



# A Survey of U. S. Electric Bike Owners and Interested Consumers

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# Abstract

Electric bikes (e-bikes) give riders a motorized boost. This additional power has many significant benefits, including helping riders cycle up steep hills, improving the riding experience for older or relatively weaker riders, and allowing commuters to arrive at work neatly and not sweaty. These features have made electric bikes a trend in the United States, and while there have been two important North American electric bike surveys from Portland State University in 2013 and 2017, more research should be done to understand why people ride electric bikes and to identify those people. Our findings begin to answer these questions. first by identifying a clear trend which seems to indicate that older Americans, often older than 55, ride electric bikes for recreation and health.

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# Executive Summary

“Electric bikes are, in the most basic and simple sense, defined as bicycles with the added feature of an electric motor. It is this motor that makes an electric bike different from all conventional bicycles, and it is also the feature that enables electric bikes to offer users a different type of riding experience than that of a conventional bicycle.”<sup>1</sup>

“An electric bike gives riders an additional source of power. Most electric bikes allow riders to control when the motor kicks in and how much power it provides. This makes possible a wide scope of riding options ranging from fully leg-powered pedaling, a combination of pedaling and motor assistance, and, for EVELO models, fully motorized riding, allowing the cyclist to fine tune their riding experience to meet their specific needs and demands. With an electric bike, for example, elderly or inexperienced cyclists can confidently head out on rides knowing that if the terrain becomes too difficult, or if they start feeling tired or worn out, they can rely on the motor to help them get back home. Similarly, an electric bike can be helpful to a person trying to get back into shape, allowing them to gradually transition from lighter, primarily motor-assisted workouts to more intensive workouts that rely less and less on motor-generated power. Urban commuters might also use the motor to help them pedal up hills without breaking a sweat, so they can arrive at the office clean and ready to work.”<sup>2</sup>

The benefits of electric bikes have made them something of a trend. Researchers at Portland State University described electric bikes as “a rising phenomenon in North America.”<sup>3</sup>

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<sup>1</sup> Boris Mordkovich and Yevgeniy Mordkovich, *The Complete Electric Bike Buyer's Guide*. EVELO, Inc. 2015, 2018, chapter 2. <https://www.evelo.com/buyers-guide/02-what-makes-e-bikes-unique/>

<sup>2</sup> Mordkovich and Mordkovich, *The Complete Electric Bike Buyer's Guide*.

<sup>3</sup> John MacArthur, Christopher Cherry, Michael Harpool, and Daniel Scheppke. *A North American Survey of Electric Bicycle Owners*. Transportation Research and Education Center (TREC), 2018.

This begs the question who is riding electric bikes and why are they riding them. The answers to these questions will be very different in the United States than in other nations because of major differences in cycling cultures. Thus, this report will identify why Americans are purchasing (electric bike owners) or considering (interested consumers) e-bikes, and who these Americans are.

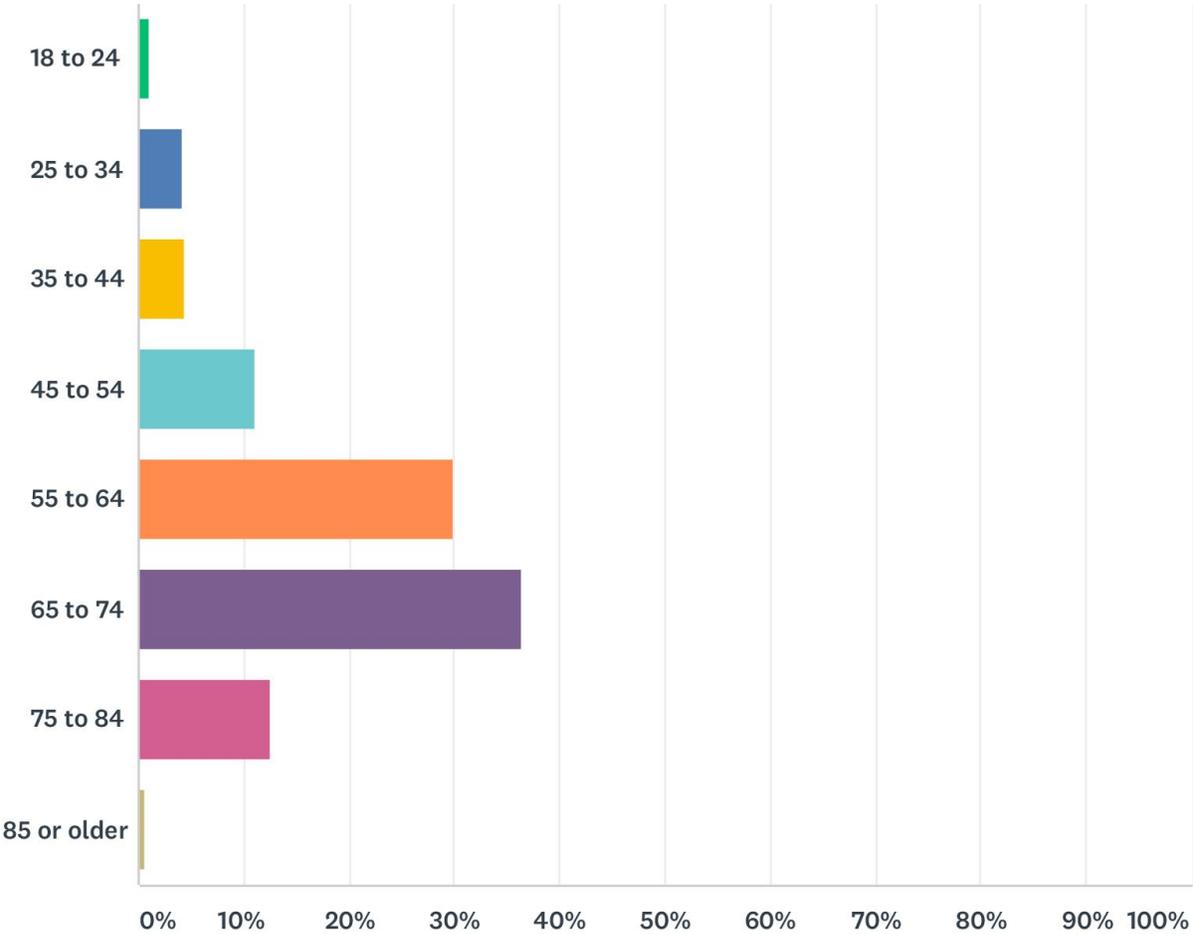
## Method

To this end, 1,157 American adults (74 percent male, 61.11 percent e-bike owners) were surveyed online from January 24 to March 15, 2019. The survey was circulated via email, Facebook, Twitter, Reddit, and a PRWeb press release. A vast majority of the response came from EVELO, Inc. email subscribers (1,013). This fact may have impacted the finding since it may be the case that the EVELO brand attracts relatively older cyclist than its competitors. Nonetheless, the results around age were similar to the results of the aforementioned Portland State University survey.

# Baby Boomers Dominate

Perhaps the most stunning fact gleaned from the survey was that electric bike owners and those shoppers interested in buying electric bikes are 55-years-old or older.

These individuals belong to the Baby Boomer cohort, and they represented 79.47 percent of survey respondents.



Respondents age 65-to-74 were the largest group, representing 36.36 percent of the 1,023 individuals who answered this particular question. The

55-to-64-year-old group made up 29.91 percent of responses, while the 75-to-84 range represented 12.61 percent of the answers. Some 0.59 percent of the respondents were 85-years-old or older.

If we include the next youngest age group, those who were between 45 years old and 54 years old, we can say that 90.61 percent of electric bike owners and interested consumers who responded to the survey were at least 45 years old.

What's more, when only electric bike owners are considered, the group tends to be even older with 81.46 percent of respondents being at least 55 years old.

As surprising as this fact may be – 90 percent of e-bike owners and interested consumers are 45 years old or older – it is not unexpected.

A 2017 survey from the National Institute for Transportation and Communities (NITC) and Portland State University reported that 67.2 percent of electric bike owners were age 45 or older.<sup>4</sup>

The NITC report and this survey certainly differ. This survey drew its respondents primarily from EVELO customers. The company has specifically sought out Baby Boomers because it believed these mature customers were at once underserved and valuable.<sup>5 6</sup>

In contrast, the NITC study included industry insiders, who may be relatively younger than a typical electric bike consumer. Nonetheless, the surveys agree that electric bike enthusiasts tend to be mature adults.

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<sup>4</sup> MacArthur, Cherry, Harpool, and Scheppke. *A North American Survey of Electric Bicycle Owners*, 12.

<sup>5</sup> Constance Gustke, *The Hottest Start-Up Market? Baby Boomers*. The New York Times, August 3, 2016. <https://www.nytimes.com/2016/08/04/business/smallbusiness/the-hottest-start-up-market-baby-boomers.html>

<sup>6</sup> Boris Mordkovich. *Why I Upended My Business To Focus On Boomers*. Forbes, May 17, 2017. <https://www.forbes.com/sites/nextavenue/2017/05/17/why-i-upended-my-business-to-focus-on-boomers/#1b465cef24e3>

# Could Money Be a Factor?

We know between 70-and-90 percent of electric bike owners and interested consumers surveyed both in 2017 and 2019 are at least 45 years old. But why?

One often cited reason may be money. The thinking goes that mature adults may have relatively more disposable income, and thus, may be better able to afford an electric bike, which, almost by definition, is more expensive than a conventional bicycle.

In the fourth quarter of 2018, median weekly wages and salaries for American workers stood at \$897.<sup>7</sup> This number works out to be \$46,644 per year.

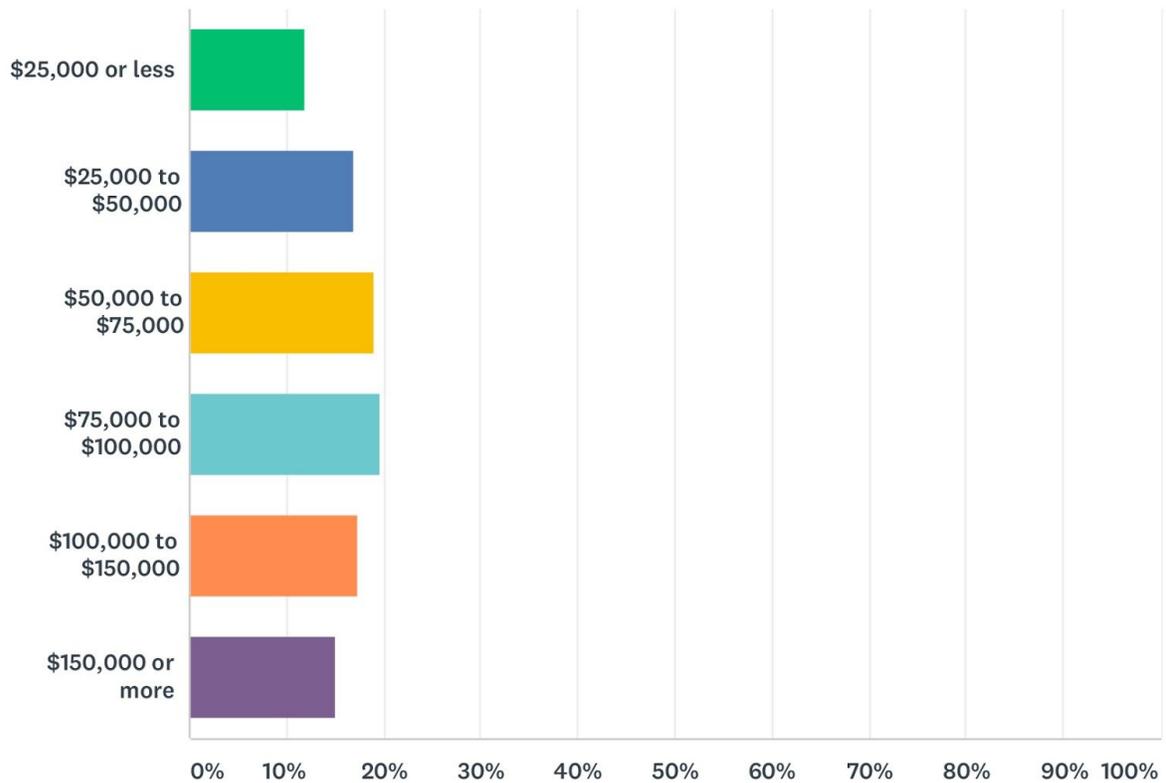
Of the respondents to this survey, at least 71.16 percent earned \$50,000 or more each year or about \$962 per week (per household), possibly placing them above the apparent U.S. median per individual worker.

More specifically, 15.15 percent of respondents had annual household incomes of \$150,000 or more. Some 17.40 percent had annual household incomes between \$100,000 and \$150,000. About 19.65 percent of individuals who responded had an annual income between \$75,000 and \$100,000, while 18.96 percent of respondents had annual incomes of \$50,000 to \$75,000.

Some 17.01 percent of survey responses came from households with annual incomes between \$25,000 and \$50,000, while the remaining 11.83 percent of responses were from households bringing in \$25,000 or less.

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<sup>7</sup> Usual Weekly Earnings of Wage and Salary Workers Fourth Quarter 2018. The U.S. Census Bureau, January 17, 2019. <https://www.bls.gov/news.release/pdf/wkyeng.pdf>



It is important to note, however, that the comparison between the weekly average median income and the income question on this survey is imperfect. The average median income is reported per worker, while the income levels described in the survey were per household. U. S. household income is probably closer to an average of \$62,000.<sup>8</sup>

Regardless, it does appear that electric bike enthusiasts are also relatively high earners. And while we cannot say that this is a cause, it may well be that at least some mature adults are better equipped financially to purchase electric bikes.

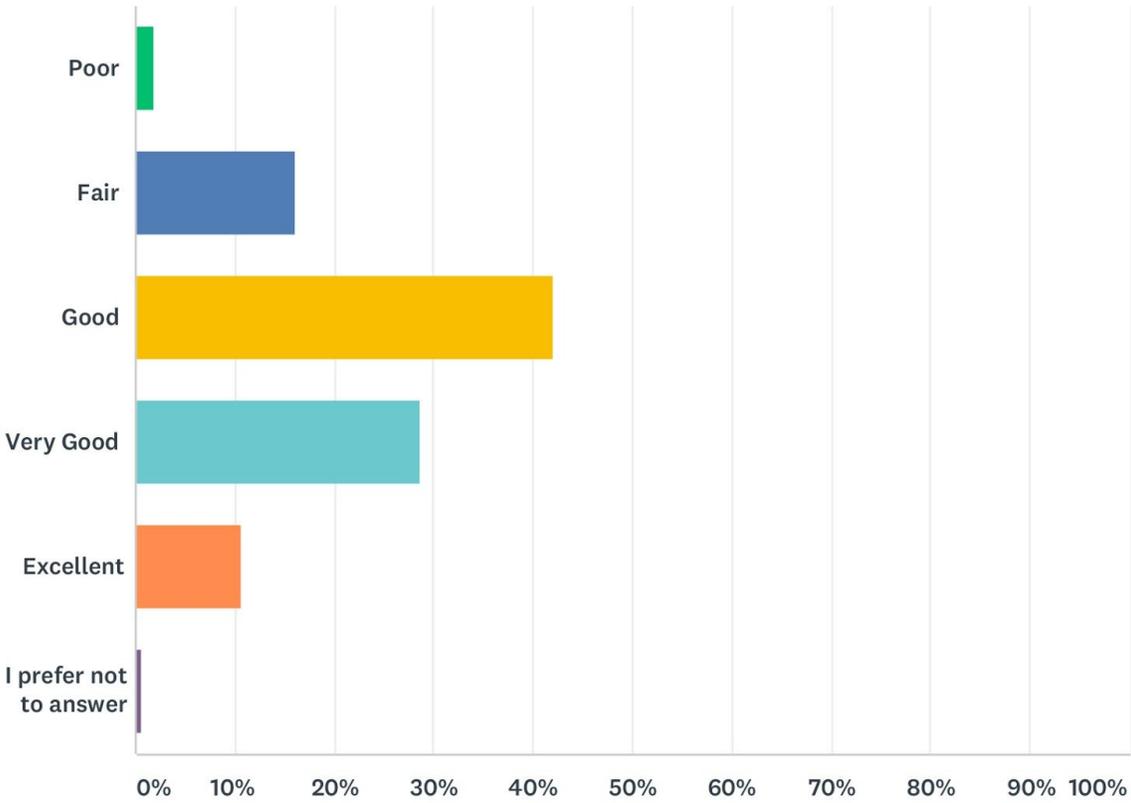
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<sup>8</sup> Paul Davidson. Median U.S. household income rises 1.8 percent to record \$61,400 in 2017. USA Today, September 12, 2018. <https://www.usatoday.com/story/money/2018/09/12/median-household-income-rises-1-8-61-400-2017/1272004002/>

# Is Health a Factor?

Another possible reason to choose an electric bike is health. Is it conceivable that electric bike owners and interested consumers, who are mature adults, may also ride an electric bike because they are not healthy or fit enough for a conventional bicycle?

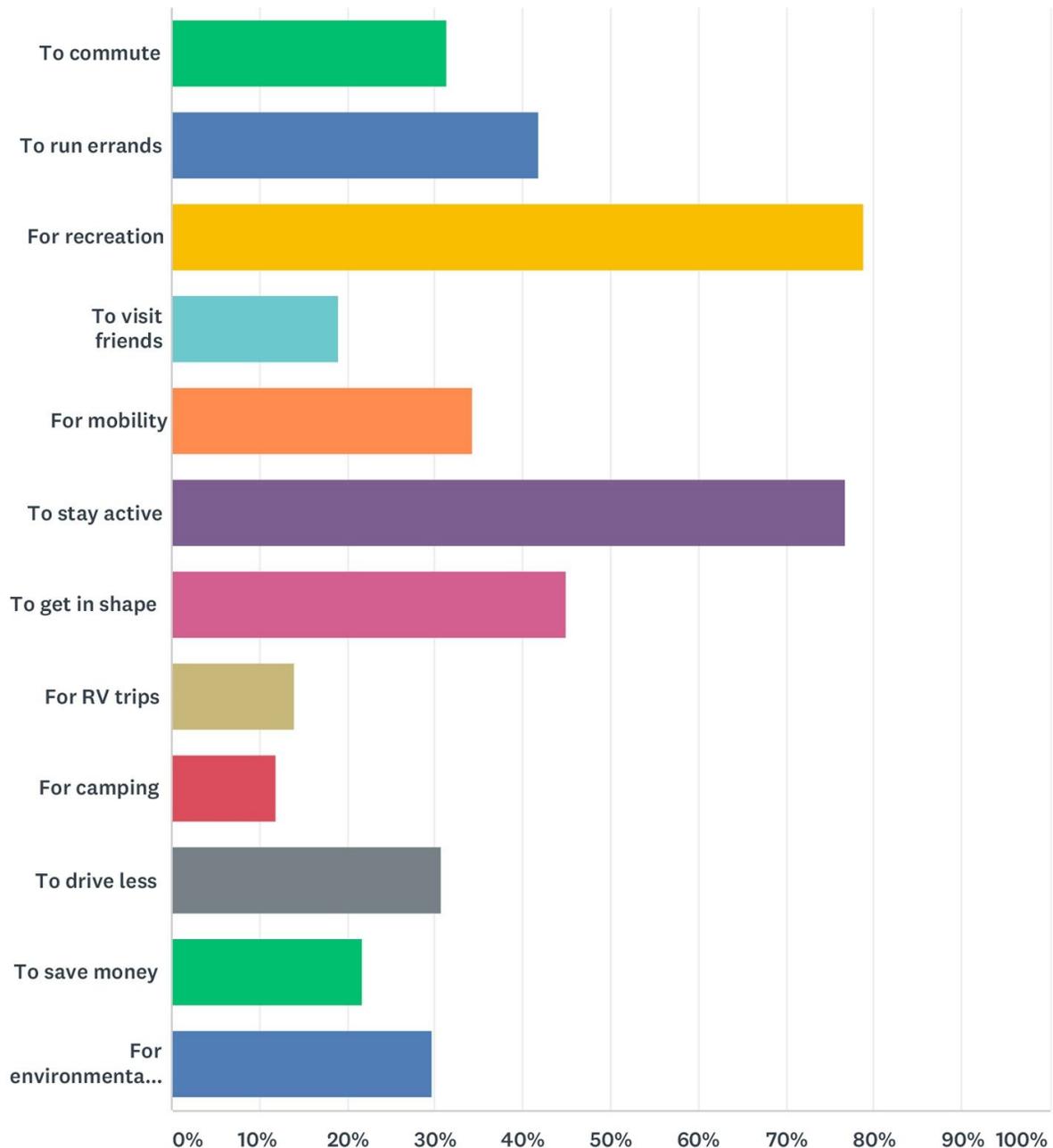
This hypothesis is sometimes discussed, but the survey respondents seem to dispel it.



Of those surveyed, 42.12 percent said they were in good health, 28.6 percent were in very good health, and 10.68 percent were in excellent health. Some 16.06 percent of respondents said they were in fair health and only 1.96 percent of those surveyed described themselves as being in poor health. Finally, 69.50 percent said they could ride a regular bike.

# Why Ride an Electric Bike

Given that you have the means to purchase an electric bike and generally the capability to ride it, why would you? It turns out you probably want the bike for recreation and health.



## Recreation, Activity, and Health

Survey respondents could choose multiple answers to the question, “Why did you buy (or do you want) an electric bike?” Some 78.89 percent of respondents selected “for recreation,” making it the most popular choice by a relatively thin margin over “to stay active” at 76.79 percent.

The third most popular choice with 45.08 percent of responses was “to get in shape.” Other recreation-or-activity-oriented responses included “to visit friends” at 19.1 percent, “for RV trips” at 14.04 percent, and “for camping” at 11.94 percent.

These results make sense given that “an electric bike helps contribute to a more fit, active, and well-balanced lifestyle.”<sup>9</sup>

For example, riding an electric bike could encourage a reduction in body fat percentage and thereby help to combat type-2 diabetes.<sup>10</sup> Riding an electric bike has also been associated with improved cardiorespiratory performance in adults,<sup>11</sup> and “riding an electric bike just a few times a week may improve brain function in adults 50-years-old and older.”<sup>12</sup>

Then there is fun. Riding an electric bike can be a lot of fun (recreation), and may make it easier to enjoy riding with others.

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<sup>9</sup> Mordkovich and Mordkovich, *The Complete Electric Bike Buyer's Guide*. Chapter 3.

<sup>10</sup> Armando Roggio. *Electric Bikes Could Help to Combat Type-2 Diabetes*. EVELO, Inc. <https://www.evelo.com/blog/electric-bikes-could-help-to-combat-type-2-diabetes/>

<sup>11</sup> Armando Roggio. *Riding an Electric Bike Improves Cardiorespiratory Performance in Adults*. EVELO, Inc. <https://www.evelo.com/blog/riding-an-electric-bike-improves-cardiorespiratory-performance-in-adults/>

<sup>12</sup> Armando Roggio. *Pedal Power Equals Brain Power for Adults over 50*. EVELO, Inc. <https://www.evelo.com/blog/pedal-power-equals-brain-power-for-adults-over-50/>

During a 2019 presentation to RV owners at the Southeast Area Rally in Florida, EVELO's Bill Cummings said this:<sup>13</sup>

“So this is something that really stands out. A lot of times bikes are bought in pairs. Kind of the ‘his and her’ thing. Now if you think about being on a traditional bicycle, you’re like ‘hey honey, let’s go for a bike ride.’”

“Naturally, one person is stronger and faster than the other and typically it turns into this situation where somebody is three blocks ahead going ‘ah, hurry up.’ The other person is behind going ‘I feel bad and would you slow down.’ Then they finally meet up and then there’s maybe a little bit of conflict.”

“That changes on an electric bike. You could choose. One person could use the motor less, one person can use the motor more and suddenly you’re rolling down the beach together going ‘look at the beautiful sunset.’ It really is transformational and it becomes that idealistic view of a bike ride together.”

## Mobility, Transportation & Commuting

For some survey respondents, electric bikes may also improve mobility and offer an alternative to an automobile, motorcycle, or similar.

Some 41.83 percent of respondents selected “to run errands” as one of the reasons for buying or wanting an electric bike. Of those surveyed, 34.83 percent also selected “for mobility,” 31.33 percent chose “for commuting,” and 30.66 percent want “to drive less.”

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<sup>13</sup> *E-bikes Basics for RVs, Couples, and Fun*. EVELO, Inc.  
<https://www.evelo.com/blog/e-bikes-basics-for-rvs-couples-and-fun/>

Survey respondents could also write a response to this question. Many of these unique responses supported the idea that an electric bike could be used for commuting, transportation, and mobility. Here are some examples.

- "I prefer not to drive an automobile due to a previous accident."
- "Tired of too many bad car drivers tailgating me for driving at or below the speed limit."
- "I can't drive anymore...after two brain surgeries and don't want to give up."
- Transit for groceries, local events, social, Dr. appointments."

## Money and the Environment

The remaining two reasons on the list included "to save money" which 21.68 percent of respondents selected and "for environmental reasons" which was chosen by 29.80 percent of those surveyed.

More could be learned about how the relatively low cost of owning an electric bike<sup>14</sup> and how a desire to be a good steward of the environment impact the choice to buy. These subjects could be the topics of a follow-up survey.

## Other Findings

In addition to learning that a vast majority of electric bike owners and interested consumers are at least 45 years old and that many riders want an electric bike for recreation, health, or mobility, the survey also asked basic questions about the respondents and their purchases.

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<sup>14</sup> Armando Roggio. *A Dollar Will Take You Less Than Two Miles in a Car*. Medium, January 9, 2019. <https://medium.com/@aeroggio/a-dollar-will-take-you-less-than-two-miles-in-a-car-ce3abe56e89>

# Electric Bike Ownership

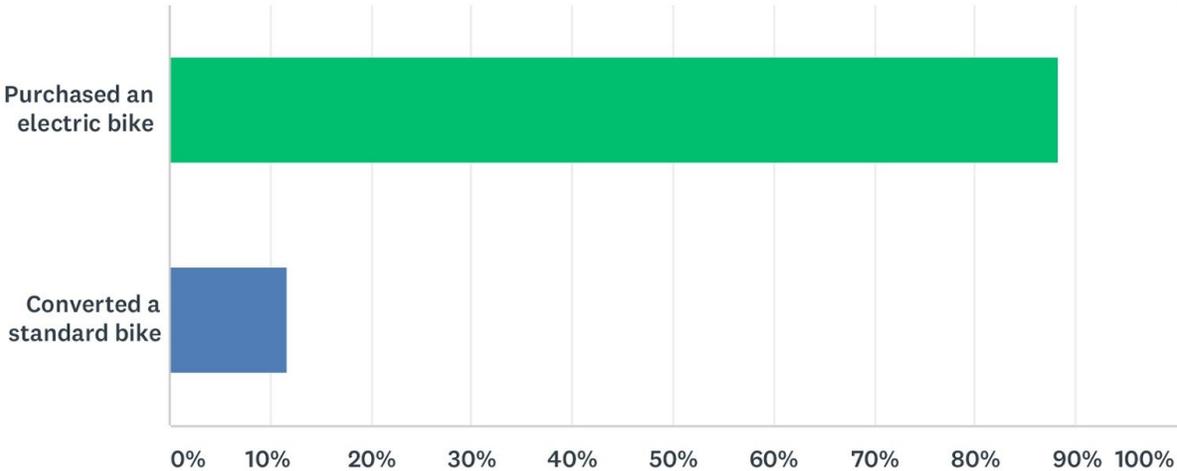
Of the 1,157 total respondents to the survey, 707 owned an electric bike and 450 were interested consumers, including 368 respondents who were currently seeking to buy an e-bike.

## Purchased for Personal Use

The majority of respondents had or wanted an electric bike for their own personal use (96.11 percent). Thus, relatively few of those surveyed were looking for an e-bike for a spouse, partner, or friend.

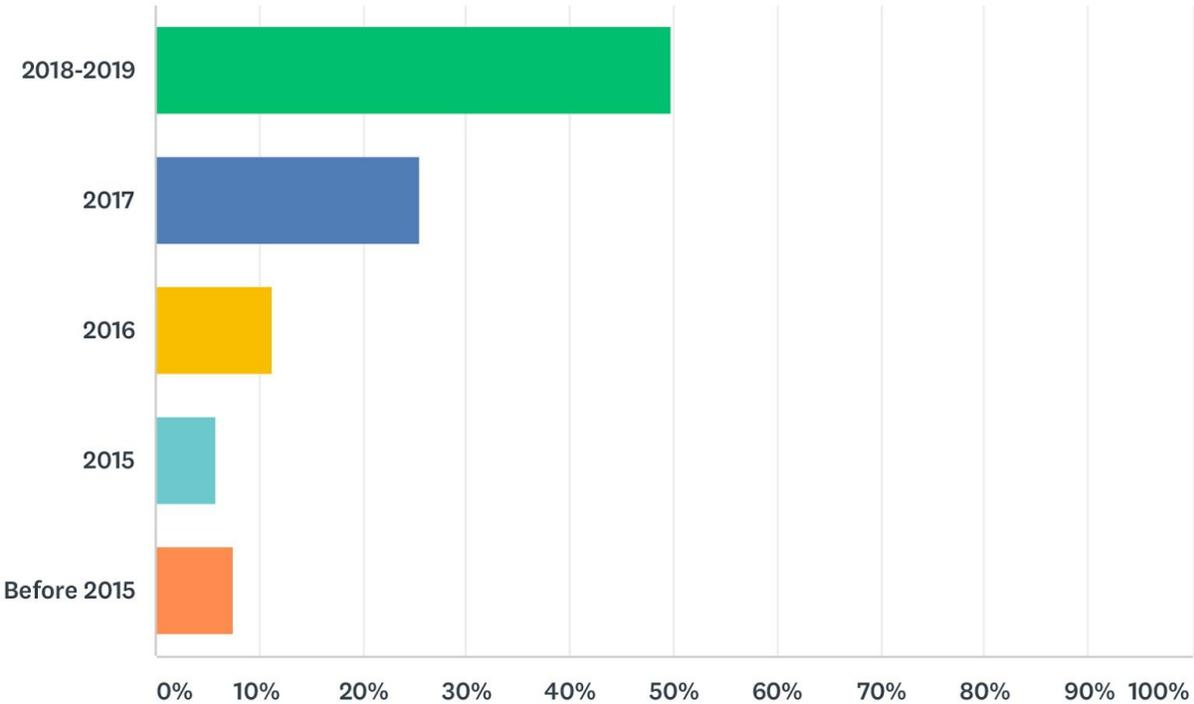
## Manufactured E-bikes Preferred

Respondents were far more likely to have purchased a purpose-built electric bike (88.36 percent) than to convert a conventional bicycle.



# Recent Purchases

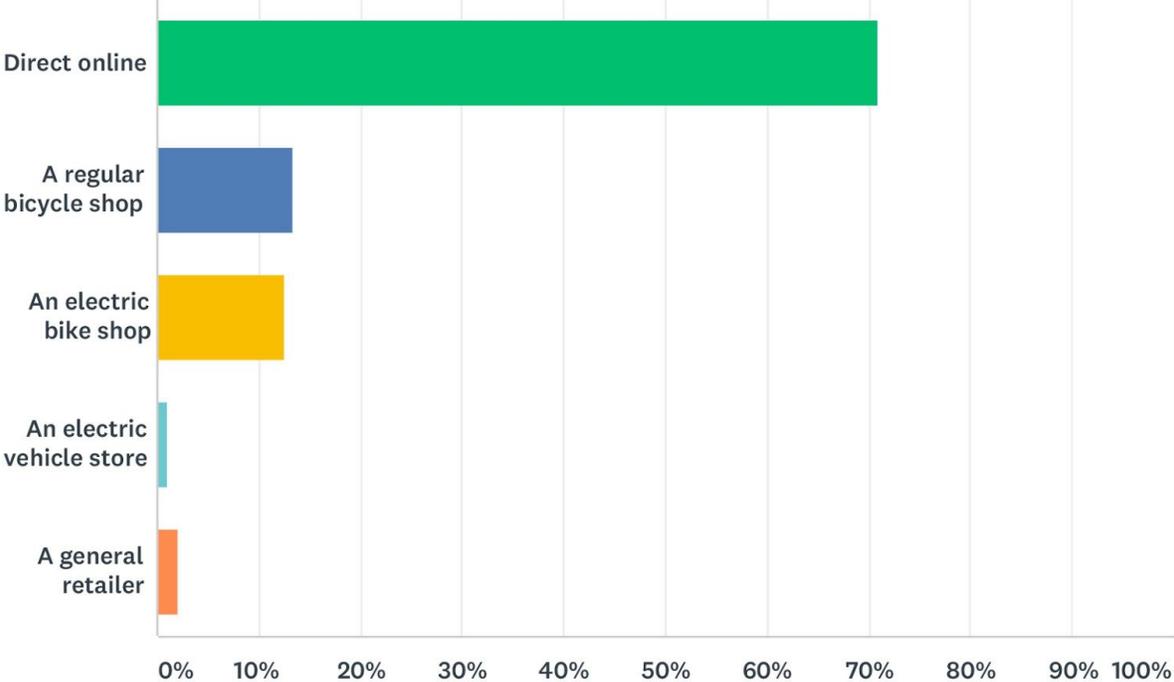
Some 75.29 percent of survey respondents purchased their electric bike since 2017. Of these 49.86 percent purchased an e-bike in 2018 or 2019, and 25.43 percent purchased an electric bike in 2017. About 7.47 percent of respondents bought an electric bike before 2015, 5.89 percent bought one in 2015, and 11.35 percent made their purchase in 2016.



# Direct Online Sales

Most of the survey respondents (70.92 percent) reported purchasing their electric bike or e-bike conversion kit online.

On the other hand, about 26 percent of those surveyed had purchased their electric bike either from a traditional local bike shop (13.38 percent) or an e-bike-specific brick-and-mortar shop (12.62 percent).



Electric bikes are a phenomenon in the United States and around the world. It is important to understand why riders want them, if EVELO and other electric bikes makers are going to meet consumer expectations.