



Food Insecurity in Brooklyn, Madison, and Venice, Illinois¹

Spring 2022 • PAPA 599 • Community and Urban Planning
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¹ This report builds on previous work carried out by students enrolled in ARC 550: Regional Architecture Studio, under the supervision of Prof. Craig Anz and Prof. Rolando Gonzalez in Summer 2021. See reports from Berogan et al. and Frankel et al. linked in the References.

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In Partnership with

Village of Brooklyn, Illinois

City of Madison, Illinois

& Venice, Illinois

2021-2022



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About SSCC

SSCC is a cross-disciplinary program that supports yearlong partnerships between Illinois communities and SIUE to advance community-identified environmental, social, and economic issues and needs. Our mission is to connect communities with the students and faculty of SIUE.

SSCC works with administrative staff and stakeholders in partner communities to identify projects that will advance local resilience and sustainability. Each project is matched with one or more key courses at SIUE that can provide research or technical support and move the project forward.

For communities, SSCC provides innovative strategies to move community-identified, high-priority sustainability goals forward. Communities often face limited resources to explore sustainability and quality of life questions. SSCC seeks to reduce those obstacles by linking existing graduate and undergraduate courses at SIUE to explore innovative solutions to community-identified projects. Graduate, professional and advanced undergraduate students participate in SSCC by enrolling in a related course. A yearlong partnership can engage as many as 10-15 courses spanning up to 10 or more academic departments. Projects may include engineering, urban design, planning, cost-benefit analysis, economic development, legal and policy analysis, community engagement, marketing or public relations campaigns.

SSCC staff work closely with faculty to incorporate community projects into their courses and connect students with community partners. Staff and stakeholders from the community work closely with SIUE faculty and students to provide local knowledge and deeper understanding into the issues, guaranteeing projects are not only innovative, but also suitable to the community.

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This report represents original student work and recommendations prepared by students in the Southern Illinois University Edwardsville's Successful Communities Collaborative Program for the Village of Brooklyn and Cities of Madison and Venice. Text and images contained in this report may not be used without permission from Southern Illinois University Edwardsville.

About the Partnership

The Village of Brooklyn and Cities of Madison and Venice are located approximately 5 to 7 miles northeast of St. Louis, Missouri. The collective community is part of the Metro-East region of the Greater St. Louis metropolitan area.

Established in the 1820s, the Village of Brooklyn became the first incorporated Black town in the United States in 1873. Initiated by Mother Priscilla Baltimore who bought her own freedom from slavery, Brooklyn, Mother Baltimore, and Quinn Chapel AME Church in Brooklyn all played critical roles in the Underground Railroad. According to the 2020 Census, Brooklyn is currently home to approximately 680 residents.

The City of Madison was incorporated in 1891 and relocated twice before it settled in its current location on the east side of the Mississippi River. Founded by merchants from St. Louis, the final location was selected because of its convenient location for transporting coal from the east to the west side of the river. Madison is currently home to about 3,644 residents.

The City of Venice's story begins in 1815 when John Anthony built the first house in Venice. The land was platted for development in 1841 only for the land to be washed away in the flood of 1851. By 1871, the City had relocated further inland. Two years later, it was incorporated. Venice is currently home to about 2,040 residents.²

² For more information, see [Madison County IL GenWeb](#) and [Madison Historical: The Online Encyclopedia and Digital Archive for Madison County, Illinois](#).

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Food Insecurity Venice, Madison, Brooklyn

Introduction

Food insecurity in the U.S. is a significant and complex problem that continues to affect millions of Americans. The United States Department of Agriculture (USDA) defines food insecurity as a lack of consistent access to enough food for an active, healthy life. The USDA (2020) estimates that “1 in 8 Americans were food insecure, equating to over 38 million Americans, including almost 12 million children.” The prevalence of food insecurity varies among households and is influenced by several factors including income, employment, race/ethnicity, and disability.

Food insecurity has devastating consequences at all stages of life in part because low food security causes diets to be of lower quality, variety, or attractiveness. There is little or no evidence of a decrease in food consumption, however. Multiple signs of altered eating patterns and lower food intake have instead been reported by those with extremely poor food security. Extensive research reveals food insecurity is associated with decreased nutrient intakes, increased rates of mental health problems and depression, diabetes, hypertension and hyperlipidemia; worse outcomes on health exams; being in poor or fair health; and poor sleep outcomes (Gundersen & Ziliak, 2015). Adults and children who experience food insecurity are at risk for a variety of negative health outcomes and health disparities (ODPHP). For example, food-insecure adults have a shorter life expectancy—shorter by over 8 years as compared to

high-income adults (Food Research & Action Center 2017). Moreover, food insecurity can be particularly devastating among children because they are more vulnerable to potential long-term consequences for their future physical and mental health and academic achievement. Children in households that were food insecure were more likely to suffer from a host of conditions including some birth defects, anemia, cognitive difficulties, aggression, anxiety, asthma, behavioral problems, depression, and poorer oral health (Gundersen & Ziliak, 2015).

Equally important, people in poverty have disproportionately worse health outcomes than those who are financially stable. Compared to high-income neighborhoods, low-income neighborhoods often lack full-service grocery stores, limiting access to nutritious food. These neighborhoods may lack parks or recreational facilities and are often in areas with poor air and water quality (Food Research & Action

Center,2017). Based on data from the 2000 Census and 2006 data on the locations of supermarkets, supercenters, and major grocery shops, the USDA's Economic Research Service previously found roughly 6,500 food desert tracts in the United States. People in these food deserts have limited access to a range of healthy and inexpensive foods.

Other services, such as banking, health care, transportation infrastructure, and parks or recreational spaces, are typically unavailable in communities with inadequate access to quality, inexpensive food. Residents in these

*CHILDREN IN HOUSEHOLDS THAT WERE FOOD INSECURE WERE MORE LIKELY TO SUFFER FROM A HOST OF CONDITIONS INCLUDING SOME BIRTH DEFECTS, ANEMIA, COGNITIVE DIFFICULTIES, AGGRESSION, ANXIETY, ASTHMA, BEHAVIORAL PROBLEMS, DEPRESSION, AND POORER ORAL HEALTH.
(GUNDERSEN AND ZILIAK, 2015)*

neighborhoods may suffer from poor diets and health outcomes due to a lack of knowledge and health care resources, as well as expensive prices for fresh vegetables and other healthful foods.

Food Insecurity in Venice, Madison, and Brooklyn

Food insecurity in Venice, Madison, and Brooklyn (VMB), as well as similarly situated communities, places an extra burden on health and social costs of residents. A lack of healthy nutritious food has a direct correlation with macroeconomics and limited resources. Low-income urban communities and the individuals that live within VMB face disproportional factors that contribute to this problem including low wages, high housing costs, low participation in food and nutrition assistance programs, high unemployment rates, residential instability, and high taxes (Wright, 2014). When income is constrained in households, families are left with the difficult decision that can equate to an inadequate food supply. Residents of these communities also face hurdles of having to commute to different cities to obtain groceries. Residents of VMB must commute to Saint Louis or Granite City to shop at a full-service supermarket. Community members report that while they have a personal vehicle, the money and time spent traveling to a grocery store detrimentally impacts the likelihood of them obtaining fresh produce. These three communities, therefore, are defined as food deserts where residents have the greatest access to food through convenience stores and small independent marts. These locations generally carry less nutritional food, fewer options, with a higher price point.

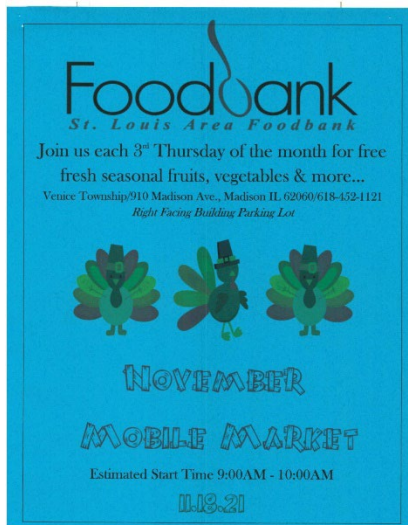
Food insecurity contributes to other social problems in the VMB community because it increases the chances of people suffering from poor mental health, disabilities, and chronic physical health conditions. Evidence of health consequences related to food insecurity causes lifelong health complications across all ages. Children who face food insecurity are 1.4 times more likely to suffer from asthma, compared to food-secure children. Likewise, food-insecure seniors are more likely to suffer from depression, asthma, diabetes, and congestive heart failure.

Food Insecurity: Getting better or worse?

After years of legislation and various government aids, progress in improving food insecurity in the U.S has slowed down due to supply conflicts, climate variability, economic instability, and most recently, a public health crisis. In 2019, the overall food insecurity rate was the lowest that it had been in twenty years, but the coronavirus (COVID-19) global pandemic caused a spike in the number of people experiencing a lack of access to sufficient food. According to the U.S. Department of Agriculture (USDA), 10.5% of American households experienced food insecurity in 2020 during the pandemic ("Food Security and Nutrition Assistance," 2021). Although COVID-19 caused new individuals to have struggles regarding accessing healthy foods, obtaining enough food to consume, and being able to afford food, individuals impacted by the pandemic were food insecure or at risk of food insecurity before the pandemic ("The Impact of the Coronavirus on Food Insecurity," 2021). Unexpected demographics experiencing food insecurity due to Covid-19 include children under 18. Mandated school closures caused reductions in food intake for 30 million children who would normally depend on the National School Lunch Program to provide free or low-cost lunches

(“Addressing Food Insecurity in America, Before and During the Pandemic,” 2021). Food insecurity rates are projected to increase across nature, which adds to the already unfair burden related to social problem challenges that VMB residents experience.

What Has Been Done



Some steps have been taken in the VMB communities to address food insecurity. In Madison, there are two food banks run by volunteers – the Venice Township Food Bank and Soup-N-Share Outreach. Soup-N-Share also allows residents to receive essentials, such as diapers or clothing, along with food. The Quad City Community Development Center in Madison also shares food and hosts events for youth (Brown et al., 2021).

Brooklyn and Venice also have food banks or outreach centers that distribute food to those who need it (Berogan, et al., 2021). “Rise and Shine, Illinois” offers what they call “Summer Meals,” a program designed to serve youth under the age of 18 no cost breakfasts, lunches, and dinners at a nearby school, church, or community center (Rise & Shine Illinois, 2022).

Research Review

Food insecurity has dramatically increased in recent years impacting an astonishing 50 million people nationally. Our current knowledge regarding food insecurity is that residents of Venice, Madison, and Brooklyn suffer from a higher rate of food insecurity compared to neighboring areas. Household incomes in these three cities are at an estimated median of \$33,000 compared to the state median of \$69,000 (Citydata, 2019) equating to a \$36,000

deficit. City residents lack resources and access to nutritional food as there is no grocery store in each of these cities, defining these areas as food deserts. Food security can be seen through a Nutritional Method that includes Global, National, Household, and Individual. Each step relies on the next. Global food availability trickles down to food imports and local food production equaling national food availability. National food availability and household incomes determine household food access and food security (Perez-Escamilla, 2008). Adequate, sufficient, and nutritional food must be available to residents. Meaning there must be access and choices for residents to choose from to secure an acceptable food source. The utilization of these foods must be nutritionally essential and can be absorbed and metabolized by the body. Studies have shown a negative association between food insecurity and health [SA1]. Adverse health outcomes include hypertension, hyperlipidemia, and diabetes have a substantially higher rate in food insecure populations than those that are not (Tayie & Zizza, 2010)

Where is there consensus?

Food insecurity is a complex policy issue that affects other aspects of people's lives, such as education or personal health (Allcott et al., 2019). Literature is mixed on the topic about how food insecurity affects people, but a few things are considered generally accepted knowledge. Studies have shown that the rate of food insecurity is much higher where poverty is higher, regardless of if the area is urban or rural (Dutko, Ver Pleog, & Farrigan, 2012). People that live in higher income communities often have greater access to food than people from low-income neighborhoods. This is either from stores not wanting to locate in low-income areas or from a lack of transportation to get to stores (Ahmed, 2021). Studies have also shown that the higher

the percentage of minority population, the greater the chance the area will be a food desert (Dutko, Ver Pleog, & Farrigan, 2012). Low-income and minority communities tend to be filled with convenience stores. These stores usually offer a poor selection of healthy foods and cost more (Beaulac, Kristijansson, & Cummins, 2019). Additionally, areas that struggle from food insecurity often lack access to other important services as well, including banking or healthcare (Dutko, Ver Pleog, & Farrigan, 2012).

Where is there debate?

Food insecurity causes a slew of problems, including production, consumption, poverty, inequity, illness, and conflict. Conflict and food instability, especially famine, are hotly debated topics. As a result of diminished cognitive development and learning ability in children, as well as lower intakes of food energy and critical food nutrients and other related situations, the prevalence of food insecurity has economic and public health effects for both people and communities. Hunger and food insecurity are strongly linked, and it is conceivable to state that one will be hungry if they are food insecure. Furthermore, research identifies food insecurity contributes to the conflict of hunger. While the term “hunger” is not new, measurement of hunger and how hunger fits conceptually into food insecurity is not completely clear. As currently construed in USDA’s food insecurity measure, hunger could be considered a severe level of food insecurity. This use of the term “hunger” has been questioned by some who believe that hunger is conceptually distinct from food insecurity. Because the label “hunger” is a politically potent concept, the methods used to classify households as food insecure with hunger and the use of these estimates are particularly important.

Furthermore, research shows that food instability plays a role in the hunger struggle. While the term "hunger" is not new, it is unclear how hunger is measured and how hunger fits into the larger issue of food insecurity. Hunger, as defined by the USDA's food insecurity index, might be considered a severe level of food insecurity. Some have questioned the usage of the term "hunger," believing that hunger is conceptually separate from food insecurity. The methodologies used to designate families as food insecure with hunger, as well as the utilization of these estimations, are particularly essential since "hunger" is a politically powerful concept.

Common Solutions and Supporting Evidence

The implementation of local grocery stores in areas that would otherwise be considered "food deserts" is a solution that has already been proposed to solve food insecurity issues. Previous research shows that metropolitan areas in the U.S. are more probable to experience food store density, and the creation of grocery stores would supply significantly greater amounts of nutritious fruits and vegetables to local residents when compared to other food stores, such as neighborhood convenience stores. For example, 14% of Venice, Madison, and Brooklyn residents

14% OF VENICE, MADISON, AND BROOKLYN RESIDENTS "STRONGLY DISAGREE" THAT THEY HAVE A SUFFICIENT AMOUNT OF FRESH PRODUCE AND MEATS AVAILABLE IN THEIR COMMUNITY WHICH WOULD QUALIFY AS THEM AS FOOD INSECURE, BUT THE MAJORITY OF THOSE SAME RESIDENTS (27 OUT OF 28) SURVEYED THAT THEY WOULD BE "VERY LIKELY" TO PATRONIZE A LOCAL GROCERY STORE IF IT WERE AVAILABLE IN THEIR COMMUNITY (BEROGAN ET AL., 2021).

"strongly disagree" to having a sufficient amount of fresh produce and meats available in their

community which would qualify as them as food insecure, but the majority of those same residents (27 out of 28) surveyed that they would be “very likely” to patronize a local grocery store if it were available in their community (Berogan et al., 2021). The Journal of Urban Health found that better neighborhood food access has more chances of lowering risk of food insecurity as opposed to federal benefits such as Supplemental Nutrition Program (SNAP) or Women, Infants, and Children (WIC) (Mayer et al., 2014). However, the individuals in this study’s sample who self-identified as food insecure also reported that they had sufficient access to “fair, good, and excellent quality stores” (Mayer et al., 2014). This discrepancy proves that this solution is only effective if the grocery store also features affordable foods for the food insecure population to purchase. Food insecurity is an issue that requires not only improved access to healthy food but also greater affordability of those foods.

We also know that another factor that determines the success of this solution is the distance of grocery stores in relation to vehicle or public transportation availability in communities that experience food insecurity. For example, one study conducted in Detroit, Michigan suggests that the lack of access to nutritious foods in minority communities is further hindered due to the absence of transportation. The study’s results showed that 34% of Detroit’s residents do not have a personal vehicle and heavily rely on public transit (Santarossa et al., 2021). The study also showed that 33% of households in Detroit report food insecurity (Santarossa et al., 2021). The VMB community would not experience transportation related food insecurity because 24 residents reported their personal vehicle as their primary mode of transportation and the other 4 residents reported using public transportation as their primary

source of transportation (Berogan et al., 2021). However, individuals who have little access to vehicles or bus systems must travel a long distance to the nearest grocery store—this is especially evident in rural areas. This is a common problem that can occur when implementing grocery stores as the solution for food insecurity. Even if a grocery store is located in communities experiencing food insecurity, the mode of transportation that the residents utilize can change the level of accessibility to that specific grocery store.

Most Effective Approaches

The solution of local grocery stores has multiple facets like enticing new stores to open in the areas you want and avoiding undermining existing businesses. The way these solutions are implemented will experience different forms of success. According to the United States Department of Agriculture (USDA, 2009), “the price of land or rent may be higher in food-desert neighborhoods. Zoning rules, such as the amount of parking required for new businesses, could make it more costly to develop a new store.” By creating changes in zoning policy, the cities can make specific areas much more enticing to new businesses. In New York City to meet food affordability and availability, Health Bodegas have been implemented. Ver Ploeg notes that “the Healthy Bodega Initiative recruit bodegas or small corner stores in nutritionally vulnerable areas to increase their offerings of low-fat milk, fruit, and vegetables. The city provides promotional and educational materials to entice people to purchase the new offerings and to encourage bodegas to participate.” (Ver Ploeg) This solution uses the existing corner stores within the Venice, Madison, and Brooklyn communities to offer more healthy food choices, while educating the public on these healthier food choices. This type of solution also can foster good relationships between the city and local businesses.

Recommendations

Recommendation #1 (Zoning Ordinances)

Zoning ordinances can increase the amount of fresh, affordable, and accessible foods in the VMB community. Zoning codes regulate the use of land within a municipality. The VMB community should consider revising zoning codes to allow urban farmers to develop new initiatives to serve food insecure communities. This recommendation is feasible for cities to consider, having proven success in various counties throughout the country. The National Healthy Food Project created resources for municipalities to assist them with properly articulating agricultural terminology for zoning codes ("[Zoning for Urban Agriculture](#)"). Venice has already adopted zoning codes that would permit farmers to use a local, formerly abandoned greenhouse to address the small town's food insecurity issue. The Venice Garden Project grows organic corn, peppers, asparagus, beets, cucumbers, onions, eggplants, and more inside of the greenhouse located behind Madison Junior High (Meske, 2017). The nutrient dense produce gives community members the option to purchase healthier foods without having to travel far. The program also teach its participants who are mostly teenagers from low-income households skills about gardening, farming, and landscaping. Reforming zoning codes to be more farm-friendly by allowing temporary agricultural structures such as greenhouses, hoop houses, food trucks, and other pop-up eating facilities would also allow community members to engage in food production resulting in better accessibility of healthy foods for residents. An example of zoning ordinances permitting untraditional agriculture processes to feed food-insecure areas is [Chicago's Homestead Farm](#), a hydroponic farm located in the Fulton Market neighborhood of Chicago. Homestead Farm uses vertical hydroponic farming to grow about

12,000 plants such as leafy greens, herbs, lettuces, and other nutrient-dense produce for people of the community to access and purchase at an affordable price (Blum, 2021). Another reason why zoning ordinances are a solid recommendation for achieving VMB food security goals is that municipalities can create tax incentives that encourage property owners or developers to build full-service grocery stores within their neighborhood's zone. In 2009, the state of New York created a zoning incentive program called the [Food Retail Expansion to Support Health \(FRESH\)](#). This program primarily serves most central and eastern Brooklyn neighborhoods. It gives property owners the right to build a "FRESH-certified" grocery store in a mixed-use building up to a maximum of 20,000 square feet (Richling, 2021). These grocery store zoning incentive programs are feasible but may not be good permanent recommendations because tax incentives can change over time.

Recommendation #2 (City Owned Grocery Store)

Our second recommendation to the VMB community is to create a city-run grocery store. This has been done successfully in a couple of cities, one in St. Paul, Kansas, and the other in Baldwin, Florida, a suburb about 20 miles west of Jacksonville. In 2018 in Baldwin, the town's only grocery store closed, leaving the city's residents at least a 15-minute drive to the next closest store. Their solution was to create a city-owned and run grocery store. The city was able to rehab an old IGA store, creating a store for 1,600 residents (Cravey, 2019). This would directly address the issue of food insecurity in the

RECOMMENDATIONS:

- 1. ADOPT PRO-URBAN AG ZONING POLICIES***
- 2. ESTABLISH A CITY OWNED GROCERY STORE***
- 3. ORGANIZE AND SUPPORT A NETWORK OF COMMUNITY BODEGAS***
- 4. DEVELOP CITY-WIDE COMMUNITY GARDENING PROGRAM***

community. The VMB survey shows that residents do not agree that they have access to fresh produce and meats (VBM Grocery Store Survey Report, 2022). We also see that, if there was a store available, they would likely patronize it (VBM Grocery Store Survey Report, 2022). By placing a store in the community, it would allow citizens to have direct access to fresh produce and meat, avoiding unnecessary travel and monies spent in other communities. The biggest challenge to this recommendation would be the cost. The Baldwin project had an initial startup cost of \$150,000, with access to an already available 10,000 square foot building (Cravey, 2019). The St. Paul project used a \$400,000 grant from the USDA to build a new building (St. Paul Supermarket, 2019). Startup costs may strain a city's budget that is already exhausted Covid-19 expenses, an already tight budget from Covid- 19 or from population decline. To help offset this strain, the city can search for federal, state grant funds, or seek to have items donated, such as a building. Another obstacle residents face is competitive prices from other grocery stores such as Aldi's in nearby Granite City. Citizens have shown an interest in prioritizing healthy and sustainable food; therefore, they may be able to utilize benefits such as SNAP and the convenience of a shorter drive to obtain healthy food. Using this recommendation can create additional jobs for the community. But most likely would be part-time jobs with a few full-time managerial positions. The store can also use local farmers and vendors to increase economic growth in the area.

Recommendation #3 (Community Bodegas)

The [healthy bodegas program](#) in New York City has seen success in its healthy food bodegas program, where the city partners with local corner stores and similarly small shops to help provide greater access to fresh fruits and vegetables. At the same time, encouraging local

small shops to sell fresh foods, the city educates and encourages residents to eat healthier diets by providing basic nutrition information.

This solution would provide greater access to healthy foods and educate the communities about them. Educated residents are more likely to purchase healthy foods making it more likely for businesses to continue stocking them. A study conducted in 2012 found an increase in the healthier food choices made by customers. Dannenfer (2012) found that "the percentage of customers surveyed who purchased items for which we promoted a healthier option (low-sodium canned goods, low-fat milk, whole-grain bread, healthier snacks, and sandwiches) increased from 5% to 16%." This study was conducted across 46 stores partnered with the healthy bodegas initiative.

This program would have a low buy-in for the cities. VMB would utilize existing resources and partner with existing businesses in place of something entirely new. The actual cost of such a program would come from providing educational materials and outreach. The goal of such a plan is to increase a higher demand for healthy foods from customers. Businesses will continue to provide healthy food options once the demand is there.

This solution would have some trade-offs to consider, such as the cost for the city to provide the educational materials and outreach, convincing local businesses to join the program, and stocking healthy food options. In the 2012 study, "Owners reported increased sales of healthier items but identified barriers including consumer demand and lack of space and refrigeration." (Dannenberg, 2012)

Recommendation #4: City-Wide Community Garden Program

Fresh produce and reasonably priced items are two utterly important concerns among the residents of the VBM community (VBM Grocery Store Survey Report, 2022). Therefore, we recommend establishing a community garden in Madison to help provide residents access to fresh produce in the VBM community. The City of Madison can ordain a specific area in the Agricultural Zone as permanent land use for a community garden. Equally important, the City of Madison can create community garden programs to address food insecurity and utilize Agricultural Zones for aesthetic purposes. Further, a community garden can greatly benefit the VBM community because it allows residents to garden their fruits and vegetables, increasing their access to fresh produce. Community gardens can also be included in larger community projects such as after-school programs for kids and senior activities. The resources grown then can be used in VBM food banks.

In Del Paso Heights, California, community and local government organizations developed a community garden to address a lack of access to fresh fruits and vegetables. WIC collaborated with local neighbors to turn an empty four-acre area adjacent to Martin Luther King Junior High School into a community garden that today serves 85 families (Maylard, 2022). A farmer's market was developed in Del Paso Heights in 2005 by the Health Education Council, [Soil Born Farms Urban Agriculture Project](#), Sacramento Department of Parks and Recreation, and the [Mutual Assistance Network of Del Paso Heights](#). Five residents sell their vegetables grown at the [Stone Soup Gardens](#) (Maylard, 2022).

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