

Detroit's food justice and food systems

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Numerous studies have been conducted on the accessibility of healthful food in poor urban areas. Many of these use the presence of supermarkets and large grocery stores as the sole indicator of access to nutritious food. In contrast, corner stores, mini marts, gas stations, liquor stores, and fast food restaurants are identified as sources of unhealthy food. Previous food access studies conducted in Detroit have often focused on determining distance to food sources. In this article, we identify critical shortcomings of the traditional approach to studying food access, and argue for a more systematic process.¹ We use this approach to assess food accessibility in Detroit, with a focus on three questions: (1) What kinds of food outlets are available to residents within the city? (2) What is the nature of the Detroit food environment and how does it vary by the racial composition and population of neighborhoods? and (3) How do citizen-driven initiatives shape the food landscape?

Detroit is an important food system to study, as it has been in the center of research and policy discussions about food access for more than a decade. It has been a part of a debate over whether “food desert” is the appropriate term to describe areas that have limited or no access to supermarkets, and whether depopulated and deinstitutionalized inner-city areas can attract and retain full-line grocery stores. Detroit is also a city with vibrant food movements centered around issues of healthful food and social justice, which further enhances its utility as a model food system.

Food deserts

A variety of terms are used to describe low-income urban food environments. One of the most common, and controversial, is the term “food desert,” frequently used to describe areas in which residents lack access to fresh, nutritious, and affordable food. The U.S. Department of Agriculture (USDA) defines food deserts as “urban neighborhoods and rural towns without ready access to fresh, healthy and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options.” It describes the consequences of food deserts as, “The lack of access contributes to a poor diet and can lead to higher

levels of obesity and other diet-related diseases, such as diabetes and heart disease.”² In addition to identifying the sources of both healthful and unhealthy food, the USDA also explicitly connects lack of access to supermarkets and grocery stores to poor diet and unfavorable health outcomes. The USDA defines a census tract as a food desert tract if it has a poverty rate of 20 percent or more or median income at or below 80 percent of the median family income for the area; at least 500 residents; and at least 33 percent of the tract’s population lives more than a mile from a supermarket or large grocery store.

In the United States, poor urban communities are often described as food deserts. Some argue that food deserts have become more prevalent as many cities have lost half or more of their supermarkets and large grocery stores since the 1970s.³ Residents of these communities often live more than a mile from supermarkets or large grocery stores, and lack convenient transportation to access these stores.⁴ Detroit has been described as an urban food desert for almost a decade. A widely cited study of the Detroit metropolitan area found that poor neighborhoods with a high percentage of African American residents were on average 1.1 miles farther from supermarkets than poor neighborhoods with a low percentage of black residents.⁵ The researchers also found that poor neighborhoods were farther from supermarkets than wealthier ones.

Although the food desert framework identifies community deficits, studies that use this approach do not often consider adaptive strategies, nor do they include analyses that enhance our understanding of community agency, assets, and strengths. Studies of where people obtain food outside of commonly examined food outlets are not common, and even less common are studies that explore how food-insecure people obtain food, and how they perceive their own food consumption behavior. Subsistence activities such as farming, fishing, hunting, and gathering, are often ignored.

Questioning the definition of food deserts

Researchers who recognize these gaps in the food desert literature have questioned the USDA’s definition of food deserts and the depiction of communities to which the term has been applied. Studies that identify only supermarkets and large grocery stores miss a variety of small food outlets that carry healthful food that urban consumers desire, including independent grocers and small ethnic grocery stores. For example, one study used the term “food oases” to describe neighborhoods that had ethnic food stores—overlooked in most food environment studies—providing affordable, culturally desired food.⁶ Another study, which found that

only about 10 percent of Detroit could be classified as a food desert using the USDA definition, suggested that the city could best be described instead as a “food grassland” with small pockets lacking easy access to grocery stores.⁷

Another approach to assessing and improving access to food is the concept of food justice. The food justice movement combines an interest in growing and consuming healthful food sustainably with an interest in social justice. For example, the Detroit Black Community Food Security Network, a group of individuals and organizations committed to building food security and advocating for food justice for black residents of Detroit, operates a seven-acre urban farm called “D-town.”⁸ D-Town’s farmers come from various neighborhoods but gather at the farm to grow produce. Participation in the farm thus provides access to food that is not linked to the neighborhoods these activists live in, or the food outlets those neighborhoods contain.

A new approach to studying food accessibility

Here, we take a new approach to studying food accessibility in Detroit by combining the food justice approach with the idea that the city’s food environment is a system that is influenced by forces both within and outside the city. The city has human, ecological, economic, social, policy, and political dimensions that are interconnected. The availability of food in a particular geographic area cannot be gauged only by the presence of large grocery stores. Instead, food availability is affected by many factors, including the desire and ability of producers to sell and distribute food in a particular community, the ability and willingness of consumers to purchase food, the barriers and incentives for retailers and distributors to service an area, and the involvement of citizens in both food policy decision-making and food production. Food access is also affected by the strategies people use to obtain food, including shopping outside their own neighborhoods, buying where products are on sale, carpooling to go food shopping, and subsistence activities such as fishing and hunting. In fact, a study of the food purchasing habits of low-income Detroit residents found that only 11 percent relied exclusively on food outlets in their own neighborhoods to obtain food; most people shopped for food outside their neighborhoods, and coordinated trips to share rides to distant stores.⁹

Although scholars have critiqued the food desert approach and offered alternatives, both the food oases and food grassland approaches still rely primarily on the presence or absence of supermarkets and grocery stores. The food justice approach goes further than these alternatives in challenging researchers to add environmental justice, human rights, and structural racism and discrimination analyses to the examination of food access and type of food provider. Our contribution is to embed the food justice approach more fully in the framework of environmental justice and the conceptualization of a city’s food environment as a system. We hope that this will inspire other scholars to think

Table 1
Detroit Food Sources Included in the Study

Category of Food Outlet	Frequency	Percentage
Restaurants and Other Food Service	1,245	36%
Small Groceries and Convenience Stores	1,110	32
Pharmacies, Dollar, and Variety Stores	306	9
Specialty Food Stores such as Delicatessens and Bakeries	279	8
Farms, Gardens, and Farmers’ Markets	206	6
Wholesalers and Food Manufacturers, Processors, and Distributors	157	4
Food Pantries and Soup Kitchens	100	3
Supermarkets and Large Grocery Stores	96	3
Total	3,499	100

Note: Details do not sum to total due to rounding.

about and analyze food access in ways that will provide a more comprehensive understanding of the people and the communities being studied.

Detroit’s food system

Studies of food access in Detroit that look only at supermarkets and large grocery stores are examining less than 3 percent of the city’s food outlets. Even studies that include fast food restaurants, gas stations, liquor stores, and convenience stores are counting less than half of the city’s food outlets. We addressed this omission by including a wide variety of food outlets, as these are the places we observed people obtaining food; we included clubs, caterers, food cooperatives, urban farms, and food pantries.

Where can Detroit residents obtain food?

We identified and studied 3,499 food outlets in Detroit, as shown in Table 1. Small groceries and convenience stores (including liquor stores and party stores with mini marts, and gas stations that sell food) dominate the grocery sector, constituting nearly one-third of all food outlets. Of these, liquor and party stores account for 13 percent of all food venues, 11 percent are gas stations, and 8 percent are small groceries, convenience stores, or corner stores. Although there is a tendency to categorize all of these stores as unhealthful food outlets, more research is needed to find out which actually sell healthful foods.

Restaurants and other food service venues are the most ubiquitous, accounting for over one-third of the food outlets studied. About half of these are full-service restaurants and about 30 percent serve fast food. Other food service providers counted were bars, clubs, caterers, and coffee or other beverage shops.

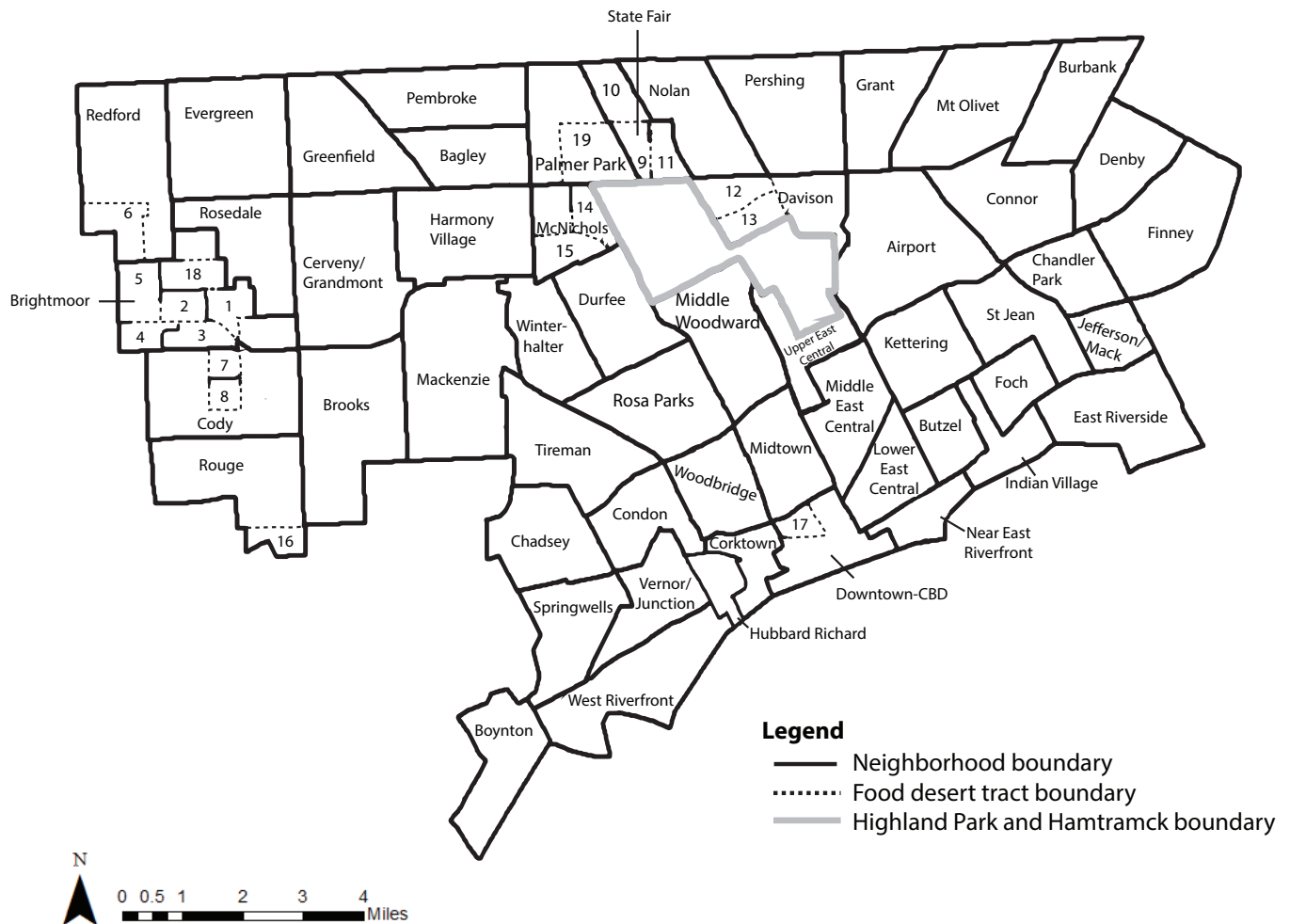


Figure 1. Detroit neighborhood boundaries and USDA-designated food desert census tracts.

There are more urban farming, community and school gardening, and farmers’ market venues in Detroit than there are supermarkets. These vendors, accounting for 6 percent of all food venues, provide residents with places to purchase fresh, locally grown produce. While we identified 69 community gardens and 42 school gardens in our study, we believe this to be an undercount as some gardens do not publicize their name or location. The city’s thriving urban farming and gardening community helps to support 61 farmers’ and produce markets, as well as seven dairies.

Detroit is an important industrial center, a waterfront city, and the site of two of the busiest international crossing points between the United States and Canada. Thus in addition to the food retailers, food service providers, and food producers described above, the city has a robust supply chain network for food products, including 97 wholesalers, 31 food manufacturers or processors, and 29 food distributors. We included these businesses in our study as they play an important role in supplying the city and region with food, and can play a role in hunger alleviation by supplying community-based food assistance programs with excess food.

Finally, nonprofit organizations play a critical role in helping to improve food access in Detroit. Religious institutions and other community-based organizations operate 98 food pantries and soup kitchens. There are also two food banks in the city that collect and distribute food to partner food pantries, soup kitchens, and shelters.

How does the food environment vary by neighborhood?

A rapid decline in population over the past six decades has contributed to inequitable distribution of food in Detroit. The city’s population peaked at nearly 1.9 million in 1950, with 84 percent of the population white, and 16 percent black. By 2012, the population had declined to just over 700,000, with non-Hispanic whites making up less than 8 percent of the population, blacks in the majority with 83 percent, Hispanics at 7 percent, and Asians at 1 percent.¹⁰ In 2013, the unemployment rate was 14.8 percent, the median household income was \$26,955, 38 percent of residents were living below the poverty level, and a similar proportion was receiving federal Supplemental Nutrition Assistance Program (SNAP) benefits.¹¹

Table 2
Food Access in Detroit by Racial Composition and Population of Neighborhoods

Neighborhood Characteristics	Number of Residents per Food Outlet									
	Total Population	Supermarkets, Full-Line Groceries	Small Groceries, Mini Marts	Specialty Food Stores	Pharmacies, Variety Stores	Restaurants, Food Service	Supply Chain	Farms, Farmers' Markets, Gardens	Food Pantries	All Food Outlets
Detroit Total	713,766	7,435	643	2,558	2,333	573	4,546	3,465	7,138	204
Racial Composition:										
1%–40% Black	56,813	6,313	563	2,705	2,273	563	1,775	2,185	6,313	175
41%–70% Black	64,533	8,067	485	1,467	2,017	200	7,170	1,956	10,756	110
71%–90% Black	196,369	6,771	631	1,835	2,455	561	2,182	2,158	5,168	179
91% or more Black	396,051	7,921	701	3,701	2,343	841	15,233	7,072	8,427	266
Population Size:										
1–5,999	35,804	5,967	317	542	1,705	119	389	676	2,984	54
6,000–10,999	99,830	5,254	591	3,120	2,496	739	6,239	2,936	4,160	213
11,000–20,999	331,012	8,487	690	3,678	2,470	704	13,240	4,244	7,043	243
21,000 or more	247,120	7,723	710	2,716	2,226	727	10,297	6,027	14,536	246

Detroit is a city of neighborhoods, but it is sometimes hard to reach agreement on what particular areas of the city are called, and where the boundaries lie. This has been complicated by the large decline in population which has left once intact neighborhoods with large swaths of vacant land and a patchwork of housing. For our analysis, we use the 54 neighborhoods identified by the Detroit Planning and Development Department. Figure 1 shows these neighborhood boundaries, as well as the boundaries of the USDA-designated food desert census tracts.

Neighborhoods tend to be segregated by race and ethnicity. Although Detroit is a predominantly black city, the proportion of blacks in particular neighborhoods varies greatly, from 5 percent in Springwells, to 97 percent in Bagley. The proportion of non-Hispanic whites also varies, from less than 1 percent in Bagley, to 38 percent in Corktown. Finally, although Hispanics make up less than 7 percent of Detroit’s population, they account for 72 percent of Springwells residents, and 36 to 72 percent of residents of five other neighborhoods.

As Table 2 shows, there is one food outlet for every 204 Detroit residents, and the distribution of food sources varies by the racial composition and population density of neighborhoods. Although the relationship between the proportion of black residents and the presence of supermarkets or large grocery stores is not linear, neighborhoods with the lowest percentage of blacks tend to have a more favorable ratio of people to food sources compared to neighborhoods with a higher percentage of black residents. For example, neighborhoods that were between 1 percent and 40 percent black had one supermarket or large grocery store for every 6,313 residents, and one agricultural outlet such as a community or school garden, farmers’ market or produce stand, or urban farm for every 2,185 residents. In contrast, neighborhoods that were 91 percent or more black had one large food store for every 7,921 residents, and one agricultural outlet for every 7,072

residents. Neighborhoods with fewer than 11,000 residents also had much better ratios of supermarkets and large grocery stores to residents than did larger neighborhoods. Larger neighborhoods also have lower prevalence of agricultural food outlets and emergency food providers compared to less populous neighborhoods.

How do citizen-driven initiatives shape the food landscape?

Urban agricultural initiatives are important in Detroit. Today’s urban agriculture movement is citizen-driven, and residents farm for health reasons in addition to farming for recreational, subsistence, and commercial purposes. As shown in Table 1, in addition to the farms, community and school gardens, and farmers’ markets that make up 6 percent of city food outlets, another type of citizen-driven food outlet, food pantries and soup kitchens, make up another 3 percent.

Is Detroit a food desert?

Although it is a common perception that the entire city of Detroit is a food desert, the USDA has labeled only 19 of the 297 Detroit census tracts as food deserts, as shown in Figure 1. In examining these areas, we found some of the inconsistencies that arise when relying too heavily on the location of supermarkets and large grocery stores as the primary criteria for defining access to healthful foods. For example, the food desert census tract in the Brightmoor neighborhood identified on the map as tract 5 is mostly occupied by a park. A neighborhood group, Neighbors Building Brightmoor, has helped to create a 14-block urban farm, build an edible play garden for children called the Treedome Park, manage the youth market garden, beautify the park, and create vegetable gardens on vacant lots. Their food production activities are coordinated with St. Christine’s Soup Kitchen.¹² Even with a robust network of alternative food sources such as these, however, we did identify some neighborhoods that were lacking in both

the traditionally counted large food stores and in urban agricultural food sources and food assistance programs. Thus we conclude that although it is erroneous to label the entire city of Detroit as a food desert, limited access to food, particularly nutritious food, is a fact of life for some Detroit residents.

Addressing food accessibility in Detroit

Given the enduring food access issues in some areas of Detroit, food production has become an important activity for some city residents. In acknowledgment of this, the Detroit City Council amended the city zoning code in 2013 to identify and define a number of types of agriculture as legitimate land uses in the city, and to set standards for them. These include aquaculture, hydroponics, composting, farmers' markets, farm stands, and urban farms. This change makes it easier for residents to undertake agricultural initiatives for commercial and non-commercial purposes. For example, the lifting of a ban on hoop houses allows farmers to extend the growing season, collect additional rainwater for irrigation, and grow crops in areas that do not have access to city water. The new rules may also help to curb the spread of "guerrilla" farms, where residents farm without the appropriate permits, and risk being prosecuted for doing so.

Although the new agricultural ordinance may facilitate the conversion of more vacant land to food production purposes, many of these lots contain toxic contamination from prior industrial use. Residents wanting to farm in these areas face costs associated with soil testing and remediation. While some have used raised-bed techniques to avoid soil contamination issues, the added costs of building these beds could still deter some residents. Subsistence fishing and hunting can also pose health risks if contaminated fish or wildlife are consumed.

In addition to citizens' food production expanding access to healthful foods, two new supermarkets opened in Detroit in 2013, Whole Foods and a Meijer big box store. Both stores received millions in state and local tax incentives. Whole Foods opened a store in Midtown, a gentrifying area that already had a large number of food outlets, including three large supermarkets and nine farmers' markets, produce markets, or community gardens. In contrast, the new Meijer store opened in the low-income State Fair neighborhood, which had no other supermarket or large supermarket, has no produce or farmers' markets, and is the location of two of the USDA food desert census.¹³ We believe that in the future, effort should be made to ensure that new supermarkets are placed in the most underserved neighborhoods.

In 2013, the Michigan Food Policy Council concluded that more investment in local food systems infrastructure was desirable as this would build capacity and create jobs. The council identified improved access to healthful foods as a high priority, and saw farmers' markets as key drivers

of economic growth. In order for farmers' markets to effectively play this role, the ability to process Electronic Benefit Transfer cards should be expanded to allow more SNAP customers to shop at these markets, and training and technical assistance should be provided to farmers to help them to participate in the program.

Detroit's food producers alone cannot make enough food to meet all the city's needs. Although there are many farms on the outskirts of the city, it is difficult to get that produce to market in Detroit and other cities quickly and effectively. The need for transportation to markets, warehouse, processing space, and storage facilities is a barrier that many small farmers have difficulty overcoming. Value-added production such as canning and pickling, which could ultimately increase profits, may also be cost-prohibitive for many small farmers to launch. Food hubs can help address these problems by providing a centrally located facility that is professionally managed to facilitate the aggregation, storage, processing, distribution, and marketing of locally or regionally produced food. The Eastern Market, the largest historic public market district in the country, is increasingly playing this role.

Delivering fresh and nutritious foods to clients at emergency food outlets should also be a priority. While Detroit's food pantries and soup kitchens currently obtain food from farmers' markets, farms, restaurants, and other businesses, more could be done. Some farmers report that they would like to donate unsold food to assistance programs, but lack the necessary transportation, fuel, staff, or time. One program that is currently working to get fresh and healthful foods to low-income consumers is Earthworks Urban Farm, which distributes farm produce to participants in youth programs and the federal Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and uses farm products in the meals served at an associated soup kitchen.¹⁴

Finally, more work could also be done to get more healthful food into retailers such as small groceries, corner stores, mini marts, convenience stores, and liquor stores. Improvement is needed in matching customer needs with business projections, particularly in those areas where a large portion of the customer base relies on federal food assistance. The disbursement of funds at particular times of the month results in uneven demand, which makes it challenging for small retailers to maintain appropriate stock of fresh produce and other perishable items. Detroit Fresh: The Healthy Corner Stores Project, is an example of a program that works to facilitate stocking of healthful food in these small stores.¹⁵

Linking food access to health and place

Researchers examining food deserts have linked unfavorable health outcomes with limited availability of nutritious food.¹⁶ However, this research relies on the often incorrect assumption that people buy all or most of their food in their immediate neighborhood.¹⁷ Also, although there is a

large body of research on the health effects of exposure to toxins, researchers have yet to examine how factors such as exposure to environmental hazards, food consumption, food access, and health are interrelated. We urge researchers to undertake more work to help identify whether poor diet, exposure to environmental hazards, or both, are related to observed health outcomes when both factors are present.

Conclusions

Detroit's food system is complex, and the work described here illustrates the necessity of examining many more facets of the food environment than the supermarkets and large grocery stores that researchers and policy analysts have traditionally considered. The detailed analysis described briefly here can help food activists and policymakers to identify neighborhoods with low food access and limited access to healthful food and work to target efforts to improve food access more effectively. We also suggest reframing the food desert discussion, and introducing new approaches to analyzing food access, including the one described here, combining environmental justice analysis and the idea that a city's food environment is a system that is influenced by a variety of factors.

We recommend that the definition of food access used by the USDA to identify food desert census tracts be refined to reflect the many pathways through which people obtain food. Thus, small grocers in Detroit that have been participating in projects to sell healthful foods should be included in the USDA's Food Atlas database, along with supermarkets and full-line grocery stores.¹⁸ Other indicators of access to nutritious foods should include access to urban farms, community gardens, farmers' markets, produce markets, meat markets, food cooperatives, community-supported agriculture, and dairies. ■

⁷D. Devries and R. Linn, "Food for Thought: Addressing Detroit's Food Desert Myth," *The Common Denominator: D3 Newsletter* (2011).

⁸For more information about D-Town, see <http://detroitblackfoodsecurity.org/>.

⁹D. J. Rose, "Captive Audience? Strategies for Acquiring Food in Two Detroit Neighborhoods," *Qualitative Health Research* 21, No. 5 (2011): 642–651.

¹⁰U.S. Census Bureau, *Census of Population and Housing*, Department of Commerce, Washington, DC, 2010.

¹¹U.S. Census Bureau, *State and County QuickFacts*, Department of Commerce, Washington, DC, 2013.

¹²Neighbors Building Brightmoor, History and Newsletter (August 2014), available at www.neighborsbuildingbrightmoor.org (accessed October 16, 2014).

¹³The opening of the Meijer store did not change the food desert designation of the tract.

¹⁴Earthworks Urban Farm, "Earthworks Urban Farm: A Project of Capuchin Soup Kitchen," available at www.cskdetroit.org/index.php/EWG (accessed November 25, 2013).

¹⁵K. Pothukuchi, "Reimagining Neighborhood Corner Stores, Starting with Produce," *Michigan Citizen*, September 5, 2010, p. A11.

¹⁶See, for example, K. Budzynska, P. West, R. T. Savoy-Moore, D. Lindsey, M. Winter, and P. K. Newby, "A Food Desert in Detroit: Associations with Food Shopping and Eating Behaviours, Dietary Intakes, and Obesity," *Public Health Nutrition* 16, No. 12 (2013): 2114–2123.

¹⁷See, for example, T. F. LeDoux and I. Vojnovic, "Going Outside the Neighborhood: The Shopping Patterns and Adaptations of Disadvantaged Consumers Living in the Lower Eastside Neighborhoods of Detroit, Michigan," *Health & Place* 19 (2013): 1–14.

¹⁸The USDA Food Atlas database is a collection of census-tract level statistics on food environment indicators intended to provide a spatial overview of a community's ability to access healthy food and its success in doing so, and to stimulate research on the determinants of food choices and diet quality. The atlas may be accessed at: <http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx>.

¹This article is based on D. E. Taylor and K. J. Ard, "Food Availability and the Food Desert Frame in Detroit: An Overview of the City's Food System," *Environmental Practice* 17, No. 2 (2015): 102–133.

²U. S. Department of Agriculture. "Designated Food Desert Census Tracts," <http://apps.ams.usda.gov/fooddeserts/TractBreakdown.pdf>, accessed December 31, 2013.

³See, for example, N. Cameron, C. G. Amrhein, K. E. Smoyer-Tomic, K. D. Raine, and L. Y. Chong, "Cornering The Market: Restriction of Retail Supermarket Locations," *Environment and Planning C: Government and Policy* 28, No. 5 (2010): 905–922.

⁴See, for example, U.S.D.A., "Designated Food Desert Census Tracts."

⁵S. N. Zenk, A. J. Schulz, B. A. Israel, S. A. James, S. Bao, and M. L. Wilson, "Neighborhood Racial Composition, Neighborhood Poverty, and the Spatial Accessibility of Supermarkets in Metropolitan Detroit," *American Journal of Public Health* 95, No. 4 (2005): 660–667.

⁶A. Short, J. Guthman, and S. Raskin, "Food Deserts, Oases, or Mirages? Small Markets and Community Food Security in the San Francisco Bay Area," *Journal of Planning Education and Research* 26, No. 3 (March 2007): 352–364.