

# MTI Research Snaps Presents



## Cycling Past 50

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#MTIResearchSnaps

May 25, 2023 | 12:00-12:30p.m. (PT)





# 50+ Cycling Survey grew out of a cancelled interview with a 78-year-old woman cyclist

Part 1:  
Demographics,  
Cycling  
History,  
Cycling  
preferences,  
etc.

Part 2:  
Visual  
Preference

Online Journal




Responses grew from 267 in  
Year 1 to 5300 in Year 4







# Year 3 Survey

- Partnership with Mineta Transportation Institute
- AARP Article

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## AARP LIVABLE COMMUNITIES

### Getting Around

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## The 50+ Cycling Survey

Older cyclists reflect on their bicycling preferences and experiences in a nationwide survey. Many consider cycling to be a staple of their lives and can't envision ever not being able to ride a bike


AARP Livable Communities, September 2020

On a recent summer day, Hannah R., a resident of a small community in upstate Wisconsin, rode the 20 miles of her regular bicycling route, which included a stop at the grocery store on the way home. The septuagenarian is one of the nearly 3,000 older adult cyclists who answered the 2020 edition of the **50+ Cycling Survey**.

### AARP.org/Livable




Enter a topic, name, place, etc.


Project 2112 | April 2021



## Cycling Past 50: A Closer Look into the World of Older Cyclists

Carol Kachadoorian







Mobility planners and practitioners

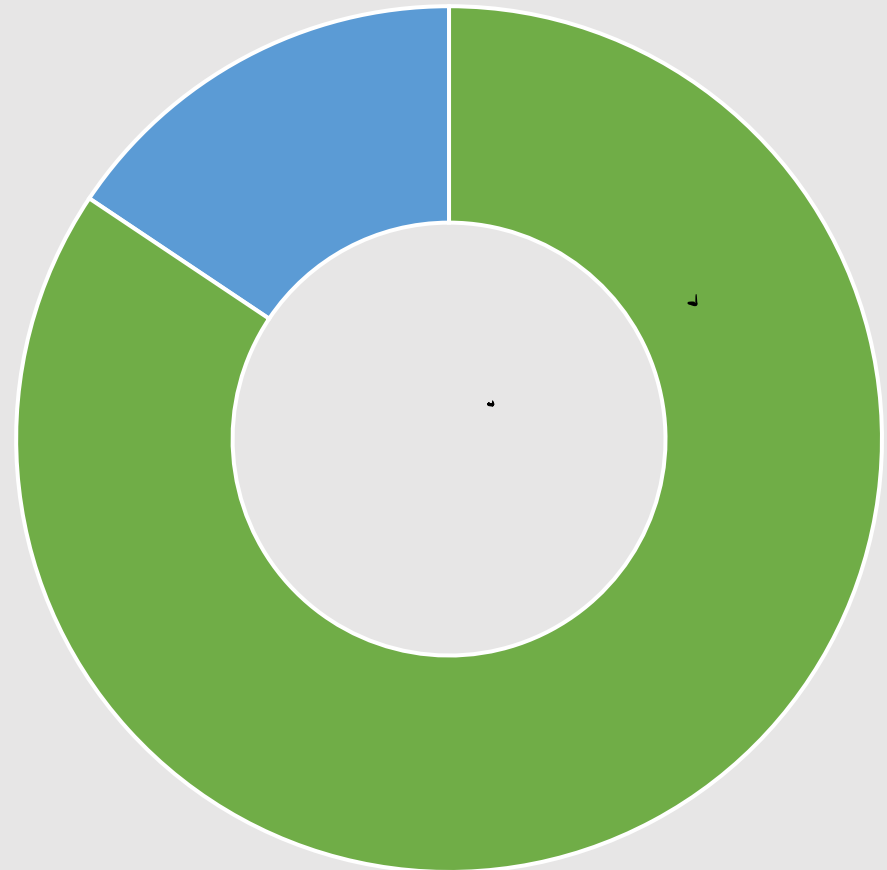
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[transweb.sjsu.edu](mailto:transweb.sjsu.edu)  
[dbiltidecollaborative.com](http://dbiltidecollaborative.com)



# Now a North American survey (U.S. and Canada)

■ United States, N=4140 ■ Canada, N=770







What does this survey offer?



# Value of the work

## Only one of its kind

- Cycling, not mobility needs due to driving cessation
- Older Adults only
- Nationwide

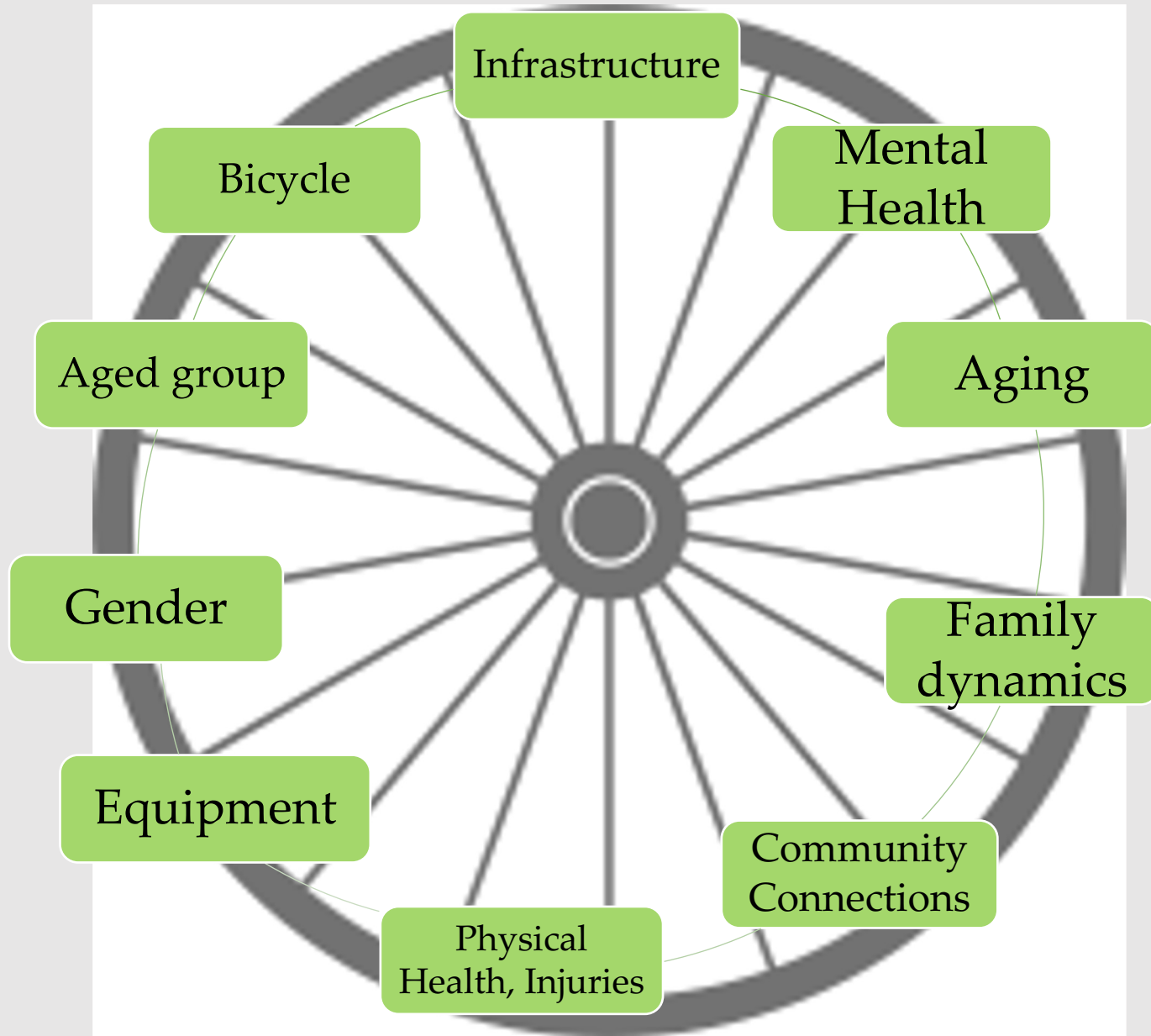
## Longitudinal data

- Lifecourse
- Year-to-year comparisons

Informs planning,  
engineering, public  
health, advocates,  
older adults



# Interdisciplinary



# Intersectional



# The survey also...

Expands  
knowledge of  
physical  
activity and  
aging

Serves as a self-  
assessment for  
ways to  
continue  
cycling

Older cyclists  
appreciate  
being asked

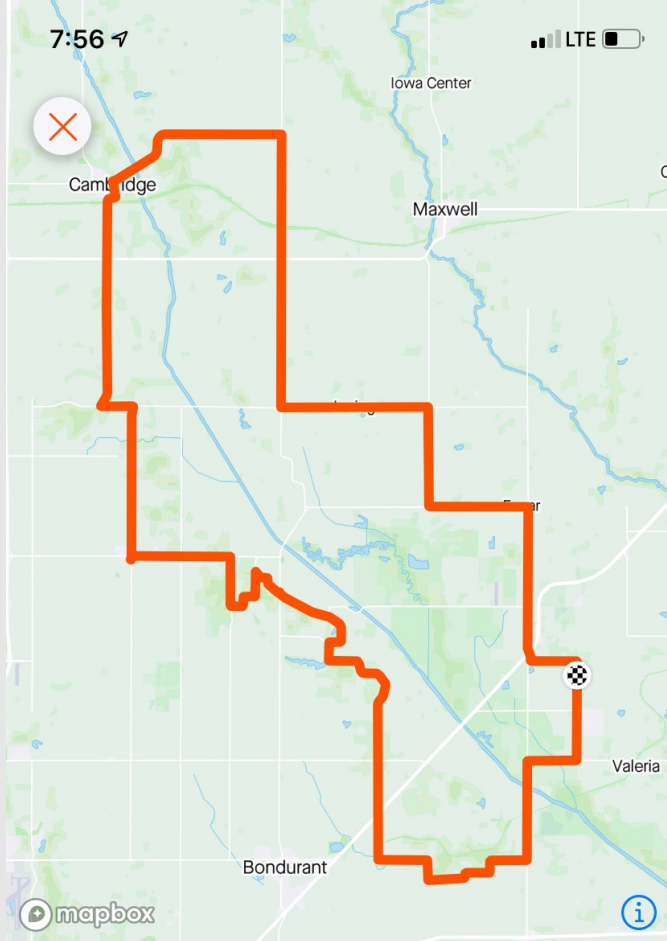












Standard	Satellite	Hybrid
▼		
Loring part B		<input type="radio"/>
2.9 mi - 12:50 - 13.6 mph		
LoringAnnihilator		<input type="radio"/>
Third Best Time - 2:58		
Loring part C		<input type="radio"/>
2.9 mi - 16:26 - 10.8 mph		
Soul searching		<input type="radio"/>
1 mi - 4:03 - 15.2 mph		



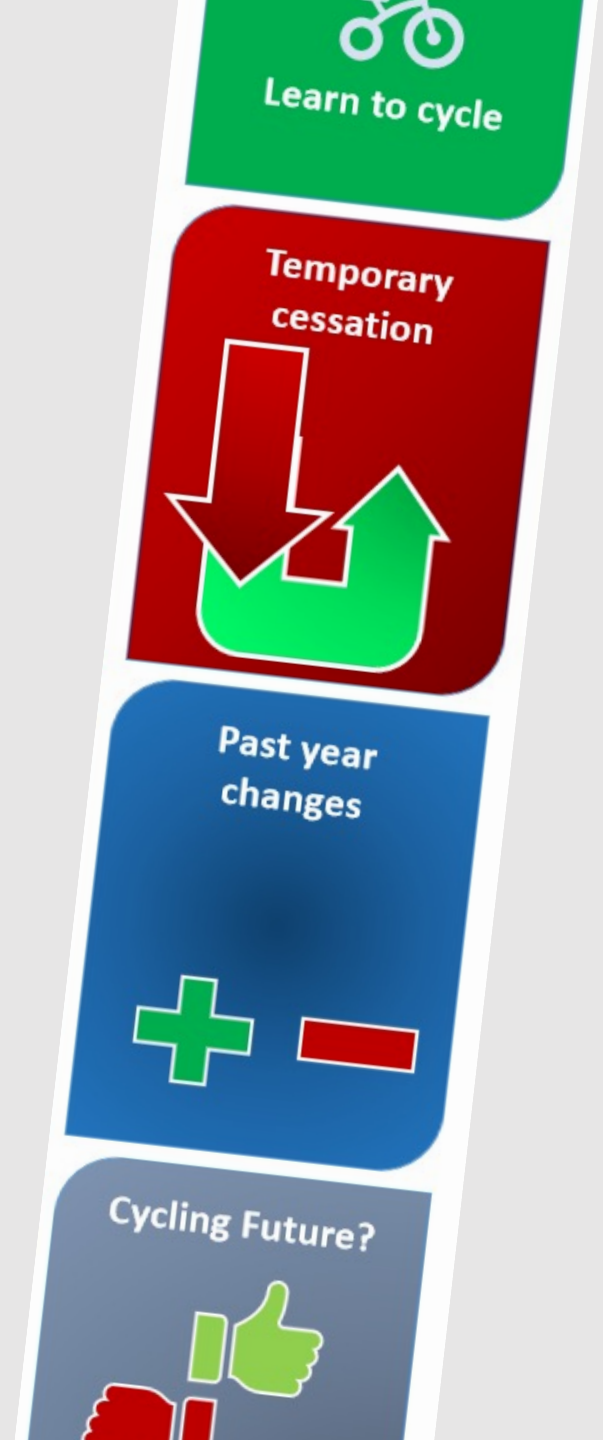






# Survey Questions

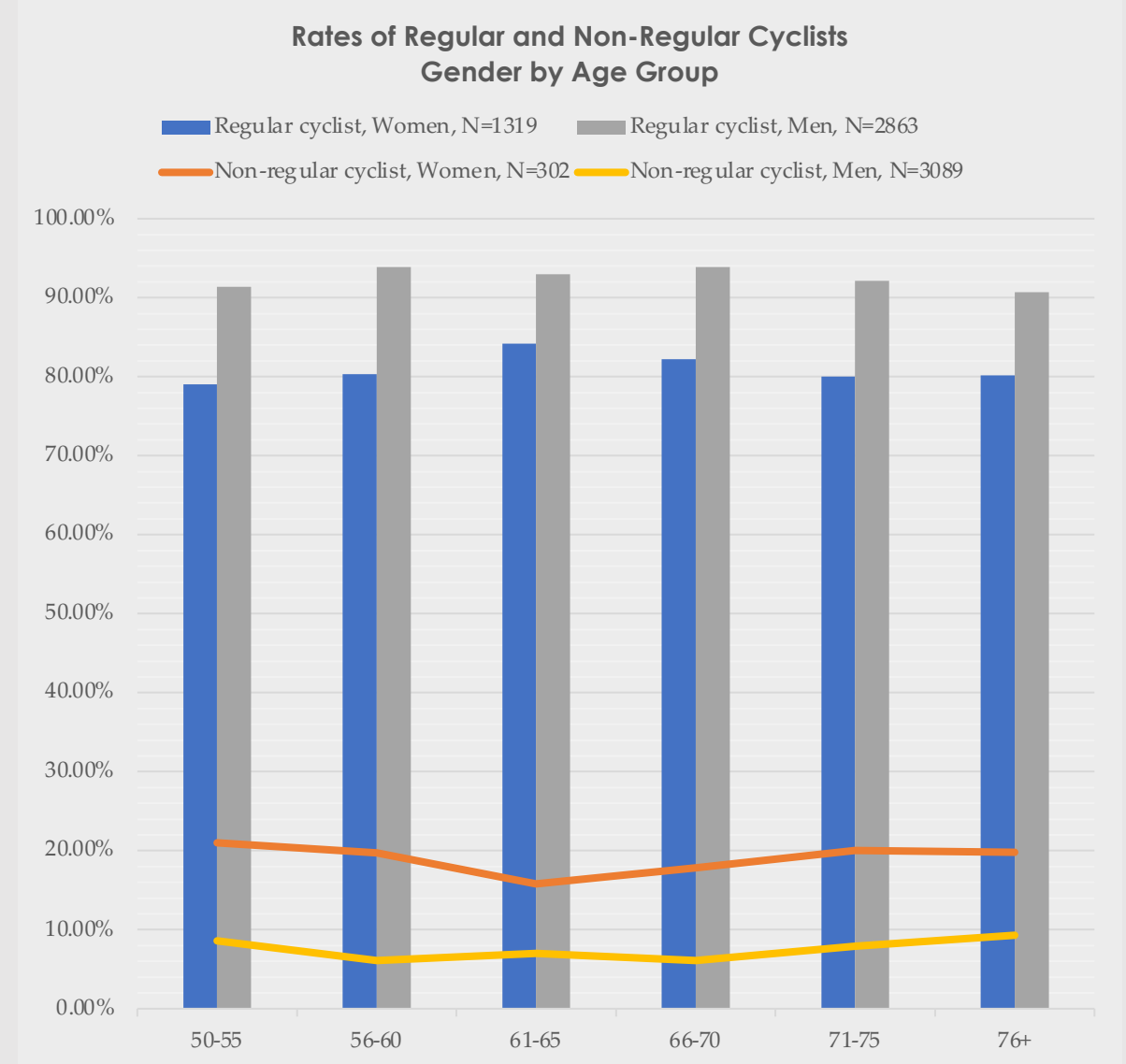
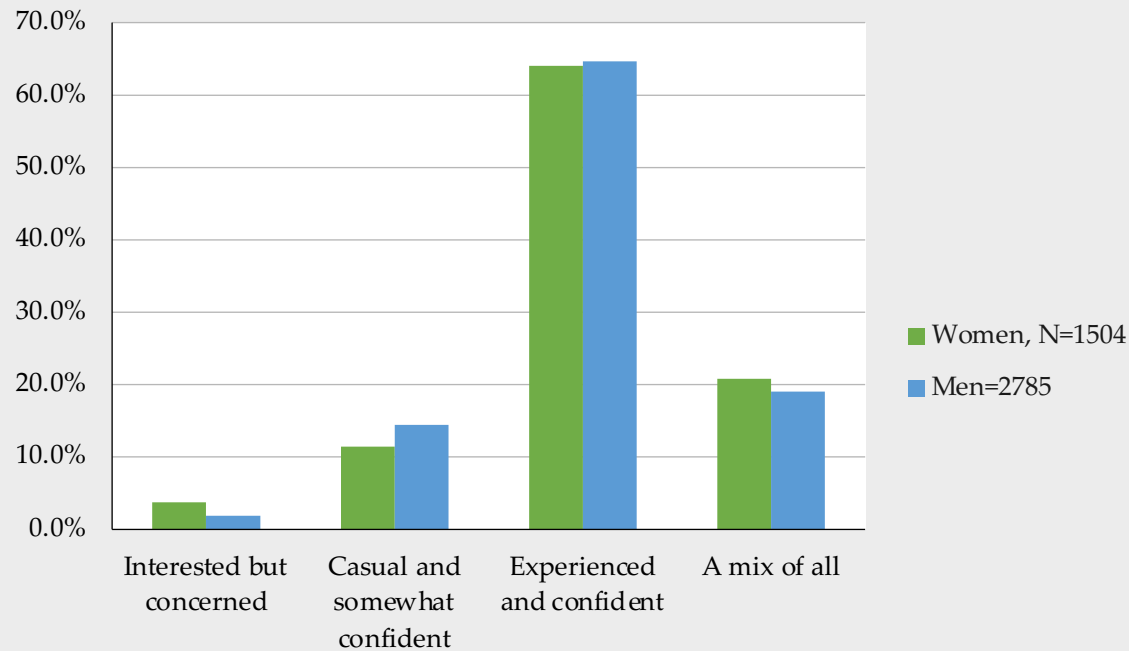
- Lifecourse
  - When started
  - If stopped for at least a year at some point
  - If cycling changed in past year
  - If can envision circumstances when would not cycle
- Trip purpose and distance
- Cycling environment
  - Alone
  - At night
  - Features that affect where cycle





# Questions

- Self-identifying frameworks:
  - Regular v Non-regular cyclist
  - Type of Cyclist (based on Geller's Typology)

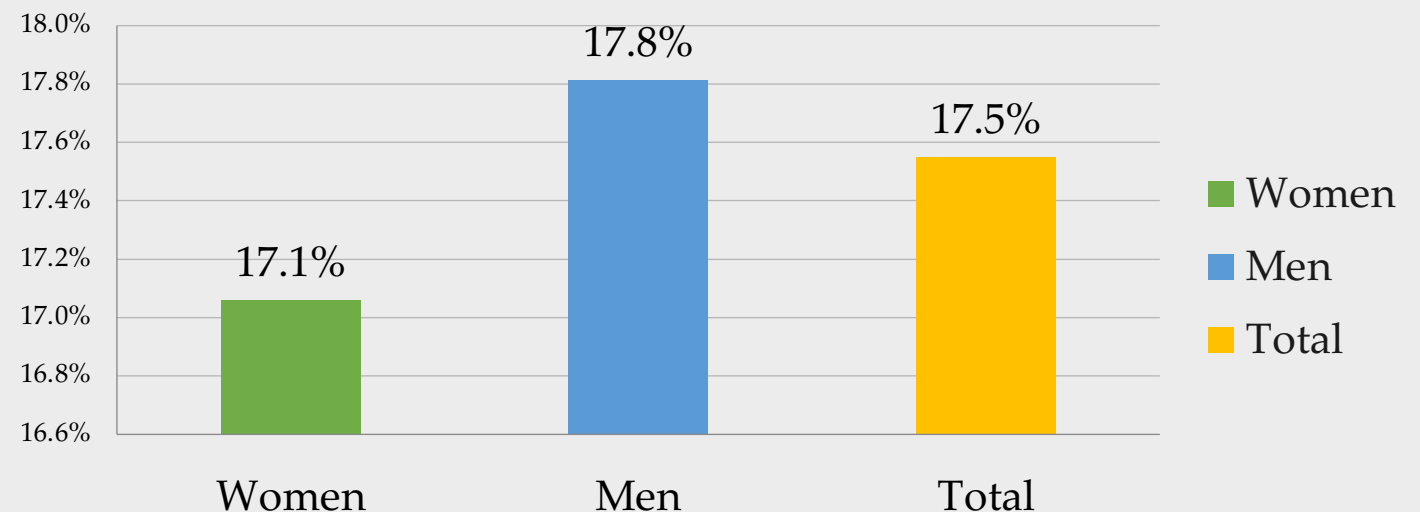




# Questions

- Questions regarding ebike and adult trike
- Near Misses and Crashes
- Visual Preference (restructured in Year 4)
- New in Year 4
  - Type of Cycling
  - Type of Bicycle
  - Separate questions for tandem cyclists

**eBike Ownership Rates**

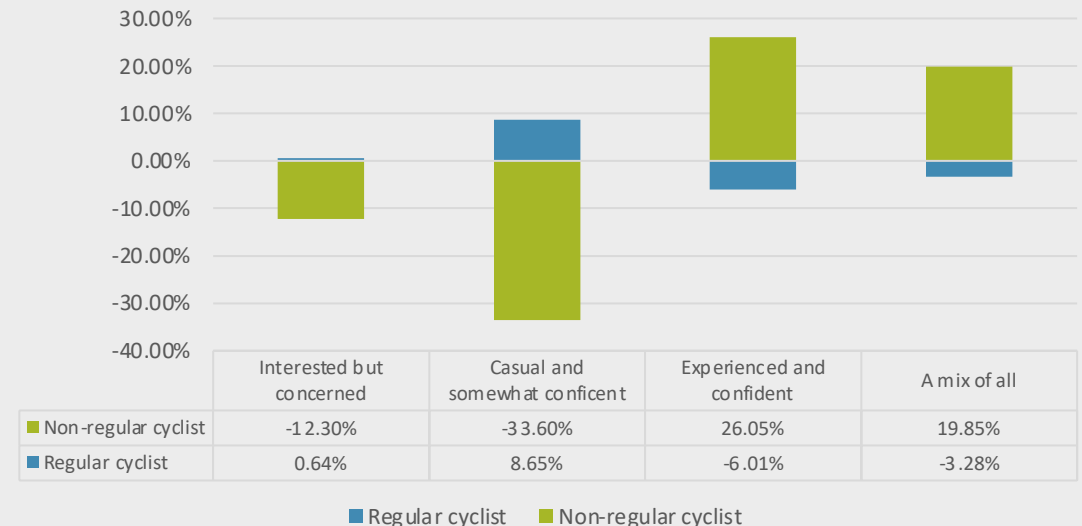




# Now writing Year 4 Databook

- To be published by Mineta Transportation Institute (targeting Fall 2023)
- Looking backwards and forwards
  - Includes comparison with Year 3 data for many questions
  - Proposes revisions for Year 5

Changes from Year 3 to Year 4, Regular and Non-regular cyclists by Type of Cyclist





# Richness of the data

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**dbiTilde CORE** Community Outreach Research & Education

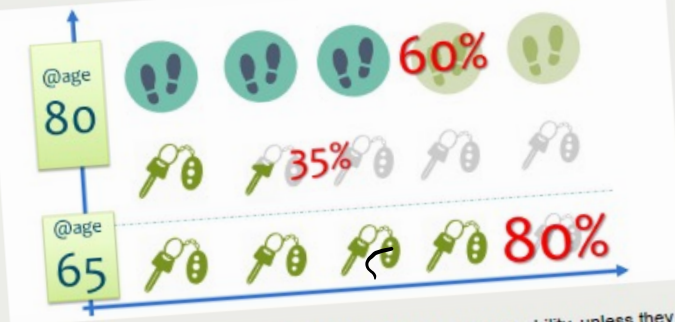
**Project 2157.3**  
April 2023

## Ageing and Mobility: A Look at How Ageing Impacts Driving and Cycling

Carol Kachadoorian

This article is part of a larger study of why some older cyclists stop cycling temporarily or permanently. It compares changes in cycling habits with driving habits – all due to the ageing process. Cycling data is drawn primarily from the 50+ Cycling Survey, Year 4; information on driving changes is from AARP and other sources.<sup>1</sup>

As people age, they typically change their mobility habits, either by intentionally or necessity. For example, people who drive are likely to stop driving at some point, relying on others and available transport services for their mobility. AARP cites that 80% of people are driving at age 65, dropping to 35% by age 80. Given that people may live seven to 10 years beyond when they stop driving, walking often replaces some driving trips for 60% of this age group.



Once a person stops driving, they are dependent upon others for their mobility, unless they are able to walk, cycle, or use public transportation. The ability to use other modes depends on their physical ability and inclination as well as the type of community in which they live.<sup>2</sup> Communities whose land development offers close by destinations for daily needs such as food and other shopping, medical care, socializing, and physical activity can motivate older adults to remain independently mobile. Think 15-minute cities, such as those in Cleveland, Houston, Minneapolis, and Philadelphia, Decatur (GA) and others.<sup>3</sup>

Project 2157.3 | April 2023

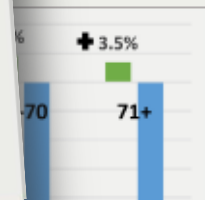
cycle between age 60 and 80 locally, people responding to the press. With encouragement and key cycle, many older adults can number of people who completed on exclusively or have shifted

it in more cycling – whether its retirement, losing a spouse or a cycle-friendly community. In health benefits and the ability and discovering new parts of it,<sup>4</sup>

ve existed but of which I was

ore frequently.

ffects cycling rates: asking if the respondent's age. Just to 55 were split with 88.1% ar. As Figure 1 shows, when ification as a regular cyclist sts. Those in their 70s are o a decrease in the amount



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**Project 2157.2**  
April 2023

## It's About the Bike: What We Learned About eBikes from the 50+ Cycling Survey, Year 4

Carol Kachadoorian

This article was developed from responses to the 50+ Cycling Survey, Year 4. The information was originally developed for the U.S. Consumer Product Safety Commission based on a conversation about bicycles as a consumer product.

**Ebikes are popular and are becoming more commonplace among all age groups, including older adults. About 17% of people responding to the 50+ Cycling Survey, Year 4, own an ebike, many purchasing one in the past year. The purchase satisfied various needs, primarily aimed at continuing to cycle. Just over a quarter (26.4%) of those who do not own an ebike do not expect to get one. Of these, however, 10.5% admit that a physical condition limiting their ability to ride a regular pedal bike would motivate an ebike purchase. In reviewing the reasons for owning or not owning an ebike, we identified the following take-aways.**

- Ebikes of all types are popular with older adults, including two-wheels (both for one rider and for tandems) trikes, and cargo bikes; and for body position of sitting up, mountain bike position, and recumbent.**
- Speed offered by ebikes provides a sense of safety when cycling with motor vehicles. Speed offers benefits in some circumstances; however, it is an issue on trails and will be increasingly so as popularity increases. Like speed with cars, speed with ebikes likely means increased crashes.**
- Concerns expressed by those who do not own an ebike are battery life, incidents of catching on fires, weight, and the desire for more sophisticated technology such as regenerative batteries while cycling. Other respondents are confident (and perhaps defiant) about never owning an ebike.**
- An ebike's weight can affect a person's agility on it. Several who fell mentioned the weight. The weight also affects the bike's transportability.**

It's about the bike: what we learned about ebikes from the 50+ Cycling Survey, Year 4  
dbiTilde CORE, Inc., February 2023

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transweb.sjsu.edu

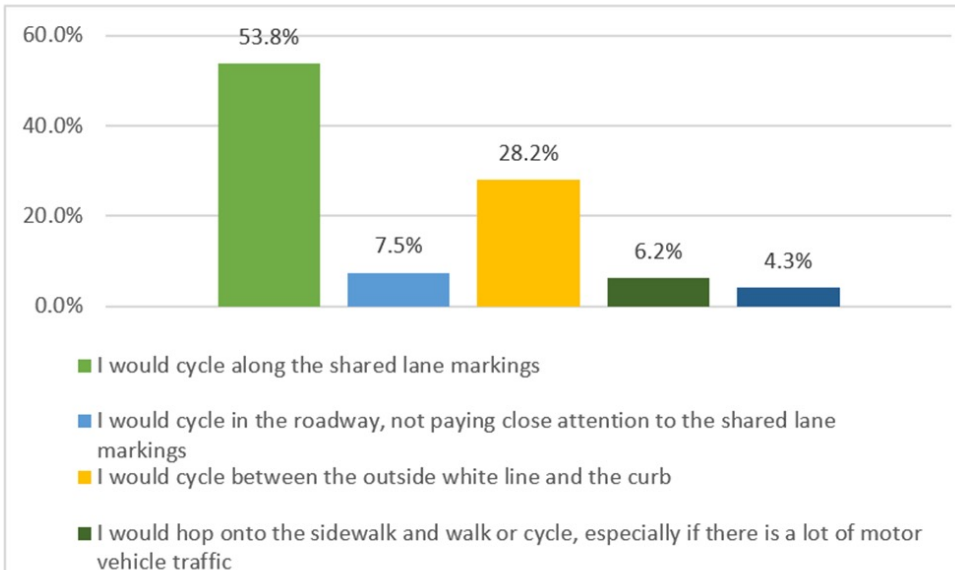


# Current collaborations

- Completing detailed lifecourse analysis with Wilbert den Hoed (Netherlands, England, Spain)
- Collaborating on visual preference survey comparison with Sreten Jevremovic (Serbia)
- Online journal article in-process (851 journal entries)



Two-lane neighborhood commercial street with shared lane marking





# If you are interested...

- Can present detailed findings
- Year 4 Survey: All data is available for your analysis
  - State-level data, US or Canada, or all
  - Survey in parts (1, 2, online journal) or combinations
  - Request you cite source
- Year 5 Survey: Launch late fall 2023 or early 2024
  - Invite you to promote
  - Help identify funding for work



Thank you for joining us for:

# Cycling Past 50

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For more MTI events and webinar visit <https://transweb.sjsu.edu/events>.

Learn more about the online Graduate Program in Transportation Management that MTI supports at one of our upcoming information sessions:

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Have a suggestion for a webinar topic you'd like to see featured? Email [alverina.weinardy@sjsu.edu](mailto:alverina.weinardy@sjsu.edu)



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# Interesting findings

- About 20% cannot envision a time when they would not cycle
- Cycling to replace car trips is about avoiding the hassles of parking a car, as well as concern for the environment
- Cycling at night offers a break from motor vehicle traffic
- Cycling rates continue to be affected by care-taking responsibilities and benefits age-related mental health



Image source:  
<https://bicycle2work.com/13-benefits-of-cycling-at-night/>

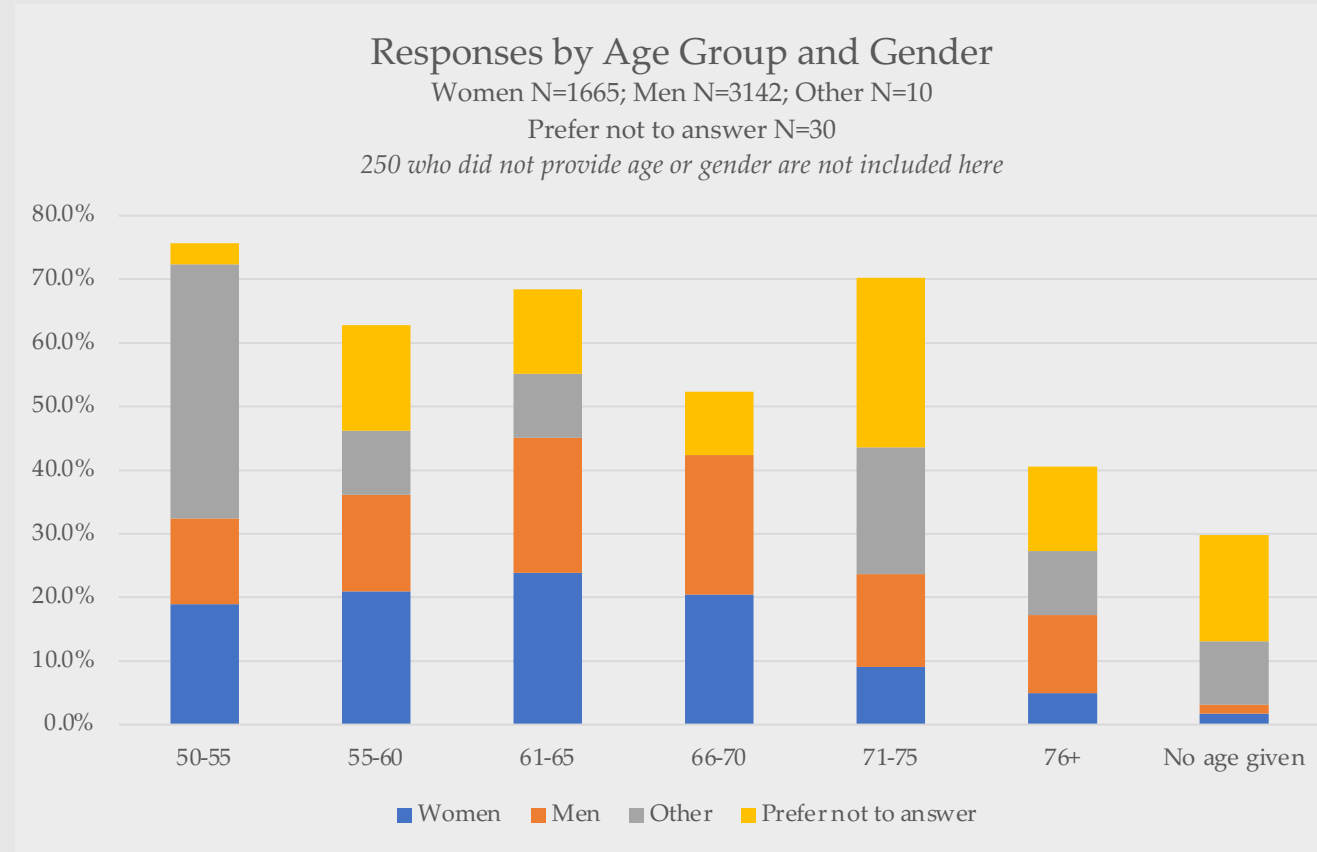
<https://road.cc/content/feature/6-tips-riding-night-202811>



# Year 4 Sample of analysis

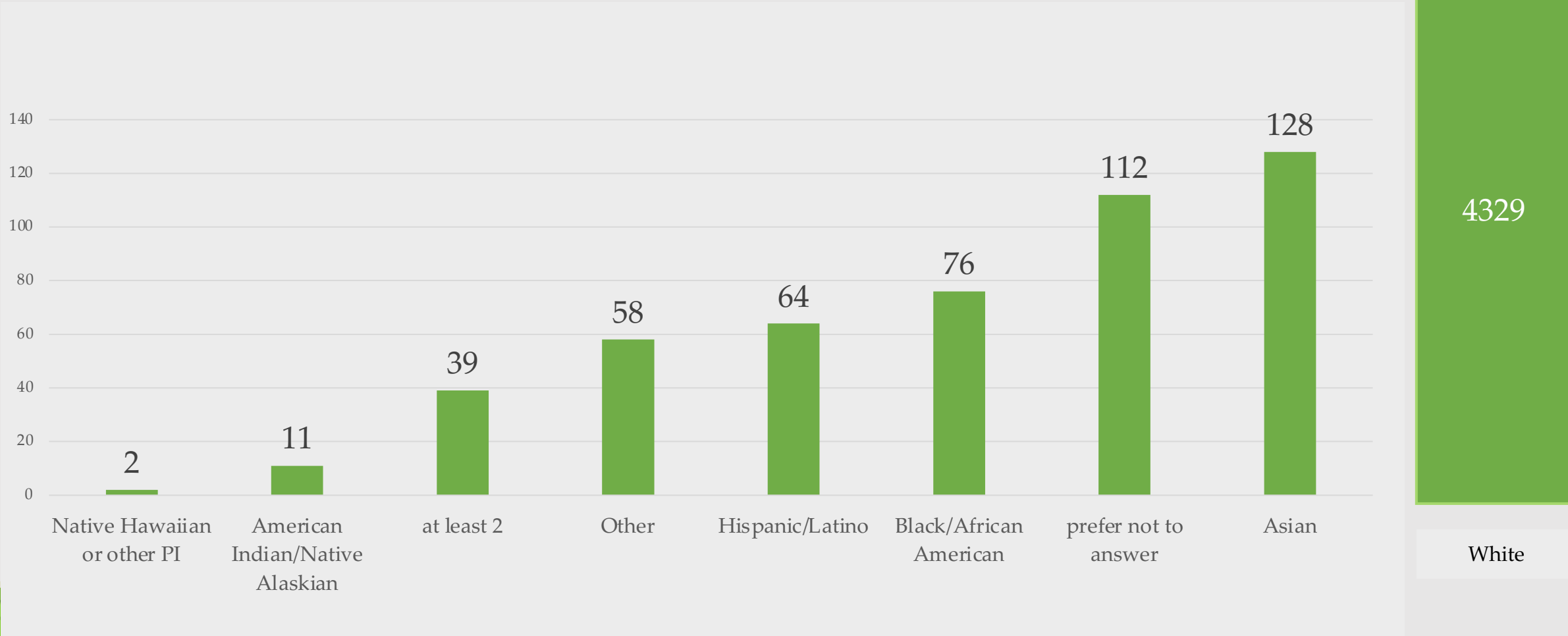
# Provisos

- Not everyone answered every question
- Data shown for specific analysis is for only those that answered all questions needed for the analysis
- Not enough people indicating
  - a gender other than women or man
  - Race or ethnicity





# Responses by gender, race or ethnicity

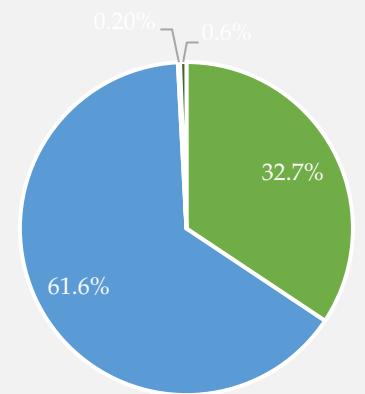


# Responses by age, gender

Survey Responses by Gender and Age Group

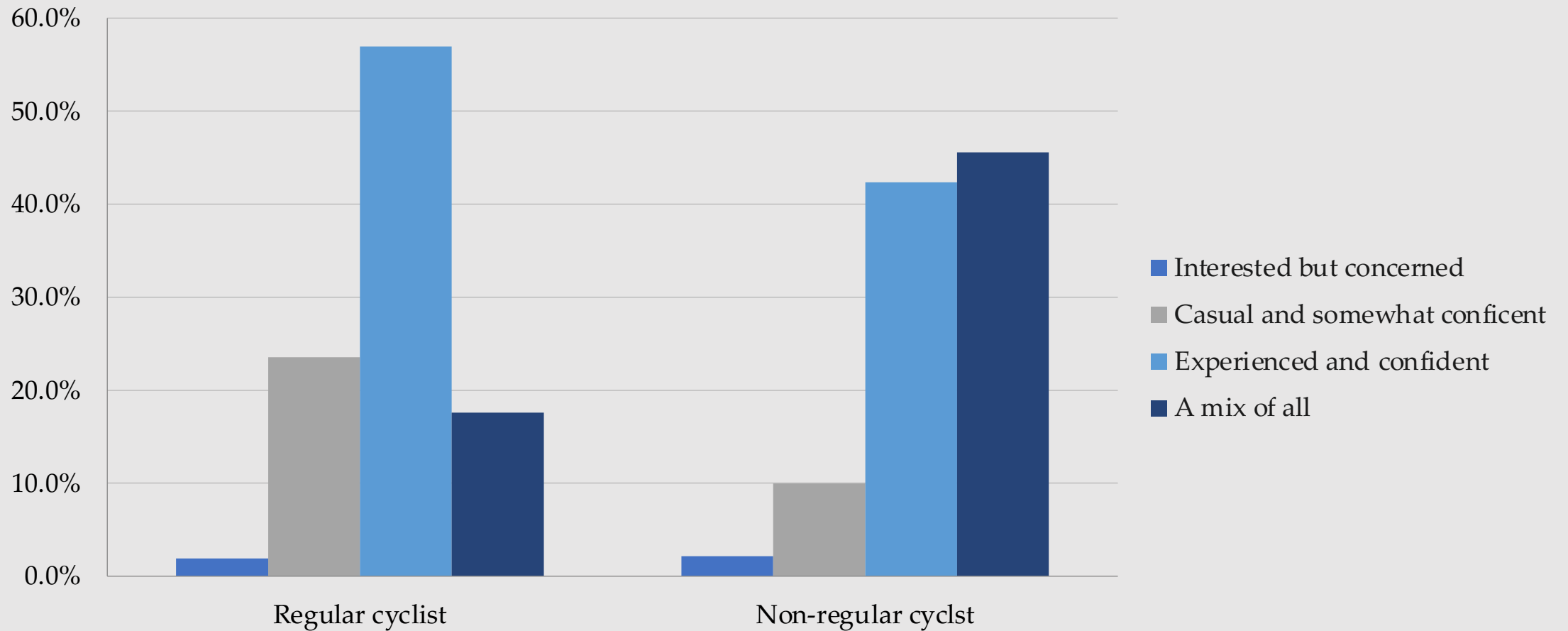


Percent by Gender

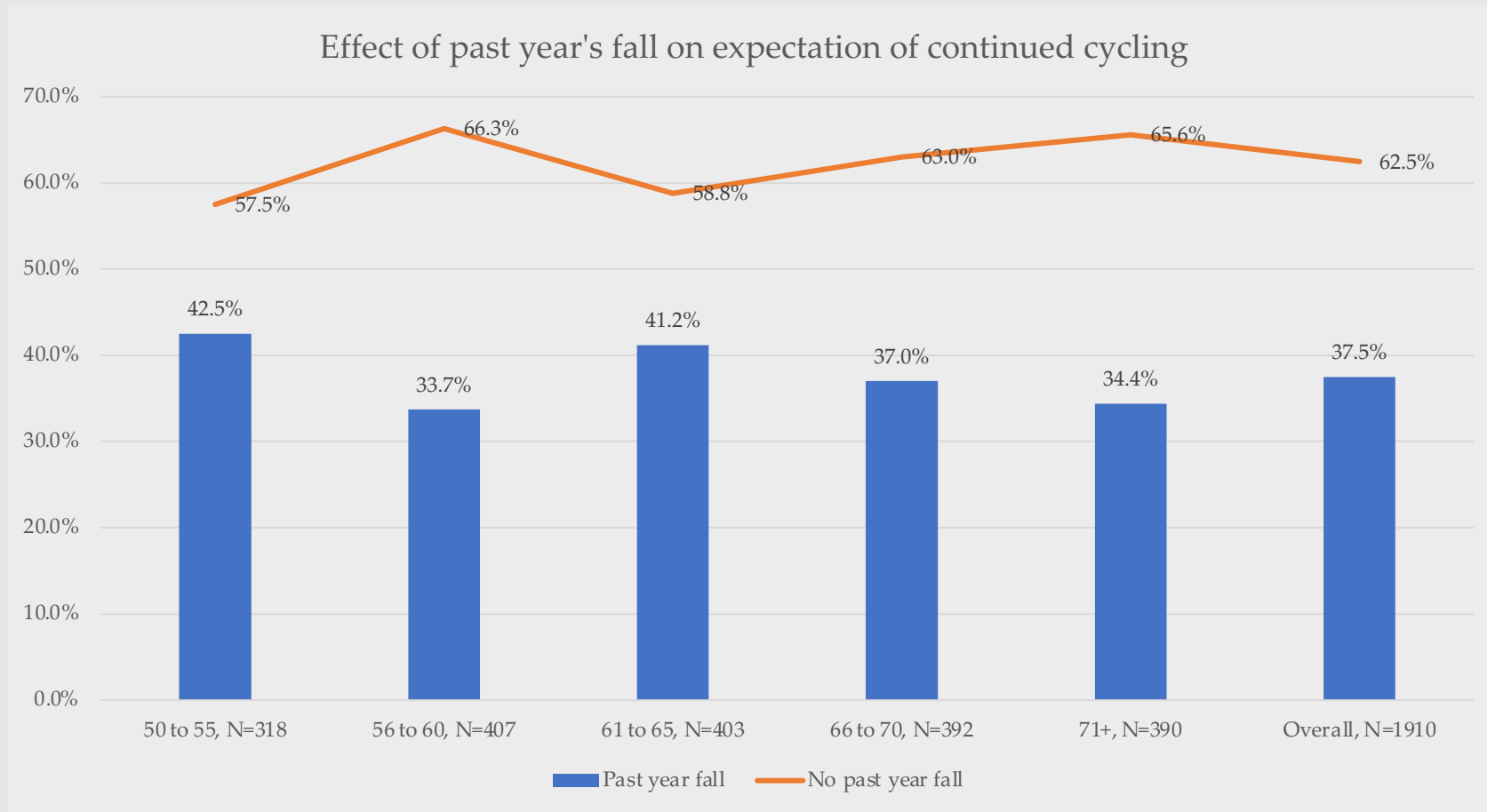




# Comparison of two frameworks



# Does a past year fall affect likelihood of continuing to cycle?

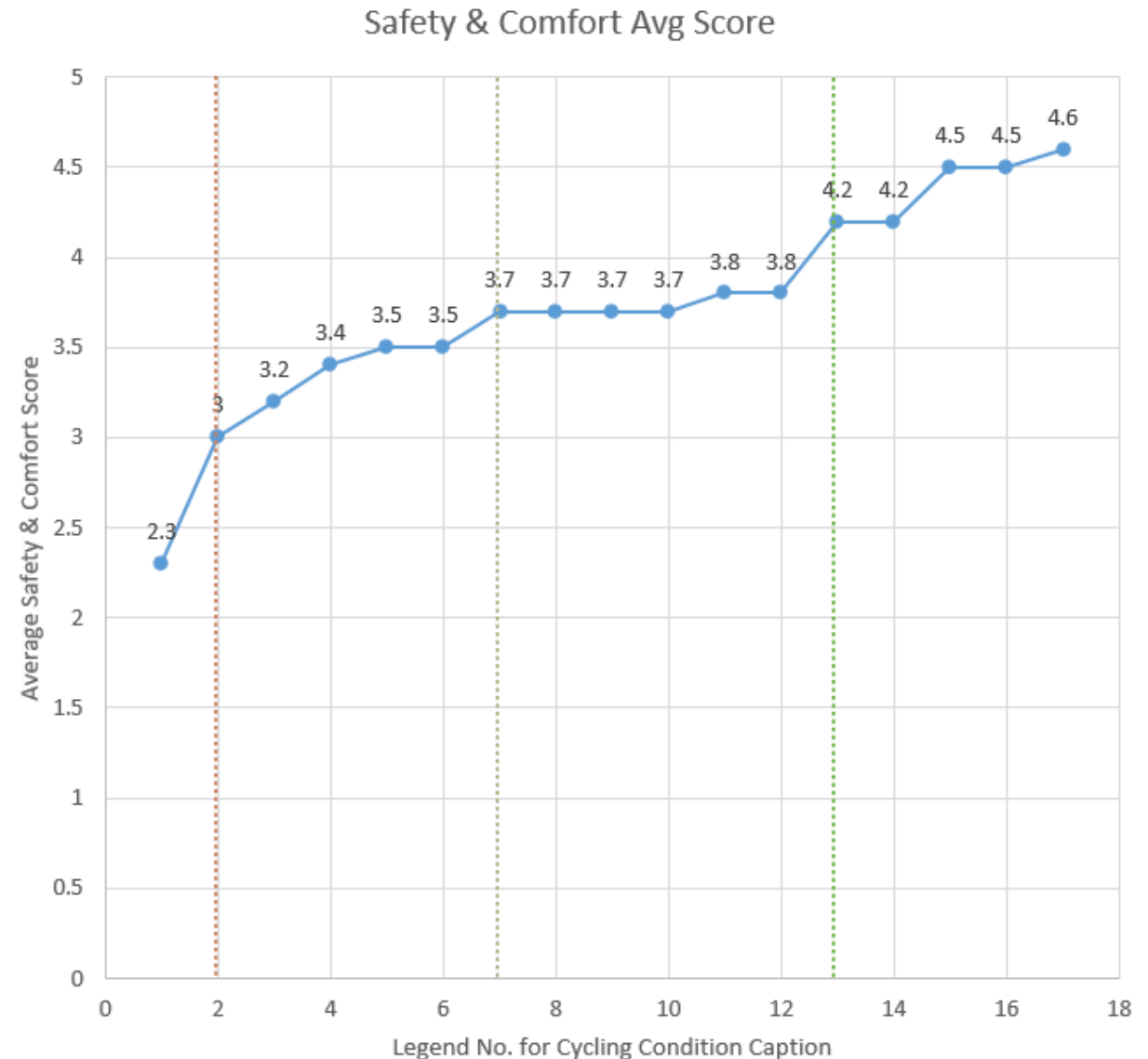




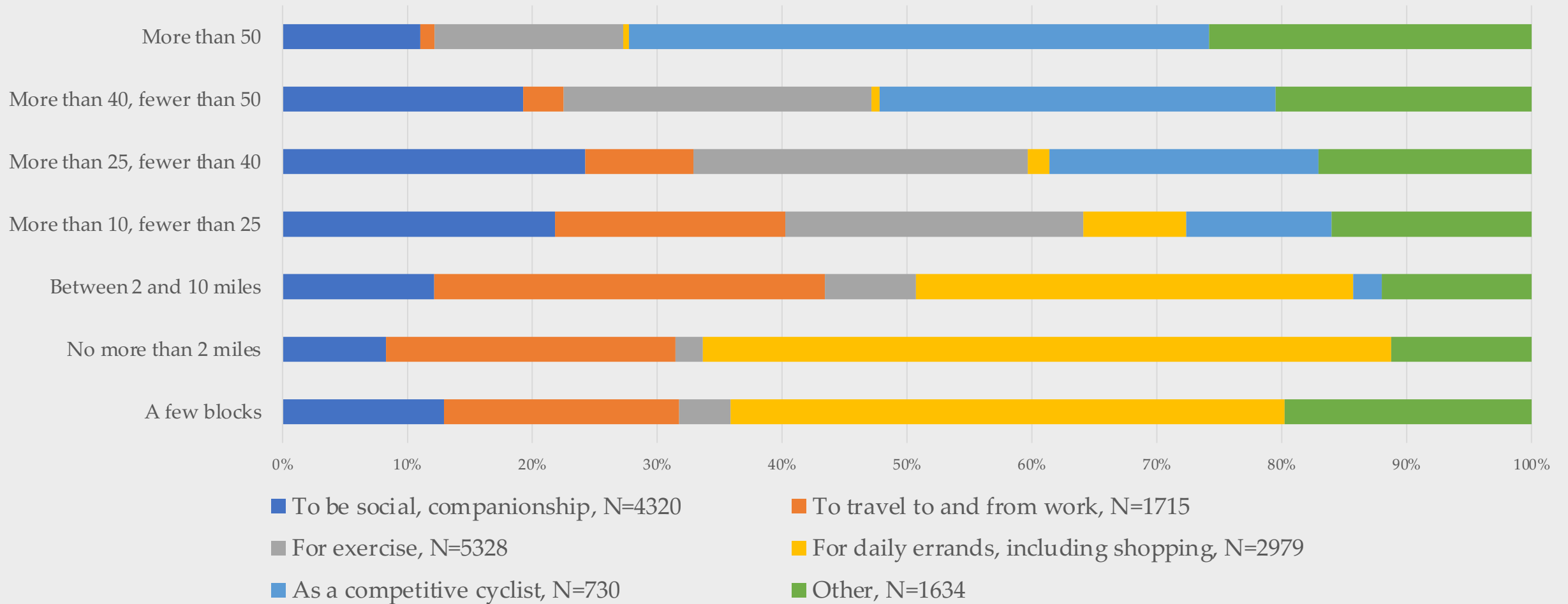
# Visual Preference Survey

Cycling Condition Caption, colors indicate safety & comfort score from low to high

1	Major urban collector with no designated bike facility	7	Suburban collector road with center median, a bike lane without buffer, and a sidewalk
2	Diagonal crossing between a buffered bicycle lane to a multi-use trail with a bicycle signal	8	Cycling pathway along a two-lane state route with wide shoulder, edge and center line rumble strips
3	Single lane roundabout with crosswalks and sidewalks for cyclists and pedestrians.	9	One-way buffered bicycle lane on an urban collector road with a center left turn lane
4	Shared road where people walking, cycling, scootering, driving, etc., can travel freely without designated pathways	10	Residential neighborhood street with parking and shared lane marking for bicyclists
5	Intersection with bike through lane between right turn lane and through lane	11	Rural road with no shoulder, low traffic volumes, and widely spaced out housing and other development
6	Two-lane neighborhood commercial street with shared lane marking	12	Edge lane road with bicycle priority



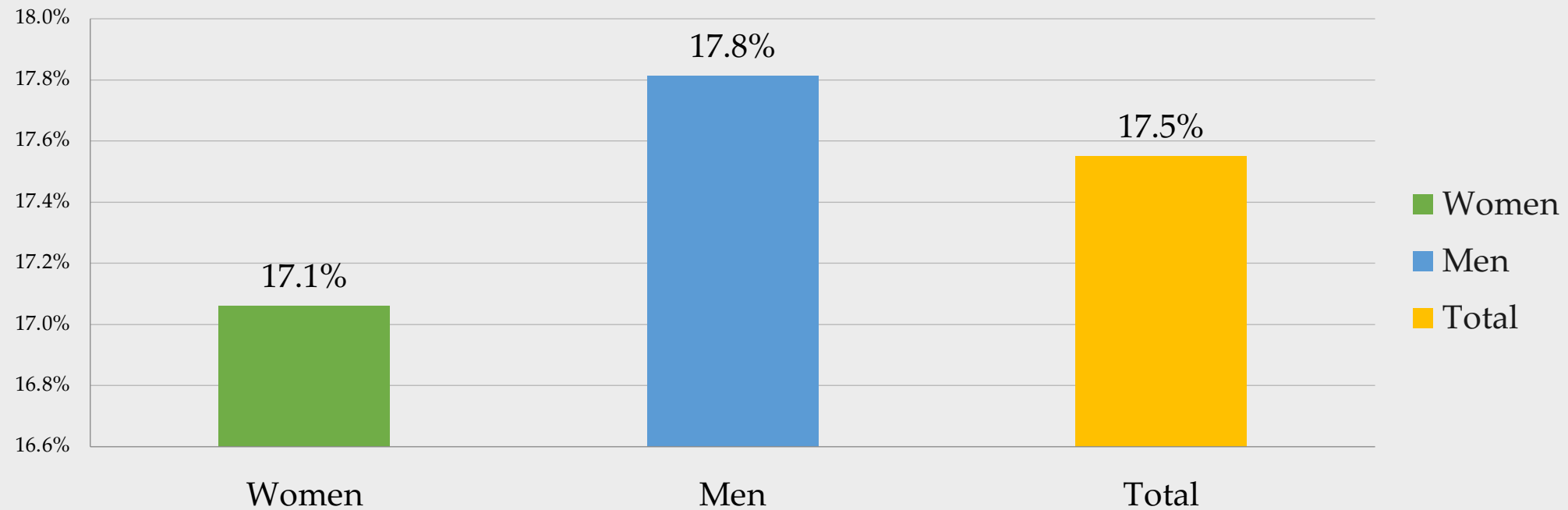
## Trip Purpose and Distance





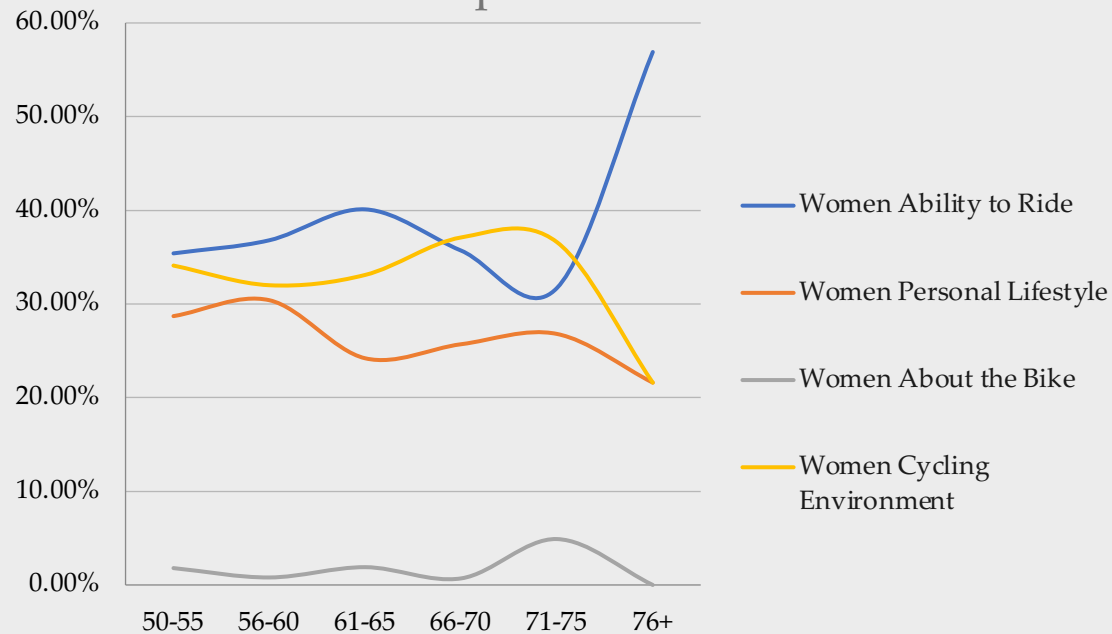
# eBikes

**eBike Ownership Rates**

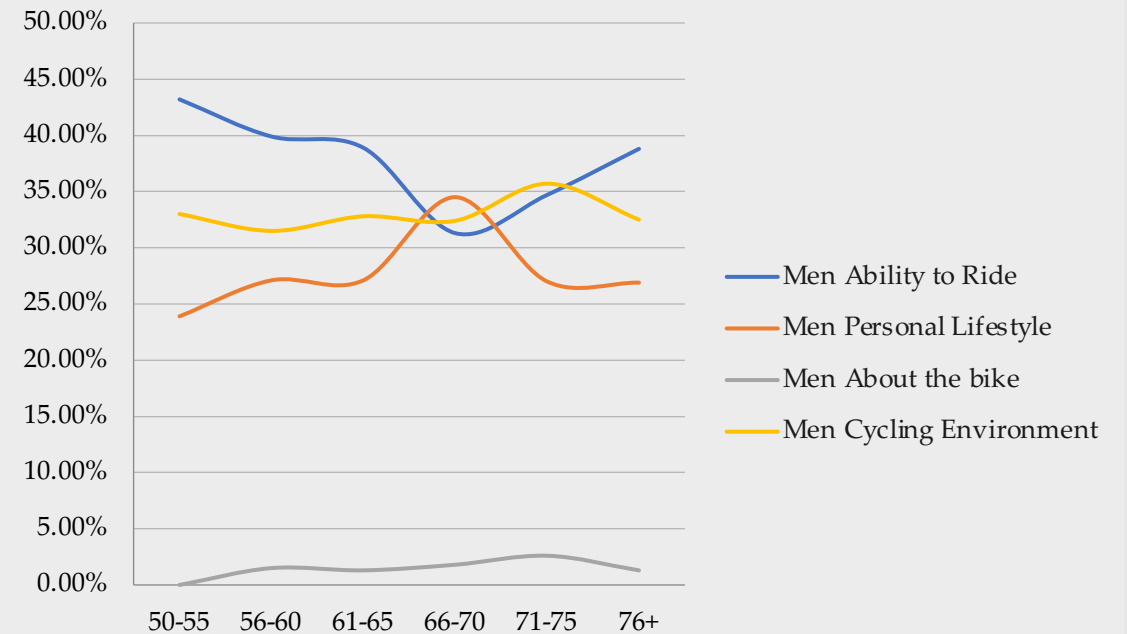


# eBikes: Reason for purchase

Reason for eBike Purchase, Women by Age Group

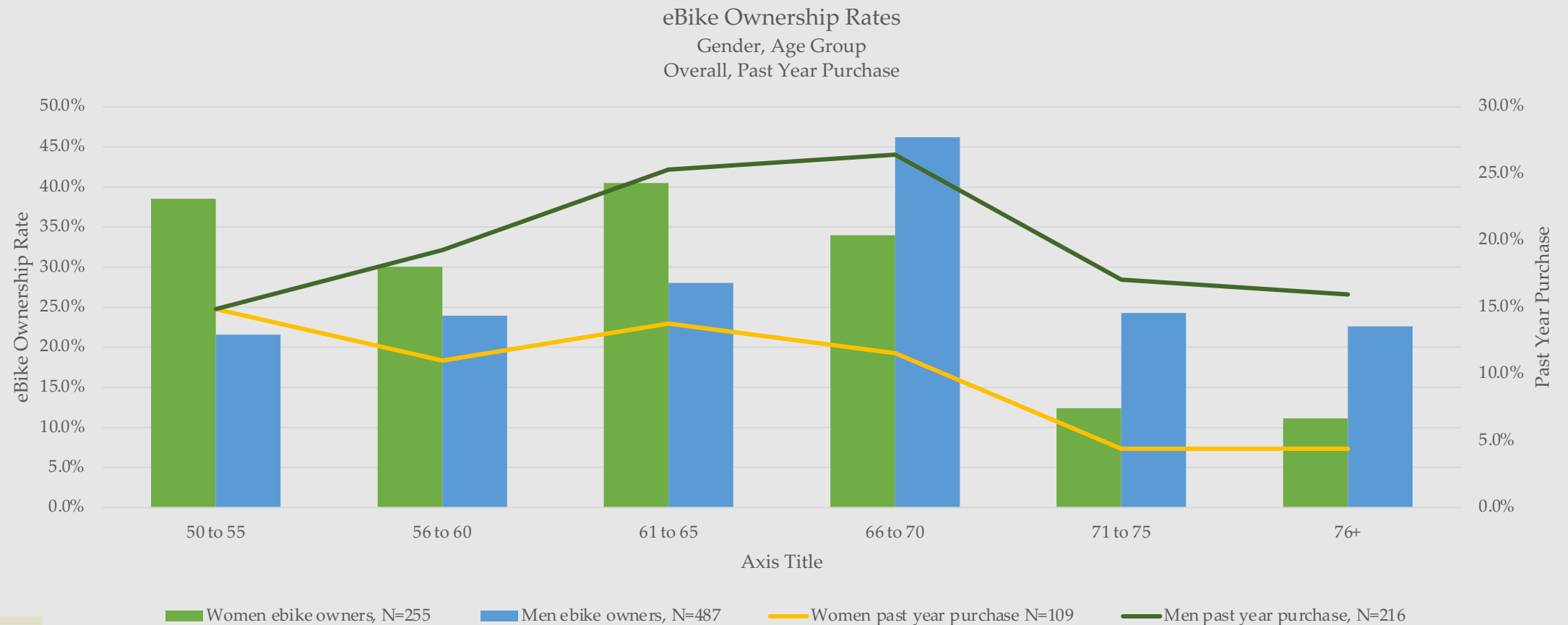


Reasons for eBike Purchase, Men by Age Group

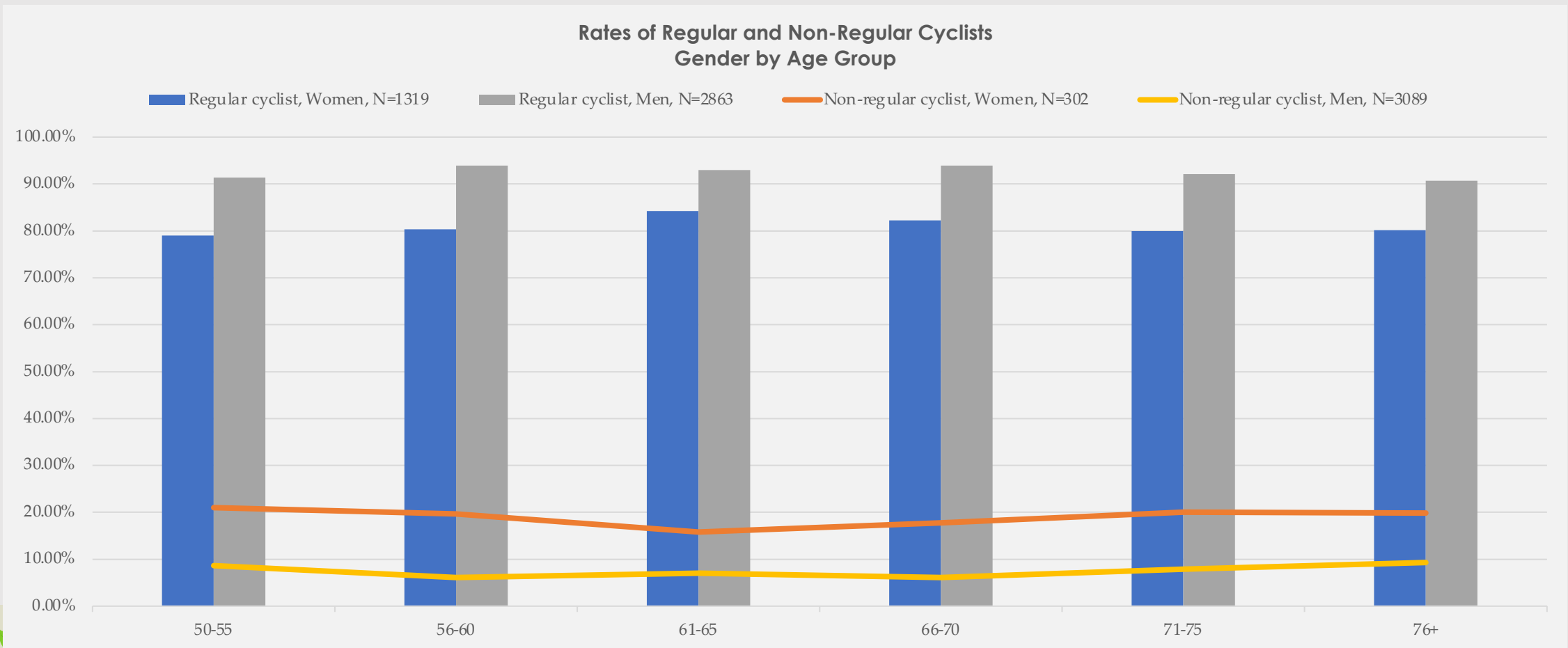




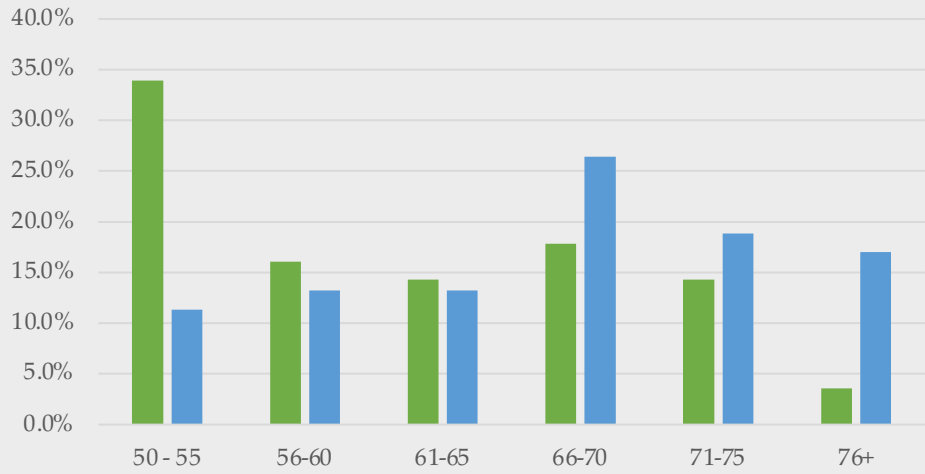
# eBike Ownership rates



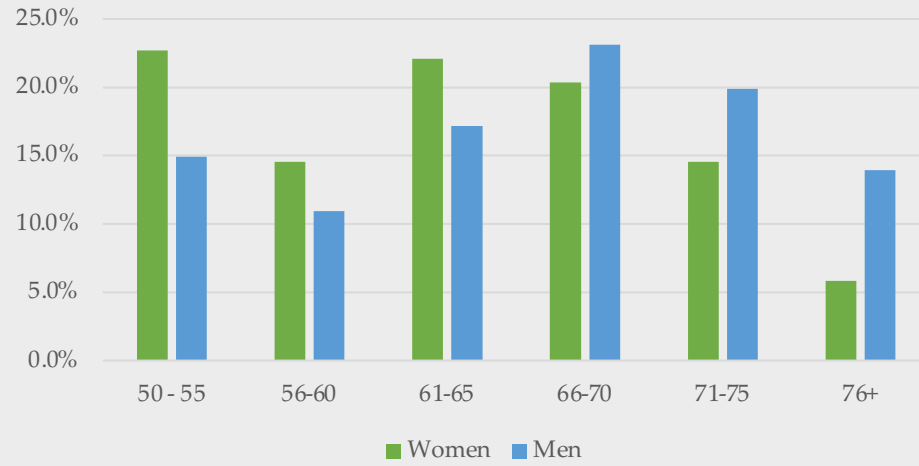
# General characterizations: Regular, Non-regular



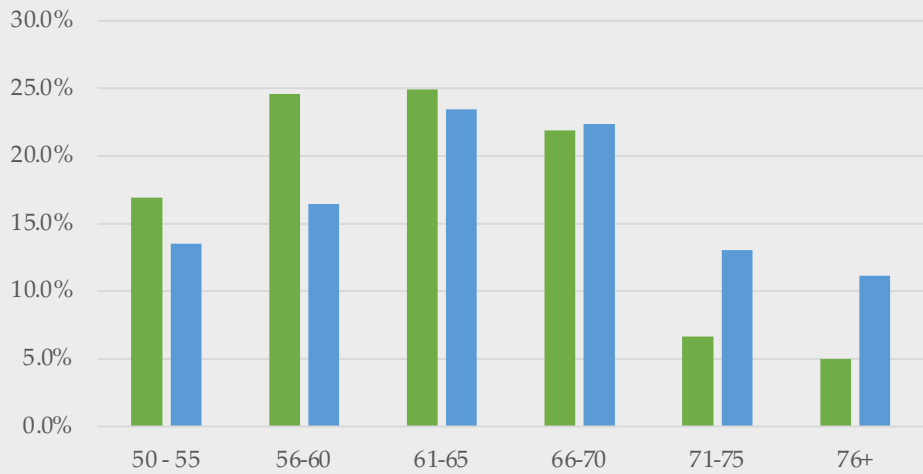
Interested but Concerned



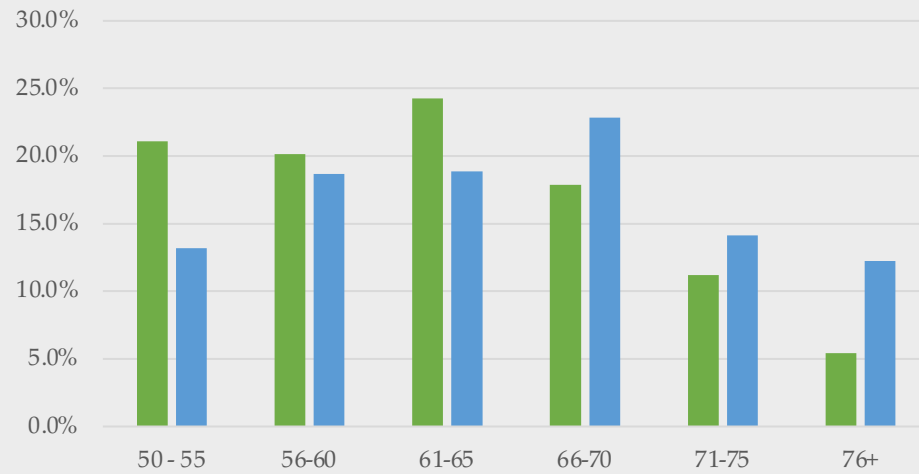
Casual and Somewhat Confident



A Mix of All



A Mix of All



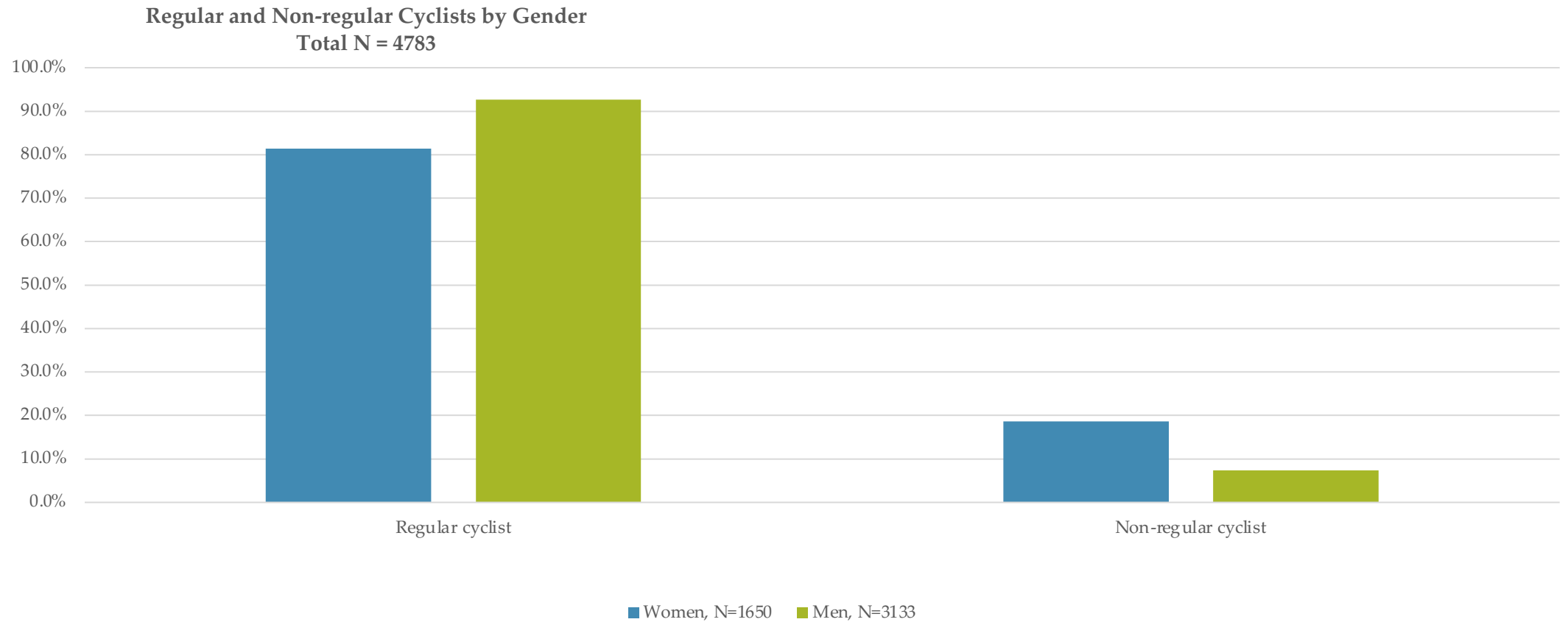
Women



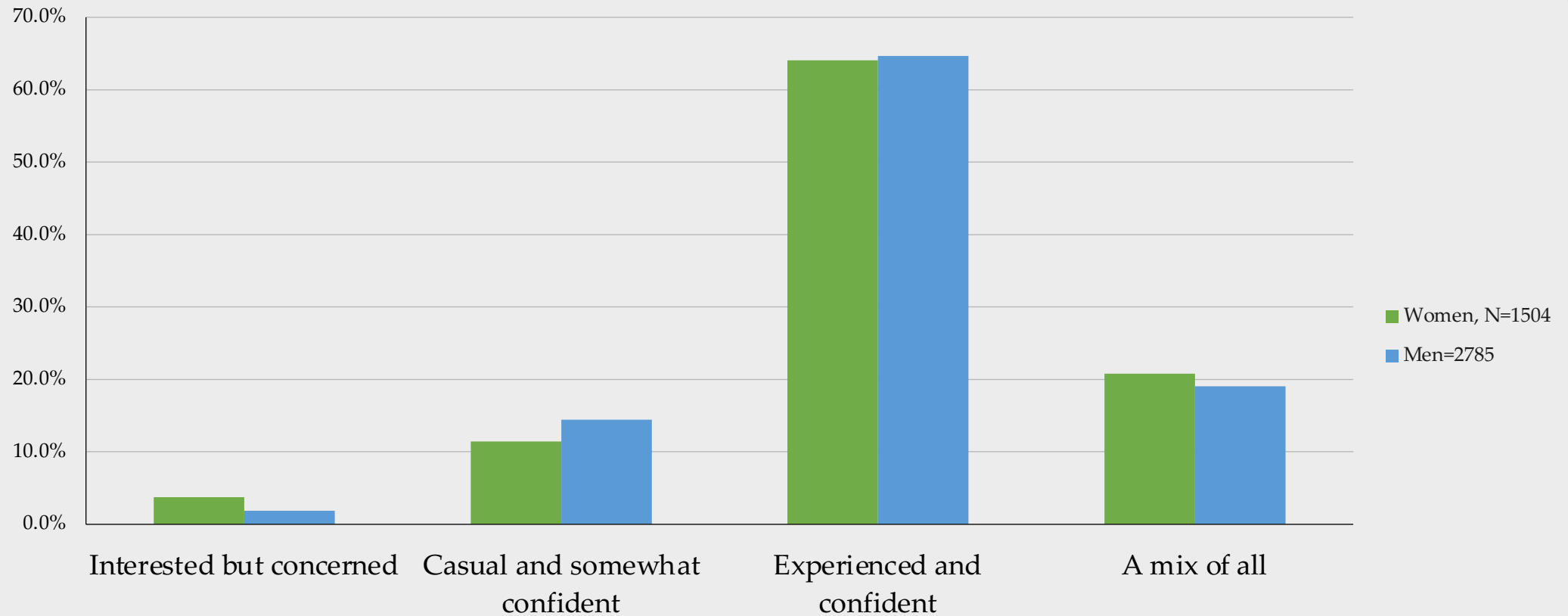
Men



# General characterizations: Regular, Non-regular



# General characterizations: Type of Cyclist (evolved 4 types)



# Questions

- Why is it so important to examine this population separately from other communities of cyclers? How might we extend this methodology toward other groups with differing needs?
- Has there been much research on the transportation habits and behaviors of this population previously? Why or why not?
- This population seems more vulnerable in some ways when it comes to sharing the road—what can transportation professionals and planners learn from looking at the habits of this population that will help other road users as well?



# Questions

- Can you tell us more about the intersection of age with other factors such as gender, ethnicity, etc.? For example, it looks like 60% of respondents in the survey were men. What can this information tell us about who is cycling and our transportation infrastructure?
- Does examining the cycling habits of older adults and finding ways to empower this population also, in some ways, pave the road forward for younger generations of cyclists?
- What is something that surprised you about survey responses? Why?

# Questions

- What bicycle adaptations are available for older adults?
- Do you have any studies on cyclists with knee surgery and/or shoulder surgery?
- How to get older adults RE-engaged into cycling?
- Precedent for age discrimination lawsuits when electric bike rentals don't include three wheeled bikes for seniors?
- I'm hoping you'll devote some time to discussing the new issues of seniors on ebikes! Some very new riders going fast!

# Questions

- As a transportation engineer having worked for a state DOT and the Federal DOT, I recognize that, due to your experience and involvement with older adults, you have a tremendous opportunity to influence design standards. As UrbanismSpeakeasy.com points out, an estimated 80 million Baby Boomers will be turning from driving to other forms for local travel and exercise. Planners and engineers discuss multimodal design for all ages and abilities, but maintain a primary travel design focus on drivers rather than cyclists and pedestrians. How do you convince state and local DOTs to change course?