



# UNIVERSITY TRANSPORTATION CENTER RESEARCH BRIEF

## Integrating Foot Access with Public Transit Service to Explore where there are Food Deserts

Felix Liao, PhD



### Background

Access to healthy food retailers remains a pressing issue in the U.S. and might have become a more serious problem amid the COVID-19 pandemic. Many studies have found that neighborhoods with high accessibility to healthy food retailers tend to have healthier food

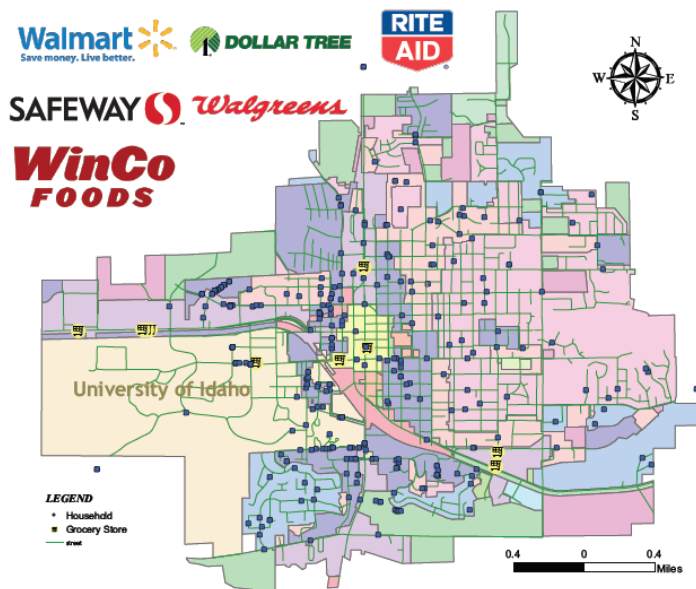
consumption habits and outcomes (e.g., lower likelihood of obesity and chronic diseases such as cardiovascular disease). However, it should be noted that the issue of food deserts can hardly be mitigated by solely steering new supermarkets or community gardens to low-income neighborhoods. Recent studies show that the key solution to food access would be more closely tied to transportation planning or the issue of accessibility. Neighborhoods with low accessibility to healthy food retailers are often associated with lower levels of car ownership. Residents living in this type of neighborhood might not be able to afford high transport costs for grocery shopping and probably prefer to purchase fast food nearby. Therefore, public transit could provide new opportunities to enhance accessibility to healthy food

retailers and is considered a cost-effective way to mitigate mobility constraints of disadvantaged groups with respect to food access.

### Research Project

The goal of this research is to quantify and better understand accessibility to healthy food retailers. The new \$1.2 trillion infrastructure bill calls for a transportation system that provides equitable access to jobs and critical amenities, such as schools, daycare, and healthy food opportunities. The U.S. Department of Agriculture (USDA) has called for the mitigation of food deserts which they define as “urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food”. This project aims to do the following:

- Identify spatial and temporal patterns of transit-based accessibility to healthy food retailers
- Estimate travel times at the census block group level to create a new food desert index
- Statistically evaluate socioeconomic disparities between residents living in neighborhoods with low access to healthy food retailers and the citywide average
- Develop an open-source toolkit in ArcGIS Pro, which enables planners to integrate data on transit services and food retailers’ characteristics in other cities.



### ABOUT THE AUTHORS

The research team consisted of Felix Liao of the University of Idaho.

### ABOUT THE FUNDERS

This research was funded by the Pacific Northwest Transportation Consortium, with additional support from the University of Idaho.

### EXPECTED DATE OF COMPLETION

March 2023

### FOR MORE INFORMATION

<https://depts.washington.edu/pactrans/research/projects/integrating-foot-access-with-public-transit-service-where-there-are-food-deserts/>