

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

Project 2157.3
April 2023

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.¹

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.² 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.³

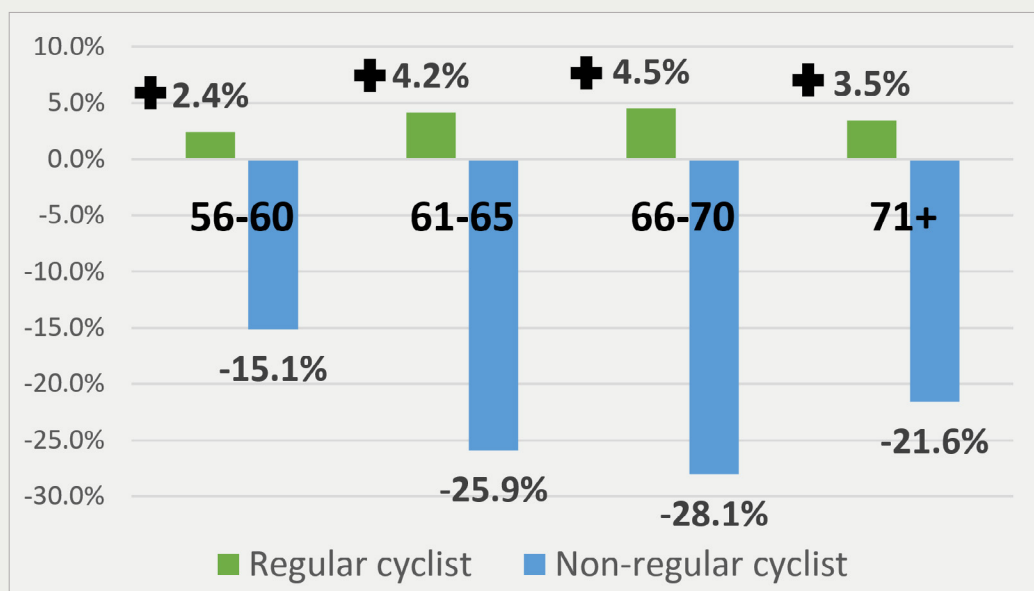
It's about the bike: what we learned about ebikes from the 50+ Cycling Survey, Year 4
dbITilde CORE, Inc., February 2023

Similar to changes in driving rates, the rate at which people cycle between age 60 and 80 changes. While the percentage of change is not known specifically, people responding to the [50+ Cycling Survey, Year 4](#), bring an understanding to this process. With encouragement and adjustments to the type of bicycle they use, as well as the places they cycle, many older adults can continue to do so, even if they cease driving. In fact, there are a number of people who completed the 50+ Cycling Survey, Year 4, who either cycle for transportation exclusively or have shifted many local trips from motor vehicle to bicycle.

Contrary to driving decreases, changes in life circumstances result in more cycling – whether its frequency or distance – as people age. These changes include retirement, losing a spouse or gaining a new partner, becoming a grandparent, and moving to a cycle-friendly community. In addition to sustaining one’s mobility, cycling offers physical and mental health benefits and the ability to enjoy local tourism, i.e., seeing their community from a bike seat and discovering new parts of it,⁴ as these comments from the 50+ Cycling Survey show:

- I discovered nearby cycling infrastructure (rail-trails) that have existed but of which I was not aware.
- I decided to cycle to less crowded grocery stores and do so more frequently.

Two survey questions provide some information about how ageing affects cycling rates: asking if the respondent considers themselves to be a regular cyclist and asking the respondent’s age. Just under 1600 people answered both questions. Respondents aged 50 to 55 were split with 86.1% considering themselves a regular cyclist, leaving 13.9% as non-regular. As Figure 1 shows, when comparing older age groups to this base, there is an increase in identification as a regular cyclist through age 70 and fewer considering themselves non-regular cyclists. Those in their 70s are more likely to consider themselves a non-regular cyclist, perhaps due to a decrease in the amount of cycling they do.



An older adult's social environment or physical or cognitive fitness affects how they think about mobility by driving or cycling. For example, declines in eyesight and hearing often result in reasons for family members or the older adult to be wary. The tables below offer information on approaches to age-related changes in driving and cycling. The first table cites 'what to look for' examples; the second details mitigations, i.e., ways to adapt when driving or cycling.

Reasons for the decline in both driving and cycling can be attributed to the ageing process. Family members and the person themselves may identify changes in their ability to drive or to cycle safely. Typical things to look for when driving or cycling are shown below, many of which are similar and related to changes due to ageing.

What to look for when determining when you should reduce or stop driving as you age	What to look for when determining when an older adult should reduce cycling
Other drivers often honk at you.	Motorists or other cyclists make comments about the pace of your cycling or the ways you cycle.
You often have close calls with other drivers.	You have near misses with others, especially faster cyclists and pedestrians.
You have trouble staying in your lane.	You have trouble cycling in a relatively straight line; and fall off trail edges or run into curbs.
You get lost, even on roads you know.	You are slow to make decisions related to navigating the route.
You have trouble moving your foot between the gas and brake pedals, or you get confused between the two.	You have trouble getting on and off the bike; and may fall when doing so.
You are having accidents, even if they are only fender benders.	You have trouble getting your foot out of clips (either type) or often fall over.
You miss traffic signs and signals while you are driving.	You get distracted and miss turns, run into others, or cycle off the pathway.
Other cars, people cycling, or people walking seem to appear out of nowhere.	You feel that others appear out of nowhere because of declining vision or hearing.
Loved ones express concerns about your driving. You feel scared or nervous when you drive.	You decline to ride on a given day because of not feeling up to it, even when you cycle with others.
	You have general balance issues when starting, stopping, cycling around corners.



Small changes in driving or cycling habits can allow someone to remain independently mobile for months or years beyond what may otherwise be possible. These small changes are similar for driving and cycling.

Ways older adults adapt to driving as they age	Ways older adults adapt to cycling as they age
Stop driving at night.	Stop cycling at night.
Avoid driving when it rains, snows.	Avoid cycling during wet, icy, or windy conditions.
Avoid interstates, sticking to slower-paced surface streets.	Use mainly trails or neighborhood streets. Avoid riding . . . <ul style="list-style-type: none"> ✓ Where there is high-traffic; ✓ along streets and trails without adequate maintenance, resulting in rough pavement, potholes, and debris; ✓ on roadways without designated cycling facilities; or ✓ along routes with frequent intersections.
Purchase a car with eyesight technology.	Purchase a radar detection system, get a louder horn; wear your hearing aids (!)
Stop serving as the driver for friends.	Cycle with friends for socialization and as a safety net in addition to the social benefits.
Adopt or refresh safe driving habits by taking a class.	Take a cycling course to refresh and learn new skills in light of ageing changes. One survey respondent said she was cycling more because she “..attended a road biking class and feel more confident to join hillier and longer rides.”
Learn how well their car fits through a CarFit program .	Switch to a different bike such as . . . <ul style="list-style-type: none"> ✓ a three-wheel adult bicycle if balance is an issue; ✓ a step-through if mounting a bike is an issue; an ebike if strength is an issue ✓ a tandem (cycling with a partner) if balance and other issues create uncertainty about cycling solo; or ✓ a bike with a different body position if there are neck and back issues.



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

Endnotes

1. <https://www.aarp.org/auto/driver-safety/driving-assessment/>
<https://www.healthinaging.org/tools-and-tips/tip-sheet-discussing-when-its-time-stop-driving>
<https://healthy.kaiserpermanente.org/health-wellness/health-encyclopedia/he.healthy-aging-is-it-time-to-stop-driving.zx3961>

The 50+ Cycling Survey, Year 4, data available upon request

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6713343/>
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6713343/https://drive.google.com/drive/folders/1DqJyEPE1svFNld-sga_W4bxMO6ii3ZPH

2. See Understanding physical activity differences among older adults... Gerontology and Geriatric Medicine, April 2022, DOI: <https://journals.sagepub.com/doi/10.1177/23337214221094187>
3. See Where are 15 minute cities most viable in the US? <https://www.movebuddha.com/blog/15-minute-cities/>
4. See Where everyday mobility meets tourism: an age-friendly perspective on cycling in the Netherlands and the UK, Journal of Sustainable Tourism 28(1):1-19, DOI: [10.1080/09669582.2019.1656727](https://doi.org/10.1080/09669582.2019.1656727)



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

Acknowledgements

The author would like to thank everyone who responded to the survey; Danielle Arigoni and Melissa Stanton from AARP's Livable Communities program for distributing the survey; Christine Lee of Cal Media Consulting for report layout assistance; Tony Hull of Civil Streets and Kristin Gladwin from Florida State University for their review and guidance; and MTI staff, including Executive Director Karen Philbrick, PhD, Deputy Executive Director Hilary Nixon, PhD, Public Programs Coordinator Alverina Eka Weinardy, and Graphic Design Student Assistant Minhvy Tran.

About the Author

Carol Kachadoorian has a breadth of knowledge and expertise in transportation planning and operations, which began in Alexandria, VA, where she served as a transit analyst before leading the City's first Office of Transit Services. After several years working with a family design-build company and at a major university, Carol returned to the transportation industry with the Washington, DC region's transit agency. There, she worked in operations and communications before focusing on pedestrian and bicyclists access to transit. Carol's work with Toole Design from 2008 to 2020 focused on school- and community-based active transportation plans. She started dbITilde Collaborative in 2020, specializing in older adult mobility and wellness. She describes the motivation for this work this way: *"At age 60, I began to consider what my professional and personal life would look like during the next 30+ years. Now in my late 60's, I am working to improve mobility for people as they age."*

This report can be accessed at
transweb.sjsu.edu/research/2157_3



MTI is a University Transportation Center sponsored by the U.S. Department of Transportation's Office of the Assistant Secretary for Research and Technology and by Caltrans. The Institute is located within San José State University's Lucas Graduate School of Business.