

Food Access in Washington County, OR

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Background

Administrators in Washington County, OR and staff from OSU Extension established a joint Food Systems Group in 2013. One of their primary interests is the accessibility of healthy food and the distribution of community gardens and farmers' markets around the county. They believe that proximity to healthy food options may be mitigated by racial and economic factors, and see this as both an equity and a public health concern. This study seeks to explore whether there is a relationship between proximity to different food sources and race.

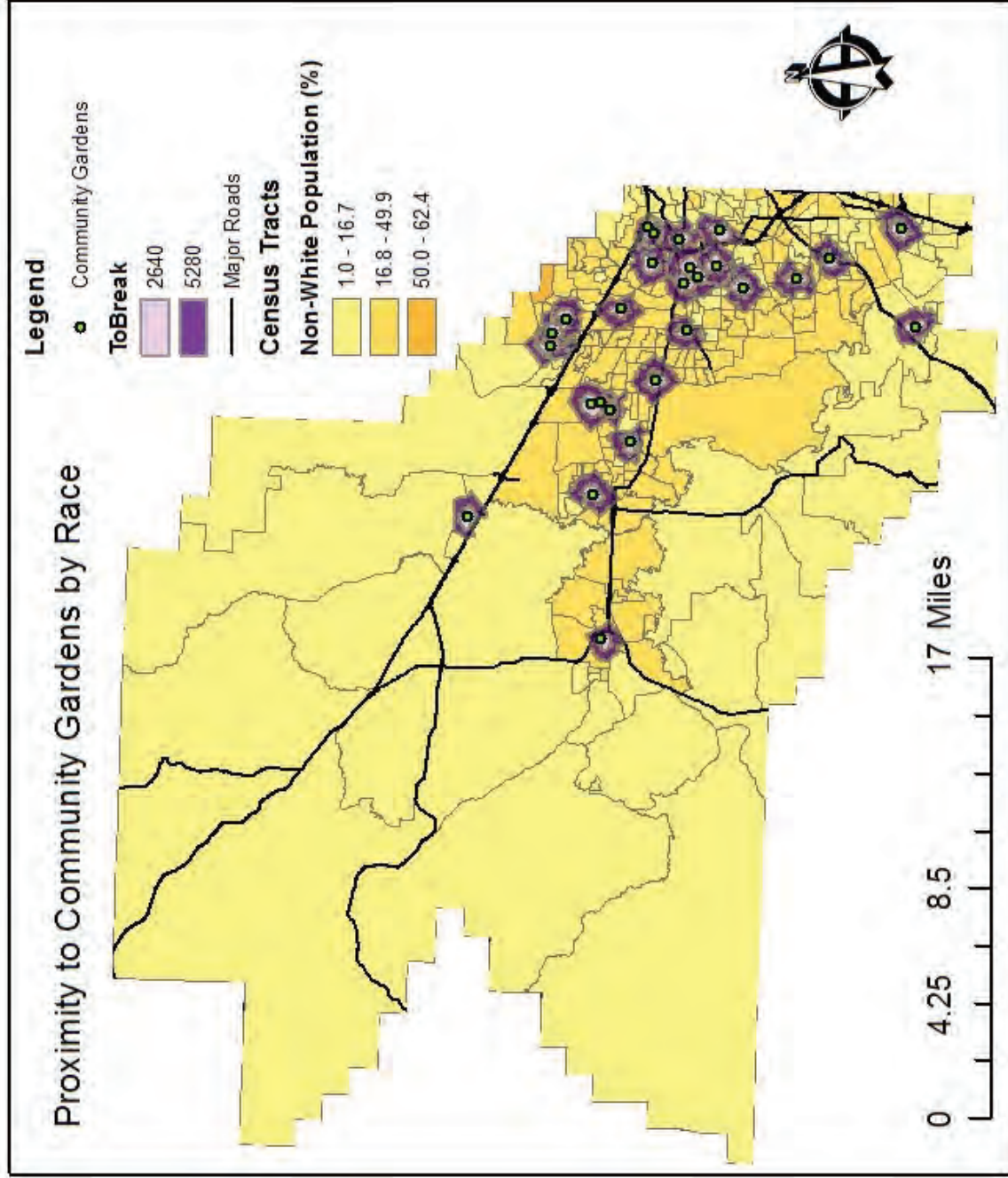
Methods

Shapefiles were clipped to the Washington County extent, including highways, roads, city limits, 2010 census tracts with demographic variables, and a layer with parks, water features, and city names. A list of county food sources (community gardens, farmers markets, grocery stores, and unhealthy food options) was taken from the Regional Equity Atlas and assessed for accuracy; the data was then added to the map and geocoded. Fast food and other restaurants were excluded from this analysis due to the complexity this step would have added (Richardson 2010). To address the issue of race, a field was added to the census attribute table. The field calculator was used to determine the percentage of non-white residents for each tract, i.e. the percentage of racial minorities. The results were symbolized using manual breaks with three levels - 1.0-16.7% (reflecting that the county as a whole is 16.7% non-white), 16.8-49.9% (representing tracts with above average but less-than-a-majority non-white populations), and 50.0-62.4% (representing tracts with non-white majorities). Finally, service areas were calculated for each food source using the Network Analyst tool, at distances of half and one mile (based on Goldsberry and Acmoody 2010, Mulangu and Clark 2012, and Richardson 2010).

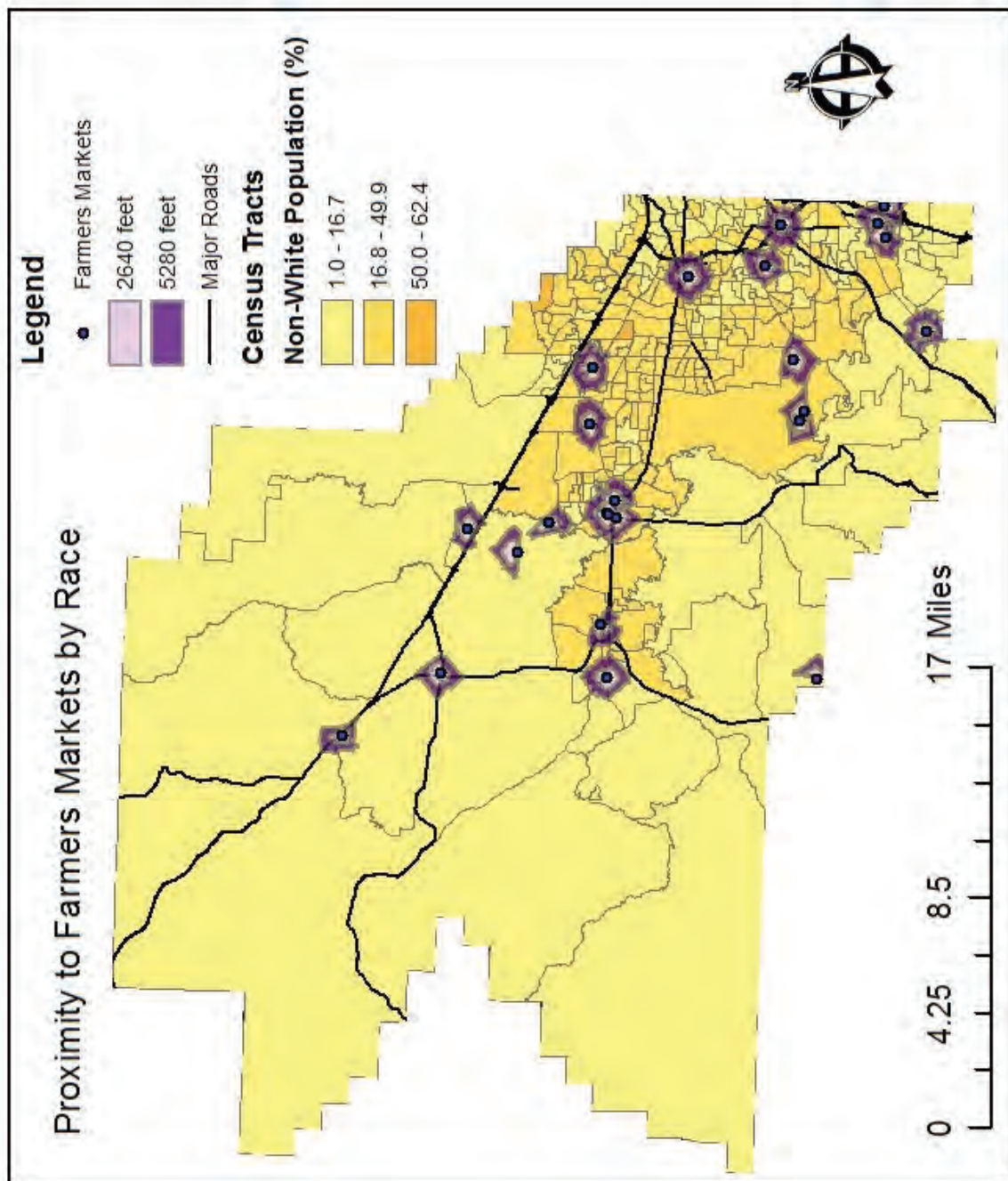
Proximity to Food Sources by Race

Half-mile and One-mile Service Layers

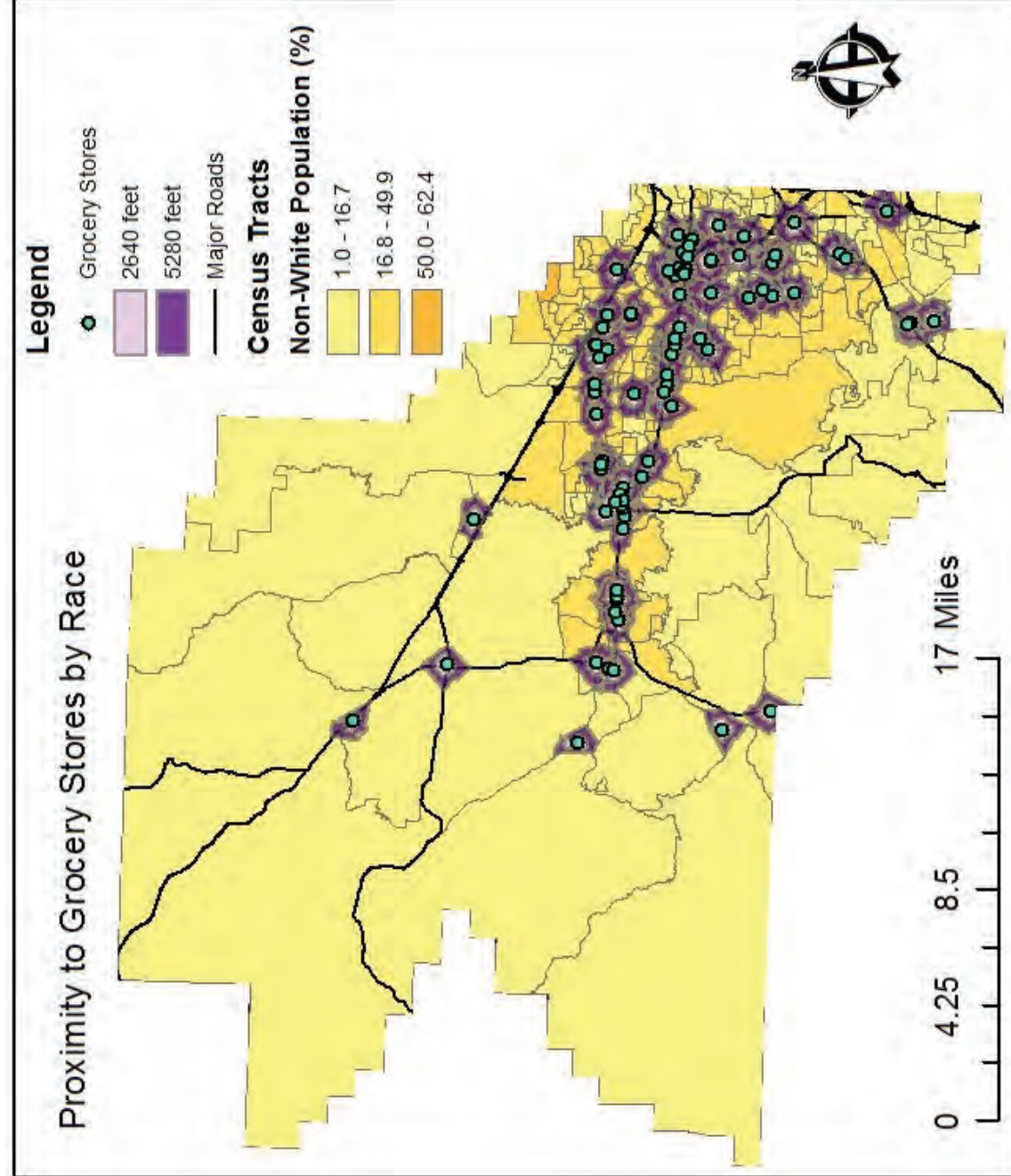
Community Gardens



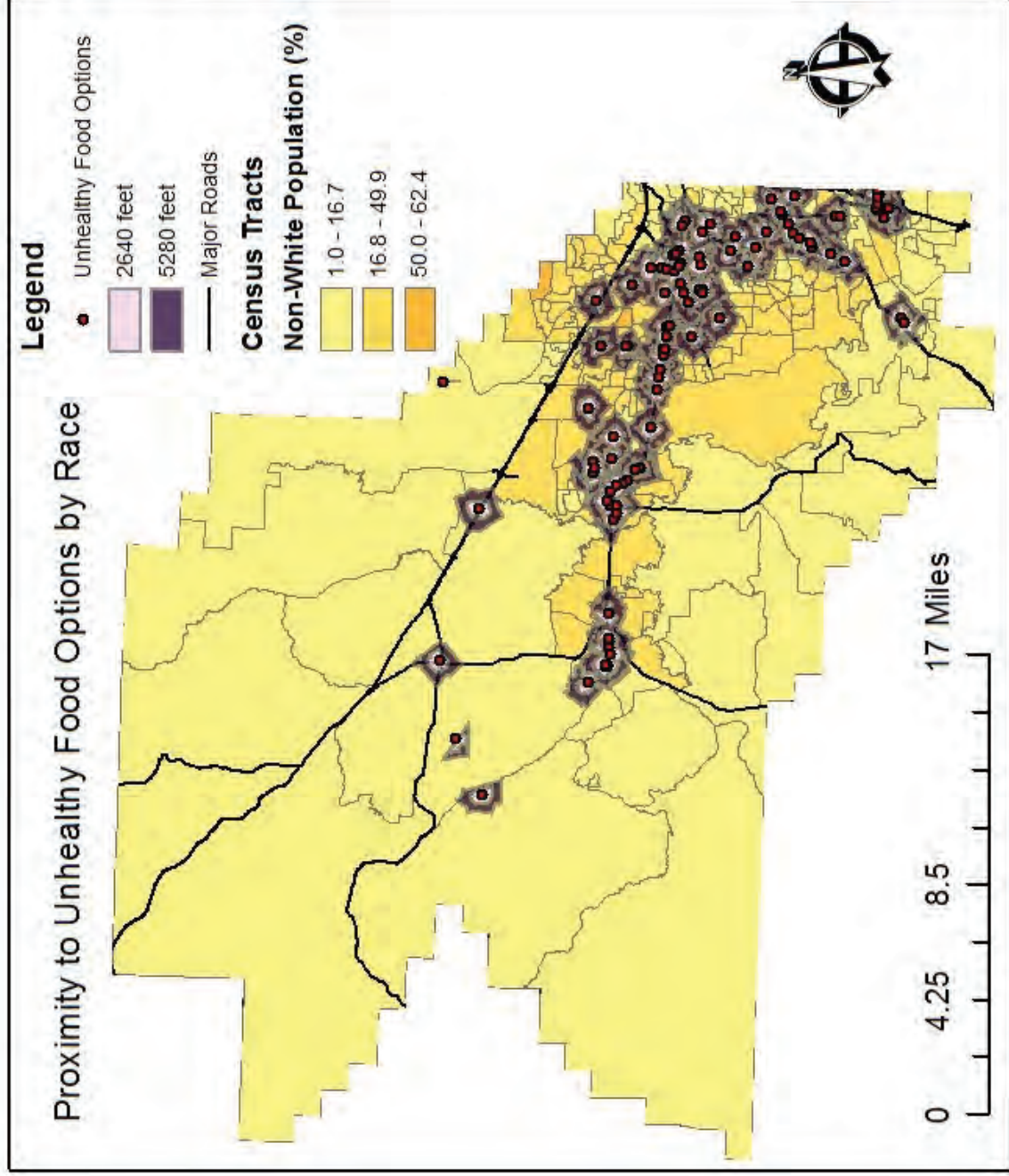
Farmers Markets



Grocery Stores



Unhealthy Food Options



Results and Discussion

Rather than being racially oriented, the service points for grocery stores, farmers markets, and unhealthy food options are clustered around major roads. Grocery stores and unhealthy food options in particular exhibit extremely similar patterns, with most sites falling on or parallel to Highway 217, Pacific Highway, and TV Highway. Farmers markets are clustered primarily within the limits of the county's cities, but with no apparent pattern or relationship to racial distributions.

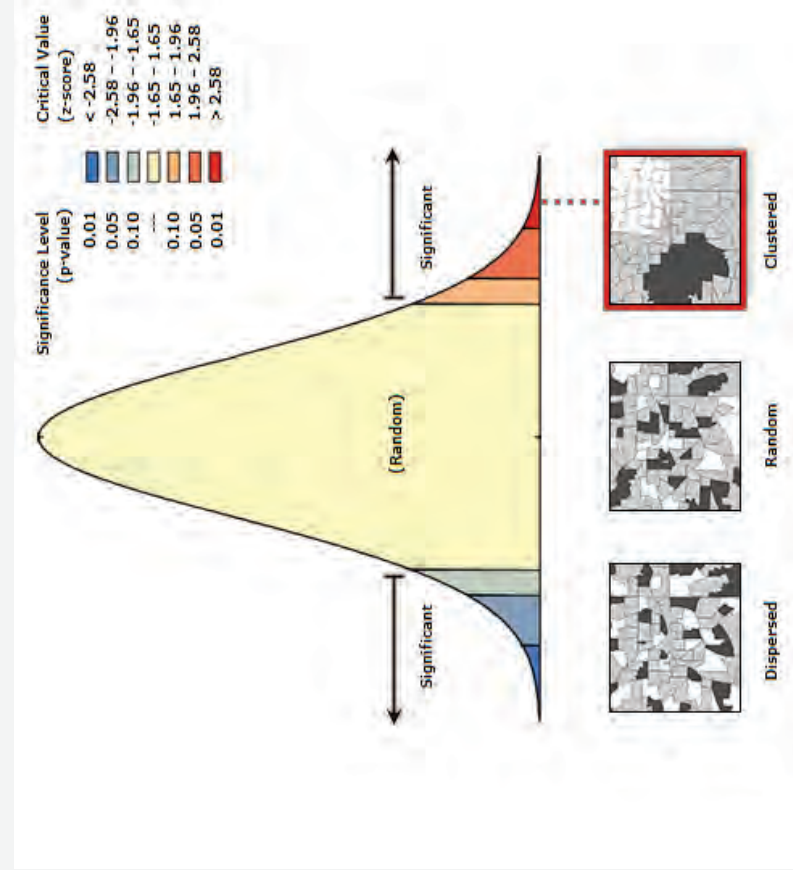
Community gardens, on the other hand, are also clustered within cities' limits, but a closer analysis reveals a different pattern. Almost without fail, the gardens are located in census tracts with below-average percentages of non-white populations. Since the vast majority of the urban tracts have above-average non-white populations, this pattern is visible to the naked eye.

These results indicate that with the exception of community gardens, access to food, healthy or otherwise, is not dependent on racial demographics in Washington County.

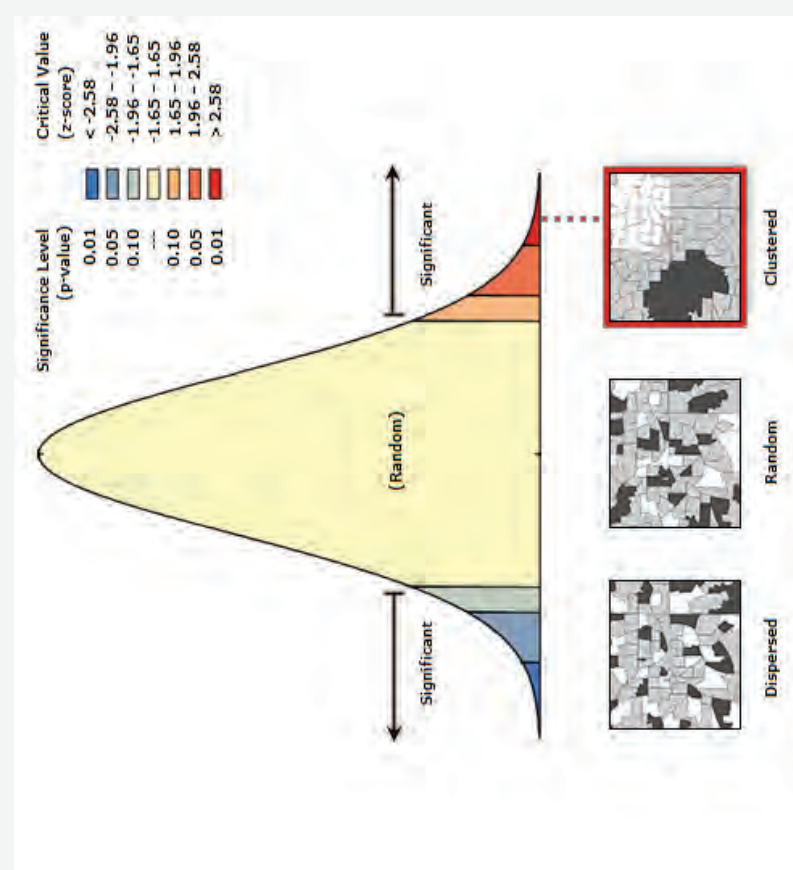
Despite this good news, there is still cause for concern. As the map on the bottom right conveys, almost the entire densely populated portion of the county is within two miles of at least one healthy food source (the yellow overlay represents the two mile radii from all healthy food sources, while the red outlines represent the cities' boundaries). Stated differently, the radii of the food source sites aligns almost perfectly with the cities' boundaries. The more rural or less densely populated areas, however, have few or no healthy food sources whatsoever. For example, just north of Forest Grove are two tracts with populations exceeding 3000, both of which have limited opportunities for healthy food beyond the sites on the southern and eastern fringes of the tracts. There are no mapped food options north of Highway 26, and there are large open areas without options on both sides of Highway 219, especially to the west.

Although the Food Systems Group's next project will explore potential economic disparities in regards to food access, attention should also be paid to the challenges facing the communities further from the urban core.

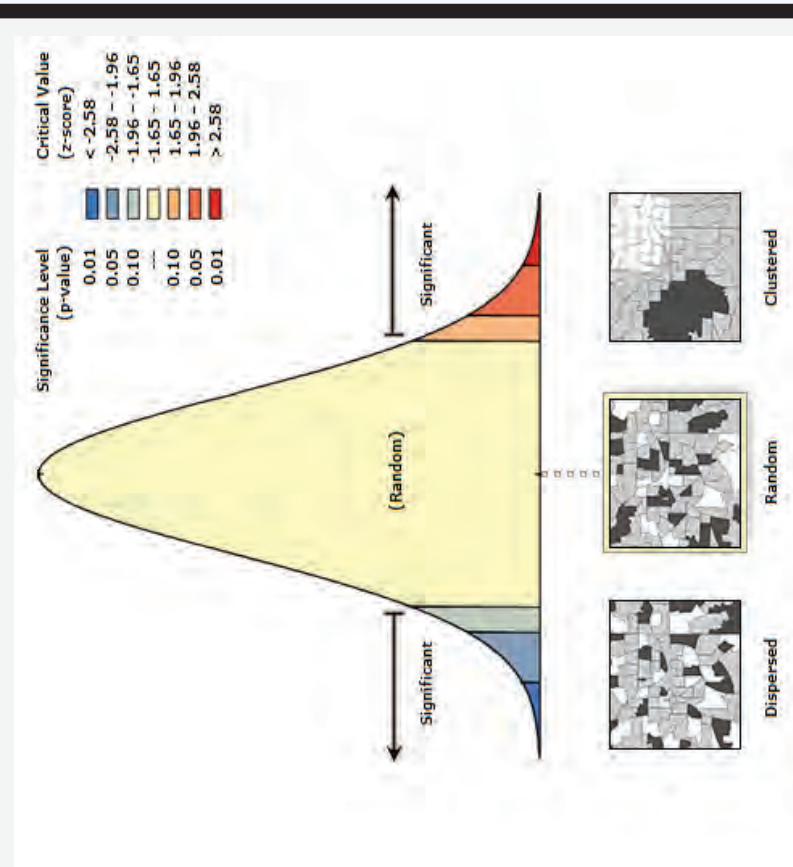
Farmers Market



Community Gardens



Grocery Stores



References

- Goldsberry, K. and Acmoody, S. (2010). Mapping Nutritional Terrain: Identifying Food Deserts in Lansing, Michigan. *ArcUser Online*.
- Mulangu, F. and Clark, J. (2012). Identifying and Measuring Food Deserts in Rural Ohio. *Journal of Extension*, 50(3).
- Richardson, K. (2010). Exploring Food Environments: Assessing Access to Nutritious Food. *ArcUser Online*.
- Special thanks to Kevin Rancik.

Data Sources

Oregon Geospatial Enterprise Office, United States Census Bureau, Coalition for a Livable Future, City of Portland Bureau of Technology Services, PSU Population Research Center

