

Researchers study transit, bike and e-scooter share during pandemic in Portland, Nashville

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Credit: Cait McCusker

The rapid spread of COVID-19 has changed the way most of the world moves through daily life, with many businesses having to temporarily close and students of all levels forced to transition to online courses.

Even so, [grocery stores](#), [medical facilities](#), and takeout restaurants remain open, requiring workers to commute to and from work. In metro areas, that can often mean taking some form of transit, potentially

exposing workers in these vital areas to the disease.

In a collaborative project between University of Tennessee at Knoxville and Portland State University, researchers Chris Cherry (UT), Candace Brakewood (UT) and John MacArthur (PSU) are studying the impacts of people's travel decisions on transit, shared bikes and e-scooters, and it comes with backing from a National Science Foundation RAPID Award.

These awards are granted for research with "a severe urgency with regard to availability of, or access to data, facilities, or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events." Events like our current pandemic.

Moving forward, the research team is partnering with local public agencies WeGo Public Transit, TriMet, and the City of Portland's Bureau of Transportation to look at commuting patterns in Nashville, Tennessee and Portland, Oregon. Bike share and e-scooter share companies Bird, Spin, and BIKETOWN as well as Transit app will also be providing support to track changes in ridership during recovery.

"Working closely with local and national partners will give us, and policymakers, a clearer picture of where transportation priorities and opportunities lie," MacArthur said. "We're hoping our models can help predict how city transit systems will recover for current and future public health crises."

The main question they wanted to answer was whether widespread adoption of new modes of transportation, such as [bike share](#) and [e-scooters](#), would offer workers a way to get to work without putting them in the close confines of other passengers on traditional transit, and whether people would even choose these modes in the first place.

"Transportation demand has dropped by 50-to-90 percent across all modes in the US, and [transit](#) has been particularly hard hit with micromobility modes like shared bikes and electric scooters also seeing large drops in use," Cherry said. "As travel demand recovers, it is important to understand the role of all shared modes in restarting the economy and maintaining social distancing."

One of the early findings is that answers to those questions vary greatly by city or region. In New York and Chicago, for example, bike share usage was up 65 percent from the same date the year before, but in Seattle and San Francisco, bike share use has plummeted.

The answer as to why there is such a variance may lie with the cities themselves.

"It, not surprisingly, is tied to the kind of response the city had to the virus," Brakewood said. "In Seattle and San Francisco, there was a greater shutdown of activity and at a sooner date than in Chicago and New York. Where businesses stayed open longer, workers were required to report longer, but the good thing is that it shows that those workers at least tried to find methods of commuting that still allowed them to be better spaced from others."

Beyond Nashville and Portland, the team will also look at ridership trends across various modes of transportation, giving them a more robust understanding of how other U.S. cities and the workers within them respond to times of crisis, helping guide future decisions.

Provided by Portland State University

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