

## **Abstract**

The contemporary urban environment is often thought to be an area comprised of fixed objects with clear and identifiable boundaries. However, static interpretations of space overlook the fact that urban environments are susceptible to cyclical temporal variations, especially when it comes to healthy food availability. This study tests the claim that time promotes inequitable effects in access to healthy food. The study examines pedestrian food access in an urban environment using network analysis of roads and dasymetric mapping based on cadastral data to illustrate food access fluctuations. It also provides a detailed assessment of walking access to healthy food retailers for individual parcels at different periods during a single year. The application of the methods in this study provides a realistic assessment of food access in an urban environment so that developers and retailers have a better understanding of where retail spaces, farmers markets, and community gardens are needed. The assessment maps show lower access to healthy food during winter months due to seasonal closures of farmers markets and produce stands in addition to decreased harvest yields in community gardens. The results indicate that the portion of Everett's population that has 0.5-mile access to healthy food retailers during the peak of seasonal retail is 63% and drops to 52% during the fall and winter. Overall, the differences in access were significant. However, vulnerable neighborhoods were affected less than others. The findings suggest that alternative factors other than time could be more useful when determining a population's access to healthy food such as income disparity and transportation availability. This indicates the need for further research to identify more suitable ways of gauging access, and that temporal variations may not be as valuable in a food access study compared to others geospatial studies.