipated that these investments could result in a 40% reduction in tailpipe emissions by 2030,[13] they create additional upstream emissions from power generation and battery production. Meanwhile, bicycling remains a carbon-free alternative to driving. Cycling Census respondents were asked to estimate their riding frequency. This data makes it possible to estimate the amount of carbon offset by respondents' cycling activity, and make inferences about the broader impact of cycling on transportation-related GHG emissions in New York State .

5.1—Cycling Frequency

Nearly half (46%) of respondents indicated that they biked approximately 2 to 3 times per week. Approximately a quarter of respondents (26%) indicated that they ride at least once per day. The remainder of respondents (approximately 28%) indicated riding once per week or less.



5.2—Analysis and Assumptions

In order to calculate the emissions respondents saved by cycling, it requires a series of additional assumptions about trip length and emissions. According to the U.S. Department of Energy, the average carbon dioxide (CO2) emissions from a new light-duty vehicle in 2019 was 348 grams per mile.[11]

According to the National Household Travel Survey, the average bike trip distance varies by trip purpose. For example, the average trip length for commuting to and from work (3.8 miles) is higher than shopping (1.3 miles). In aggregate, the national average bike trip length is 2.3 miles.[12]

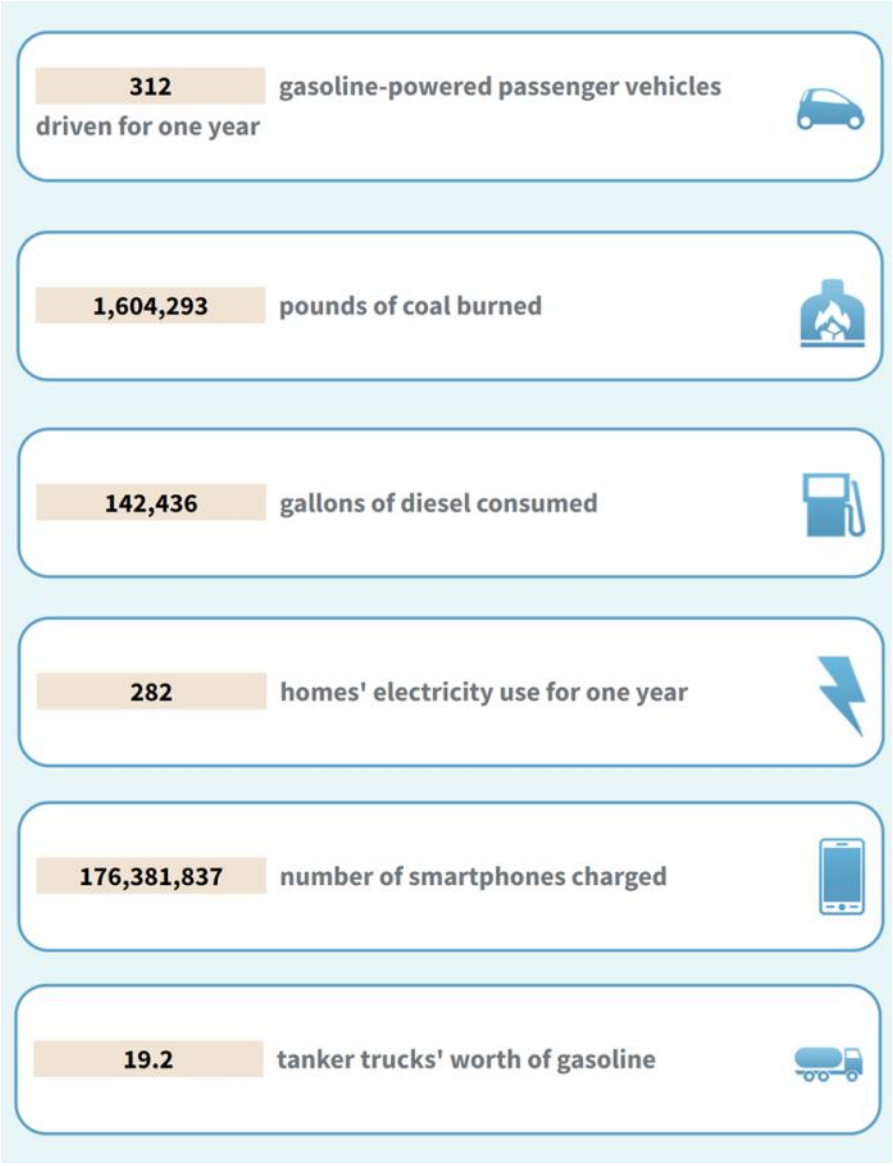
Based on these assumptions, the table below provides an analysis of CO2 for each trip frequency group. Assuming an average trip length of 2.3 miles, Cycling Census respondents save approximately 1,451 metric tons of CO2 in a year, the equivalent of 163,263 gallons of gasoline, and 3,601,472 miles driven by an average gasoline-powered passenger vehicle, according to the EPA's Greenhouse Gas Equivalency Calculator.[14]

Respondent Greenhouse Gas Savings by Ride Frequency Cohort

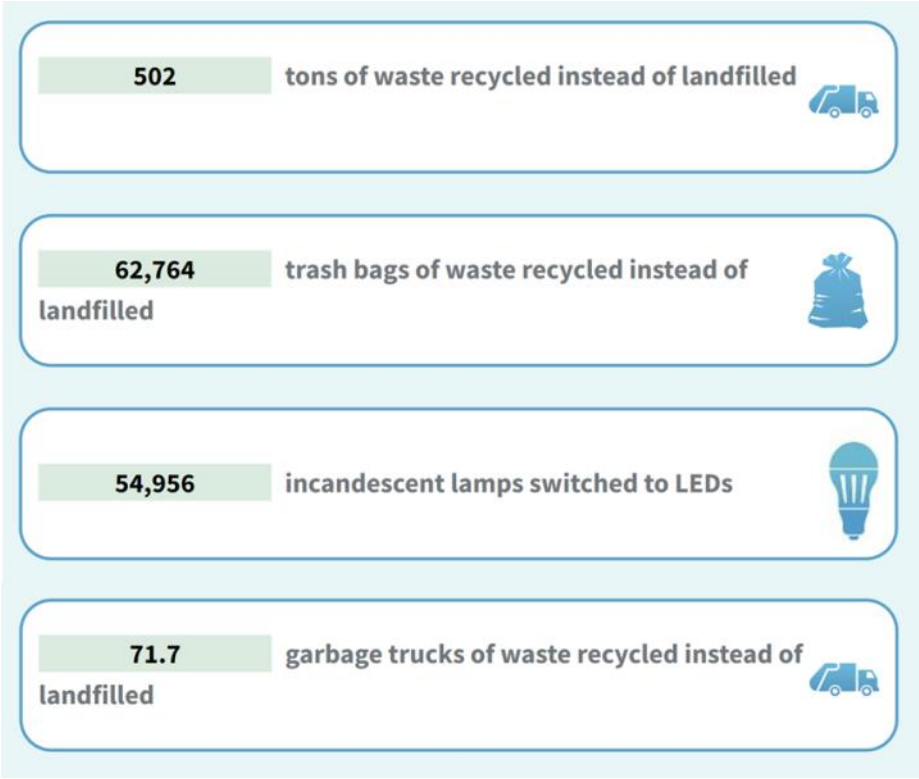
Trip Frequency	% of Trips	Average Trip Distance (miles)	CO2/mile (grams)	Metric Tons CO2/Mile
1 per day	26.01%	2.3	348	830.57
2-3 times per week	46.40%			527.75
1 per week	10.49%			47.74
2-3 times per month	17.09%			44.85
			Total	**1450.92**

5.3—Additional Carbon Offset Equivalencies

These metrics provide important context into the power of cycling as a carbon emission mitigation tool. According to the Environmental Protection Agency's (EPA's) Carbon Equivalency Calculator -- in addition to vehicle miles avoided, and gasoline consumed -- ridership data from Cycling Census can be equated to CO2 emissions from:



While these metrics represent carbon equivalencies avoided, given the zero emission-nature of cycling, it is valuable to view Cycling Census ridership in the context of carbon offset equivalencies. The number of trips taken by Cycling Census respondents is equivalent to GHG emissions avoided by:



5.4—Broader Implications

Cycling Census represents a small sample of New York's broader population. Using the same assumptions, if a target of 5% of New York's population biked [for any purpose] at least once per month , it would save approximately 9,528 metric tons of CO2 emissions annually, the equivalent of 2,053 gasoline-powered passenger vehicles driven for one year, 23,650,455 miles driven by an average gasoline-powered passenger vehicle, or 10,541,867 pounds of coal burned.

6. What New Yorkers Are Saying

6.1—Overview

New Yorkers have a lot to say about cycling! In addition to the more than 370,000 raw data points across all 13,740 responses, the Cycling Census yielded more than 13,000 comments on a wide variety of subjects from respondents all over the state. New Yorkers are overwhelmingly calling for more on-road bike infrastructure, specifically protected bike lanes. Many respondents cited concerns about direct interactions with cars, and/or previous incidents that have made them uncomfortable riding in traffic.

6.2—Infrastructure

In addition to the need for an expansion of bike infrastructure, respondents also expressed concern over the maintenance of these facilities, and suggested that they remain clear of debris, snow, trucks, and other obstructions that might make riding in bike lanes and trails difficult. In addition to safe spaces for riding, many respondents also wrote about the need for safe and secure spaces to store their bikes at important destinations. In addition to a larger volume of open-air bike racks, **respondents specifically called for secure bike parking options that provide both weather protection, and secure access.** These include bike lockers, storage rooms, or freestanding cages. Some respondents also suggested a need for more real-time crowd sourced online resources to help New Yorkers make more informed judgements about the decision to ride on any given day.

6.3—Transit Connections

Connecting with transit was another issue that arose frequently among respondents, especially as an important safety net in the event of bad weather or other unforeseen circumstances that may make riding difficult or dangerous. In addition to the daily commute, respondents also identified this vital connection with transit as a way to provide greater access to regional tourism opportunities. In addition to connectivity, respondents echoed the need for bike parking specifically at transit. **Most comments on this subject indicated a need for secure long-term storage to maximize daytime security.**

6.4—Education

Education is another theme that emerged frequently in the comments. Specifically, many **respondents called for better education for municipal planners, policy makers and law enforcement to help them better understand the potential benefits of cycling**, in order to help these constituencies make more informed decisions about cycling infrastructure, programs, and policies. Comments on driver education were equally pervasive with respondents, specifically citing a lack of information about bikes in driver training materials, and little insight into how motorists should share the street with other more vulnerable roadway users.

> *"Motorists need to be better educated in sharing the road, perhaps in the DMV's training materials, as there is little mention of bikes for drivers at all."*

6.5—Electric Bikes

Electric bikes (ebikes) emerged as another consistent theme in the comments. **Respondents noted many ways in which ebikes would facilitate riding, including reducing physical exertion, and overcoming geographic barriers like hills.** Some respondents cited the cost of ebikes as a potential barrier, and indicated that a lower price point would lead to more frequent bicycling.

The graphic right includes a collage of key words from the comments surrounded by selected quotes.

"Bike's don't exist in a vacuum, they're part of the broader infrastructure of our surface streets. Anything that discourages people from driving, encourages them to use bus/subway/bikes, is huge benefit because it makes the streets less dangerous for everyone, cyclists pedestrians and drivers alike."

"The Empire Trail is a great addition. Wish there were more bike trails to other locations. Also, wish that automobile drivers were better educated about bicycle riders rules!"

"By far the main challenge is lack of infrastructure & policies to make biking safe. We need more bike lanes that are PHYSICALLY SEPARATED from roadways."

"Make it easier to bring bikes on trains, buses, subways, and Amtrak!"

"More access to trails/paths would be awesome."

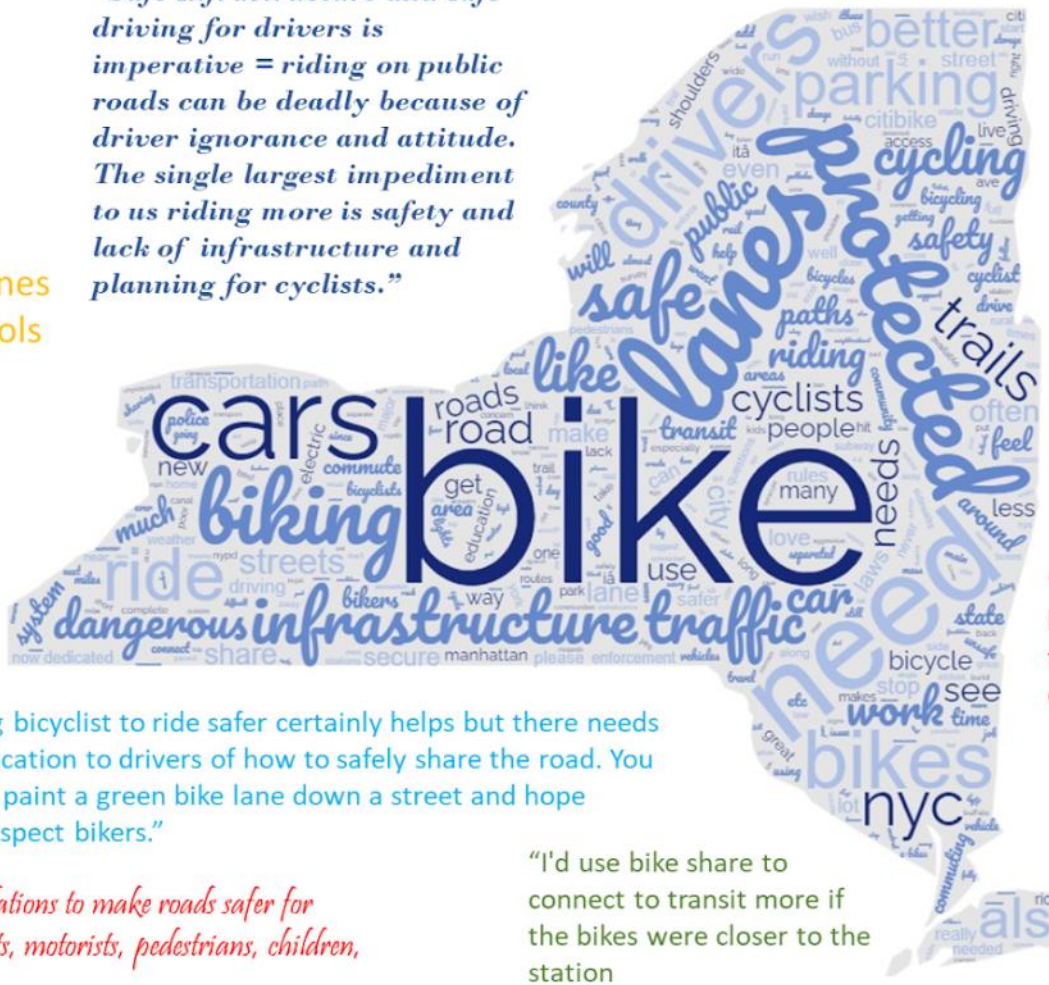
"Safe Infrastructure and safe driving for drivers is imperative = riding on public roads can be deadly because of driver ignorance and attitude. The single largest impediment to us riding more is safety and lack of infrastructure and planning for cyclists."

"I would bike for transportation in my town if the routes were safer."

"Safe bike lanes around schools should be a priority."

"Rail Trails are the best!"

"I purchased ebike during pandemic and it has TRANSFORMED my travel patterns and bike usage."



"Electric bikes are a game-changer in a hilly area like ours."

"I would love to bike to work, but a lack of bike lanes makes it too scary for an infrequent cyclist like myself."

"Teaching bicyclist to ride safer certainly helps but there needs to be education to drivers of how to safely share the road. You can't just paint a green bike lane down a street and hope drivers respect bikers."

"Biking is the future. Liveable, walkable, bikeable cities are vibrant."

"Enforce Car traffic violations to make roads safer for EVERYONE (Cyclists, motorists, pedestrians, children, senior citizens, etc)."

"I'd use bike share to connect to transit more if the bikes were closer to the station

"I would bike and connect to transit if there was better information, space for bikes, and safer connections. I'm more interested in taking my bike on the train so I can bike to my final destination."

"Bicycle accommodations on intercity busses would be great so you can do one-way recreational cycling and then take the bus back to your starting destination."

7. Cycling Census Results

7.1—Overview

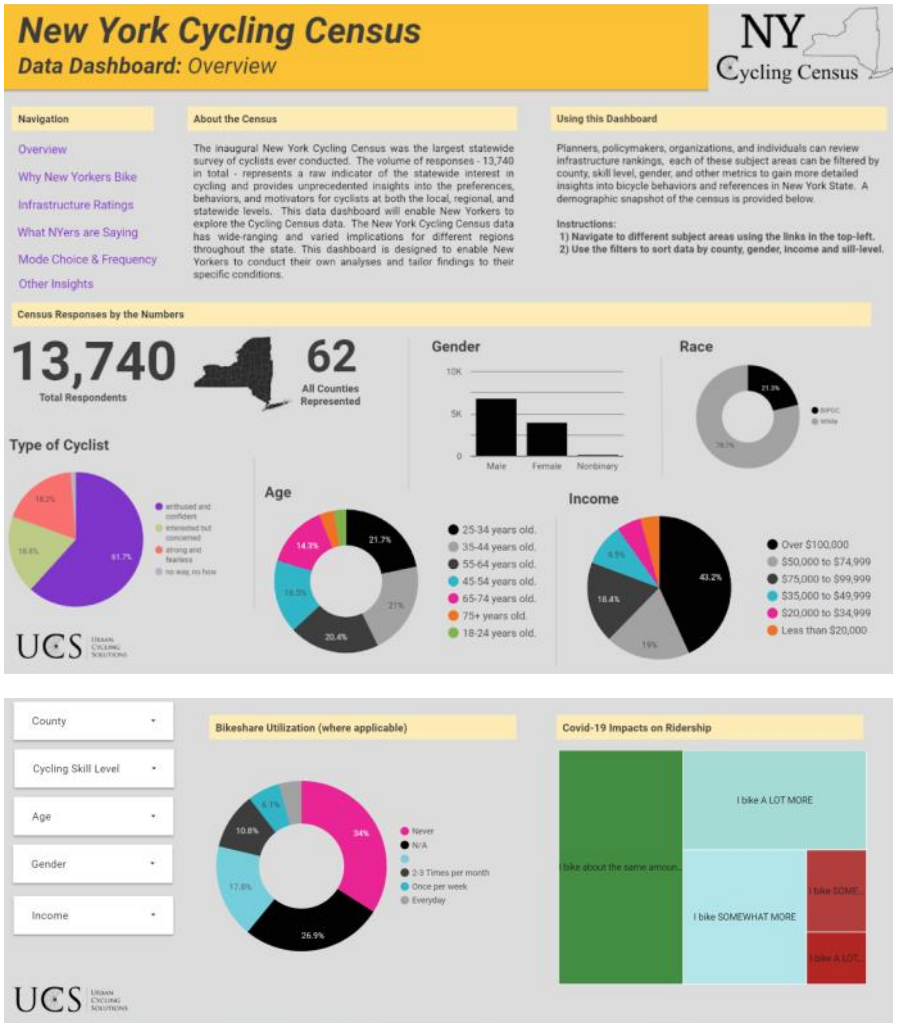
This section details the analysis of Cycling Census data. The results are divided into four sections including:

1. ***Barriers and Opportunities*** *- An exploration of the reasons why New Yorkers choose to bike and why they don't, as well as specific needs or supports to facilitate increased ridership across the state.*
2. ***Regional Trends*** *- An investigation into factors that impact riding at the regional level, and how they vary across the state.*
3. ***Connecting with Transit*** *- An analysis of ways in which bicycles can extend the reach of transit and reduce car reliance.*
4. ***Other Insights*** *- A variety of other findings including electric bike propensity, tourism, micromobility, and training demands.*

The analysis presented in this report represents an overview of major data points. Public agencies, advocacy organizations, and other entities can request the raw Cycling Census data set from the survey by contacting census@urbancyclingsolutions.com.

7.2—Online Data Dashboard

The value of the Cycling Census data has varying implications in different regions of the state. In an effort to make the Cycling Census data more accessible, Urban Cycling Solutions has created a free online data dashboard enabling anyone to review and manipulate the dataset. The data in the dashboard is organized into five pages that include a summary of the tool with an overview of respondent demographics, barriers and opportunities, infrastructure ratings, mode choice and frequency, and other insights. Each of these pages contains data filters that enable anyone to sort datapoints by county, cycling skill level, income and gender. In addition, the dashboard includes a table with selected Cycling Census respondent comments, which can be sorted by topic. The Census Dashboard can be accessed at: http://urbancyclingsolutions.com/cyclingcensus.html



Screenshot of the Cycling Census Dashboard Overview page.

7.3—Why New Yorkers Bike (and Why They Don't)

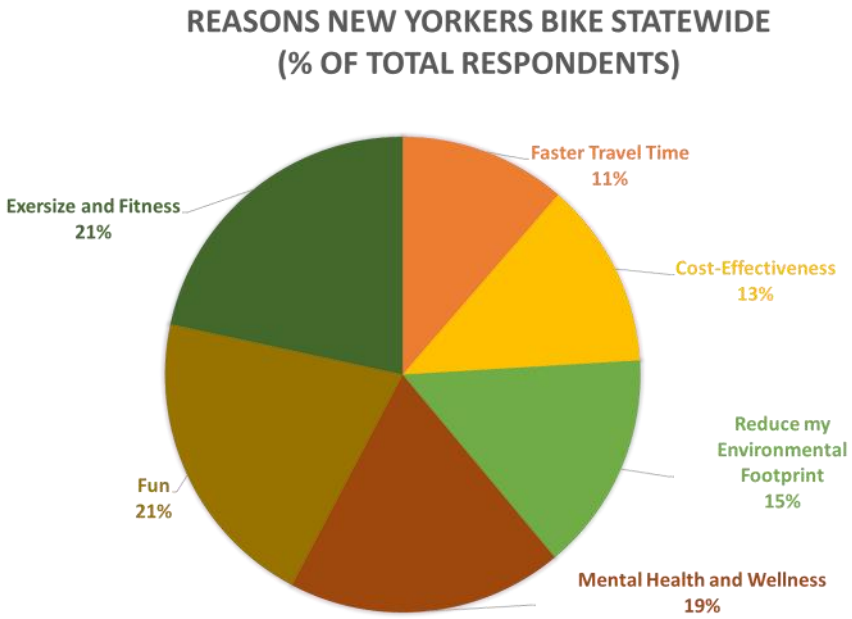
As cycling continues to grow across the state, understanding the underlying factors driving decisions to ride can help planners, thought leaders and decision-makers better support these activities. In tandem, identifying the factors preventing New Yorkers from biking can pinpoint safety concerns and prioritize specific infrastructure policy interventions and education opportunities. Additional analysis of these factors by bicycle skill level can facilitate further development of strategies designed to address more vulnerable cyclists.

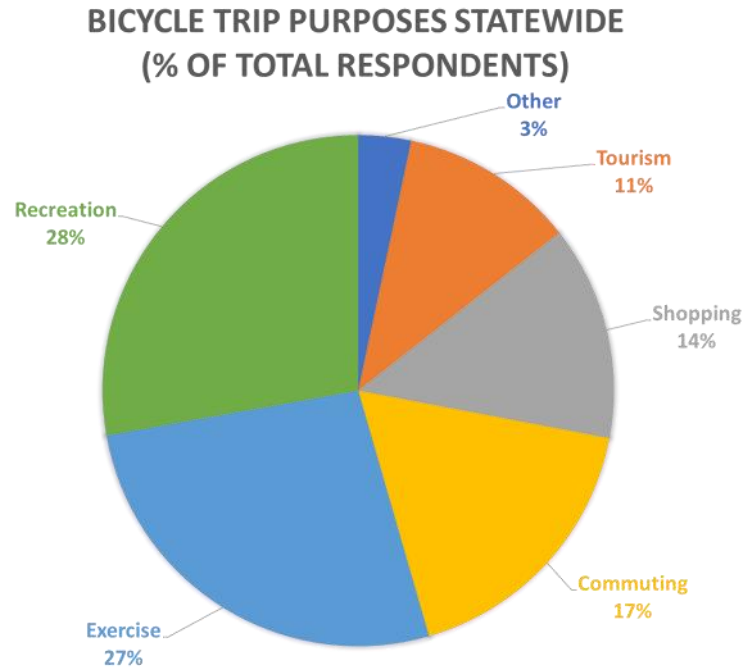
7.3.i—Why New Yorkers Choose to Bike

Exercise and fitness, fun, and mental health and wellness represent the three most important motivators for cycling among respondents - respectively garnering 92%, 88% and 80% of responses. The importance of mental health, in particular represents a significant finding with powerful public health policy implications. While more than 50% of respondents indicated that reducing their environmental footprint was an important factor impacting their decisions to ride, this motivator garnered 17% less than mental health and wellness. Just over half (53%) of respondents indicated that "cost-effectiveness" was a reason they chose to bike while less than half of respondents indicated that "faster travel time" (48%) was an important factor. **This distribution of motivators for bicycling is consistent across multiple demographics including gender, age, race and income.**

7.3.ii—For What <u>Purposes</u> do New Yorkers Choose to Bike?

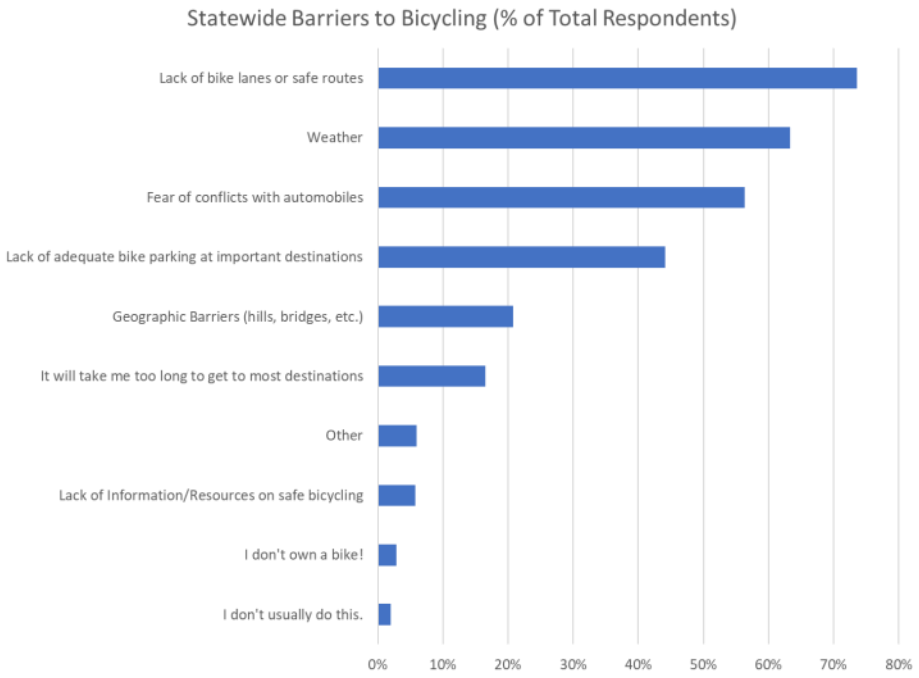
Separate from the reasons that New Yorker's choose to ride a bike (see section 7.1), understanding trip purpose provides deeper insight into what specific activities respondents are engaged in while bicycling. Recreation is the most frequently cited reason for biking followed closely by exercise. While commuting is the third-most frequently cited trip purpose, only 56.9% of respondents indicated that they commute as opposed to 90.2% and 86.5% of respondents who indicate riding for the purposes of recreation and exercise (respectively). These trip purposes are consistent across gender and ethnicity, but vary by age group. While recreation and exercise remain consistently high trip purposes across all age groups, commuting is a much more frequent trip purpose among younger New Yorkers, with incrementally decreasing importance among age groups over 35.





7.3.iii—What Prevents New Yorkers from biking?

While there is some regional variation statewide, the lack of bike lanes or safe routes represents the most frequent barrier to cycling, according to 73.6% of respondents. Weather and fear of conflict with automobiles represent the second and third most frequently cited barriers, according to 63.3% and 56.3% of respondents respectively. Next, 44% of respondents indicated that a lack of adequate bike parking at important destinations was a barrier to their riding. These are by far the top four factors that deter cycling in NYS. There is a wide (23.3%) margin between bike parking and geographic barriers (such as hills, bridges, and rough terrain) with 20.8% of riders indicating that this prevents them from cycling. Less than 20% of respondents indicated that travel time ("it will take me too long to get to most destinations") was a barrier, while less than 10% indicated that lack of information/ resources and bike ownership were barriers.



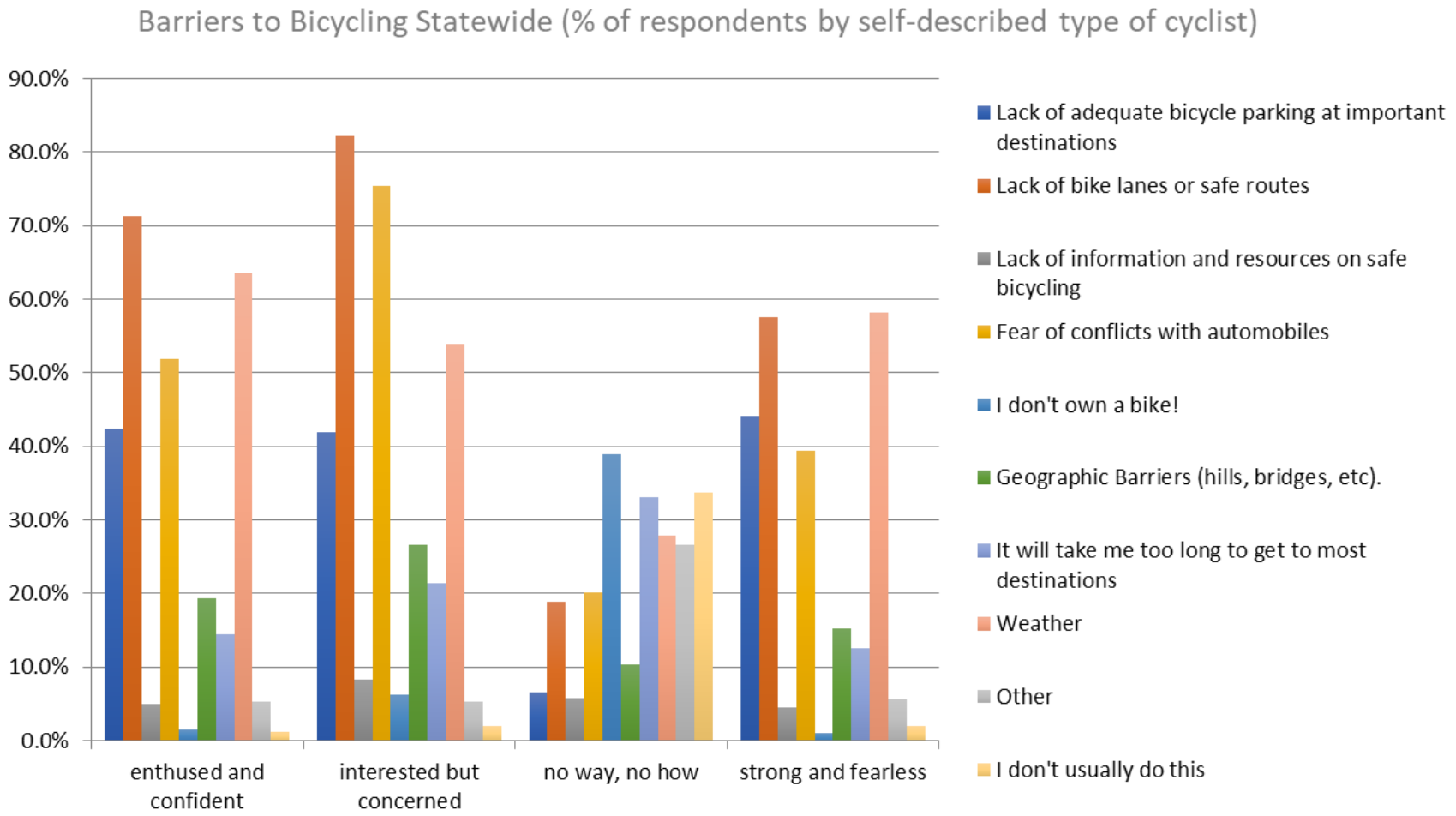
7.3.iv—How does the (self-assigned) skill level of cyclists affect perceptions of barriers to bicycling?

A bicyclist's skill level will greatly affect how, where, and when they choose to ride a bike, if at all. While some New Yorkers may choose to ride in any conditions, the vast majority of riders will require varying degrees of design (e.g., bike lanes, trails, secure bike parking, dedicated signals, etc.) policy (e.g., 3 ft or more defined safe passing law, speed limitations, etc), and motivational (e.g., bike education classes, bike repair resources, tax incentives) interventions to facilitate their decisions to ride. Respondents were asked to indicate their skill level based on four qualitative categories using a framework originally developed by Roger Geller.[5] These categories include:

Classification	Description
"Strong and Fearless" (18%)	People who consider themselves 'bicyclists,' where riding is a strong part of their identity, and are generally undeterred by roadway conditions.
"Enthused and Confident" (62%)	People who are attracted to cycling by advances in local bicycle network development. They are comfortable sharing the roadway with automotive traffic, but they prefer to do so by operating in dedicated facilities such as bike lanes or multi-use trails. They appreciate bicycle lanes and bicycle boulevards.
"Interested but Concerned" (19%)	People who are curious about bicycling. They like riding a bicycle and would like to ride more, but they are afraid to ride. They don't like cars speeding down their streets, and are concerned about speeding, sudden acceleration, cars running red lights and unsafe passing.
"no way, no how" (1%)	People not interested in bicycling at all, for reasons of topography, inability, or simply a complete and utter lack of interest.

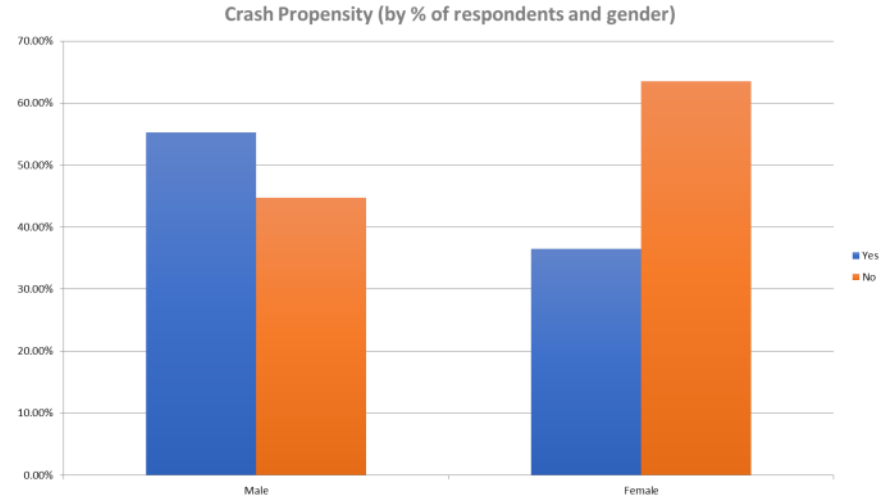
While exact proportions vary amongst each group, barriers to cycling are fairly consistent across "Enthused and confident", "interested but concerned," and "strong and fearless" riders. Lack of bike lanes/safe routes, weather, and fear of conflicts with automobiles are the top three barriers among "enthused and confident", and "interested but concerned" cyclists. While lack of bike lanes/safe routes and weather are still major barriers amongst "strong and fearless" riders, lack of bike parking ranks proportionally higher within this group. In contrast, barriers for *"no way no how" cyclists vary significantly from other groups. The biggest barrier for this cycling demographic is a lack of bike ownership followed by travel time.*

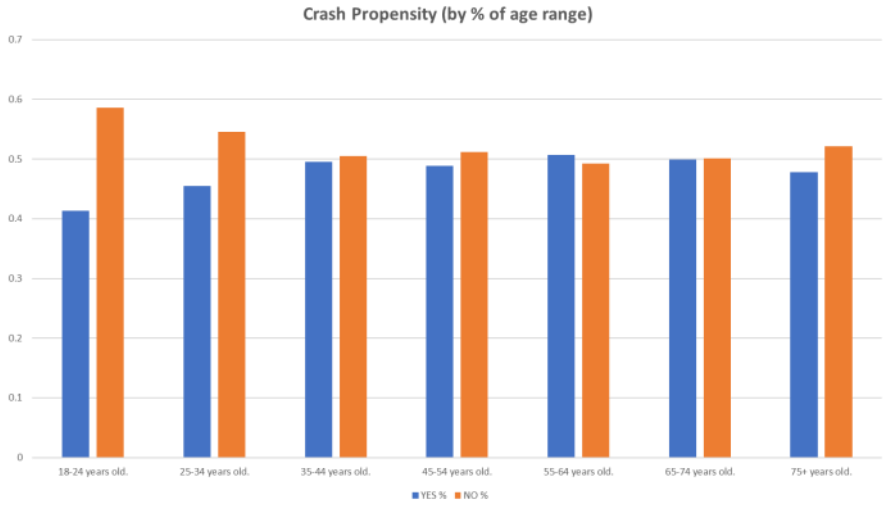
> ***"I would bicycle a lot more, but the lack of accommodations on major arterials limit my bicycling to a much smaller area than I could bike... I would love to see more trails in our community as well as better designated bike routes to connect us with other communities."***



7.3.v—Are there higher reported instances of crashes among men vs women and other demographics?

Nearly half of all respondents (48.3%) indicated that they had been involved in a crash. Male respondents report higher instances of crashes than females. Based on response data, males are 1.5 times more likely to have been involved in a crash than females. Younger respondents (those 18-34) were less likely to have been involved in a crash than all older age groups. Crash rates are fairly consistent across race and income.





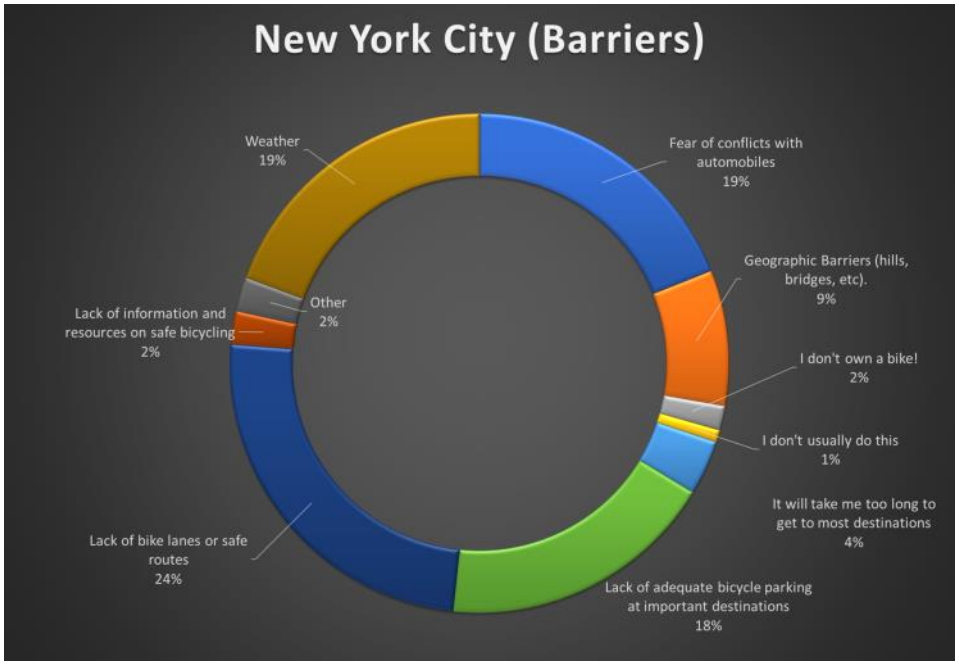
7.4—Regional Trends

As the fourth most populated state in the country, and spanning more than 54,000 square miles, New York is a diverse state in terms of people, places, weather and geography. These varying factors contribute to a wide range of attitudes and preferences related to bicycling in different regions. The purpose of this section is to examine how cycling behavior varies across the state and to identify patterns from one region to another. The analysis is organized according to the 10 Economic Development Regions established by the Empire State Development Corporation and depicted in the map below.[15]

7.4.i—Do barriers to cycling vary by region?

As noted in section 7.1, respondents generally reported that “lack of bike lanes or safe routes” is considered the most significant barrier to cycling throughout the state - with very little variation from one region to the next. In Broome and Jefferson Counties, respondents rated weather as a slightly more significant barrier to cycling. While there is some relative regional variation of the degree of significance amongst

these variables, “lack of bike lanes and safe routes,” “weather” and “fear of conflicts with automobiles” are consistently the three most significant barriers to cycling across all regions. While weather remains a consistently important barrier to cycling in all regions, it tends to rank higher in regions with more rural counties such as the Southern Tier, Western New York, Finger Lakes, and the North Country. The lower rated barriers to cycling, like bike parking, is not surprisingly less important in rural counties, and more important in regions which include major metropolitan areas. Distance to key destinations tends to be a more significant factor in less dense regions. Lack of adequate bike parking at key destinations is a particularly higher barrier to cycling in New York City compared to other regions.



“I love the NYS trail system. I have biked with friends and family on long and overnight trips, using metro north train service along the way.”


Erie Canalway Trail
Rome, NY

7.4.ii—How do bike infrastructure condition ratings vary in each region?

Respondents were asked to rate various types of infrastructure in their community based on a scale of 0-5, with 0 being nonexistent and 5 being excellent. Specifically, respondents were asked to rate bike lanes, bike parking (both bike racks and secure lockers or cages), trails, micromobility/bikeshare (if present), bicycle education programs, and wayfinding for cyclists. Generally, statewide perceptions of bike infrastructure and programs are rated below average (less than 2.1 on a 0–5-point scale), with trails and bike lanes ranking highest (2.38 rating and 1.98 rating respectively), and secure bike parking ranking lowest (0.43 rating). While the average statewide bikeshare rating is nearly as high as trails, this is driven by the disproportionately high rating of bikeshare in New York City. Outside of New York City, the average statewide bikeshare rating is only 0.90, but even this number is skewed due to the limited presence of micromobility and bike share which is mostly confined to a few major metropolitan areas such as NYC, Buffalo, Albany, and several other cities. Comments suggest a need for bike parking at transit as well as major retail and employment centers. Rural counties (those with populations less than or equal to 50K) tend to rank trails higher than bike lanes and bike parking but remain below average on a 5-point rating scale.

> *"If there were protected bike lanes (physical barriers, not just paint) and secure parking I would bike everywhere. I feel unsafe with cars and not knowing where to park my bike."*

There are regional variations in these rankings. Trails in the Mid-Hudson, Finger Lakes, and Capital Regions are rated the highest, while those in NYC, Long Island, and the North Country are rated the lowest. Secure bike parking is consistently rated very poorly throughout the state. With the exception of the Southern Tier Region, bike racks for free bike parking has an average rating of 1.41 across the state. Bike lanes rank highest in New York City with a rating of 2.56, but the statewide average is significantly lower across other regions with a ranking of 1.29.

Statewide Infrastructure Ratings by Region (0—5 Scale)

Region	Bikeshare	Bicycle Education	Wayfinding	Trails	Bike Lanes	Bike Racks (Free Parking)	Secure Bike Parking
Capital Region	1.91	1.24	1.54	2.95	1.50	1.56	0.42
Central New York	1.20	1.01	1.44	2.75	1.60	1.48	0.37
Finger Lakes	1.12	1.23	1.46	2.82	1.71	1.62	0.48
Long Island	0.73	0.89	1.14	2.33	1.32	1.06	0.39
Mid-Hudson	0.34	0.92	1.25	2.98	1.06	1.24	0.32
Mohawk Valley	0.29	0.70	1.02	2.41	0.87	1.04	0.25
North Country	0.21	0.67	0.94	2.01	0.96	1.19	0.30
NYC	3.12	1.22	1.73	1.38	2.56	1.70	0.44
Southern Tier	0.51	1.54	1.34	2.70	1.51	2.08	0.46
Western New York	1.78	1.45	1.49	2.56	1.80	1.83	0.61
Grand Total	**2.06**	**1.19**	**1.54**	**2.07**	**1.98**	**1.61**	**0.43**

While bicycle education programs are generally rated poorly with an average rating of 1.19% across the state, these programs tend to rank higher in Western New York, the Southern Tier, the Capital Region, Finger Lakes, Central New York, and NYC with average rating of 1.24. Similar programs on Long Island as well as the Mid-Hudson, Mohawk Valley, and North Country are generally regarded less favorably with an average rating of 0.79. Additional study is needed to identify localized trends at a more focused county level, beyond this aggregated analysis. A detailed breakdown of each of these infrastructure ratings for each county is provided in Appendix B. Additional data is available for individualized analysis, via the online Cycling Census Dashboard tool accessible at **http://urbancyclingsolutions.com/cyclingcensus.html**

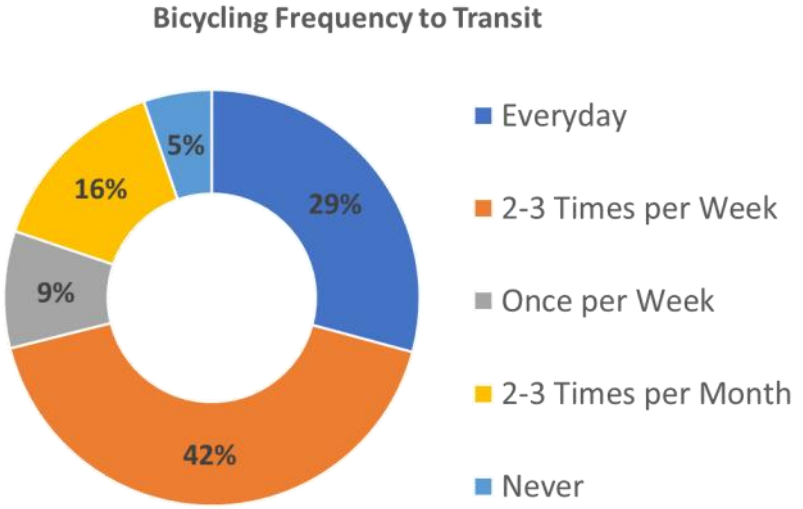
7.5—Connecting with Transit

Bicycling has the potential to extend the reach of New York's transit systems. By facilitating bicycle connections with transit stops and stations, communities can increase access to bus and rail systems, enabling more customers to take advantage of more diverse, multimodal transportation options. This can potentially increase transit ridership, reduce demand for automobile parking, and convert car trips to other modes. This in-turn can reduce local congestion, and carbon emissions around transit facilities.

"I'd be delighted to bike to transit if there was good public transit available! and then safe space to store bike."

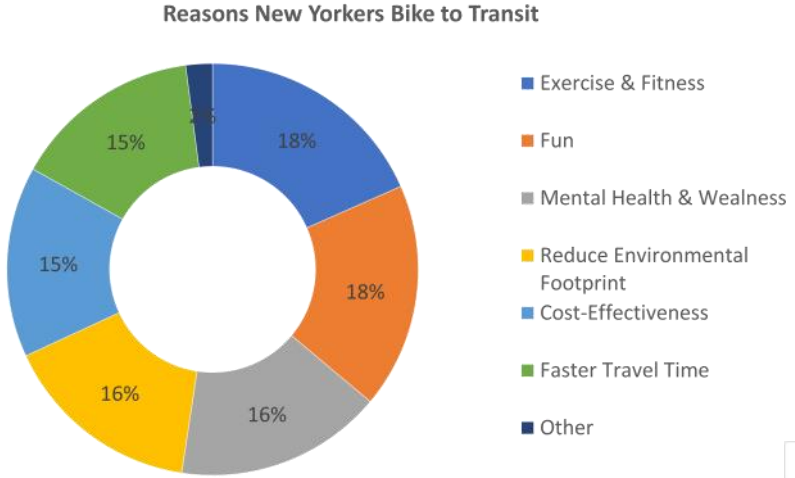
7.5.i—How does proximity to transit impact riding frequency?

Respondents were asked to indicate how far they live from a public transit stop/station and the frequency with which they use a bicycle. The majority of respondents (68%) live close - less than half a mile - to a public transportation stop (see appendix H). Respondents tend to use bicycles as a mode of transportation often when they perceive they are between1 to 8 blocks (up to half a mile) away from public transit. Of the 68% of respondents (~75%) that live less than a mile away from a public transportation stop, 41.9% use bikes at least 2-3 times a week and 29.2% use bikes everyday.

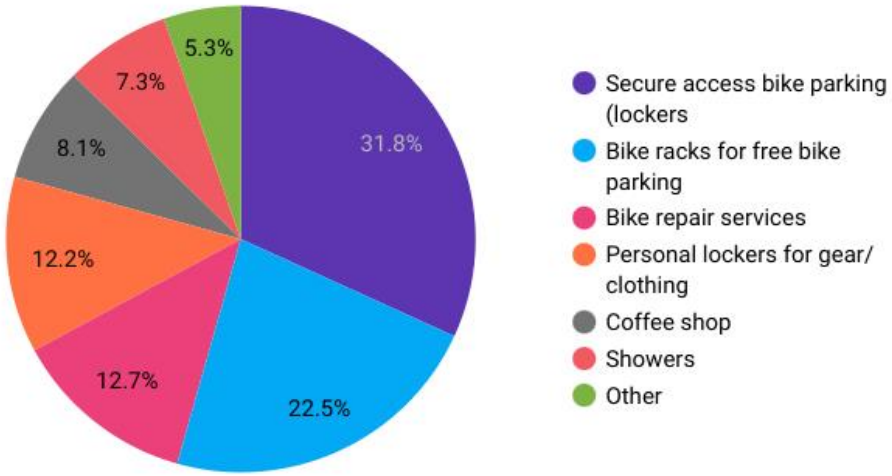


7.5.ii—What are the primary motivators for biking to transit in NYS generally?

There is not one single factor that motivates bicyclists to connect with transit. Exercise and fitness, fun, mental health and wellness, care for the environment, travel cost, and faster travel time are all important factors mentioned by respondents.

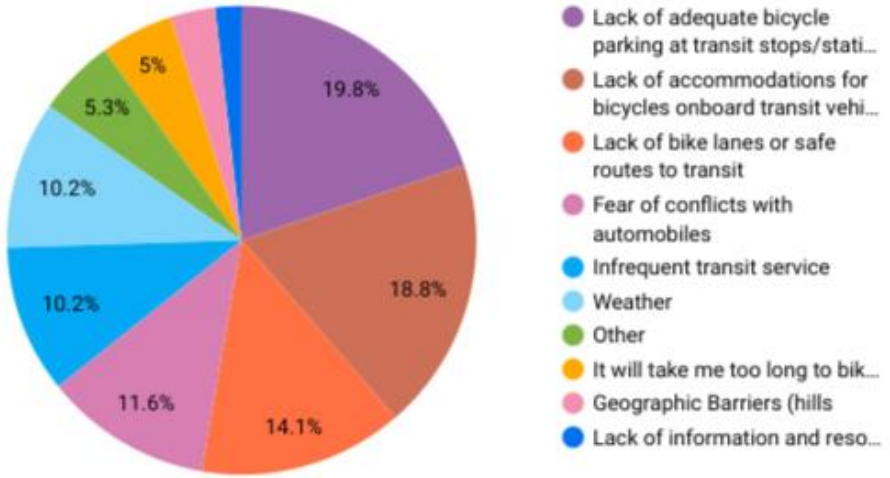


Availability of amenities at transit hubs is an important factor that could influence more New Yorkers to bike to transit - especially in large urban areas. More than half of respondents (54.3%) reported that bike parking is an important factor in biking to transit, with 31.8% of respondents indicating a need for secure access bike parking, and 22.5% citing a need for bike racks that enable free parking. These amenities are consistent across gender, age, skill level, income, and race.



7.5.iii—What are the most significant barriers to bicycling with regard to mass transit integration?

Approximately 36% of respondents avoid using bikes to connect with transit due to lack of infrastructure for securing bikes at stations or not being able to bring bikes on board transit vehicles. Specifically, 19.8% of respondents indicated lack of bicycle parking at stations, and 18.8% of respondents cited a lack of accommodations for bikes on transit vehicles. Approximately a quarter of respondents (25.7%) avoid connecting to public transit due to lack of safe routes (14.1%) and fear of conflicts with automobiles (11.6%) is another important factor. Weather does not appear to play a major role in preventing people cycling to public transit as roughly only 10% of respondents mentioned weather as an obstacle. A small number of respondents consider the lack of information and resources on safe bicycling, geographic barriers, and longer traveling time to be an obstacle to biking to public transit.



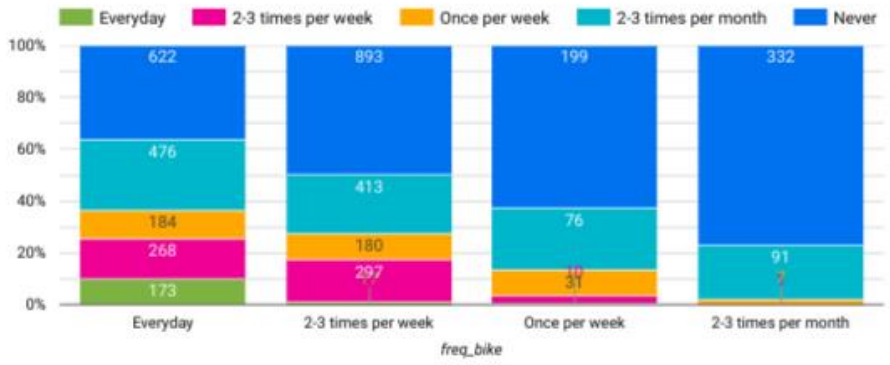
"I ride for exercise and occasionally for commuting as I only live 3 miles from work. I live in an area which does not have many bike amenities or travel lanes which discourages me from using a bike for transit."

7.5.iv—How do perceptions of travel time vary based on proximity to transit?

Perceived travel time increases as the distance to the nearest public transit station also grows larger. For respondents living less than a mile away from the nearest public transit station, approximately 72% estimate that they can bike to the station in under ten minutes and approximately 1.6% estimate between ten to twenty minutes. Out of the respondents living between a mile and two miles from the nearest public transit station, 45.2% estimate under ten minutes, 41.98% between ten to twenty minutes and 8.5% between twenty and thirty minutes.

7.5.v—How frequently is micromobility used to connect with transit?

Micromobility lowers barriers to biking by providing an alternative to owning a bike in space-constrained urban apartments and, increasingly, access to otherwise unaffordable ebikes as bikeshare fleets expand to include additional types of bikes. Out of respondents that use bikes everyday, only 9.41% use it to connect to transit on a daily basis. 25.75% of these cyclists use it to connect to transit two to three times per month. The majority are not using micro-mobility to connect to transit. This finding is likely the result of the relative lack of abundance of bike and scooter sharing systems in New York State. A more in depth analysis of bikeshare ridership in New York City versus the rest of the state finds that respondents who bike everyday in NYC connect more frequently to transit compared to those outside of NYC. Respondents who live outside NYC and bike everyday are the majority of the population that connect to transit. This could be due to the lack of or insufficient availability of public transit. Respondents who bike at least once per week or less connect to transit at the same frequency, which likely means they are recreational bike users.

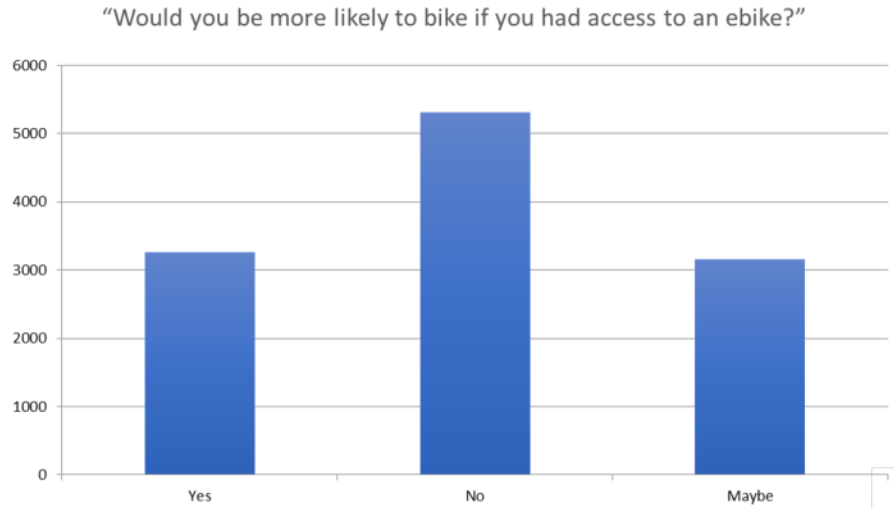


7.6—Other Insights

The Cycling Census data provides insights on a wide variety of topics related to cycling - including tourism, micromobility and education programs. In an effort to better understand the implications of New York Vehicle and Traffic Law § 1242 - the 2020 legislation that legalized electric bikes statewide, at the discretion of rules promulgated by local jurisdictions - the Cycling Census data provides insights into the potential of ebikes to facilitate cycling. This section provides an overview of these data points.

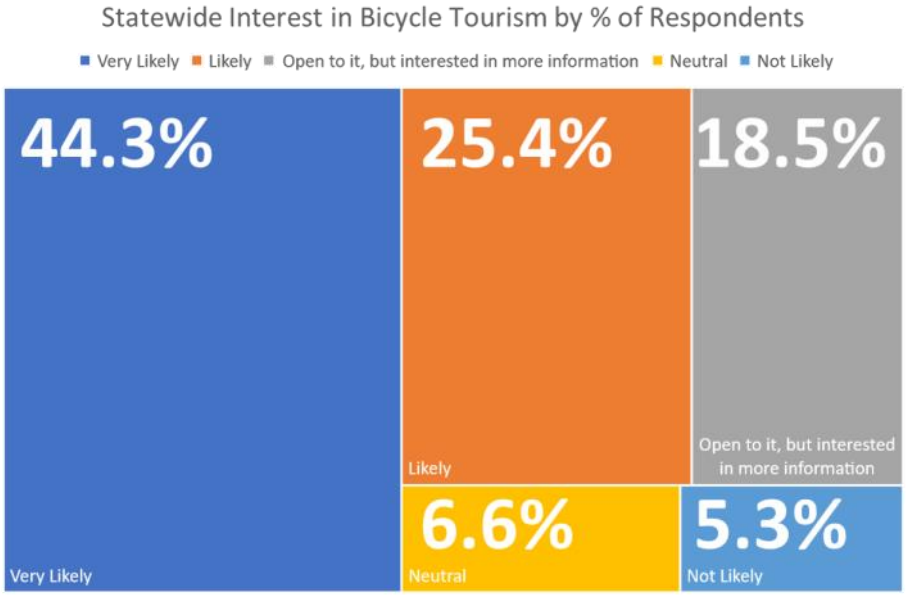
7.6.i—Do ebikes increase the viability of cycling among different demographics (age groups and self-classification of cycling competence)?

Overall, 54.7% of respondents across the state indicated that they may or would definitely bike more if they had an ebike. Ebike propensity varies by age group, region, and skill level. Riders ages 18 to 44 indicated that they were more likely to bike with the assistance of an ebike, while older age groups were more likely to respond maybe or no. Ebikes are most likely to facilitate cycling among respondents identifying as “interested but concerned” cyclists. Generally, in counties with populations ranging from 200,000-500,000 the majority of respondents answered yes or maybe when asked if access to an ebike would help them ride more. Respondents in counties with populations ranging from 50,000-99,999 were far more likely to indicate “yes” when asked if an ebike was more likely to facilitate their choice to ride.



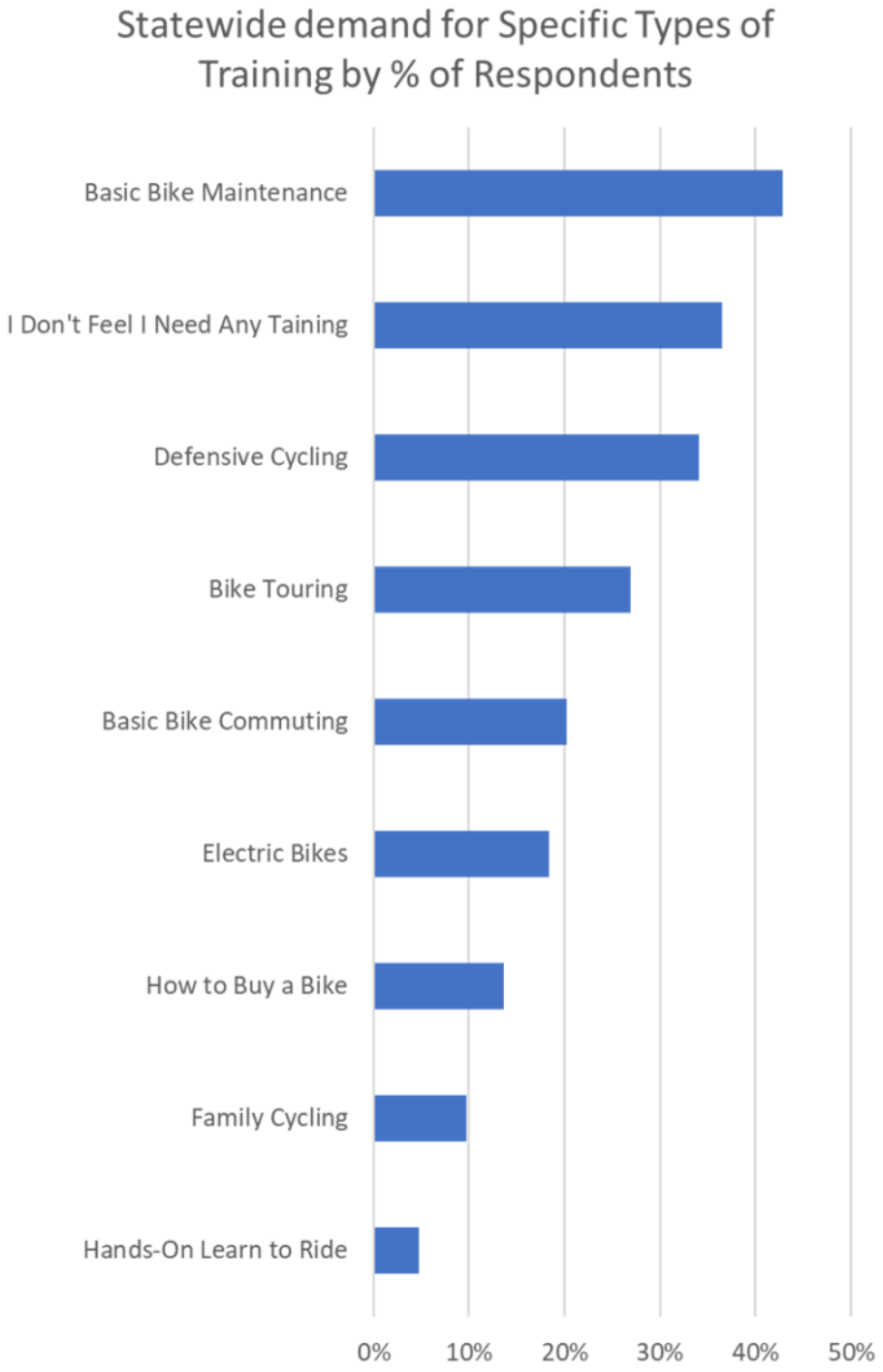
7.6.ii—What is the statewide appetite for bicycle tourism among different demographics and age groups?

The majority of respondents – 88.2% – indicated some level of interest in bicycle tourism, with 25.4% indicating likely and 44.3% selecting very likely to use a bicycle for tourism/travel purposes. This interest is consistently high for both males and females. While "strong and fearless" and "enthused and confident" cyclists tend to be likely or very likely to engage in bike tourism, "interested but concerned" cyclists are more likely to be open to the idea of bike touring but interested in learning more before doing so. Interest in bike tourism tends to decrease amongst older age groups.



7.6.iii—Does demand for specific training programs vary between men and women as well as different bicycling skill levels?

Basic bike maintenance is by far the most sought after training. Demand for bike maintenance is consistently high across all types of cyclists except "No way, no how" cyclists, who are primarily interested in defensive cycling techniques.. While basic bike maintenance is the most sought-after training across all respondents, demand varies by gender. While male respondents are more likely to feel like they don't need any training, while demand for bike maintenance training is higher among female respondents. Demand for other types of training - including defensive cycling, basic bike commuting, electric bike operation, how to buy a bicycle, family cycling, and learn-to-ride - is consistent across genders.



Cuomo Bridge Shared Use Path
Nyack, NY

8. Opportunities

By providing empirical insights into bicycling across New York State, the Cycling Census dataset is a powerful tool for planners and policy makers. This data can be used to help educate the general public, key policy makers, and thought leaders, as well as help shape pilot projects, target policy changes, and facilitate use of nontraditional funding sources for active transportation projects (e.g., tourism and public health). The following opportunities represent both direct responses to Cycling Census findings, and broader initiatives to influence public policy, programs, and infrastructure based on consumer preferences.

8.1—Infrastructure & Implementation: Build More Bike Infrastructure

State, county, and local investment in safe routes, particularly trails and bike lanes, will support cyclists of all ages and abilities. In addition to an expansion of bike and trail networks throughout the state, municipal and county governments, as well as state agencies, can strategically engage New Yorkers with bike infrastructure through public events and streamlined coordination, which includes the initiatives listed below.

8.1.i—Expand Local Open Streets Events

Building better on-road bike networks begins with building grassroots community buy-in. Open streets events - where portions of roadways are periodically closed down for public events, and open walking/biking - help expose New Yorkers to and build excitement around non-car roadway uses. These events also provide public engagement opportunities for municipal leaders and planners to collect qualitative insights on street utilization and perceptions of safety. In addition to anecdotal data, municipalities can collect qualitative utilization data from these events as a metric to gauge local and regional interest in Complete Streets.

SUMMER STREETS

Since 2008 NYCDOT has hosted Summer Streets - a free annual event held on three consecutive Sundays in August, where New Yorkers are able to play, run, walk, and bike car-free from the Brooklyn Bridge to East Harlem along Park Avenue and its connecting streets. In addition to taking advantage of the streetscape on foot, bike, or scooter, NYC DOT hosts free public art installations, performances and activities at Rest Stops along the route. This event was modeled after similar events around the world such as Ciclovía in Bogotá, Colombia and the Paris Plage in France, and later inspired other events like CicloRecreoVía and London's Regent Street Summer Streets. Approximately 300,000 people take advantage of NYC Summer Streets each year.[6]

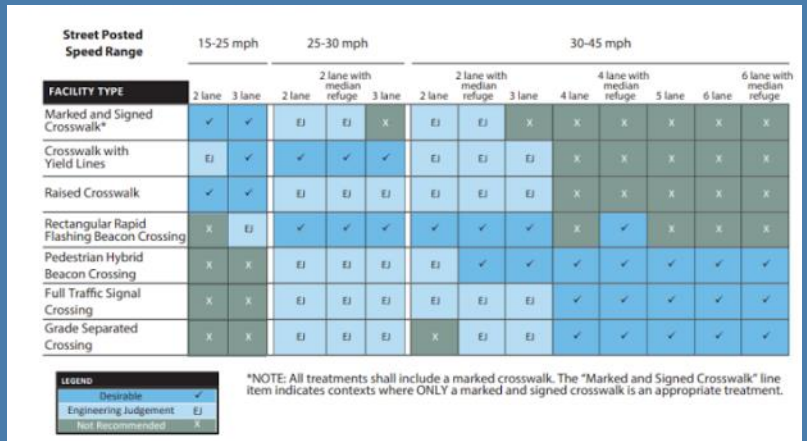
8.1.ii—Streamline coordination between state, county, and local jurisdictions to create a consistent experience for cyclists

Roadways administered by New York State are important commercial thoroughfares in many towns, villages, and cities across the state. The dynamic between local priorities and state design standards can make Complete Street and bicycle facility improvements challenging in many jurisdictions. The planning and design process for state roadways should incorporate input from local community groups, in addition to being shaped by existing "level of service" (LOS) guidelines. Additionally, communities interested in state roadways should have a clear process for requesting Complete Street improvements on locally prioritized state-operated roadways to ensure these concerns are given due study and serious consideration. Similar actions should be taken at the county level to ensure that county roads provide a safe and consistent regional transportation experience that supports active transportation and tourism related cycling.

8.1.iii—Maximize access to New York's trail facilities with protected bike infrastructure and high visibility crossings

According to Cycling Census data, trails are consistently rated the highest existing pieces of infrastructure across most county jurisdictions. Similarly respondents' highest rated rationales for riding - exercise and fitness, fun, and mental health and wellness - lend themselves to lower stress facilities that minimize direct interaction with cars. Given the lack of bike lanes or safe routes, and fear of conflicts with automobiles as barriers to biking for respondents, municipalities can support cycling by identifying priority corridors and subsequent connections with trail systems, along with designing facilities with signage and clear wayfinding that maximizes comfort and separation between bikes and cars in the roadway. Specifically, protected lanes - those that provide physical on-road separation between bicycles and cars - should be used in dense commercial areas to facilitate ridership. Where possible, these facilities should be constructed with safe and well marked connections to adjacent trail facilities.

"We need more protected bike lanes! Bicycle infrastructure should be considered during every roadway project."



Street Posted Speed Range	15-25 mph		25-30 mph			30-45 mph							
FACILITY TYPE	2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
Marked and Signed Crosswalk*	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
Crosswalk with Yield Lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
Raised Crosswalk	✓	✓	EJ	EJ	EJ	EJ	EJ	EJ	X	X	X	X	X
Rectangular Rapid Flashing Beacon Crossing	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
Pedestrian Hybrid Beacon Crossing	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
Full Traffic Signal Crossing	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
Grade Separated Crossing	X	X	EJ	EJ	EJ	X	EJ	EJ	✓	✓	✓	✓	✓

LEGEND: Desirable ✓ | Engineering Judgement EJ | Not Recommended X

*NOTE: All treatments shall include a marked crosswalk. The "Marked and Signed Crosswalk" line item indicates contexts where ONLY a marked and signed crosswalk is an appropriate treatment.

EMPIRE STATE TRAIL DESIGN GUIDELINES

Officially opened in 2020, the Empire State Trail (EST) ties together many existing trails — such as the Erie Canalway Trail — with on road routes to create a continuous 750 route connecting Buffalo to the Capital Region, and Plattsburgh to New York City. The trail has many roadway crossings which require varying levels of design intervention to maximize safety given different roadway conditions. The EST's design prioritization framework, shown above, illustrates what conditions warrant different levels of design. These same design standards should be applied to future EST connections, and serve as a model for other trail systems throughout the state with on-road connections.[7]

8.1.iv—Prioritize bike parking at priority destinations especially in urban areas

According to Cycling Census data, existing bike parking ranks very low among various types of infrastructure throughout the state. Given that nearly half of respondents identified lack of bike parking as a barrier to bicycling, and more than half of respondents indicated that bike parking is an important factor in their decision to connect to public transportation, municipalities and transit operators should invest in bike parking at destinations where New Yorkers are likely to bike. Standard bike racks at priority bike destinations such as trailheads, schools, transit, libraries, university campuses and commercial thoroughfares will provide New Yorkers with areas to safely park their bikes. Additional protection can be provided with overhead canopies or placement below covered areas. Secure long-term storage options should be explored at transit facilities, major employer buildings/ campuses, and other destinations where New Yorkers are likely to leave bicycles unattended for longer periods of time (e.g., during the work day in between commutes). These facilities are also essential to facilitating connections to accommodate different types of bikes, particularly ebikes. Given the higher price point of ebikes, transit customers are more inclined to use them for transit connections if there is a secure, enclosed location for them to be stored throughout the day. Bike parking should also provide flexibility for cargo bikes, trikes, and other models to accommodate different needs.

8.1.v—Codify bicycle infrastructure into the comprehensive planning process for NYS communities

New York State has statues that require cities, towns and villages to enact a comprehensive plan. These statutes - specifically Town Law §272-a, Village Law §7-722, and General City Law §28-a - should be amended to include specific consideration for bike lanes and bicycle parking at priority destinations, such as schools, libraries, commercial corridors, and municipal offices, as a recommended component of a local strategic mass transportation integration plan.

8.1.vi—Identify nontraditional funding sources

Typical infrastructure funding sources include a variety of NYSDOT and FHWA programs. Given the importance of fitness, mental health, and wellness as motivators for cycling, communities should consider collaboration with public health agencies and related personal wellness and mental health organizations as a means to pursue funding for bicycling projects. Other allied sectors such as green organizations and environmental justice networks may provide additional resources to help achieve local funding goals for bicycling and active transportation options that engage the full range of the local resident population.

CREATING HEALTHY SCHOOLS & COMMUNITIES

Creating Healthy Schools and Communities (CHSC) is a public health grant administered by the New York State Department of Health. This grant uses a community-based participatory approach to increasing opportunities for physical activity and improved nutrition for people across the age span to reduce the underlying causes of obesity, diabetes and other chronic diseases by building on existing community assets and coalitions. Specifically, CHSC implements evidence-based physical activity and nutrition strategies to increase access to healthy, affordable foods and opportunities for safe physical activity for all. Among the subject areas this grant addresses are "Activity-Friendly Routes to Everyday Destinations" which helps community organizations plan and implement strategies that support local active transportation. Grantees in New York have used this grant to fund many active transportation projects across New York State, including trail connections, increased proximity to everyday destinations, and improved pedestrian and bicycling infrastructure.

"I would use bike share to transit more if free transfer was offered! "

8.1.vii—Integrate bicycling with public transit systems

Cycling Census respondents indicate that weather is the second biggest barrier to bicycling in New York State. Public transit can serve as an important "safety net" to mitigate this issue by providing a travel alternative in the event of inclement weather conditions or unexpected weather changes. Bicycling has the capacity to extend the reach of New York's transit systems and increase ridership by providing low-cost, easily accessible first and last mile transportation modes. Expanding bicycle connections with transit requires close coordination with local jurisdictions, since most of New York's public transit systems do not maintain the rights of way in which they operate. Local jurisdictions should work with transit agencies to prioritize on and off road bicycle facilities that connect with transit stops and stations. In tandem, transit agencies can ensure that high volume stops and stations have ample bike parking, including secure options. Agencies should also work to better understand the nature of demand for bicycling throughout their systems by collecting more frequent and granulated data about exterior mounted bike racks on buses, as well as regular utilization counts of bike parking at transit stations. The state currently provides operational subsidies to transit agencies based on the number of transit passengers and vehicular miles traveled and could consider the expansion of this program to include bicycles onboard transit vehicles and bike parking utilization at transit facilities.

EXTENDING TRANSIT'S REACH

In 2023, the MTA released a strategic action plan to improve bicycle, pedestrian, and micromobility access across our network, including at subway and commuter rail stations, bus stops, and bridges. The plan is organized around five main strategies: Station Access and Mobility; Multimodal Integration; Safe Routes to Transit and Bridges; Demand Management; Policy, Program Administration, and Performance Management.

8.2—Facilitating Local Economic Development with Bicycle Tourism

Given that 82% of respondents indicated an interest in bike tourism, this is an important area for growth - driving local and regional low impact and sustainable economic development - throughout New York State.

8.2.i—Reevaluate New York's designated bike routes and Integrate with the U.S. Bike Route System administered by FHWA

New York's system of aging state bike routes varies widely in terms of design, signage and current roadway conditions. Many of these routes lack suitable accommodations for less experienced cyclists, and limit those users looking for access to the state's bike route network. Given that lack of safe routes is a major barrier to bicycling amongst respondents, these routes need to be reevaluated with universal minimum design and signage guidelines as well as consideration of the recently established Empire State Trail, and the future Long Island Greenway as the central spines of an enhanced state network. In addition to design and route alignment upgrades, the state should conduct regular annual evaluation of these routes to ensure that conditions remain suitably safe for cyclists of all ages and abilities.

Beyond infrastructure conditions, periodic screenline counts should be conducted to monitor utilization patterns and provide data on priority corridors. In tandem with local and regional interests, the state should either upgrade existing routes or redesignate routes that are consistent with upgraded design standards. As part of the route reevaluation process, the state should also identify opportunities to better integrate New York's statewide bike touring routes into the United States Bicycle Route System (USBRS), administered by FHWA. Currently, only one of New York's bike routes (#11) is aligned any of the routes in the USBRS - specifically, national route #14. Aligning New York's routes with the national system will make it easier for both in- and out-of-state cyclists to access the broader bike touring network in New York State, and in turn attract more cyclists to take advantage of bike tourism related opportunities throughout the state.

8.2.ii—Bolster Empire State Trail route sections to enhance safety

The world class Empire State Trail - the longest public resource of its type in the United State - is an important active transportation and recreation asset providing a combination of on and off-street linkages across the state. Despite the breadth of this world-class trail, there are some specific route segments that could benefit from regular reevaluation to identify design enhancement that maximizes safety, and supports cyclists of all ages and abilities. For example, the Clyde to Port Byron segment on County Rds. 372, 105, 373 NY 31 is very hilly and lacks adequate protection for cyclists. While NY31 has a wide shoulder, it is a heavily trafficked road, and the County Roads have a minimal one foot shoulder. Similarly,, the Erie Canalway Trail/Empire State Trail crosses the Seneca River, Montezuma National Wildlife Refuge and includes several swampy areas that are prone to flooding and muddy conditions. Most of the Empire State Trail route segments between Utica and the Mohawlk to Fort Herkimer Bike Path are on a two lane road with a one foot shoulder and a drainage ditch on the south side of Southside Road and a drop off to the Mohawk River/Erie Canal on the north side of Southside Road. There appears to be sufficient right of way to enlarge both sides of Southside Road to create a protected bike lane. Other sections of the Empire State Trail - especially the north-south route between Albany and Plattsburgh, which is primarily off road - should be reexamined for safer alternatives or upgraded designs.

In addition to addressing specific connections, the state can establish a funding program for county and local jurisdictions to plan, design and construct of connections to the central spine of the Empire State Trail. Alternatively, the state can prioritize Empire State Trail Connections and State of Good Repair into existing grant programs such as the state's Consolidated Funding Application.

"There are not enough protected bike lanes; drivers are reckless and park in the bike lanes, forcing us out into dangerous situations rather than using a real parking space."

8.2.iii—Perform a statewide economic impact study on the value of bike tourism

Census data indicates that bicycle tourism represents a growing market sector, providing a low cost and green opportunity to drive local economic development, particularly along the Empire State Trail and other major bike routes, including various spines to the EST. Providing concrete data on the value of bike tourism can help facilitate local investment in amenities and resources that will attract both in and out of state bike tourists, and spur low impact and relatively low cost local and regional economic development.

8.2.iv—Increase access to bike touring resources

Currently, New York State does not have a central resource for information on bike touring. As the State's central tourism agency, Empire State Development's "I Love New York" should create, promote and continually update an interactive website. It can access crowd-sourced data from users where feasible, which promotes bike-based tourism, particularly for major assets such as the Empire State Trail and the future Long Island Greenway, which will eventually extend from NYC to both the north and south forks of Long Island. This website should include a central interactive map with all of New York's bike routes, enabling visitors to explore points of interest, cultural institutions, route amenities, lodging, and dining opportunities across all regions in the state. This map should also include a feature that enables cyclists to share their experiences and personal route ratings, as well as an objective route evaluation system to enable potential visitors to learn more about route conditions and difficulty. In addition to route information, the website should include educational resources to help visitors learn about how to prepare for a bike tour, and plan their route. Lastly, this webpage should include links to individual county Tourism Promotion Agencies (TPAs) for local bike tourism information.

8.2.v—Incentivize third-party applications to aid riders in navigation and roadway conditions

While not explored in the quantitative Cycling Census data, many respondents indicated a need for resources on real-time roadway conditions in the comments. Knowing the conditions of key bike paths and routes would greatly reduce barriers to biking by allowing individuals to make informed choices about where to ride in any given conditions. Advocates across the state can create grassroots forums for sharing this information via social media. Public agencies can incentivize exist-

ing third party tools with similar functionality —such as Waze and Google Maps— to develop functionality specific to active modes.

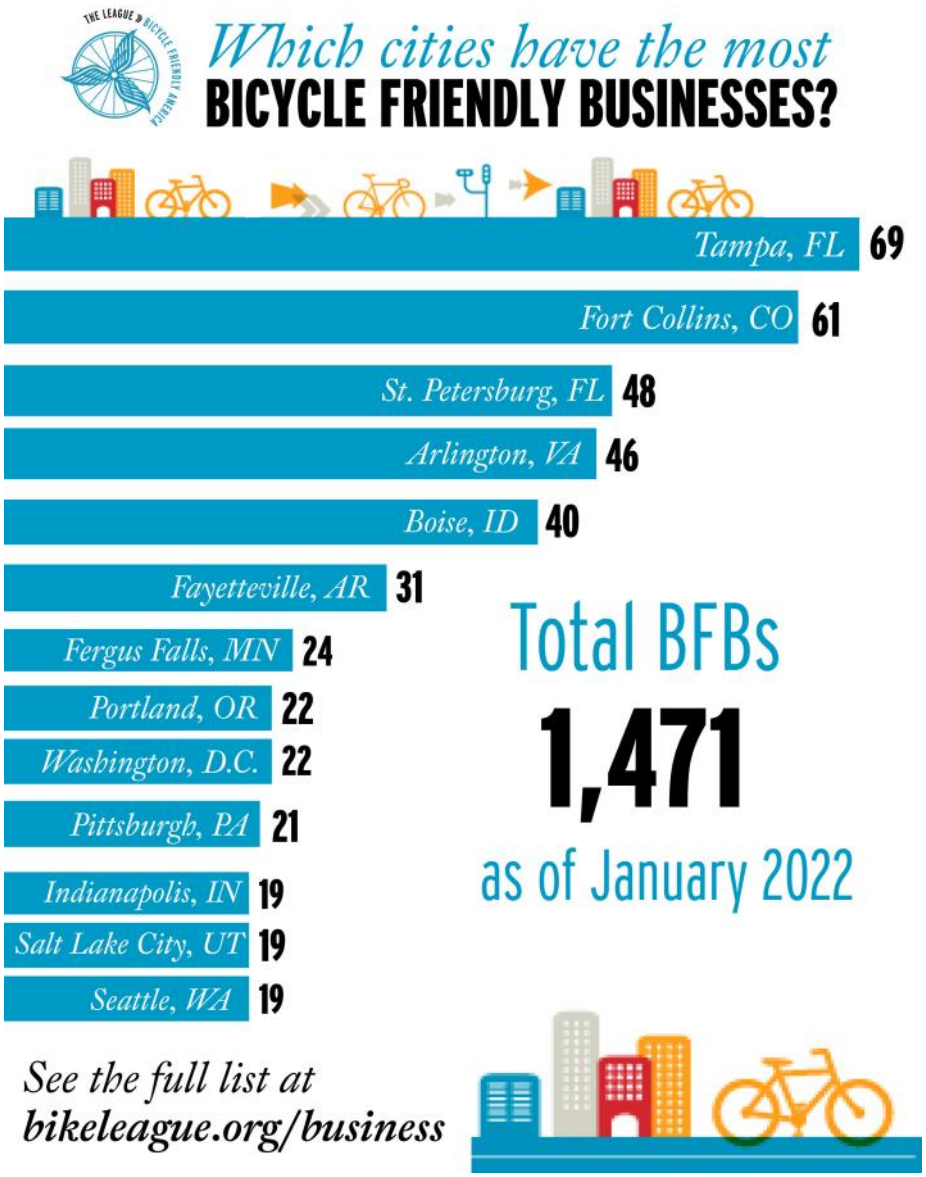
8.2.vi—Expand the "Bicycle Friendly Business" program administered through the League of American Bicyclists

Businesses that facilitate biking not only benefit the community, and the people they serve, but their own bottom lines as well. According to the League of American Bicyclists[8] bicycling can help businesses by:

- Attracting and retaining skilled employees;
- Improving employee morale and quality of life;
- Building a sense of community and camaraderie in the workplace;
- Enhancing employee wellness benefits, and reducing healthcare costs;
- Catalyzing a more alert, active, productive workforce;
- Showcasing the business' social responsibility as well as a commitment to reducing environmental footprint;
- Supporting local efforts to expand reliable, consistent transportation for employees and customers; particularly in urban areas, and;
- Reducing transportation costs for customers, employees, and the community at large.

Economic development agencies and Chambers of Commerce across the state should provide tools and resources encouraging businesses to promote bicycling in their catchment areas.. In addition, these entities should promote existing business recognition through the League of American Bicyclists' "Bicycle Friendly Business" program. This program not only comes with technical and policy guidance for business, it also brings state and national recognition of their efforts to promote bicycling. As bicycle tourism continues to grow, bicycle-friendly businesses will likely factor into local and regional route planning decisions.

"Just because a business is rural or on top of a hill, doesn't mean that people wouldn't bike there... We need more bike racks outside businesses, better bike connections to businesses located on dangerous arterial roads ...and more



8.3—Expand Electric Mobility

More than half of all Census respondents indicated that ebikes would definitely or maybe encourage them to bike more (section 7.4). E-Bikes expand bicycle accessibility, especially for aging and differently-abled populations, by facilitating an expanded array of cyclists to overcome these challenges and gain access, with a reduced carbon footprint, to parks, trails and bike lanes without sacrificing the inherent fitness benefits of biking. In addition, ebikes will facilitate tourism and commercial activity in New York State, providing revenue to state and local governments. Until very recently, the legal ambiguity of ebikes made it difficult for manufacturers to gain commercial traction in the state, as bike shops were hesitant to invest in inventory that may not have been legal to sell, and potential purchasers were more cautious about buying a product that might not be fully legal to ride. Given the potential impact of ebikes on active mobility, communities should work to enable safe, legal electric mobility within their jurisdictions.

"I purchased an ebike during pandemic and it has TRANSFORMED my travel patterns and bike usage … Increasing the availability of Ebikes will not only promote biking, but change the way New Yorkers commute!"

8.3.i—Establish Policies and Programs that promote Electric bike utilization at the local and regional level

The state legislation legalizing ebikes leaves specific regulation up to local jurisdictions. All jurisdictions should legalize Class-1 electric bikes (those with a pedal assist motor, 18mph motor speed limitation, and no throttle). Class-1 ebikes should be legalized on all asphalt and concrete paths where non-motorized cycling is allowed (streets, trails, shared use paths). Given the sensitivity of dirt and gravel trail systems, particularly off road single track, ebike regulation on trails will vary based on local conditions and specific types of trail use. In addition, County governments should adopt clear guidelines for the operation of ebikes within their borders to facilitate consistent regional ebike regulation. Advocacy groups and local governments should collaborate on joint safety/education campaigns focused on safe ebike charging practices and battery storage practices as well as ebike operation Best Practices. Education material on ebike operations, typologies, and charging should be developed for three distinct audiences including the general public, law enforcement and public officials.

"Hills are the biggest issues for me. I think an electric bike would make a huge difference for me but they still seem very expensive… If we had eBike point of sale rebates it would push me into getting an eBike."

8.3.ii—Subsidize the purchase of ebikes in NYS

Similar to electric vehicles (EVs), the retail cost of an ebike is higher than that of a conventional bicycle, creating a potential barrier to many would-be users. A rebate program for e-bike purchases in NYS would serve as an incentive to overcome this hurdle and provide greater access to this emerging mobility technology. A similar incentive strategy is currently in place for electric vehicles through NYSERDA's "Drive Clean" program that provides a rebate of up to $2,000 on the purchase or lease of more than forty electric vehicle models. Similar subsidies have been studied and implemented in Europe and are currently under consideration in several states domestically. In France, a "grant" for electric bike purchases led to an increase of 1,200 km in annual consumer cycling distance, and offset 660 km a year by car according to a study by the ADEME [Agence de l'Environnement et de la Maitrise de l'Energie]. In New York, this subsidy could take the form of a point-of-sale rebate to minimize out-of-pocket expenses, or an income-based tax credit. In addition to subsidies, there may also be some innovative financing opportunities where low or no-interest loans can allow New Yorkers to make payments over 6-12 months.

EQUITABLE COMMUTE PROJECT

The Equitable Commute Project (ECP) is a coalition of seven NYC-based organizations advancing economic access through sustainable micromobility. ECP Access advocates for e-bike subsidies and administers an accessible e-bike loan (through Spring Bank), ECP Green Jobs provides workforce training, while ECP Accelerator conducts research and engagement to support e-bike uptake. The ECP was a finalist for NYSERDA's Clean Transportation Prize .

In lieu of a subsidy, the ECP has negotiated e-bike discounts for 20 New Yorkers, to date. To pay the difference, seven ECP participants financed their e-bike purchase through SpringBank's accessible loan, two used other employee-loan programs, and the remaining used personal credit or debit cards. Seventy-five percent of participants reported that they were unlikely to have been able to purchase an e-bike without the ECP; while the remaining 25% said they would have purchased a lower-quality e-bike.

In one example of the program's impact, Pamela Martinez, pictured below, is a teacher's assistant and mother of two living in the Bronx. She uses her e-bike to drop her kids at daycare, get to work, and take Costco runs. Pamela reports that her e-bike saves her up to an hour in travel time each day, and that she avoids up to four weekly Uber trips. Critically, the e-bike loan has allowed her to start building credit for the first time. Additional information is available at: https://www.equitablecommute.org/

SHARED MOBILITY EBIKE LIBRARIES

Shared Mobility (SM) is a Buffalo, NY based non-profit that works with local partners around the country to build innovative transportation programs that uplift disadvantaged communities. This summer, SM piloted a first of its kind E-Bike Library on Buffalo's East Side alongside the East Side Bike Club, a local Black-led non-profit focused on uplifting the Black community in Buffalo with public events and weekly group bike rides.

SM's E-Bike libraries are led by community-based organizations and offer electric-assist bikes free of charge to community members. After completing a hands-on orientation where they learned how to ride safely, E-Bike Library members could borrow an ebike for a couple of weeks at a time with the option to renew, similar to a library book. Meanwhile they're plugged into a supportive community at the library where they can join group rides, bike build-ups, and other events.

One key takeaway from the pilot was that the most active users were participants over the age of 60, that needed transportation for their daily tasks. They came in weekly for their battery swaps and then were on their way to their jobs, doctor appointments and recreational activities via e-bike. The SM team provided customer support, battery swaps and charging, and bike locks for each user, to provide as much assistance as possible. The E-bike Library also doubled as a community bike workshop where members could earn a free pedal bike while volunteering in the shop or learning mechanical skills by helping to build up their own bike through an Earn-a-Bike program, available for all ages.

This model helped to fill in the gaps in Buffalo's transportation network that disproportionately affect disadvantaged communities. Reducing the cost of transportation by allowing members to borrow e-bikes gets more people biking while also facilitating enhanced access to jobs, services, and recreational opportunities. Programs like this aim to provide more equitable opportunities and incorporate a more localized community controlled approach for mobility options in marginalized communities and are helping to break the vehicle-centric, cost-prohibitive mold that has dominated clean transportation.

8.4—Expand Bicycle Education

Getting New Yorkers safely behind handlebars requires more than just bike lanes. Education targeted to different constituencies is absolutely central to raising ridership by combating fear and empowering New Yorkers to ride safely, for whatever reason, on New York's vast network of trails and roadways. Bike safety education geared toward children, already mandated by State Education regulation but rarely enforced, is a particularly important strategy for reducing generationally ingrained biases fostering other "mainstream" modes of transportation. Beyond consumer-focused training on bicycle operation and maintenance, there are additional audiences that can benefit from tailored education programs and resources, such as law enforcement, new and long-time drivers, along with staff at key public agencies at all levels involved in transportation planning and infrastructure. There are also numerous venues for delivering basic training, working in tandem with bike clubs, grassroots community bike shops, and continuing education delivery systems coordinated by local school districts and at local libraries.

8.4.i—More bike maintenance and defensive cycling courses tailored to different audiences

New York Cycling Census data indicates a clear interest in bicycle maintenance training, and defensive cycling (including on-road interactions with cars), particularly among women. Advocacy organizations, community bike shops, and other stakeholders interested in promoting bike classes should prioritize and receive support for programs that provide hands-on instruction related to on-road traffic skills, including stopping, starting, scanning for oncoming traffic and signaling lane changes/turns. These skills should be taught on-bike in a safe, off-road environment - giving participants the opportunity to comfortably practice these skills before deploying them in an active roadway. These on bike classes should include basic bike maintenance tips, such as chain lubrication, break tightening, and flat tire repair. Organizations providing bike education should make special efforts to recruit and train female instructors.

8.4.ii—Mandatory driver education on cycling [as well as other roadway users]

The Department of Motor Vehicles licensing process is often the only formal exposure New Yorkers over the age of 16 may have related to transportation and vehicle operation as defined within NYS Vehicular and Traffic Law. Until a new law in 2022 requiring that information about bicycle and pedestrian safety laws be included in the Department of Motor Vehicle handbook, new drivers were generally uninformed with regard to safe interactions with bikes, and other vulnerable nonmotorized roadway users because that knowledge was not required to get or renew a driver's license. It is critical that drivers understand whom they will be sharing the road with, including any kind of mass transit (light rail, bus, etc) along with bikes, scooters in some instances and pedestrians. The driver's manual and subsequent testing should approach the street as public space, with a diverse array of users, all of whom share responsibility for safety. Specifically, the drivers manual should include an overview of different types of bicycle infrastructure, and how cars operate and park in relation to these assets. This is particularly important on shared routes, where cyclists are expected to take a full lane of traffic. Lastly, the drivers manual should include details on vehicular requirements for cyclists such as proper signaling, and how drivers can avoid common hazards for cyclists such as dooring.

"Education for DRIVERS on bicycle safety should be as important as information for riders… Every motorist should have to have a bicycle course b4 driving. Most motorists don't know that bikes have the same privileges as cars."

THE DUTCH REACH

The Dutch Reach is a simple technique that prevents motorists who are exiting their vehicles from "dooring" passing cyclists. This technique calls for drivers and passengers to open their car doors by reaching across their upper body using the hand farthest from the door handle. This promotes "scanning" for oncoming cyclists before opening the door. It is recommended as a best practice by the National Safety Council which calls it "the far hand reach." If codified in NYS and VT licensing curricula and testing it will improve safety for all road users.[9]

8.4.iii—Institutionalize bike education for kids

Census data indicates that even the most experienced cyclist tends to also drive an automobile on a regular basis. The pervasiveness of car culture in the United States is well documented, and has resulted in a system of infrastructure, land use, and public policy centered around automobile transportation. Despite nearly two decades of complete street policy advances, many codified into law at both the state and local levels throughout New York, the car remains the unequivocally dominant mode of transportation in New York and throughout the United States. Getting students on bikes exposes additional mobility opportunities before a lifetime of learned behavior elevating cars and trucks as the default personal mobility choice. According to the New York Codes, Rules and Regulations—specifically tit. 8 § 107.1— bicycle safety education is required for elementary and secondary school students as either a special unit or an integrated part of a broader curriculum.[16] While required, resource constraints have prevented this directive from widescale implementation. To remedy this, Physical Education Instructors in New York State, particularly at the elementary and middle school levels should receive training in bicycle (and pedestrian) safety. Additionally, funds should be set aside at the state level to not only fund these train-the-trainer activities, but also provide resources for equipment such as helmets, bicycles, spare parts and tools. Exposing primary and secondary school children to the concept of bicycling as a safe and legitimate mode of transportation at a young age can help shape mobility values for future generations. Beyond street skills, bicycles can be used as a learning "vehicle" for teaching a whole variety of subjects ranging from physics and social studies to geography, health, art, story telling, economics and more. Bike education in schools can come in many forms as demonstrated throughout the U.S. and the world. For example, bikeability in the UK provides a multi-tiered certification system taught by trained instructors in a variety of institutions, while Denmark actually has mandatory safety classes for kids. While there are many more great examples, in each case targeting children is key. In recent years, Bike New York has begun collaborating with the New York City Department of Education to include bicycle education in the Physical Education curriculum.

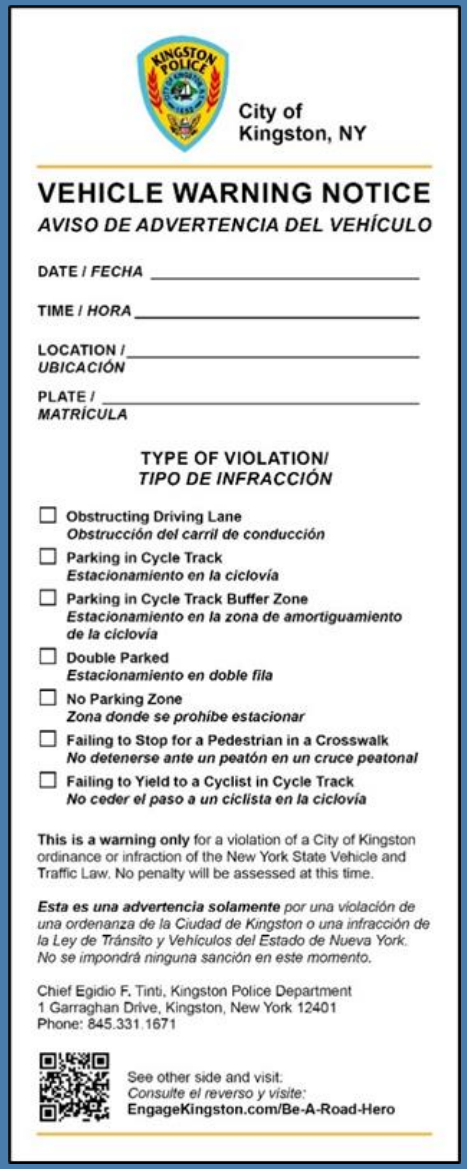
8.4.iv—Integrate bike education training in New York State's police & identify opportunities for community collaboration

Years of crash reporting and grassroots advocacy have yielded (at best) marginal improvements - as measured by ongoing crash data - in the treatment of cyclists from law enforcement. Changing ingrained perceptions of cyclists as marginal road users, by both new and seasoned police, begins with a more robust curriculum in the more than two dozen police academies across New York State. Written handouts for police, articulating safe and shared road practices for drivers, cyclists and pedestrians, can be developed for deployment at the street level in communities at all scales through the state. In addition to educating law enforcement, police can collaborate with municipalities on driver and bicycle education for both kids and adults. This can include helmet fitting events, escorted bike rides, and "education-first" enforcement tactics.

‘BE A ROAD HERO’ TRANSPORTATION CAMPAIGN AND POLICE FLYER

The ‘Be a Road Hero’ transportation campaign was identified as a need in the City of Kingston when Broadway was reconstructed in 2022 with major design changes. The education campaign was crafted for three user groups: drivers, cyclists, and pedestrians. Specific education was developed for each that was used in 3 short -form videos, direct mailers, a social media campaign, websites, bus ads, lawn signs, articles, and public service announcements.

As a part of those materials, an educational “citation” flyer was created for the Kingston Police department to distribute to drivers. The flyer included language to not park in the cycle track or buffer zone and failure to yield to a pedestrian or cyclist. Officers pulled over drivers that were not following the road rules and distributed this educational flyer. The flyer was in English and Spanish, included a graphic about parking locations, and a QR code and link. Please visit www.engagekingston.com/be-a-road-hero to learn more about the project.



City of Kingston, NY

VEHICLE WARNING NOTICE
AVISO DE ADVERTENCIA DEL VEHÍCULO

DATE / *FECHA* _____

TIME / *HORA* _____

LOCATION / *UBICACIÓN* _____

PLATE / *MATRÍCULA* _____

TYPE OF VIOLATION/
TIPO DE INFRACCIÓN

- ☐ Obstructing Driving Lane
  Obstrucción del carril de conducción
- ☐ Parking in Cycle Track
  Estacionamiento en la ciclovía
- ☐ Parking in Cycle Track Buffer Zone
  Estacionamiento en la zona de amortiguamiento de la ciclovía
- ☐ Double Parked
  Estacionamiento en doble fila
- ☐ No Parking Zone
  Zona donde se prohíbe estacionar
- ☐ Failing to Stop for a Pedestrian in a Crosswalk
  No detenerse ante un peatón en un cruce peatonal
- ☐ Failing to Yield to a Cyclist in Cycle Track
  No ceder el paso a un ciclista en la ciclovía

This is a warning only for a violation of a City of Kingston ordinance or infraction of the New York State Vehicle and Traffic Law. No penalty will be assessed at this time.

Esta es una advertencia solamente *por una violación de una ordenanza de la Ciudad de Kingston o una infracción de la Ley de Tránsito y Vehículos del Estado de Nueva York. No se impondrá ninguna sanción en este momento.*

Chief Egidio F. Tinti, Kingston Police Department
1 Garraghan Drive, Kingston, New York 12401
Phone: 845.331.1671

See other side and visit:
Consulte el reverso y visite:
EngageKingston.com/Be-A-Road-Hero

8.5—Repeat the Cycling Census!

The inaugural Cycling Census has provided an unprecedented current snapshot of biking in New York State. In addition to the value of various data points to bolster policy and investment decisions - in both infrastructure, education and enforcement -, the scale of responses to the survey represent a clear indicator of tremendous interest across the state in bicycling. The fact that nearly every New York Cycling Census respondent had a comment - many representing a sophisticated understanding of the benefits and drawbacks of the current transportation, recreation and tourism environment as they relate to bicycling - indicates a strong grassroots desire for more effective public policy for getting more New Yorkers safely on bicycles for health, recreation, mental health and transportation. Repeating the Cycling Census at a five or ten year interval would enable planners and decision makers at all levels of government to track changes in consumer attitudes over time, evaluate the effectiveness of certain projects and policy decisions, and prioritize future investment. This can be accomplished by codifying the Cycling Census as a performance management tool in statewide planning efforts.

Lessons Learned: Looking to the Next Cycling Census

The volume of responses to this inaugural Cycling Census establishes a baseline of consumer preference data for planners, policymakers, and advocates to facilitate multimodal transportation across New York State. Future iterations of the New York Cycling Census should consider the following based on this survey's findings and performance:

Drilling Down on Bike Ownership - Bike ownership arose as a major barrier to those who consider themselves "no way, no how" cyclists. Future surveys should ask questions about private bike ownership such as "do you own a bike?". Additional questions should also address the capacity for micromobility to offset lack of bike ownership where bikehare systems exist and assuming a continued expansion of local bikeshare programs throughout New York State Given their pivot to ebikes from fully human powered bicycles, it is very likely that bikeshare programs will continue to proliferate in New York State, in communities of all sizes.

Pinpointing Results - This initial iteration of the New York Cycling Census provided a pre populated dropdown list of counties for respondents to select in order to secure tailored and streamlined data analysis. While respondents were asked to self-populate the name of their city, town, or village, variations in spelling and capitalization make it difficult to pinpoint results down to the local level. Future versions of the Cycling Census should ask respondents to provide a zip code in lieu of the written municipality name. This will enable more accurate and detailed mapping of results.

Increasing Representation - Despite a concerted effort to engage diverse populations, only 15.4% of respondents identified with a non-white ethnicity. Future New York Cycling Census efforts must engage in more targeted efforts to reach and incentivize BIPOC populations to take the survey.

Understanding Perceptions of Travel Time - While the Cycling Census does include questions about travel time and distance, future versions of the Census should include a question specifically related to the length of a typical trip for a bicycle commuter.

Deeper Dive Into Crashes - We were stunned by the percentage of respondents indicating that they had been involved in a crash but did not include space or ask additional questions about details of a respondents crash experience or outcome. As noted previously, this high level of positive responses is incongruent with police crash report data aggregated by the Governor's Traffic Safety Council. With bike (and pedestrian) crashes on the rise in New York State it would be helpful in developing strategies - from education to enforcement to infrastructure - to learn more about the particulars of crashes reported in future New York Cycling Census efforts. It would also be valuable to ask respondents about "close calls" or other potentially dangerous interactions with cars that don't rise to the level of a reported incident.

End Notes

1. *https://www.dec.ny.gov/energy/99223.html#Report*
2. *This statewide modeshare statistic included NYC which has an exceptionally high public transit modeshare.*
3. *https://prismic-io.s3.amazonaws.com/peopleforbikes/121045d2-79ab-432b-b57d-e591271397c8_2020_Participation_Study.pdf*
4. *Institute for Traffic Safety Management and Research (ITSMR), Traffic Safety Statistical Repository (TSSR)*
5. *https://www.portland.gov/sites/default/files/2022/Four%20Types%20of%20Cyclists%20updated%202009.pdf*
6. *https://www1.nyc.gov/html/dot/summerstreets/html/home/home.shtml*
7. *https://www.ny.gov/sites/default/files/atoms/files/2017.10.18_EST_Design_Guide_lr.pdf*
8. *https://bikeleague.org/sites/default/files/BFB_Overview.pdf*
9. *https://www.dutchreach.org/*
10. *https://www.governing.com/archive/car-ownership-numbers-of-vehicles-by-city-map.html*
11. *https://www.energy.gov/eere/vehicles/articles/fotw-1223-january-31-2022-average-carbon-dioxide-emissions-2021-model-year#:~:text=The%20average%20production%2Dweighted%20carbon,%E2%80%92%20a%20decrease%20of%2049%25.*
12. *https://onlinepubs.trb.org/onlinepubs/trnews/trnews280www.pdf*
13. *https://betterenergy.org/blog/federal-government-makes-historic-investment-in-evs/*
14. *https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results*
15. *https://regionalcouncils.ny.gov/sites/default/files/2021-05/2021REDCGuidebook_Final.pdf*
16. *https://www.law.cornell.edu/regulations/new-york/8-NYCRR-107.1*
17. *https://www.nysenate.gov/legislation/bills/2021/A8936*

Appendices

Appendix A: Cycling Census Survey Questions

Appendix B: Infrastructure Rating Table

Appendix C: Why New Yorkers Bike by Race, Gender, and Income

Appendix D: Bicycle Trip Purpose by Gender and Age

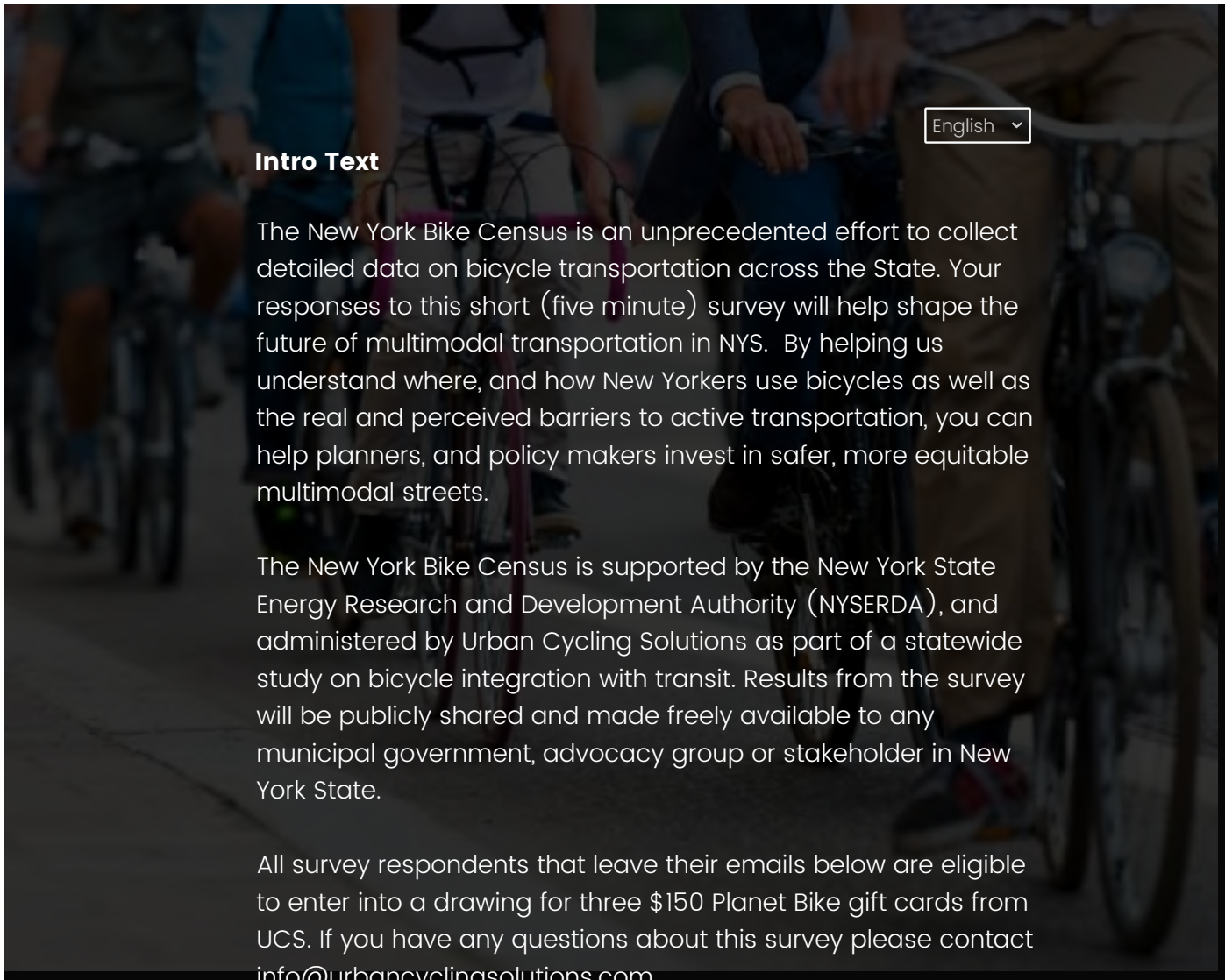
Appendix E: Ebike Propensity by Region, Skill Level and Age

Appendix F: Interest in Bicycle Tourism by Gender, Age and Skill Level

Appendix G: Demand for Different Types of Bicycle Trainings by Gender

Appendix H: Respondent Proximity to Transit

Appendix A: Cycling Census Survey Questions



English

Intro Text

The New York Bike Census is an unprecedented effort to collect detailed data on bicycle transportation across the State. Your responses to this short (five minute) survey will help shape the future of multimodal transportation in NYS. By helping us understand where, and how New Yorkers use bicycles as well as the real and perceived barriers to active transportation, you can help planners, and policy makers invest in safer, more equitable multimodal streets.

The New York Bike Census is supported by the New York State Energy Research and Development Authority (NYSERDA), and administered by Urban Cycling Solutions as part of a statewide study on bicycle integration with transit. Results from the survey will be publicly shared and made freely available to any municipal government, advocacy group or stakeholder in New York State.

All survey respondents that leave their emails below are eligible to enter into a drawing for three $150 Planet Bike gift cards from UCS. If you have any questions about this survey please contact info@urbancyclingsolutions.com.

Transportation Preference Questions

How often do you utilize the following modes of transportation?

	Everyday	2-3 times per week	Once per week	2-3 times per month	Never
Bicycle	○	○	○	○	○
Driving	○	○	○	○	○
Public Transit	○	○	○	○	○
Scooter	○	○	○	○	○
Other	○	○	○	○	○

What type of cyclist would you consider yourself?

- ○ strong and fearless
- ○ enthused and confident
- ○ interested but concerned
- ○ no way, no how

What prevents you from bicycling for any purpose (select all that apply)?

- ☐ Lack of adequate bicycle parking at important destinations
- ☐ Lack of bike lanes or safe routes
- ☐ Lack of information and resources on safe bicycling
- ☐ Fear of conflicts with automobiles
- ☐ I don't own a bike!
- ☐ Geographic Barriers (hills, bridges, etc).
- ☐ It will take me too long to get to most destinations
- ☐ Weather
- ☐ Other
- ☐ I don't usually do this

Have you ever been involved in a crash while operating a bicycle?

- ○ Yes
- ○ No

For what purpose(s) do you ride a bicycle (select all that apply)?

- ☐ Commuting
- ☐ Recreation
- ☐ Exercise
- ☐ Tourism
- ☐ Shopping
- ☐ Other
- ☐ I don't know how to ride a bike
- ☐ I don't ever ride.

How frequently do you ride a bicycle for any of the following activities?

	Everyday	2-3 times per week	Once per week	2-3 times per month	Never
Commuting to work/school	○	○	○	○	○
Recreation	○	○	○	○	○
Running quick errands	○	○	○	○	○
Connecting to public transit	○	○	○	○	○
Health and fitness	○	○	○	○	○

Why do you choose to ride a bike (Check all that apply)?

- ☐ Fun
- ☐ Exercise and fitness
- ☐ Mental Health and Wellness
- ☐ Reduce my environmental footprint
- ☐ Cost-Effectiveness
- ☐ Faster Travel Time
- ☐ Other
- ☐ I do not currently bike

How would you rate the following bike infrastructure in your community:

	0 (Nonexistent)	1	2	3	4	5 (Excellent)
Bike Lanes	○	○	○	○	○	○
Bike Racks for free bike parking	○	○	○	○	○	○
Secure Access Bike Parking (lockers, cages, valet, etc.)	○	○	○	○	○	○
Trails	○	○	○	○	○	○
Wayfinding/ Directional Signs for Cyclists	○	○	○	○	○	○
Bicycle Education Programs	○	○	○	○	○	○
Bikeshare System	○	○	○	○	○	○

Would you be more likely to bike if you had access to an electric bicycle?

- ○ Yes
- ○ No
- ○ Maybe

How likely are you to use a bicycle for tourism/travel purposes?

- ○ Very likely
- ○ Likely
- ○ Open to it, but interested in more information/resources
- ○ Neutral
- ○ Not Likely

How has your frequency of biking changed since the start of the Covid-19 pandemic (March 2020)?

- ○ I bike A LOT MORE
- ○ I bike SOMEWHAT MORE
- ○ I bike about the same amount as I did before the pandemic
- ○ I bike SOMEWHAT LESS
- ○ I bike A LOT LESS

What kinds of educational TRAINING would be most valuable in helping you bike more (check all that apply)?

- ☐ Hands-on Learn to Ride Training (includes balancing, pedaling and basic bike operation)
- ☐ Basic Bike Maintenance Training
- ☐ Family Cycling Training (riding tips and gear recommendations for riding with kids and pets)
- ☐ Defensive Cycling (including on-road skills such as signaling, scanning, roadway positioning, etc.)
- ☐ Basic Bike Commuting (including planning your route, important gear, basic riding tips, storing your bike, etc)
- ☐ How to Buy a Bicycle (including choosing the right fit, what type of bike to buy, where to buy a bike, etc)
- ☐ Bike Touring (how to plan a trip, what to pack, training, etc.)
- ☐ Electric Bikes (types of ebikes, how to choose a bike, and legal operation)
- ☐ I don't feel like I need any training.

About how close is the nearest transit stop to your residence?

- ○ Less than 1 block
- ○ 1-4 blocks (about 330 feet to a quarter-mile)
- ○ 5-8 blocks (quarter-mile to a half-mile)
- ○ 9-16 blocks (half-mile to a mile)
- ○ More than 16 blocks (more than a mile)
- ○ 2-5 Miles
- ○ More than 5 miles
- ○ Don't know

How long do you think it would take you to bike to your nearest public transit stop?

- ○ Under 10 minutes
- ○ 10-20 minutes
- ○ 21-30 minutes
- ○ 31-40 minutes
- ○ 41-50 minutes
- ○ 51-60 minutes
- ○ More than an hour

For what purpose(s) do you use a bicycle to CONNECT WITH MASS TRANSIT (select all that apply)?

- ☐ Commuting
- ☐ Recreation
- ☐ Exercise
- ☐ Tourism
- ☐ Shopping
- ☐ Other
- ☐ I don't usually do this.

What prevents you from bicycling to public transit (select all that apply)?

- ☐ Lack of adequate bicycle parking at transit stops/stations
- ☐ Infrequent transit service
- ☐ Lack of accommodations for bicycles onboard transit vehicles
- ☐ Lack of bike lanes or safe routes to transit
- ☐ Lack of information and resources on safe bicycling
- ☐ Fear of conflicts with automobiles
- ☐ I don't own a bike!

- [ ] Geographic Barriers (hills, bridges, etc).
- [ ] It will take me too long to bike to transit.
- [ ] Weather
- [ ] Other
- [ ] I don't usually do this

Would you consider paying a nominal fee to lock your bike inside a secure (locked, secure access) bike storage unit located at or near a local transit hub?

- ○ Yes
- ○ No

How often have you tried to bring your bike onboard a bus, but were unable to because the rack was full?

- ○ Every Day
- ○ Once per week
- ○ 2-3 times per month
- ○ Never
- ○ n/a (buses in my area don't have bike racks)

If your transit hub had any of the following amenities would you be more likely to use your bicycle to connect to mass transit? (please check all that apply)

- [ ] Bike racks for free bike parking
- [ ] Secure access bike parking (lockers, cages, valet service, etc)
- [ ] Coffee shop
- [ ] Bike repair services
- [ ] Showers
- [ ] Personal lockers for gear/clothing
- [ ] Other

If your community has a bike/scooter share system, how frequently do you use it to connect with transit?

- ○ Everyday
- ○ Once per week

- ○ 2-3 Times per month
- ○ Never
- ○ N/A

Demographics

How do you identify?

- ○ Male
- ○ Female
- ○ Nonbinary
- ○ I prefer not to answer
- ○ I prefer to self-describe

What age range do you fall into?

- ○ 18-24 years old.
- ○ 25-34 years old.
- ○ 35-44 years old.
- ○ 45-54 years old.
- ○ 55-64 years old.
- ○ 65-74 years old.
- ○ 75+ years old.

In what COUNTY in NYS you reside?

In what City, Town or Village do you reside?

With what ethnicities do you identify (select all that apply)

- ☐ White
- ☐ Black or African American
- ☐ American Indian

- ☐ Alaska Native
- ☐ Asian,
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Hispanic or Latinx
- ☐ Other

What annual income range do you fall into?

- ○ Less than $20,000
- ○ $20,000 to $34,999
- ○ $35,000 to $49,999
- ○ $50,000 to $74,999
- ○ $75,000 to $99,999
- ○ Over $100,000

Do you have any further thoughts or insights on bicycling you would like to share?

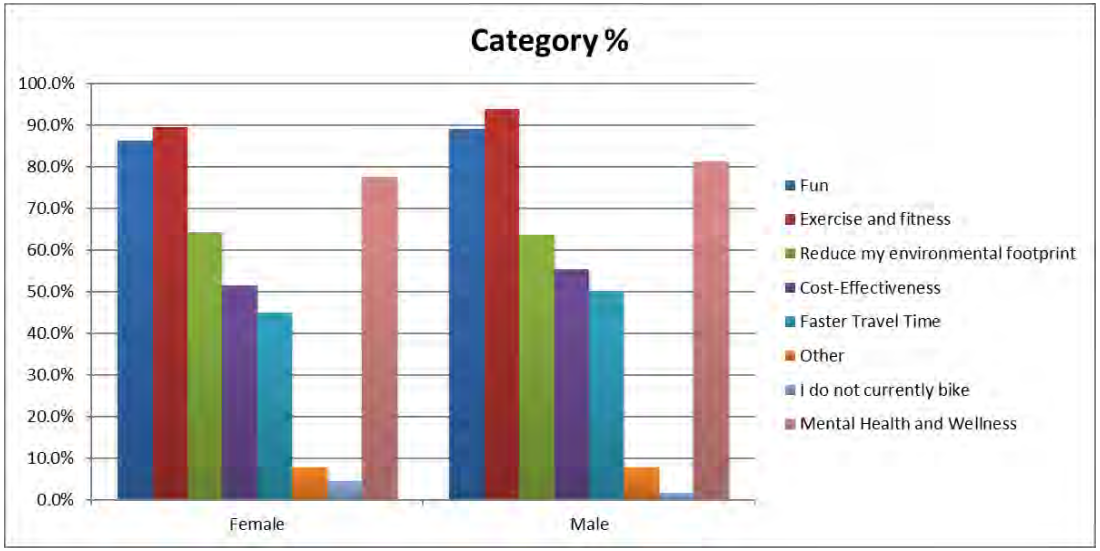
All survey data is anonymous, however, if you want to be included in the virtual drawing for a Planet Bike certificate please provide your email address below. Emails will only be used for the purposes of the drawing, and will not be shared or sold for any reason. All emails will be deleted from our database following the completion of the Planet Bike gift card drawing.

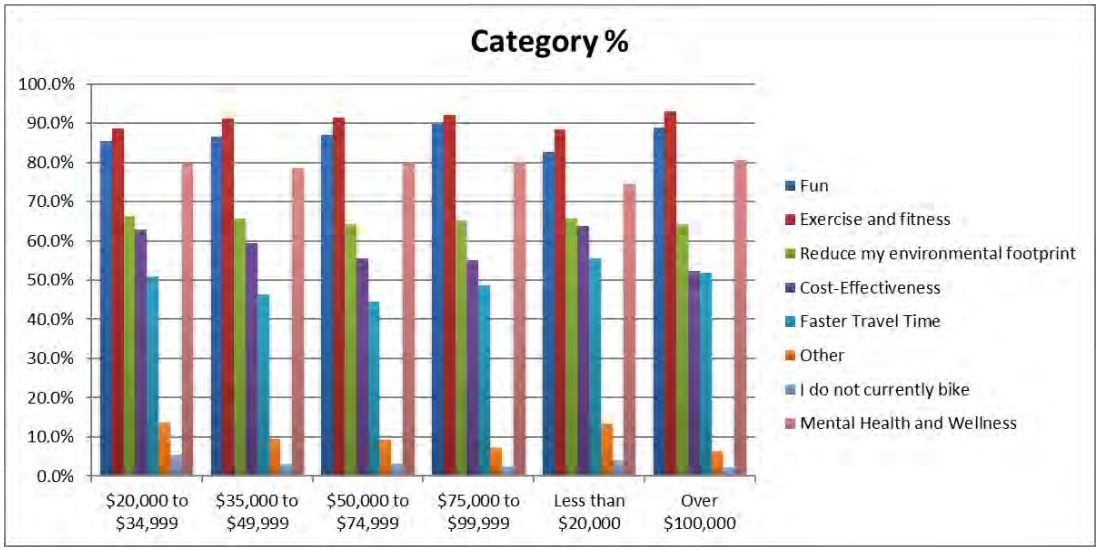
Appendix B: Infrastructure Rating Table

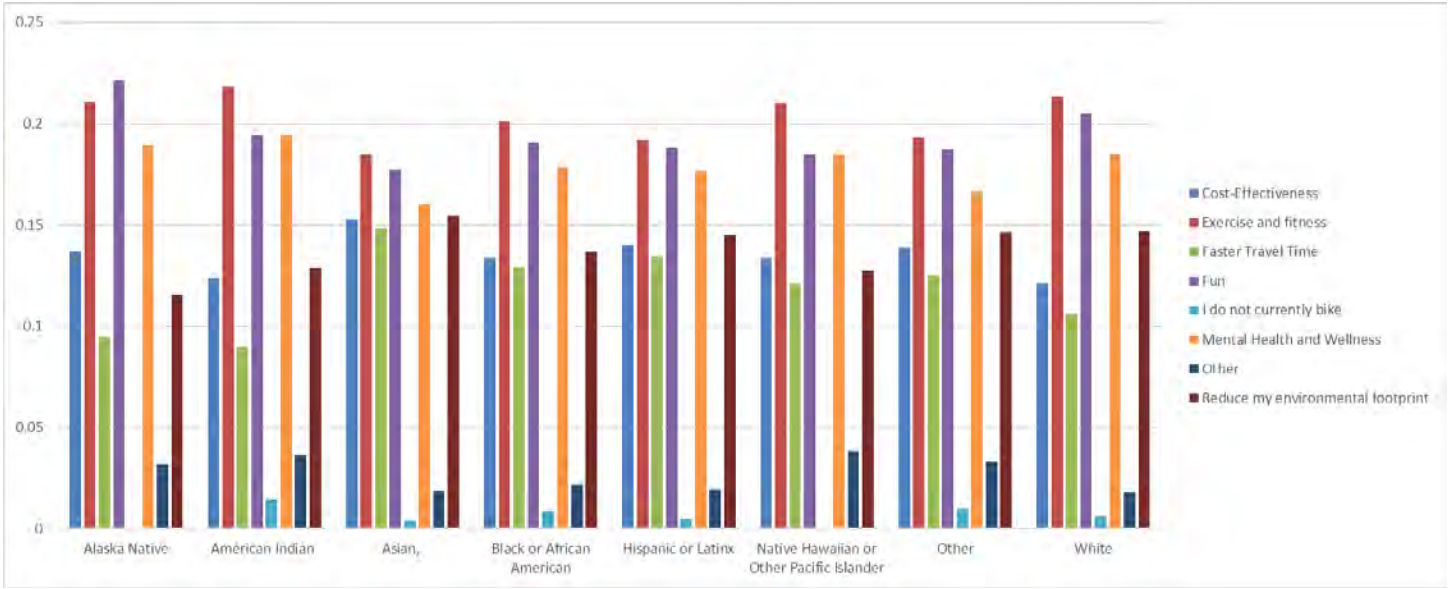
Row Labels	Bikeshare System	Bike Racks (Free Parking)	Secure Bike Parking	Bicycle Education Programs	Average of Trails	Average of Wayfinding
Albany County	2.38	1.83	0.51	1.40	3.17	1.68
Allegany County	0.00	1.43	0.29	0.64	1.07	0.93
Bronx County	1.73	1.33	0.44	1.11	2.32	1.56
Broome County	0.55	1.54	0.46	1.27	2.19	1.58
Cattaraugus County	0.57	1.14	0.52	0.90	2.67	1.00
Cayuga County	0.44	1.33	0.61	0.83	2.06	1.00
Chautauqua County	0.27	1.41	0.51	0.73	2.25	0.96
Chemung County	0.46	1.29	0.36	1.28	2.59	1.21
Chenango County	0.33	1.11	0.44	1.11	2.61	1.22
Clinton County	0.24	2.05	0.67	1.00	2.55	1.54
Columbia County	0.53	1.17	0.46	0.67	3.03	1.29
Cortland County	0.57	1.36	0.40	0.93	1.69	0.93
Delaware County	0.16	0.68	0.24	0.36	1.64	0.52
Dutchess County	0.30	1.29	0.36	0.80	3.10	1.18
Erie County	2.03	1.91	0.62	1.58	2.57	1.53
Essex County	0.17	1.13	0.30	1.00	3.13	0.96
Franklin County	0.58	1.63	0.47	0.79	2.05	1.95
Fulton County	0.25	0.71	0.13	0.71	3.04	0.71
Genesee County	0.26	1.22	0.35	0.53	1.89	1.04
Greene County	0.44	0.76	0.24	0.65	1.74	0.94
Hamilton County	0.25	0.50	0.00	0.00	2.50	0.00
Herkimer County	0.19	0.94	0.13	0.50	2.81	2.19
Jefferson County	0.22	0.82	0.07	0.53	1.75	0.80
Kings County	3.22	1.75	0.37	1.19	1.09	1.69
Lewis County	0.15	0.69	0.00	0.38	1.69	0.62
Livingston County	0.13	0.47	0.20	0.40	2.20	0.60
Madison County	0.38	1.09	0.13	0.78	3.06	1.41
Monroe County	1.66	1.88	0.60	1.66	3.22	1.68
Montgomery County	0.25	0.89	0.00	0.67	3.22	0.89
Nassau County	0.60	1.03	0.38	0.72	2.13	0.95
New York County	3.58	1.70	0.55	1.32	1.63	1.85
Niagara County	1.18	1.67	0.60	1.06	2.87	1.65
Oneida County	0.38	1.11	0.31	0.83	2.50	1.10
Onondaga County	1.47	1.60	0.39	1.07	2.96	1.61
Ontario County	0.27	1.16	0.14	0.74	3.02	1.47
Orange County	0.19	0.90	0.32	0.63	2.39	0.69
Orleans County	0.36	1.00	0.18	0.50	2.14	1.05
Oswego County	0.57	0.81	0.19	0.71	1.90	0.48
Otsego County	0.13	1.35	0.35	0.53	1.47	0.62
Putnam County	0.30	0.86	0.11	0.37	2.86	0.89
Queens County	2.13	1.65	0.37	1.12	1.26	1.64
Rensselaer County	1.45	1.10	0.25	0.85	2.60	1.51
Richmond County	1.06	1.40	0.36	1.18	1.79	1.25
Rockland County	0.27	0.79	0.24	0.62	2.18	0.92
Saratoga County	1.84	1.64	0.42	1.24	2.75	1.32
Schenectady County	1.98	1.31	0.31	1.08	3.27	1.60
Schoharie County	0.13	0.25	0.00	0.13	1.50	0.25
Schuyler County	0.33	2.00	0.17	0.17	2.92	0.75
Seneca County	1.00	1.80	0.10	1.00	2.70	1.20
St. Lawrence County	0.09	0.95	0.25	0.52	1.49	0.48
Steuben County	0.17	1.20	0.23	0.27	2.07	0.87

Suffolk County	0.80	1.08	0.40	0.97	2.44	1.24
Sullivan County	0.32	0.55	0.25	0.85	2.10	0.65
Tioga County	0.40	1.33	0.47	1.13	1.63	1.27
Tompkins County	0.57	2.42	0.51	1.81	2.90	1.43
Ulster County	0.23	1.55	0.32	1.37	3.61	1.77
Warren County	2.11	1.60	0.46	1.73	3.08	1.82
Washington County	0.35	1.29	0.43	0.84	2.48	1.14
Wayne County	0.50	1.68	0.58	1.08	3.12	1.96
Westchester County	0.56	1.26	0.34	0.86	2.83	1.19
Wyoming County	0.07	1.27	0.20	0.20	1.40	0.27
Yates County	0.25	1.75	0.00	0.25	1.75	0.00
(blank)	2.04	1.59	0.59	1.18	1.99	1.54
Grand Total	**2.06**	**1.61**	**0.44**	**1.19**	**2.07**	**1.54**

Appendix C: Why New Yorkers Bike by Race, Gender, and Income



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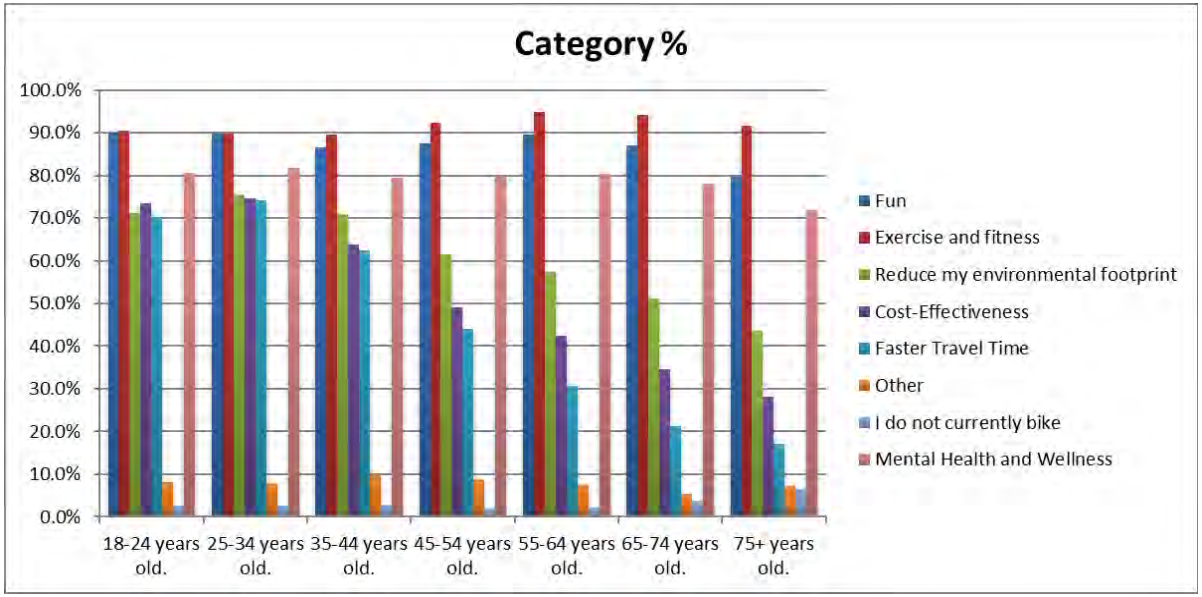
Hispanic or Latinx
Native Hawaiian or Other Pacific Islander
Other
White
Cost-Effectiveness
Exercise and fitness
Faster Travel Time
Fun
I do not currently bike
Mental Health and Wellness
Other
Reduce my environmental footprint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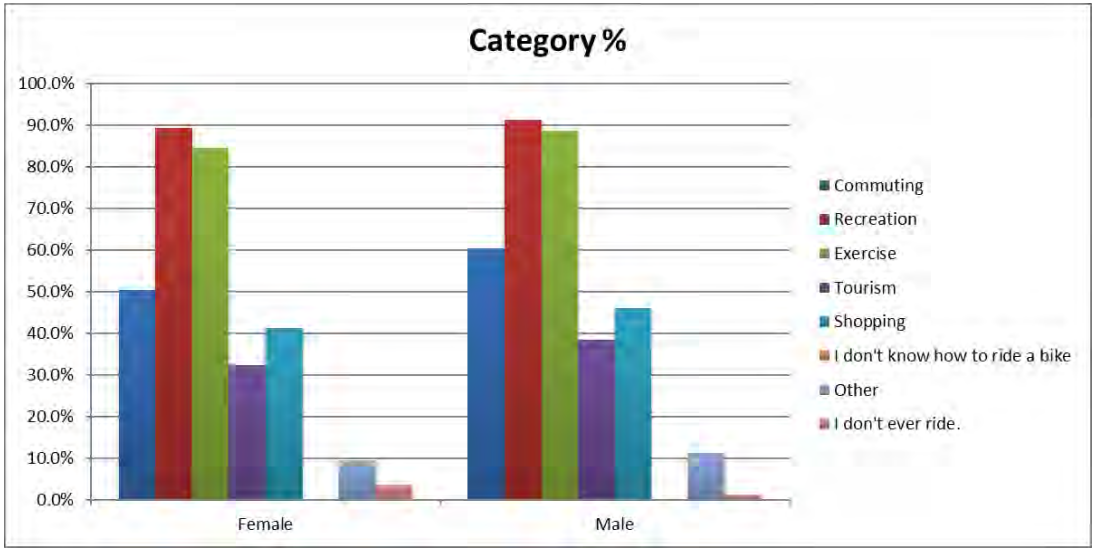
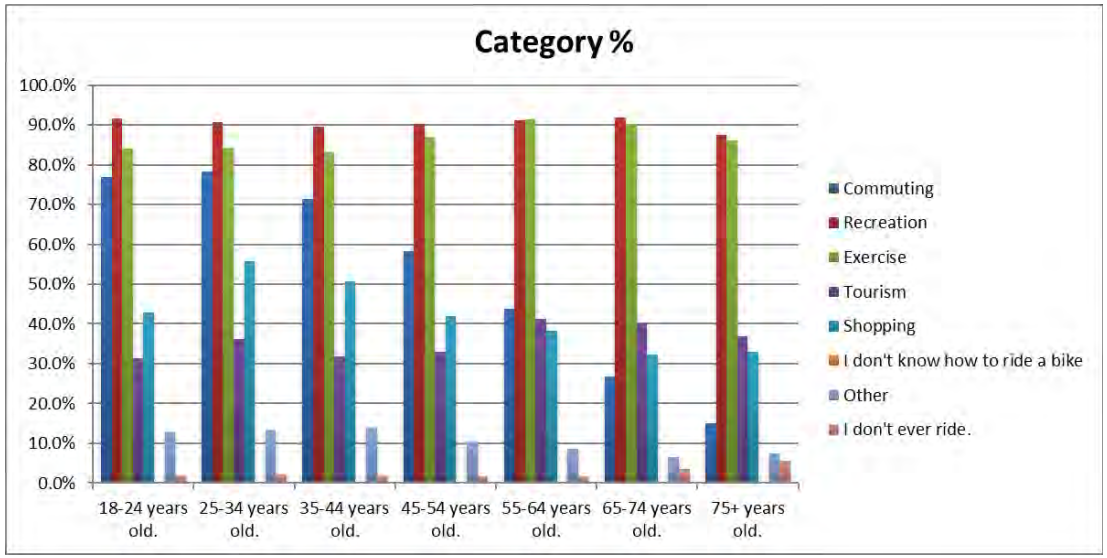
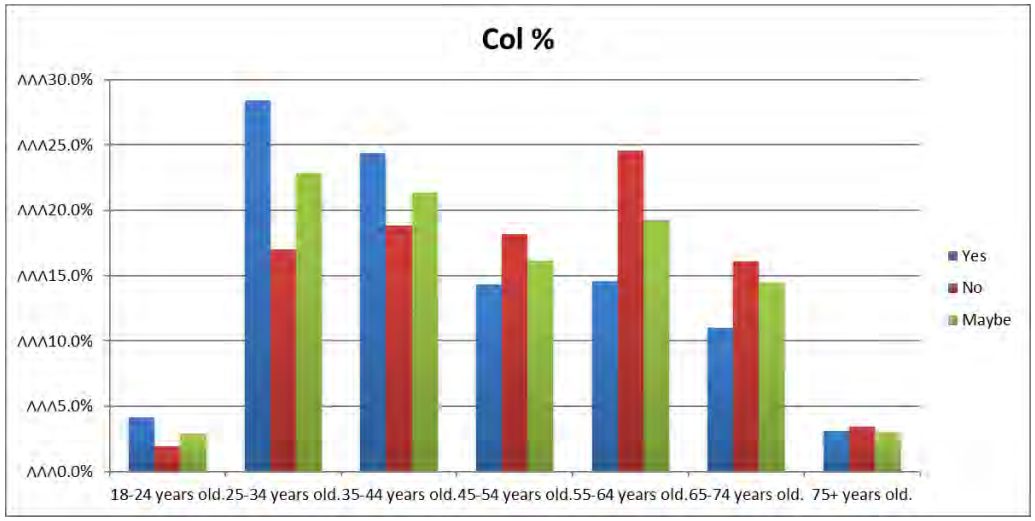
18-24 years old.
25-34 years old.
35-44 years old.
45-54 years old.
55-64 years old.
65-74 years old.
75+ years old.
Fun
Exercise and fitness
Reduce my environmental footprint
Cost-Effectiveness
Faster Travel Time
Other
I do not currently bike
Mental Health and Wellness

Appendix D: Bicycle Trip Purpose by Gender and Age

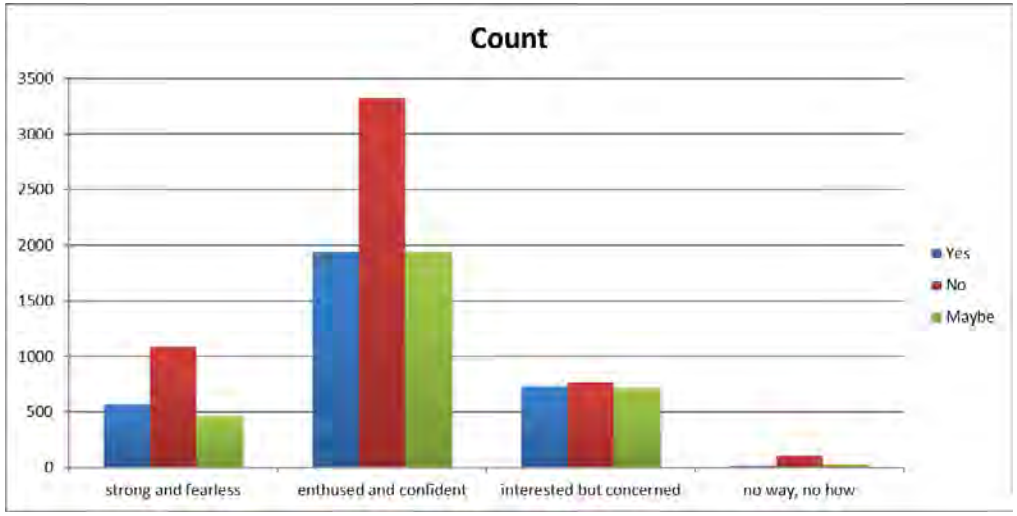




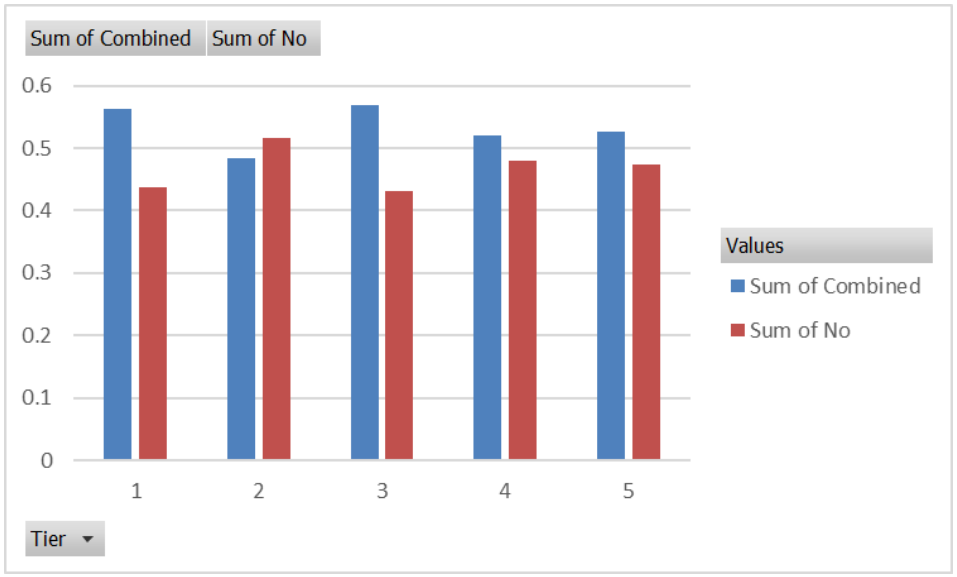
Appendix E: Ebike Propensity by Region, Skill Level and Age



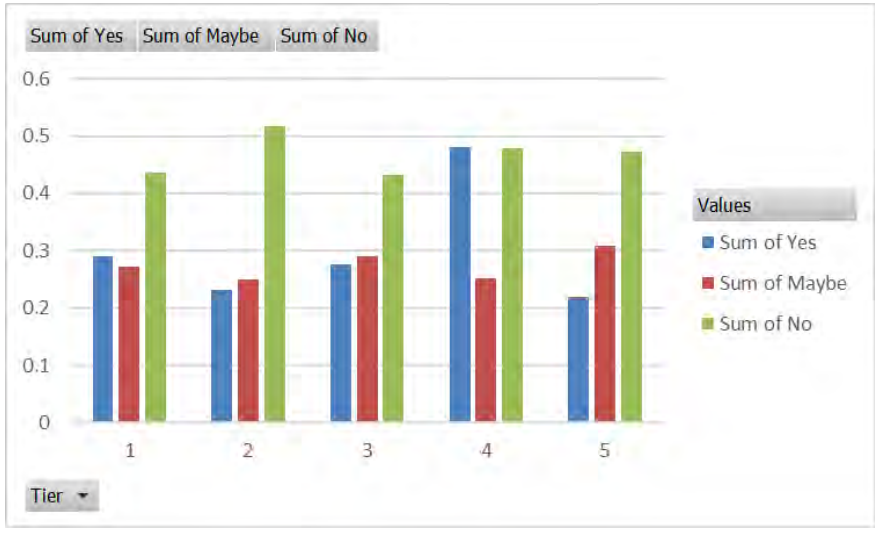
Ebike propensity by age group



Ebike propensity by self-assigned skill level

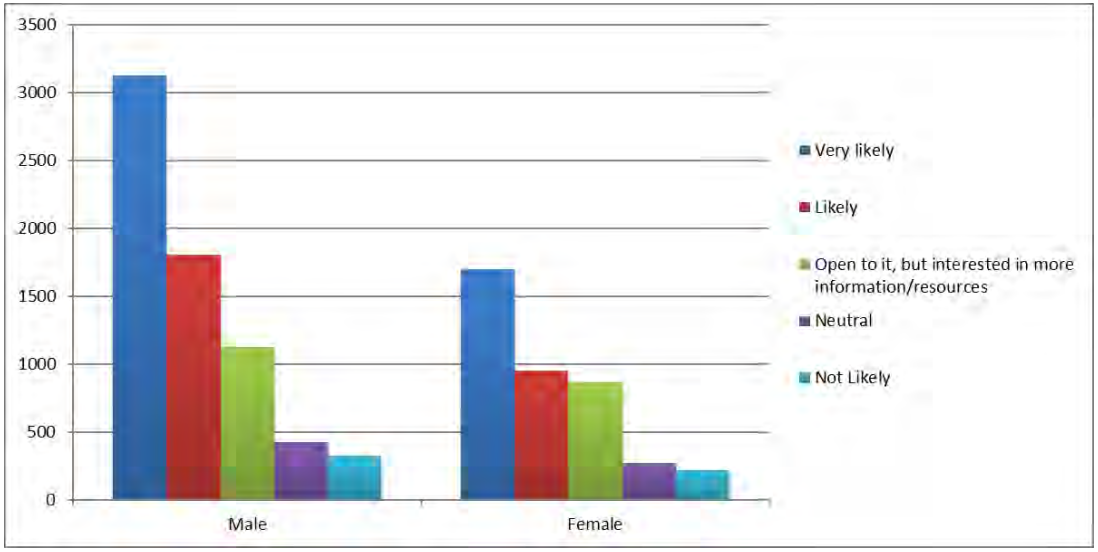


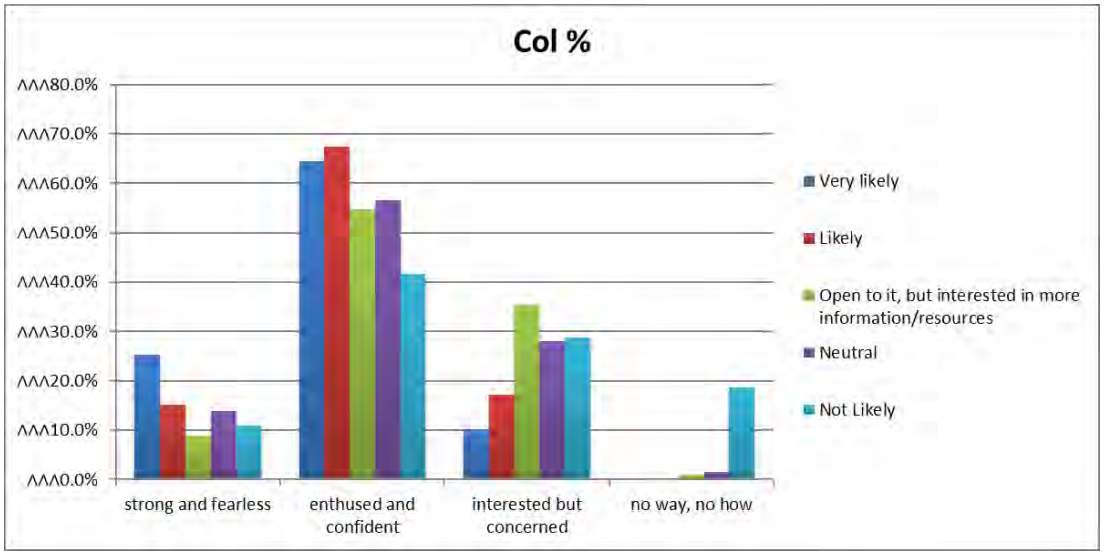
Aggregated ebike propensity (Combined "Yes" and "Maybe" vs "No) by region

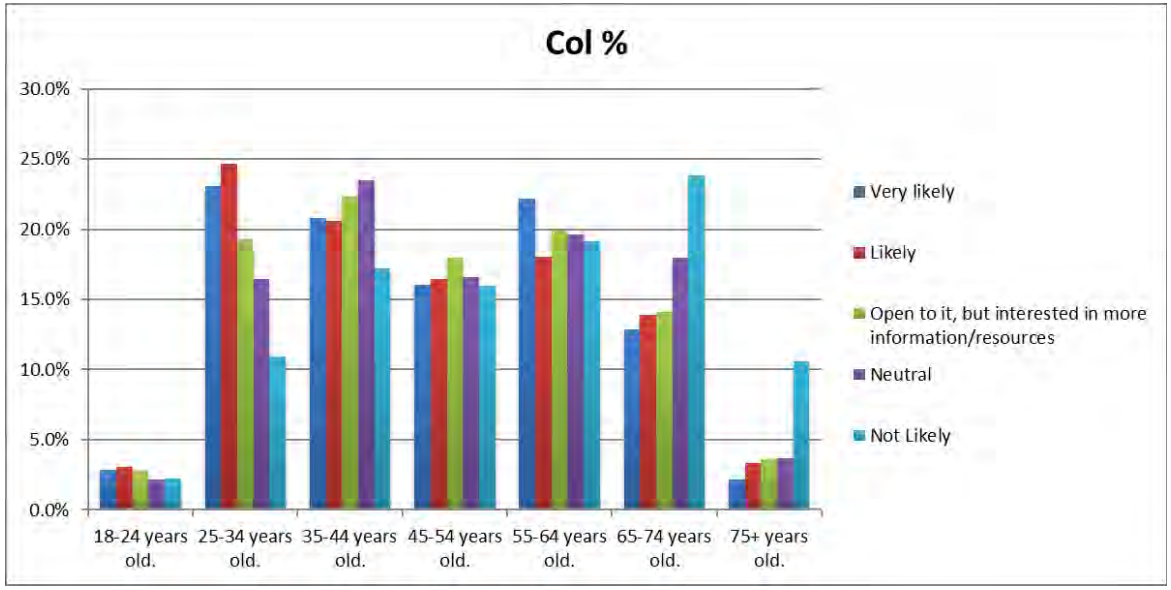


Ebike propensity by region

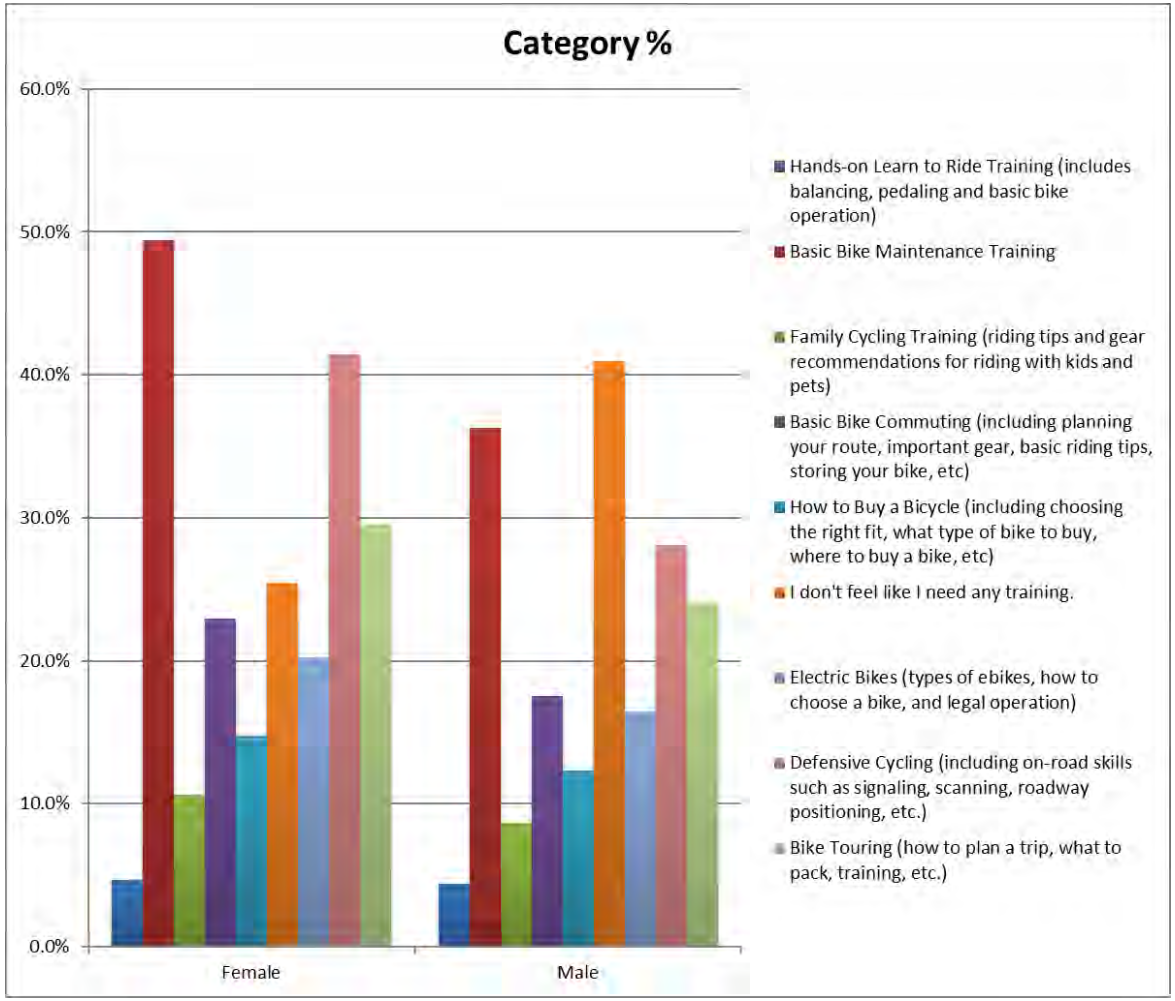
Appendix F: Interest in Bicycle Tourism by Gender, Age and Skill Level






Col %
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
18-24 years old.
25-34 years old.
35-44 years old.
45-54 years old.
55-64 years old.
65-74 years old.
75+ years old.
Very likely
Likely
Open to it, but interested in more information/resources
Neutral
Not Likely

Appendix G: Demand for Different Types of Bicycle Trainings by Gender



Appendix H: Respondent Proximity to Transit