

Project Goals

1. Identify the disparities in access to healthy and affordable foods by examining the relationship between the demographic characteristics of cities and the distribution patterns of food outlets.
2. Identify the factors related to the presence or absence of healthy, affordable food outlets.
3. Examine the relationship between access to healthy foods, purchasing and consumption behavior, and health outcomes in study participants.
4. Identify mechanisms through which producers and consumers can be connected more directly and effectively.
5. Identify those who are vulnerable to becoming food insecure and facilitate their increased participation in local food networks.
6. Create two service-learning courses – one graduate and one undergraduate – related to food security and urban agriculture issues.
7. Promote national, state, and local food policies that will help to reduce food insecurity.

Guiding Questions

1. What is the relationship between demographic factors and the distribution patterns of food outlets?
2. What is the relationship between consumption behavior, the distribution patterns of food outlets, and health status?
3. How is the distribution of SNAP vendors reflective of the food system each city and what are the effects on food access?
4. Can the findings of studies

of large cities be replicated when medium-sized and small cities are examined?

5. How does the nature of the food system change in each study city with:
 - Size,
 - Racial composition,
 - Socioeconomic factors
 - Rate of poverty,
 - Level of segregation,
 - Housing characteristics
 - Land vacancy, and
 - Extent of population decline?

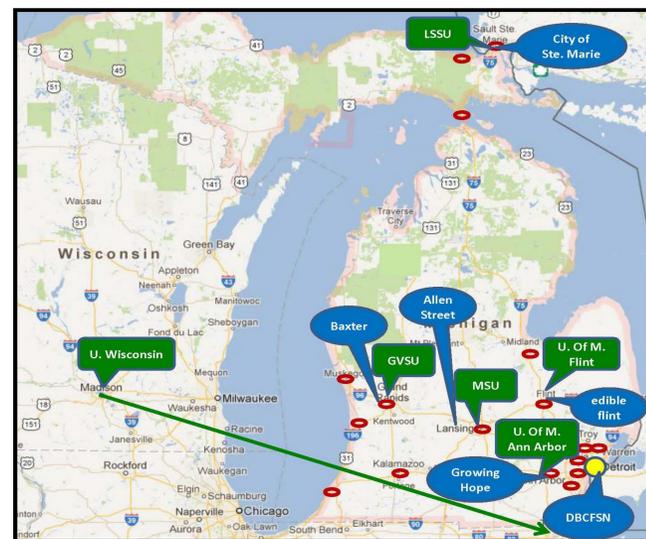
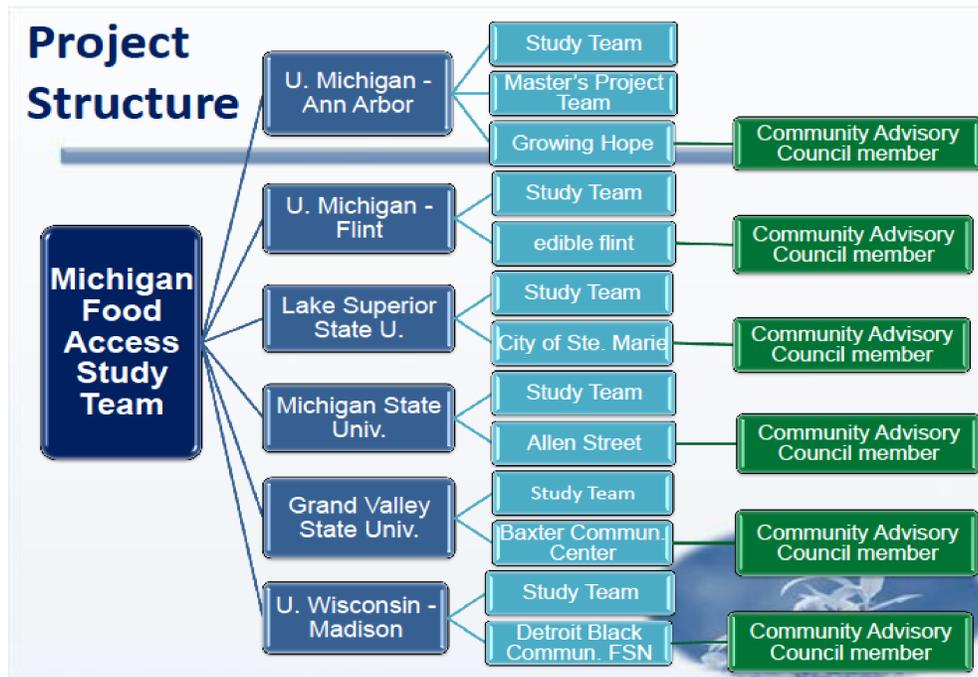
Hypotheses

- H_1 : The greater the extent of population decline in a neighborhood, the more likely it will be to lack full-service supermarkets and grocery stores.
- H_2 : The higher the poverty rate in a neighborhood, the more likely it will be to lack supermarkets and full-service grocery stores.
- H_3 : The higher the proportion of Blacks and Native Americans in a neighborhood, the greater that such a neighborhood will lack supermarkets and full-service grocery stores.
- H_4 : Food oases are less likely to be found in predominantly Black and Native American neighborhoods and more likely to be in neighborhoods with a high proportion of Hispanics, Asians, and Arabs.
- H_5 : The smaller the range of food outlets consumers have to choose from, the greater the use of EBT cards at convenience stores, liquor stores, party stores, and gas stations.



United States Department of Agriculture National Institute of Food and Agriculture

FOOD ACCESS in MICHIGAN



Map of Michigan Showing Study Cities, Project Teams, and Community Partners

Research, Education, and Outreach Activities

1. Spatial analysis of food retailers
2. Interview with and outreach to food retailers
3. Physical activity, nutrition education, and health outcomes
4. Food security, purchasing, and consumption behavior of residents
5. Key stakeholders interviews
6. Focus groups and outreach to farmers
7. Residential raised-bed gardens and seed bank program
8. Curriculum development and educational outreach.

Developing a Neighborhood Food Access Index (NFAI)

- Type and quantity of food retailers
- Distance to food retailers
- Public transportation network
- Household access to vehicles
- Walking access
- Bicycle paths
- Traffic patterns
- Crime
- Density and diversity of retailers
- Land vacancy
- Housing occupancy
- Population decline or growth
- Rural and urban farms, community gardens, church and school gardens, coops
- Food supply chain
- Soup kitchens, shelters, food pantries, food hubs
- School breakfast, lunch participation
- Demographic characteristics

Data Sources

- Michigan Dept. of Agriculture
- Michigan Dept. Human Services
- Reference USA
- Orbis
- Google and Bing
- 2010 Census
- Michigan residents
 - Farmers
 - Food store owners
 - Key informants
 - Other residents

- analysis
- HyperTranscribe 3.0 – Qualitative analysis
- Qualtrics - Survey and interview design

Nutrition Education and Behavior Study Tools

- Seca 214 portable stadiometer
- Tanita BWB-800 digital scale
- Gulick 150 centimeter anthropometric tape
- 5-step multiple pass recall survey
- ActiGraph GT1M
- MTI program

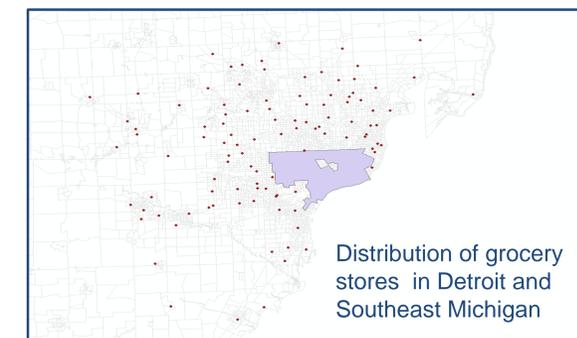
Spatial and Analytical Tools

- ArcGIS 10 – Spatial analysis
- SPSS 20 – Quantitative analysis
- HyperResearch 3.0 – Qualitative

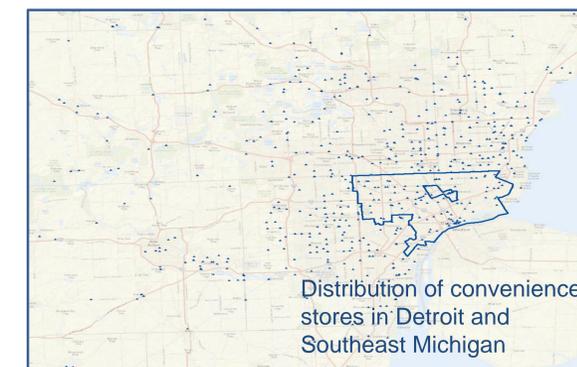
Preliminary Analyses

A preliminary analysis of the distribution of food retailers in Detroit and the rest of Southeast Michigan had the following significant findings:

- The higher the percentage of Blacks in census block groups, the lower the number of grocery stores in those block groups.
- The higher the percentage of Hispanics in a census block groups, the higher the number of grocery stores in those block groups.
- As the percentage of occupied homes in block groups increases, the number of liquor and party stores decreases in those block groups.
- The higher the percentage of people with a high school education or less, the larger the number of liquor and party stores in those block groups.
- As the percentage of residents with a Ph.D. in block groups increases, the number of mini marts and convenience stores decreases.



Distribution of grocery stores in Detroit and Southeast Michigan



Distribution of convenience stores in Detroit and Southeast Michigan

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