

# What motivates people to walk and bike? It varies by income

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Different factors in the built environment motivate higher-income and lower-income people to walk and bike, new UW research finds. Credit: SDOT, flickr

Lower- and middle-income King County residents who live in denser neighborhoods—with stores, libraries and other destinations within easy reach—are more likely to walk or bike, according to new University of Washington research.

But neighborhood density didn't motivate higher-income residents to leave their cars at home, the transportation engineers found. Of the environmental factors they studied, the only one that significantly influenced how frequently that group walked or biked was how attractive they found their [neighborhoods](#) to be.

Dimensions of "attractiveness" that motivated the higher-income group included seeing other [people](#) when they walk in their neighborhoods, the attractiveness of buildings and homes and having interesting things to look at.

Those [research findings](#), based on a random survey of 547 King County households who live in the highest- and lowest-density neighborhoods around State Route 520 across Lake Washington, will be presented at the Transportation Research Board annual meeting in Washington, D.C., in January.

The survey, which was conducted in 2013, asked more than 100 detailed questions about people's travel habits and about the built environment near their homes. The median annual income range for the lower-income group was between \$40,000 and \$60,000, and for the higher-income group was above \$140,000.

The factors significantly associated with an increase in how often people in the lower-income households biked or walked in a week were higher neighborhood density, easy access to destinations, a younger average household age, having access to more bicycles and owning fewer cars.

"What drives these two groups of people to walk or bike is quite different," said senior author Cynthia Chen, a UW associate professor of civil and environmental engineering. "For the higher-income people, walking and biking is a largely result of choice, and our models show that the density of their neighborhoods and most other things in their built environment, such as the accessibility of destinations, don't really matter as much to them."

"For the lower-income group, walking and cycling appears to be the result of constraints, in which case higher neighborhood density and easy access to destinations are positively associated with more walking or biking," Chen said.

The number of bicycles in the household was the only factor associated with more walking and biking trips in both income groups. Each additional bicycle is related to 1.1 and 1.2 additional days that someone walked or biked in the last week for the lower-income group and the higher-income group, respectively. This lends support to Seattle's and other cities' bike sharing programs, researchers said.

Access to each additional vehicle in a household is negatively associated with the number of days that the lower-income group walked or biked in a week—reducing that number by 2.5 days. By contrast, the number of vehicles owned didn't matter for the higher-income group.

The survey, which asked people about everything from transit accessibility and safety to the prevalence of trees and traffic, also uncovered differences in how people in the two income groups

perceived their neighborhoods, though not all of those factors significantly influenced their travel behavior.

The researchers did find that people in the two income groups walked and biked for different purposes.

"People in the lower income groups were more likely to walk or cycle to get to their daily activities—they need to get to work, go to stores, buy some food," said lead author Xi Zhu, who graduated with a master's degree in civil and environmental engineering from the UW last spring.

"That's not something that influenced the higher income groups as much," she said. "They were more likely to make these trips for exercise or recreation."

Ultimately, the findings suggest that one-size-fits-all strategies to increase non-motorized travel aren't likely to be as effective across different neighborhoods, Chen said.

"The bigger question is, 'What leverages do we have to change people's travel behaviors?' This study suggests that certain land use strategies may only work for certain groups," Chen said. "It also suggests that policies to promote biking and walking need to be tailored to different neighborhoods and different populations."

Provided by University of Washington

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