

Exploring Food Deserts in Saint Joseph County—Distribution and Characteristics

Background

Increased attention to national health issues, such as the rising incidence of obesity and the growing prevalence of diabetes and other weight-related diseases, has brought the concepts of healthy food access and food deserts to the center of policy discussions in the USA. It is now widely recognized that limited access to supermarkets, supercenters, grocery stores, or other sources of healthy and affordable food retailers makes it harder for some Americans to eat a healthy diet. According to the USDA there are more than 6,500 food desert census tracts, inhabited by 23.5 million Americans. Identifying the socioeconomic and demographic characteristics associated with these areas is an important step in helping policy makers better understand the barriers which limit access to healthy food. This could also be helpful in establishing surveillance systems for areas at risk of become food deserts. Finally, understanding the characteristics of food deserts is important as it can help policy makers better address the root problems of food deserts, rather than mere symptoms. With the food insecurity predicted to rise across the country as a result of COVID-19, it is important that policy makers are prepared to respond at the national, state and county level. While research has been conducted by the USDA on food access at the national level, more could be done to explore the characteristics and trends of food access at the local level. This research attempts to fill this gap by exploring food access in Saint Joseph County. The research tests national food access trends identified by the USDA. The goal is to better understand the relationship between the national and the local—to explore common and divergent trends—and to ask what this means for policy makers. This research also provides a starting point for discussion on geographic areas and areas of research for policy makers to focus on in Saint Joseph County.

Research Questions

1. What, if any, is the prevalence and distribution of food deserts in Saint Joseph County
2. Do the socioeconomic and demographic characteristics of food deserts in Saint Joseph County mirror national trends?
3. Where might policy makers in Saint Joseph County consider interventions to increase food access

Methodology

Indicators of Food Deserts

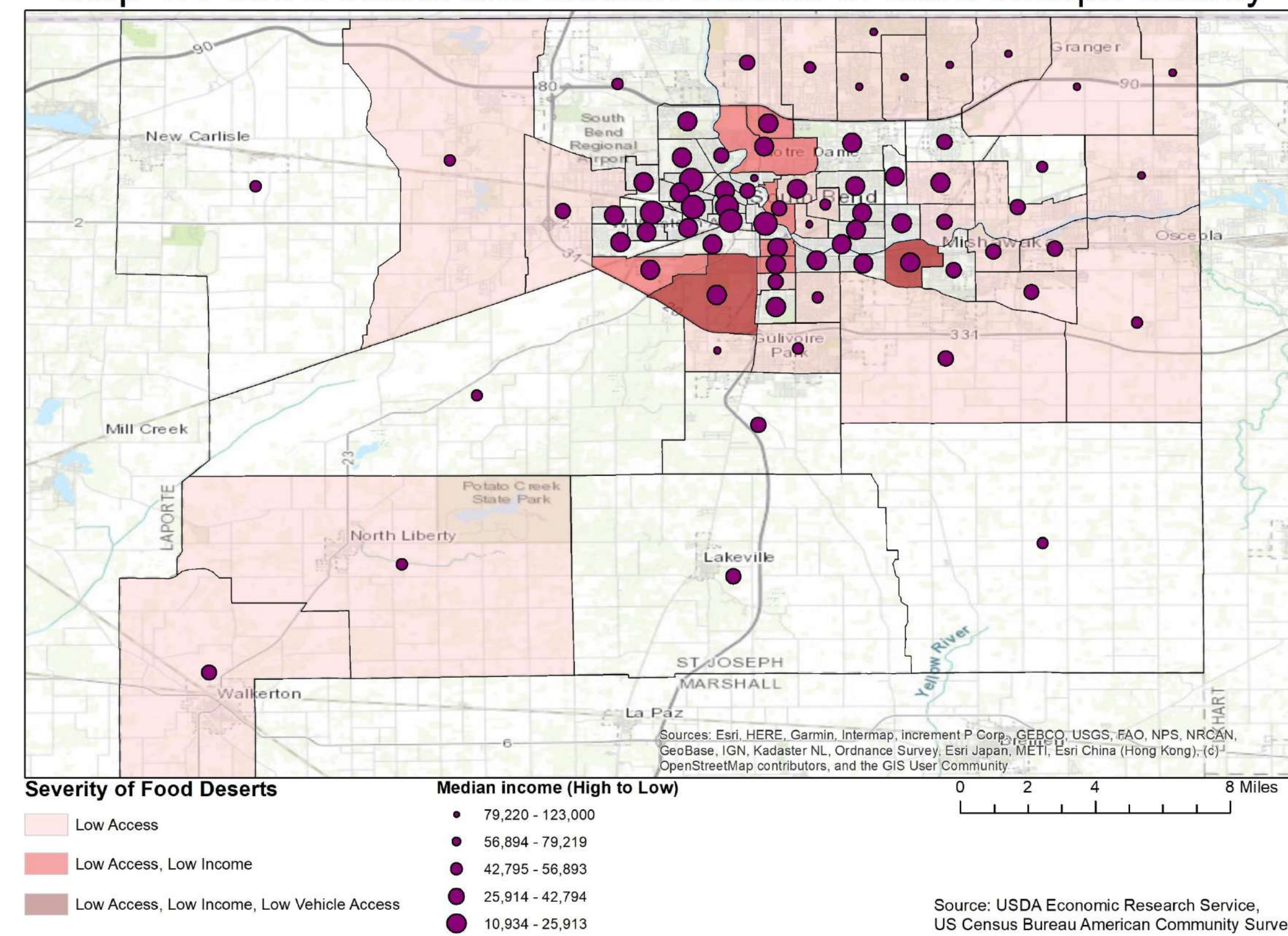
Most measures and definitions of “food deserts” consider access, income and vehicle availability. Following guidelines from the USDA’s Economic Research Service, these three dimensions are defined as follows:

- Access—census tracts in which at least 500 people or 33% of the population lives farther than 1 mile (urban) or 10 miles (rural) from the nearest supermarket.
- Income—census tracts with a poverty rate greater than or equal to 20%
- Vehicle Access—census tracts in which more than 100 households have no access to a vehicle and are more than 1/2 mile from the nearest supermarket.

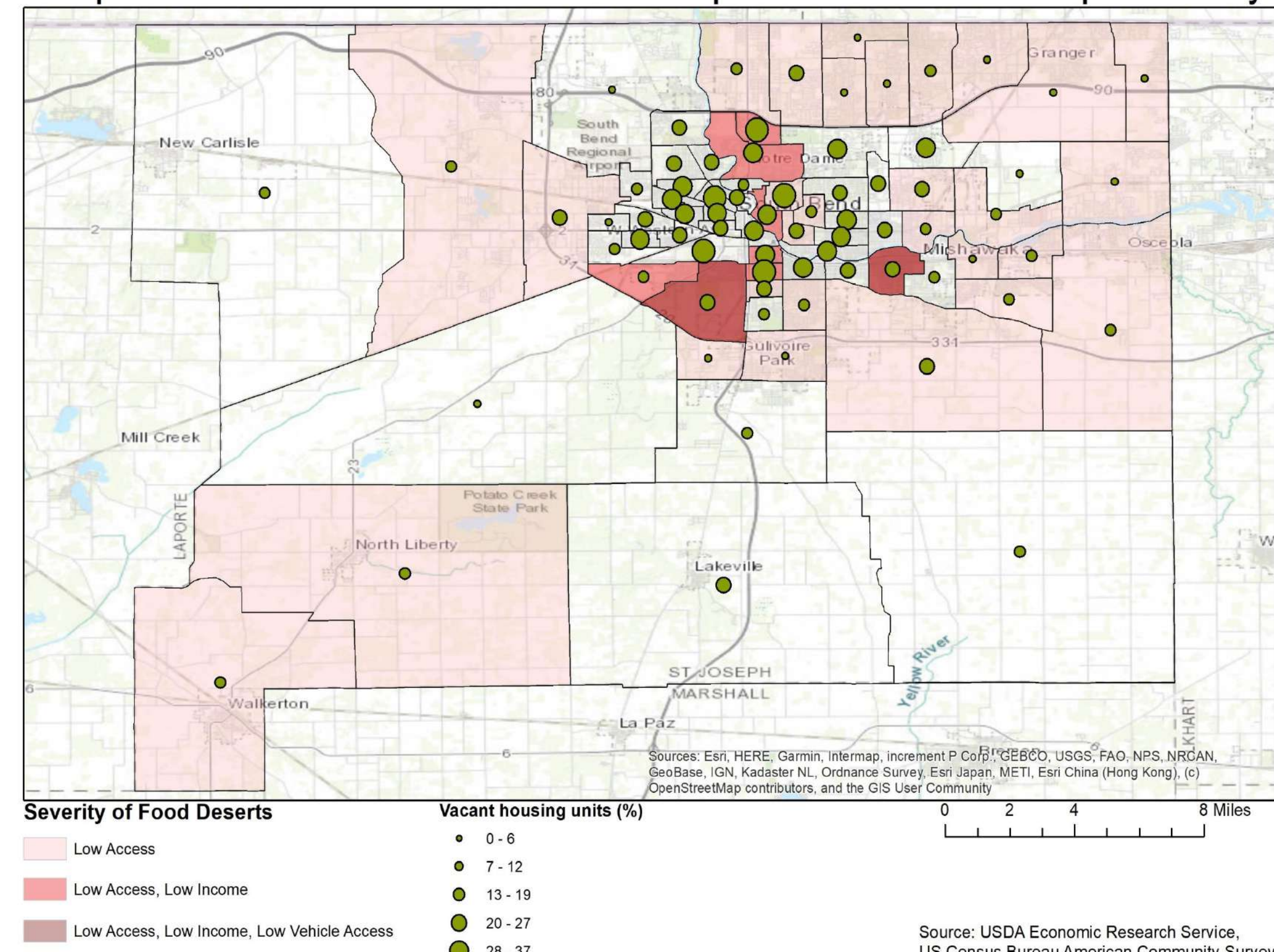
Methodology

ArcMap was used to assess the presence and distribution of food deserts in Saint Joseph County. The analysis includes choropleth correlation maps identifying areas characterized as food deserts based on the presence of 1, 2, or all 3 of the indicators outlined above. Additional choropleth maps overlaid with graduated symbols explore the relationships between food deserts and socioeconomic and demographic characteristics identified by the USDA as being correlated with deserts at the national level. Variables mapped include median income, unemployment, percentage minority population and percentage vacant housing at the census tract level. Finally, a map suggesting a location for a food pantry to improve access to food in South Bend’s most severe food desert is provided. Supermarkets and grocery stores and existing food pantries were mapped with a 0.5 mile buffer (not 1 mile because vehicle access is low for this census tract). Based on the gaps between these elements a general location for a new food pantry is suggested.

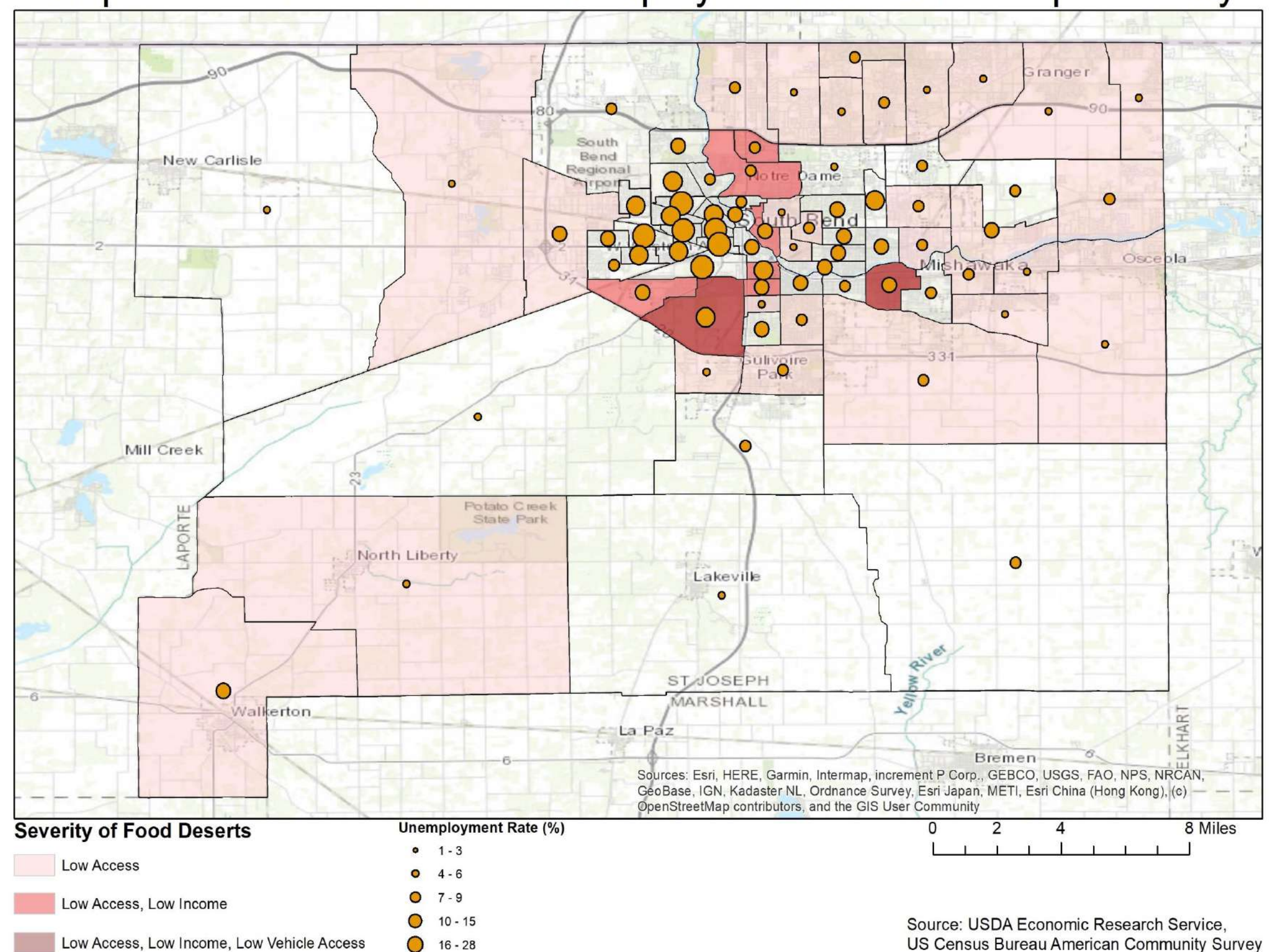
Map 1: Food Deserts and Median Income in Saint Joseph County



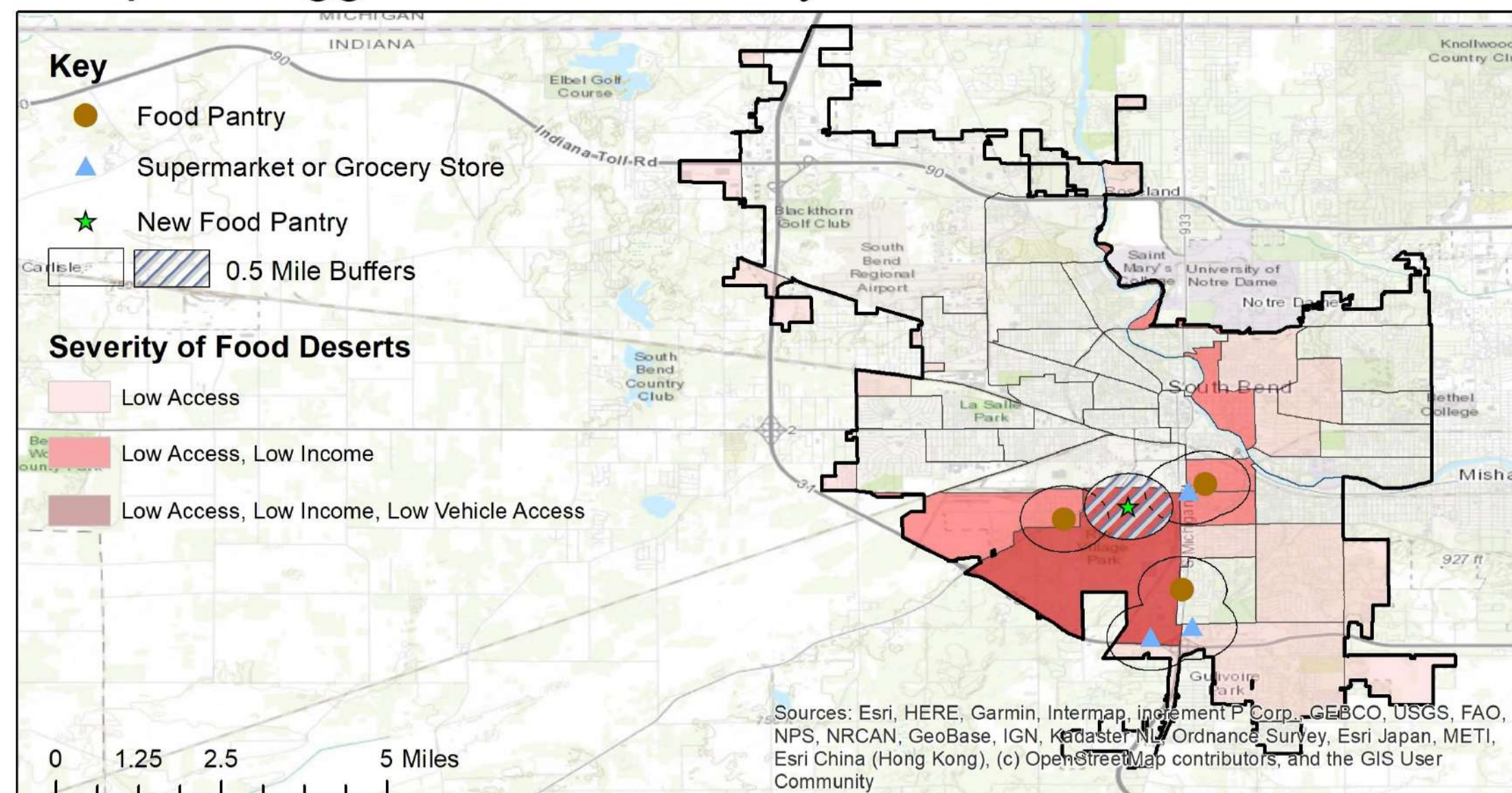
Map 4: Food Deserts and Vacant Properties in Saint Joseph County



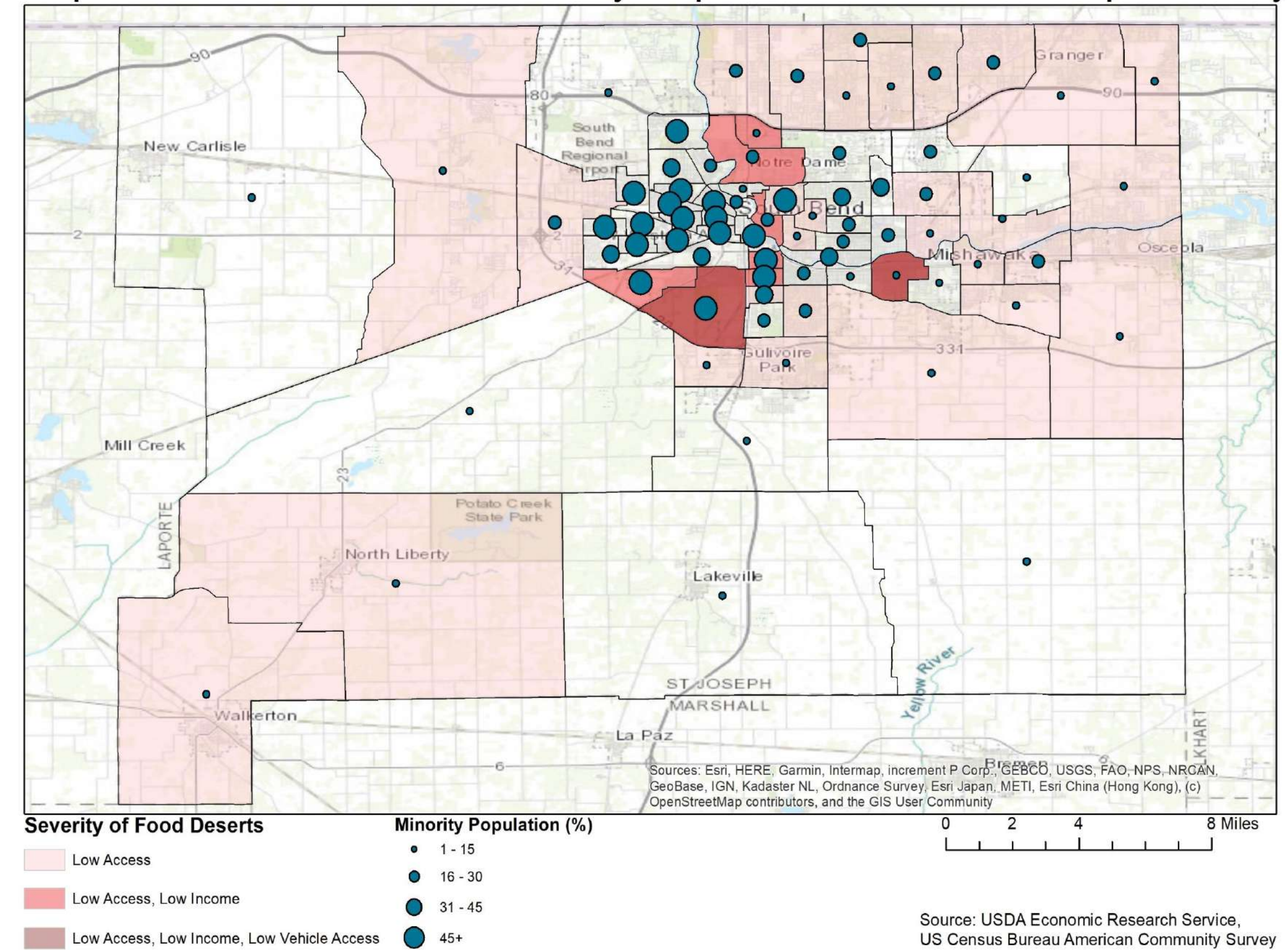
Map 2: Food Deserts and Unemployment in Saint Joseph County



Map 5: Suggested Food Pantry Location in South Bend



Map 3: Food Deserts and Minority Populations in Saint Joseph County



Findings & Results

Prevalence and Distribution of Food Deserts in Saint Joseph County

35 of 75 census tracts in Saint Joseph county were identified as food deserts as defined by distance to the grocery store. Of those 35 tracts, 8 were more severe food deserts as they were identified as both low access by distance to the grocery store and low access due to low income. Finally, 2 census were identified as severe food deserts as these tracts were both low access by distance and income—and characterized by low vehicle access.

Socioeconomic and Demographic Characteristic

At the national level, the USDA found that relative to all other census tracts, food desert census tracts tend to have higher rates of abandoned or vacant homes and residents who have lower incomes and higher levels of unemployment. The study also found that for less dense urban areas, census tracts with higher concentration of minority populations are likely to be food deserts. The spatial relationships these factors and food deserts were mapped for Saint Joseph County.

- **Map 1**—While the 2 most severe food deserts in Saint Joseph County have low median incomes, there is not a clear spatial relationship between income and food deserts at the census tract level.
- **Map 2**—The distribution of unemployment rates and food deserts do not appear to be strongly correlated.
- **Map 3**—There appears to be no strong correlation between the distribution of minority populations and food deserts.
- **Map 4**—Finally, there is also no strong correlation between vacant properties and food deserts.

These findings demonstrate that the spatial distribution of food deserts in Saint Joseph County do not follow national trends as identified by the USDA.

Suggested Food Bank Location

As 4 of the 8 moderate food deserts, and 1 of the 2 severe food deserts are within South Bend city limits, a new location for a food pantry is suggested within this local.

- **Map 5**—Illustrates the food deserts within the city limits of South Bend. South Bend’s most severe food desert is located on the South west side of the city limits, west of Business 31 and South of IN-23. This census tract is characterized by low access to food by distance and income—as well as by low vehicle access. 3 supermarkets/grocery stores are found at the census tract periphery. 2 food pantries are located slightly more centrally. A 0.5 mile buffer was mapped around these existing sources of food. Based on a gap of coverage between these sources, a location for a new food pantry is suggested.

Conclusion & Policy Results

The spatial distribution of food deserts in Saint Joseph County do not have an obvious spatial relationship with areas with a low median income, high unemployment rate, high percentage of minority population or high percentage of vacant properties. This breaks with national trends identified by the USDA. Differences between food deserts in Saint Joseph and national trends could be the result of strong policy at the county level to offset the development of food deserts. Another explanation is that food deserts in Saint Joseph County are associated with a different set of socioeconomic and demographic characteristics than at the national level. In response, additional research at the local level should be conducted to better understand the specific factors associated with food deserts in Saint Joseph County. Additional research should also be done to understand why food deserts have not developed in areas of low median income, high unemployment and with a high percentage of vacant housing and minorities populations. Both South Joseph County and the national discussion on food deserts could benefit from lessons learned through this research. In conclusion, these findings illustrate the importance ways in which national and local research inform one another. As illustrated in **map 5** while national findings are important for identifying and exploring the possible causes of food deserts, county level policy is much more affective when supplemented with localized knowledge and research. In the face of growing food insecurity as a result of COVID-19, policy makers would do well to consider ways to tailor national level trends and policy to local conditions.

References

Data Sources

- The U.S Census Bureau American Community Survey, 2018
- USDA Economic Research Service Food Access Research Atlas, 2015
- Foodbank of Northern Indiana, 2020

Literature

- Dutko, Paula, Michele Ver Ploeg, and Tracey Farrigan. Characteristics and Influential Factors of Food Deserts, ERR-140, U.S. Department of Agriculture, Economic Research Service, August 2012.