Fresh Food
FOR ALL
Improving Access to Healthy Food in Alabama

Massachusetts Institute of Technology | Wealth Creation Clinic
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Cover image by Natalie Maynor
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Executive Summary

As obesity rates in the United States rise and health outcomes of the population continue to decline, policy-makers and scholars are increasingly discussing the problem of inequitable access to healthy food. The concept of the “food desert” has earned substantial attention over the last 20 years as researchers have identified places with relatively few fresh food retail outlets. The food desert argument suggests that residents of certain areas have disproportionately limited access to fresh, healthy, affordable foods resulting in poor diets which ultimately lead to numerous health-related issues.

This research has galvanized public health workers and policy-makers into action, leading to the creation of local, state, and even national initiatives to invest in improved access to healthy food through new and expanded supermarkets, grocery stores, farmers’ markets, and other healthy food retailers. From neighborhood-based programs like REV Birmingham to national programs such as the Healthy Food Financing Initiative, funds are being invested in creating a more equitable food access landscape.

To assist the Emerging ChangeMakers Network (ECN) in Alabama to convene cross-sector food system stakeholders throughout the state, the Wealth Creation Clinic in the Department of Urban Studies and Planning at MIT studied the varying definitions of a food desert, mapped low-income communities in Alabama with limited supermarket access and high health risks, reviewed obstacles to improving food access, and examined successful food policy approaches implemented by other organizations. A brief summary of that research follows.

DEFINING FOOD DESERTS IS COMPLEX AND CONTEXT-SPECIFIC.

As the body of research on food access has grown over the years, the story of the food desert has become more complex. Technical definitions describing these areas are increasingly nuanced, and some studies suggest that food deserts cannot be identified by simply using residents’ geographic proximity to stores. Moreover, communities labelled as food deserts can find the term disempowering or even offensive. Although community members may recognize disparities in their own access to fresh food as compared with nearby neighborhoods, few want their locales described as an area of deficit. The range of food desert definitions does not delegitimize the concept, but rather indicates that each group of stakeholders should take their context into account, compare alternative definitions, and collectively determine their terminology.

POOR DIETS ARE ASSOCIATED WITH A RANGE OF NEGATIVE HEALTH OUTCOMES.

Researchers have shown that poor nutrition is associated with higher disease risk, lower cognitive functioning, lower productivity, and obesity, and that residents of low-income communities are more likely to consume high calorie, nutrient-poor food. The effects of low-quality diets can be particularly severe for children in terms of obesity rates and educational performance. Some studies suggest that improving access to fresh food may increase fruit and vegetable consumption leading to overall healthier diets.

ALABAMA DOES HAVE AREAS WITH LOW ACCESS TO FRESH, AFFORDABLE, HEALTHY FOOD.

One of the most widespread food desert identification strategies was developed by the Food Trust and compares three characteristics across census tracts: supermarket sales, household income, and diet-related mortality rates. The maps we created by overlaying these variables clearly
show that the State of Alabama has areas that can be called food deserts, with few supermarkets, low incomes, and higher than average diet-related deaths.

**BARRIERS TO FRESH FOOD RETAIL ARE HISTORICAL, FINANCIAL, PHYSICAL, AND REGULATORY**

Several factors contribute to the existence of food deserts, including a well-documented history of retail disinvestment. Other key obstacles are a lack of sufficient financing options, limited land access in built out city neighborhoods, high construction and operating costs in rural and urban communities, restrictive and unclear zoning laws, and inadequate market information for supermarket corporations, developers, and investors.

**POLICY SOLUTIONS INCLUDE BOTH SUPERMARKET AND GROCERY STORE INVESTMENTS AND ALTERNATIVE FOOD SYSTEM DEVELOPMENT.**

Investing in supermarkets and grocery stores is critical, but it is only one of several pathways to increasing fresh food retail. Direct and indirect support for farmers and farmers’ markets, innovative programs that improve the quality of food in smaller stores, creative transport initiatives, and the development of regional food hubs are options other organizations and coalitions have successfully employed to expand fresh food choices. Alabama stakeholders should consider a variety of scenarios and collectively determine which avenues make the most sense in their own contexts.

**Recommendations**

We present two sets of recommendations for improving food access based on best practices across the country. The first recommendations relate to supermarket and grocery store development while the second set focuses on investment in alternative food systems.

**DISMANTLING BARRIERS TO SUPERMARKET AND GROCERY STORE DEVELOPMENT:**

1. Develop a state-wide food retail investment fund in partnership with financial institutions.
2. Work with public agencies to assemble and market land in underserved areas.
3. Create one-stop centers for store operators and developers to streamline the development process.
4. Create information clearinghouses for supermarket and grocery store developers.

**INVESTING IN ALTERNATIVE FOOD SYSTEMS:**

5. Work with public officials and farmers to increase the purchasing power of low-income consumers at farmers’ markets.
6. As a stopgap measure, consider creating a statewide or local initiative to improve fresh food quality in smaller stores.
7. Consider setting up local or regional supermarket shuttle services.
8. Strengthen existing regional food hubs and explore other areas for food hub investment.
I. Introduction

About the Emerging ChangeMaker’s Network (ECN)

The Emerging ChangeMakers Network (ECN) works with innovative ideas and inspiring leaders in order to end economic inequality in the Deep South. The organization’s change-making activities are focused on three key areas: learning, capital, and policy. ECN is working to develop a conversation and a task force related to policy development around financing for healthy food. One of the organization’s goals is to increase impact investing in value-chains in the Alabama Black-Belt (17 counties that are rural and low-wealth) that are developing enterprises in the agricultural and cultural/heritage sectors. As part of that objective, ECN is collaborating with a local CDFI to offer a small loans program that targets not just small farmers but the entire food system in the Black Belt and in Alabama.

About the MIT Wealth Creation Clinic

Situated in MIT’s Department of Urban Studies and Planning (DUSP), the Ford Foundation-Sponsored Wealth Creation Clinic is modeled after the transactional Community Economic Development Legal Clinics established by the Ford Foundation in the 1970s and provides a range of economic development and planning services to client partners. The “transactional” model provides community-based development practitioners (clients) with access to the skills and knowledge of economic development practitioners working in business and commercial settings within academia (faculty and students), and provides a venue for training future practitioners. The Clinic is based on a pragmatic approach that emphasizes skill development (of both the student and client) and service provision in support of wealth creation and livelihood generation activities.

Purpose of the report

Understanding the current state of the Alabama food system is a necessary step in ECN’s work. A key aspect of that food system is consumer access to food. In the summer of 2013, ECN staff and MIT Wealth Creation Clinic members began to discuss working together to create a document that would serve as a rallying point for Alabama stakeholders interested in impact investing in fresh food retail as a possible means to improve health outcomes for the state’s low-income, rural populations. ECN and the Clinic collaboratively defined the following objectives of the report: (1) Briefly review the key academic and policy-based literature on food deserts, (2) map urban and rural food deserts in the state of Alabama, (3) identify barriers to the development of retail outlets such as supermarkets in rural areas, and (4) research policies developed by other municipalities and states to encourage investment in the food system.

Defining food deserts

The last 10-15 years of US history have been transformative with regards to urban planning and its relationship to food. Starting with the groundbreaking paper by Pothukuchi and Kaufman in the Journal of the American Planning Association at the turn of the century that detailed the remarkable lack of attention to food in the planning literature, academics and policy-makers have increased their attention to food issues. One of the

1 “Emerging ChangeMakers Network | About Us.”

more salient issues has been the subject of food deserts.

The rhetorical strength behind the idea of an area completely lacking in food (or good food) is significant. Since the term “food desert” was coined in the UK in the early 1990s, a number of researchers and groups have attempted to define, quantify, and analyze these spaces and their effects. Although the term has spread widely, the definition most generally accepted—and the one we put forward for this report—is that a food desert is a part of a low-income community where access to fresh, affordable, healthy food is limited. Despite this general, moderate definition, in some places the term has become quite extreme. Some news sources have mistakenly claimed that food deserts have absolutely no food, while others have claimed that food deserts have exclusively unhealthy food providers including convenience stores and fast food restaurants. Neither of these extremes is seen in reality; even in the most isolated neighborhoods, fresh food is available. The important factor is that some areas have disproportionately less access to fresh food and this can be due to lack of stores, lack of supply, or unaffordable pricing.

In addition, almost every study identifies food deserts differently. Most quantitative investigations use supermarket-specific data—location, number, size of stores, or sales—as a proxy for access to fresh food, in part because of ease of acquiring the data, and in part because supermarkets tend to carry the widest variety and often the highest quality of relatively affordable items. Unfortunately, this approach leaves out smaller stores that also carry healthy

items and can skew findings. In studies of smaller geographical areas with more detailed data, some researchers distinguish between grocery stores and supermarkets while others combine several types of store into a single category.\(^1\)\(^2\) Reports also differ in their interpretation of access to healthy food and how they determine the impact of that access.\(^3\) Some studies count the number of nearby stores, others measure distances from stores to certain population centers, while still others calculate food dollars spent within the area compared to surrounding areas.\(^4\)\(^5\)\(^6\) Each of these approaches covers one aspect of food access but misses others. In its food desert research, the USDA, for example takes into account car ownership as a key determinant of fresh food options.\(^6\)

The term “food desert” itself, while evoking strong emotional reactions, has received some criticism because of the negative way it frames a community. Its misleading nature can be taken so far as to describe these neighborhoods as devoid of wealth and hope. In reality, they are often areas of racial, social, and economic discrimination.\(^7\) Food security and food democracy advocates have called for a reframing of the issue for years and though a number of alternative labels have been suggested (areas of food imbalance, limited access areas, etc.), none has stuck.\(^8\)\(^9\) For the sake of familiarity, this report will use the term food desert, though we recognize it is problematic. We strongly suggest that the full set of stakeholders collectively determine an alternative name when moving forward through the decision-making process.

For the purposes of the mapping section of this report and in preparation for a future partnership, we will follow the empirical definition and methodology for identifying locations with limited fresh food options laid out by The Food Trust—a policy group working to improve access to nutritious food—in their “Food for Every Child” series.\(^10\)\(^11\) Using supermarket sales and other demographic data, the Food Trust maps areas with low grocery sales, low incomes, and high diet-related death rates relative to other neighborhoods or communities in the state or region (Please see the appendix for a detailed description of the methodology used.) This operational mapping is important for initial identification of areas of interest as shown in this report. However, the specifics of the definition of food deserts in Alabama should be decided as key stakeholders come to the table, identify the factors important to them, and formulate a plan of action.

**Research on the existence of food deserts**

Despite the variation in term definitions and research methodologies, a wide variety of studies do agree that specific areas in the U.S. have lower access to fresh and affordable food—e.g. fresh produce, dairy, whole grains, or meats priced consistently with local income.\(^12\)\(^13\) These food deserts, researchers contend, are consistently situated in low-income neighborhoods with largely minority populations. For example, the authors of a 2006 study of North Carolina, Maryland, and New York found that poor and majority non-White areas often have half as many supermarkets and significantly fewer fruit and vegetable markets than wealthy and majority white areas.\(^14\) In Los Angeles County in 2002, supermarkets served almost twice as many residents in low-income communities relative to the rest of

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1. Andreyeva et al., “Availability And Prices Of Foods Across Stores And Neighborhoods.”
4. Liese et al., “Food Store Availability and Cost of Foods in a Rural Environment.”
7. Yi Wang, Grabbing the Food Deserts.

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10. The Food Trust, “With Supermarkets.”
11. Note: The definition of food deserts offered by the CDFI Fund’s Searching for Markets report, a robust study, has its results posted on a website. The findings from this and any future reports could be compared to get a sense of general trends. [http://www.trfund.com/limited-supermarket-access-lsa-analysis-mapping-tool/#more-1214](http://www.trfund.com/limited-supermarket-access-lsa-analysis-mapping-tool/#more-1214)
12. Ibid
14. Moore and Diez Roux, “Associations of Neighborhood Characteristics With the Location and Type of Food Stores.”
In addition to having fewer large food retail outlets, low-income neighborhoods may be disproportionately inundated with convenience stores and fast-food chains carrying calorie-heavy snack food, creating what Donald Rose and his colleagues from Tulane University named “food swamps” in their 2009 work on food access in New Orleans. Food swamps, the researchers argue, are potentially more dangerous than food deserts given growing rates of obesity in the U.S.

Sometimes affordability, rather than store distance, may be the problem. As one focus group participant in a study in rural Minnesota noted, “You can’t do nothing without money. I mean the cost of living is so high, I mean, when we go to the grocery store, we got to buy pretty much what’s on sale, what will last us. I mean, we can’t go buy all the healthy foods we want and all that, ‘cause we have to budget our money because we have all the bills and you know just everything adds up and you don’t have enough to buy exactly what you need and what you want.”

Urban and rural food retail outlets typically have higher construction and operating costs than those in suburban locations and may pass those costs to low-income consumers in the form of higher prices. Although poor households can offset these added expenses by choosing lower-priced goods, they may sacrifice quality and freshness. A study of two neighborhoods on the edge of Chicago—Austin, a low-income African-American community, and Oak Park, an adjacent upper-middle-class suburb—revealed discrepancies in food access that impacted Austin disproportionately. Both communities were adequately served by food retail outlets, primarily independent grocers in Austin and chain supermarkets in Oak Park. While prices of fresh produce and meats were typically lower in the independent stores of the poorer neighborhood, the quality of the items was often questionable and the prices of key healthy packaged items including dairy and grains were significantly higher.

Although much food desert research focuses on urban neighborhoods, rural areas face distinct, and sometimes overlooked, food access challenges. Low population densities provide inadequate market demand to support supermarket development, obligating rural dwellers to travel long distances for affordable fresh food. As one rural Iowa focus group participant lamented, “But if you can’t afford to pay the price of the food that they have in town, then you probably can’t afford to drive to another town to pay cheaper prices, so you’re kind of stuck either way you look at it.”

In the counties of the Lower Mississippi Delta, a 1999 study indicated that more than 70% of low-income residents in the area drove 30 or more miles to supermarkets for higher quality food, and more recent work in the same area found an average of only 4.4 supermarkets per sampled counties.

For populations living in or on the edge of poverty, the fuel costs associated with these trips are prohibitive.

Substantial evidence from the 1960s until today supports the existence of communities with limited healthy food access in the United States, but the

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“I mean, we can’t go buy all the healthy foods we want and all that, ‘cause we have to budget our money...”

*Statement from a focus group participant in rural Minnesota, in Smith and Morton, “Rural Food Deserts”*

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1 Schaffer, *The Persistence of L.A.’s Grocery Gap*
2 Smith and Morton, *“Rural Food Deserts.”*
3 Block and Kouba, “A Comparison of the Availability and Affordability of a Market Basket,”
4 Smith and Morton, *“Rural Food Deserts.”*
5 Kaufman, “Rural Poor Have Less Access to Supermarkets.”
6 Connell et al., *“Food Supply Adequacy in the Lower Mississippi Delta.”*
effects of living in these communities are debated.\textsuperscript{1} The following section discusses potential health and economic effects of food deserts for both adults and children.

\textbf{Impact of food deserts}

A key reason for the increase in research on food access and insecurity over the last few decades is our deepening understanding of the far-reaching consequences of poor diets. A lack of adequate nutrition has been linked to higher disease incidence,\textsuperscript{2,3} disrupted cognitive functioning,\textsuperscript{4} and reduced adult productivity,\textsuperscript{5} among other negative outcomes. Substantial research also documents the fact that lower-income people are more likely to consume low quality diets (i.e. energy-dense, but nutrient-poor).\textsuperscript{6} One rural focus group participant in a Minnesota study expressed a similar idea: “It depends on money a lot of the time, if you’ve had times in your life where you haven’t been able to afford to eat properly, then healthy doesn’t matter, if you can just eat, then you eat. You just want to stop that hunger, so you eat. But then if you get more affluent or you get better off, then you start eating healthier. You’re concerned about this more.”\textsuperscript{7}

The nascent literature on the consequences of living in food deserts overlaps with other work on poverty and nutrition in the United States by investigating the idea that a lack of access to fresh food may contribute to serious health problems in low-income communities. Mari Gallagher, head of the MG Research and Consulting Group, has developed a measure of “food balance” measure that first differentiates among mainstream food retailers (grocery stores and supermarkets), “fringe” retailers (e.g. gas stations, liquor stores, pharmacies), and fast food venues and calculates the availability of each type of store for community residents based on physical proximity. In Detroit, Chicago, and Birmingham, for example, her team found associations between areas of high food imbalance (more accessibility to convenience stores and fast food over supermarkets and grocery stores) and rates of premature death.\textsuperscript{8} But the link between food access and obesity (with all of its connected health problems including diabetes, heart disease, and cancer) has been the most studied nutrition and health-related topic. Like limited food access and nutrient-poor diets, higher rates of obesity are associated with lower socio-economic status, and several scholars have found positive relationships between constrained access to supermarkets/grocery stores and higher rates of obesity.\textsuperscript{9,10,11}

The health consequences of limited access to healthy food may be the most devastating for children. Given the associations between healthier eating and children’s academic performance, poor nutrition may be a mediating factor in the perpetuation of education achievement gaps in low-income areas.\textsuperscript{12} However, high body weight is an equally pressing concern Childhood obesity is reaching startling levels in the United States, with almost 18% of children obese and more than one-third overweight or obese in 2012,\textsuperscript{13} and food access researchers have turned their attention to the links between body weight and fresh food in young people. A recent study in rural Pennsylvania found that the percentage of overweight, school-aged children increased with the percentage of the population living in food deserts (defined as areas in which 50% or more of the population lived 10 miles or farther from a large, full-service grocery store).\textsuperscript{14}

In other research on school children using data from multiple cities, the authors found a significant positive relationship between higher fruit and vegetable prices and increasing Body Mass Index (BMI) numbers, suggesting that affordability of fresh food may indeed be a key factor in healthy weight

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1 Beaulac, Kristjansson, and Cummins, “A Systematic Review of Food Deserts.”
2 Lis et al., “Role of Nutritional Status”
3 Boeing et al., “Critical Review”
4 Burkhalter and Hillman, “A Narrative Review”
5 Jensen, “Can Worksite Nutritional Interventions Improve Productivity?”
6 Darmon and Drewnowski, “Does Social Class Predict Diet Quality?”
7 Hendrickson et al., “Fruit and Vegetable Access,”
8 Gallagher, “Examining the Impact of Food Deserts” reports
9 Cummins and MacIntyre, “Food Deserts—Evidence and Assumption,”
10 Diez-Roux et al., “Neighborhood Differences in Diet.”
11 For a good review of this literature up to 2008, please see Ford and Dzewaltowski, “Disparities in Obesity Prevalence”
12 Jyoti et al., “Food Insecurity Affects School Children’s Academic Performance”
13 Ogden et al., “Prevalence of Childhood and Adult Obesity”
14 Schaft et al., “Food Deserts and Overweight Schoolchildren”
There is some evidence that bringing new supermarkets to underserved areas may increase the availability of fresh food to such an extent that residents begin to add more fruits and vegetables to their diets. An earlier study in the UK determined that when residents living in limited access areas were given access to healthy alternatives, their food consumption shifted towards these alternatives and away from stores containing mostly processed goods. In another case in Hartford, Connecticut, researchers found that increased variety in fruits and vegetables carried by particular stores was positively related to the probability that customers would purchase produce. Since supermarkets typically carry the widest range of these goods, improving supermarket access (or alternatively, increasing variety in smaller stores) may be similarly correlated with higher fruit and vegetable intake.

Qualitative literature on the existence and lived experienced of residents in areas quantitatively defined as food deserts is extremely limited. As such, only a small number of works address the existence and impact of food deserts from an insider’s perspective. The quotes in the previous sections come from two of the very few studies that have used data from focus groups and in-depth interviews with low-income residents of areas with limited healthy food access to understand the complexity of diet choices. Examples from this small literature indicate the importance of further qualitative research once initial food deserts are identified.

1 Sturm and Datar, “Body Mass Index in Elementary School Children”
2 Wrigley et al., “Assessing the Impact of Improved Retail Access on Diet in a ‘Food Desert.”
3 Martin et al., “If You Stock It, Will They Buy It?”
4 Whelan et al., “Life in a ‘Food Desert.”
5 Wrigley, Food Deserts in British Cities - End of Award Report.
6 Smith and Morton, “Rural Food Deserts.”
7 Hendrickson et al., “Fruit and Vegetable Access,”

The health consequences of limited healthy food access may be the most devastating for children.
Responses to food deserts

Researchers have responded in three primary ways to the above findings and assertions about food deserts: (1) complete agreement, (2) partial agreement, or (3) disagreement.

AGREEMENT

Most of the earliest food access researchers fully accepted the concept and potential impacts of food deserts. As such the complete agreement approach has the greatest amount of literature to support it, some of which has been detailed in the previous section. The USDA’s definition of a food desert as “any area that isn’t within reasonable distance of a supermarket (0.5 mi. in urban areas and 10 mi. in rural areas) and is primarily low-income” is the most common in this body of literature. This group of researchers typically advocates increasing fresh food access through supermarket development using two mechanisms: adding supermarkets in food deserts and/or improving access to existing supermarkets (through improved transportation networks or implementing delivery services).

PARTIAL AGREEMENT

The next set of responders, those in partial agreement, recognize that certain places in the country have limited access to supermarkets, but their work adds nuance to the discussion by pointing out alternative pathways to access fresh food. Places like convenience stores, bodegas, farmers markets, and public markets all provide opportunities to buy some number of healthy grocery items. While supermarkets clearly benefit from the economics of purchasing in mass quantities (low prices and high quality goods), secondary sources still provide a relatively undocumented level of access. This group of researchers has begun to move away from the pejorative “food desert” term, extending the conversation by adding new descriptive names such as “areas of Food Imbalance” that indicate not a total lack of healthy food, but an uneven distribution.

DISAGREEMENT

The third response, disagreement, is the most recent and points to new research noting the weakness or nonexistence of a relationship between supermarket access and health outcomes. This group cautions against large-scale policy or financial action until further linkages have been proven and is often dubious about even using the term “food desert.” For example, one 2012 study of children (ages 5-17) observed “no robust relationship” between neighborhood food environments and food consumption, while another article from the same year finds no connection between fresh food availability and obesity. Several other studies have failed to find any connection between increased fruit and vegetable consumption and proximity to supermarkets, and another longer-term investigation noted that while numbers of supermarkets had increased in low-income areas, a majority of residents still shopped at small grocery stores and faced higher prices for fresh foods than their counterparts shopping at supermarkets.

Additional longitudinal studies are needed to assess more complex links between health, food environments, and other factors such as affordability and food literacy. A key argument in this camp is that access to healthy food simply can’t be

2 “USDA Economic Research Service - About the Atlas.”
3 Searching for Markets: The Geography of Inequitable Access to Healthy & Affordable Food in the United States.
4 Estabrook, “There’s More To Fixing Food Deserts Than Building Grocery Stores.”
5 An and Sturm, “School and Residential Neighborhood Food Environment and Diet Among California Youth.”
6 Raja, Changxing Ma, and Yadav, “Beyond Food Deserts.”
7 Lee, “The Role of Local Food Availability”
8 An and Sturm, “School and Residential Neighborhood Food Environment and Diet Among California Youth.”
9 Cummins et al. “Large Scale Food Retailing”
10 Pearson et al., “Do ‘Food Deserts’ Influence Fruit and Vegetable Consumption?”
SYNTHESIS AND RECOGNITION OF THE BROADER CONTEXT

Debate will always exist on any given policy issue, and food access is no exception. While we need to understand these three responses and the uncertainty about causes and effects in relation to food access and human outcomes, it is also critical to recognize the salience of this issue and the specific political climate in the U.S. Regardless of how food access is measured or what data and academic research are able to show, it is clear that residents of some areas have fewer fresh food options than others, and the general public and the government are now interested in addressing these disparities. Funding for initiatives that support healthy food access exists and this is an opportunity that will not last indefinitely. Given the links between diet and health, and the observed poor health of populations regularly associated with areas of food imbalance, providing better access to fresh foods through supermarket and grocery store development is certainly a key step along a logical pathway toward improving health outcomes in low-income locations. However, improving access to healthy food in low income, low access areas is only one method in a suite of actions that can be taken to encourage consumption of healthy food.

Though we must be careful not to make decisions based on incorrect information, it is imperative that action be taken before this particular policy window closes. Combining all of the above factors with a concern for communities that goes deeper than simply physical health through food access, several groups recommend increasing food options and local economies by encouraging growth and improvement of supermarkets where appropriate, while paying close attention to other strategies that may also be appropriate depending on specific local contexts.

Two of the nation’s leading policy groups in this arena, PolicyLink and The Food Trust, recognize that supermarket investment is one part of a multi-faceted approach to improving people’s access to healthy food. Therefore, they also often recommend strengthening and increasing the number of small- to medium-sized grocers and markets that have stronger ties to communities in which they are located. These groups and others, such as Changelab Solutions, offer additional strategies such as investment in alternative food systems and in local and regional food infrastructure that help address a broader range of issues that include but aren’t limited to fresh food access (for further information, see the policy section of this report).

In an economic climate where frugality is increasingly essential, making every dollar invested achieve multiple objectives is key to garnering support from as many stakeholders as possible.

Conclusion

The desire to address issues concerning inequitable access to fresh food is palpable across the country. From the federal level, with Michelle Obama’s Let’s Move campaign and the Fresh Food Financing Initiative, to local initiatives in individual cities and neighborhoods like the Dudley Real Food Hub in Boston, actors at all levels are taking steps to improve access. The maps that follow are an initial indication of areas in Alabama that exhibit food desert characteristics. Combined with further involvement from public and private partners, we hope that this research serves as a launch pad for the creation of an action plan that will result in real change for those living in underserved areas.

1 Hillier et al., “How Far Do Low-Income Parents Travel to Shop for Food?”
2 As a point of clarity, it is important to remember that in order to perform a statistical analysis, a number of assumptions must be made to simplify reality. Within these simplifications are often the factors that create complicated situations (i.e. confounding variables) that cannot necessarily be revealed statistically.
3 Changelab Solutions, Food as a Catalyst for Change.
4 Macintyre, “Deprivation Amplification Revisited; Or, Is It Always True That Poorer Places Have Poorer Access to Resources for Healthy Diets and Physical Activity?”.
5 Karpyn et al., “Policy Solutions To The ‘Grocery Gap.’”
6 Eric Hagan and Victor Rubin, Economic and Community Development Outcomes of Healthy Food Retail.
II. Areas in Alabama with Limited Fresh Food Access

Maps 1 & 2: Supermarket and grocery store sales

The Supermarket and Grocery Store Locations map shows locations of stores divided into two categories: large circles indicate stores with higher sales volumes (more than the median annual sales volume for all grocery stores in the state, $5,622,000) and small circles represent stores with lower sales volumes, below $5,622,000). The second map shows the total annual sales volume from all the stores in each census tract.

Unsurprisingly, grocery stores and supermarkets cluster around population centers and are sparser across more rural areas of the state. Though some census tracts near major cities have high sales volumes, large portions of the state have few supermarkets and grocery stores, particularly the Blackbelt counties. Most of the state has relatively low (or no) sales volume. Compared to many states Alabama’s population is relatively small and dispersed so low sales volumes are not necessarily problematic. Total sales volume data tells us little without an understanding of how population is spatially distributed (which will be covered in the following maps). Additionally, alternative food sources, including convenience stores and local farmers’ markets, are not shown here. In a rural state like Alabama, these sources can be significant.

Map 3: Supermarket sales and population

This map shows sales volumes relative to population size. Census tracts that have more sales per person than the state average are in darker shades.

Supermarkets are unevenly distributed in Alabama. In the Blackbelt in particular, the sales volumes compared to population size are almost all lower than the average state ratios. On the other hand, certain census tracts, often those near major cities, have two to four or more times the state average amount of sales per person. Two potential explanations of high sales in certain census tracts are: (1) areas with high population densities and/or high-income populations have supermarkets that are well-utilized, and (2) supermarkets between areas of high and low population density often have disproportionately high sales because they draw from both urban and rural populations. In this latter case, the rural populations have to travel the furthest to reach a good quality market.

Map 4: Household income

Census tracts with average per capita income higher or lower than Alabama’s statewide average are represented in this map. The median household income for the state was multiplied by the number of households and then divided by the state’s population to find the average per capita income (see GIS Methodology Appendix for more detail).

The highest income areas are clustered in and around urban centers. This concentration of wealth incentivizes store development around cities but can contribute to limiting investment in supermarkets and grocery stores in more rural parts of the state.
Maps 5 & 6: Household income and store sales

This map visualizes the association between income and food retail sales. The two variables are divided into higher than state average and lower than state average categories, and each census tract is shaded according to whether it has high income and high sales, high income and low sales, low income and high sales, or low income and low sales.

The majority of the State’s census tracts have lower incomes and lower supermarket sales volumes, so it is not surprising to observe that when income and sales are combined in Map 5, a large proportion of the state is shaded in the color that represents low-income, low sales. The areas of least concern with regard to food access (higher income and higher sales) are exclusively found near major urban centers. Map 6 is a simplification of Map 5 that highlights only the areas that are low income, low sales.

Map 7: Diet-related mortality by zip code

This map shows how each zip code in Alabama compares to the state average number of diet-related deaths per unit of population. Zip codes that are darker had more than their share of diet-related deaths (in 2007). As detailed in the methodology appendix, data on diet-related mortality rates were only available at the zip code level for the State of Alabama.

Alabama’s rural areas tended to have more zip codes with higher-than-average diet-related deaths, although some urban neighborhoods were also affected. Diet-related mortality is associated with a wide variety of contributing factors and while it can be used as a proxy for food-related issues, it is by no means a direct indicator. Diet-related diseases (e.g. heart disease, diabetes, or high blood pressure) aren’t always fatal, but often result in significant damage, expense, and suffering.

Map 8: Areas at risk of food imbalance

This map shows Alabama’s potential food deserts in orange. These locations have lower incomes than the state average, lower than average supermarket sales, and higher than average diet-related mortality rates. These at-risk areas are largely rural, although Alabama’s cities have their share. Although no analysis based on numerical data alone can identify a food desert, this map highlights areas to look at more closely. Because the Census tracts and zip codes do not align, the zip codes shown on the map were selected only if 75 percent of the area within the zipcode overlapped with the low-income, low-sales census tracts. Where low income and low sales tracts overlap with high mortality rate zip codes, further primary research could shed light on the reality on the ground to determine if it corresponds with the high-level geospatial analysis.

Following Map 8 are close-up visualizations of the distribution of high risk areas in the major urban centers of Birmingham, Montgomery, Huntsville, and Mobile. It is evident that Birmingham and Montgomery have large areas at risk of food imbalance, while the areas in Mobile and Huntsville are somewhat smaller.
MAP 1
Supermarket & Grocery Store Locations

Sales volume of store annually (in $1,000s)
- $5,622 or below
- $5,623 - $174,000

Other Symbols
- Major City
- Interstate Highway
- Alabama state boundary
- Alabama Blackbelt Counties
- Alabama Counties

Data
US Census, 2010

MAP 2
Supermarket and Grocery Store Sales

Total sales volume in census tract (in $1,000s by quartile)
- No sales
- $6,422 or less
- $6,423 - $21,242
- $21,243 - $46,930
- $46,931 - $174,000

Other Symbols
- Major City
- Interstate Highway
- Alabama Blackbelt Counties
- Alabama Counties

Data
US Census, 2010
MAP 3
Store Sales Relative to Population

Map legend:
- No sales
- Lower than state average
- 1 - 1.99 times state average
- 2 - 3.99 times state average
- 4+ times state average

Other Symbols:
- Major City
- Interstate Highway
- Alabama Blackbelt Counties
- Alabama Counties

Data:
- US Census, 2010

MAP 4
Household Income by Census Tract

Map legend:
- Lower than state average
- Higher than state average
- Incomplete data

Other Symbols:
- Major City
- Interstate Highway
- Alabama state boundary
- Alabama Blackbelt Counties
- Alabama Counties

Data:
- US Census, 2010
MAP 7

Diet-related Mortality by Zip Code

Compared to state average ratio of diet-related deaths
- Above average mortality
- Below average mortality
- Incomplete Data

Other Symbols
- Major City
- Interstate Highway
- Alabama Blackbelt Counties
- Alabama Counties

Data
Alabama Center for Health Statistics, 2007
US Census, 2010

MAP 8

Areas at Risk of Food Imbalance

Income, Sales, and Mortality
- High Mortality, Low Income, and Low Sales
- Low Income, Low Sales
- Other

Other Symbols
- Major City
- Interstate Highway
- Alabama Blackbelt Counties
- Alabama Counties

Data
Alabama Center for Health Statistics, 2007
US Census, 2010
MAJOR URBAN CENTERS

Birmingham and Jefferson County

Mobile and Mobile County

Montgomery and Montgomery County

Huntsville and Madison County

- **High Mortality, Low Income, and Low Sales**
- **City Boundaries**
- **Interstate Highway**
- **Other**
In rural Mississippi, adults living in counties without supermarkets are 23 percent less likely to meet guidelines for daily fruit and vegetable consumption than adults living in counties with supermarkets.\(^1\) Consuming a diet balanced in fruit and vegetables is one of the key factors in establishing and maintaining good health. If consumption of fresh foods is a key factor for good health, when access to fresh food is hindered, the consequences are obvious. Whether urban or rural, most U.S. residents buy their fresh food from supermarkets, and addressing limited access to these types of stores is one of the first steps in facilitating the consumption of healthy food.

The vast majority of food desert research has been in urban areas.\(^2\) This trend is unsurprising in some regards: Urban areas are population centers and therefore garner more economic and political attention. The most conservative estimates show 2.1 million urban and 0.3 million rural households that live in low-income census tracts with limited vehicle access and are either 0.5 or 10 miles from the nearest supermarket (urban or rural, respectively); the most generous estimates report over 52 million Americans living in urban and rural food deserts combined.\(^3\) In Boston, for example, nearly 90% of low-income residents buy a majority of their fresh fruit and vegetables from supermarkets.\(^4\) And while more than 50% of Americans live in urban areas, the 20% that live in rural areas should not be ignored (US Census, 2000). In some parts of the Mississippi Delta, almost 75% of households that qualify for federal supplemental nutrition programs (SNAP) have to travel over 30 miles to reach the nearest grocery store.\(^5\) As far back as 1992, researchers demonstrated that rural dwellers have less access to and often pay more for the same food that is easily available and cheaper in urban areas.\(^6\) Although rural residents are more likely to own a car, they are also more likely to have incomes below the poverty line, live in low-cost housing, and be less educated than their urban counterparts. These population characteristics result in lower geographic purchasing power that is both a cause and a perpetuator of the expansion of food deserts in rural areas. Developers are less likely to construct supermarkets in locations known for low purchasing power, and the higher priced fresh foods at the stores that do exist (small groceries and convenience stores) are unaffordable.\(^7\)

A body of historical literature explains the exodus of supermarkets from low-income, mostly urban areas, and a number of circumstances continue to keep these stores from developing in underserved areas.\(^8\) The following sections briefly address this history along with other obstacles noted by researchers and industry analysts: (1) a lack of institutions willing to provide financing (2) limited land availability (specifically in urban areas), (3) high construction and operations costs, (4) restrictive zoning requirements, and (5) insufficient information on market demand for developers and industry.

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1. Access to Healthy Food Toolkit Overview.
5. Access to Healthy Food Toolkit Overview.
7. Liese et al., “Food Store Types, Availability, and Cost of Foods in a Rural Environment.”
8. McClintock, “From Industrial Garden to Food Desert.”
operators. Although these factors are intertwined, discussing each separately makes it easier to identify and implement specific interventions.

The history of food deserts

Although the concept of food deserts is widely acknowledged, explanations for their existence are less frequently discussed. Opinions on the subject range from a lack of knowledge to simple misunderstanding. The history of lending institutions’ abandonment of low-income, largely minority areas is detailed in Nathan McClintock’s piece entitled, “From Industrial Garden to Food Desert: Demarcated Devaluation in the Flatlands of Oakland, California.” McClintock uses Oakland as a representative case to explain how banks in the 1960s rapidly granted funds to new and affluent suburban communities while creating implicit systems to deny financial assistance to mostly urban neighborhoods based on social, race, and class characteristics (this practice is known as red-lining). At the same time, the exodus of middle and upper-class households to the suburbs reduced the viability of urban financial institutions, such as banks and credit unions, further weakening financial support for new and existing supermarkets and grocers. The dramatic decrease in the number of supermarkets in poor neighborhoods of color well-documented, even by researchers that reject the notion of “food deserts” as commonly described.

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1 Searching for Markets: The Geography of Inequitable Access to Healthy & Affordable Food in the United States.
2 Social Compact and International Council of Shopping Centers, Inside Site Selection.
3 Karpyn et al., “Policy Solutions To The ‘Grocery Gap,’” 677.
4 Raja, Changxing Ma, and Yadav, “Beyond Food Deserts.”
5 NPR, “No More Supermarkets?”. 
6 Sheena Harrison, “Detroit: A City without Chain Grocery Stores.”
Lack of institutions to provide financing

The lack of financial institutions to support supermarket creation in underserved areas is one of the most commonly cited reasons for their absence. This reality is partly why most major food access interventions are financial. As with most large-scale projects, supermarket developers look to financial institutions for capital to cover initial construction costs. If developers are not able to find financing quickly enough and at desirable rates, they may move on to more economically viable opportunities. Although the specifics differ between urban and rural contexts, the result is the same: a lack of supermarkets in some areas and a concentration of them in others.

While one might assume that an industry market analysis would result in grocery stores following population centers, this is not always the case. Some cities, like Detroit, with large populations (even with its dramatic decline) have few or no national chain food stores but a wide range of independent grocers. From another angle, supermarkets on borders between urban centers and rural areas tend to have higher than usual sales relative to their populations, likely because they are attracting consumers from both the city and the country. Unfortunately, the data needed to support the creation of supermarkets in locations that have populations perceived to be too small or poor to support a supermarket or have other negative stereotypes associated with them is limited. For example, inner city neighborhoods with high minority populations and crime rates are often assumed to have low total purchasing power or low personal demand. However, high population density results in aggregate demand for supermarkets and grocery stores that resembles more affluent areas. Unfortunately, the unavailability of this type of detailed information combines with perception biases to make financial institutions wary of lending in these areas.

Additionally, some of the main characteristics that grocers and supermarket companies use to determine site suitability disadvantage poor communities. In a 2008 report by Social Compact, a Washington-based research firm, when developers were asked about site selection criteria for supermarkets, many cited minimum median household income for urban areas at $30,000 and did not even have criteria for the construction of rural stores. If the characteristics required by industry to justify development are based solely in household income, it is no surprise that rural areas lack supermarkets given that they are disproportionately poor. The fact that many rural areas may not be able to support a supermarket does not definitively determine that none can.

Land availability

In urban areas, land availability is another commonly cited barrier to supermarket development. Most city land is already built on and presents an extra barrier to construction, in contrast to land in suburban or rural areas. Furthermore, urban land is almost always more expensive than suburban land and requires stores to have even higher levels of sales in order to be economically viable. Although selling greater volumes can help stores meet total revenue goals, sometimes they are forced to pass the costs on to customers via higher prices.

In addition to the cost of land, urban lots are often small and contaminated, making construction complicated and costly. The average supermarket in the U.S. is 44,000 sq. ft. and in order to construct any substantial building, developers must usually assemble a number of lots. For example, developing the New Community Corporation’s shopping center in Newark, NJ, required the assembly of over 50 parcels, state approved condemnation of derelict buildings, and two years of legal battles with absentee landlords. Even in areas where

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1 Tracey Giang, Caroline Harries, and David Treering, Food for Every Child: The Need for More Supermarkets in Georgia, 4–5.
3 Social Compact and International Council of Shopping Centers, Inside Site Selection.
4 Ibid.
5 Ibid., 12.
6 PolicyLink, Grocery Store Development Tool.
land availability is less of a problem, often some amount of environmental repair must be undertaken (brownfield redevelopment) if the land had any previous industrial usage or even lead paint-covered structures. All of these steps add complexity to the process of supermarket development.\(^1\)

**Construction and operation costs**

The cost of construction in urban or rural areas can also be much higher than in suburban areas. In particular, transporting goods in complex cityscapes while also incorporating into an existing urban fabric, including parking, roads, utilities, and sanitation) is expensive.\(^2\) Some urban developers plan for costs that are 30% higher than suburban ones.\(^3\) Stores in some densely populated urban areas may also struggle with operation costs. Even though many consumers may frequent these stores, the shoppers may tend towards items with low profit margins (as compared to suburban shoppers), which may lead to insufficient profits and store closure.\(^4\)

For rural areas, two of the biggest barriers are insufficient population densities and workforce development difficulties. The small populations in wide rural areas do not always create sufficient market demand to support a large-scale food retail outlet, particularly considering increased food transportation costs. In addition, supermarkets and grocery stores require workers skilled in specialty areas such as produce and meat, leading to costly employee recruiting and retaining processes. Compared to opportunities in cities, the chances of finding a qualified grocery specialist (meat, produce, dry goods) in a rural location are limited and the cost of keeping that person working in the store (whether trained from within or brought in from outside the community) can be much higher.\(^5\)

Although food access advocates have suggested some solutions to these issues, including partnering with community-based organizations for leads on potential employees or offering community services to increase foot traffic, the higher costs often make pursuing fresh food retail endeavors too difficult for many operators and developers.\(^6\)

**Zoning**

Finally, in cities, zoning law keeps some types of land use out of certain locations. For example, many urban centers still rely on Euclidean or single-use zoning, which separates industrial, commercial, and residential uses into distinct land areas. In neighborhoods where a longstanding store has shut down, these laws can keep medium and large supermarkets and grocers out of communities that would benefit from access to fresh food. Although in most cases it is possible to approach the city/municipality and request an exception, the difficulty of this process can present enough of an obstacle to push developers toward other options. For example, in some parts of New York City classified as residential, potential grocery stores would not be able to receive shipments from major distributors because semi-trucks are not allowed.\(^7\) Although the semi-truck law was probably established with safety and environmental objectives in mind, it has an unintended negative consequence. When 80% of “grocery stores” in NYC low-income neighborhoods were found to be convenience stores or bodegas and only 10% of them served fresh produce, the

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NYC FRESH (Food Retail Expansion to Support Health) Initiative stepped in to change zoning laws to incentivize supermarket development. Specifically, the new zoning expanded development rights in mixed-used areas, reduced the amount of parking required with new development, and allowed for larger stores in certain districts. This type of response is possible in other areas dealing with similar regulatory issues, though there is some policy-making creativity required.

**Lack of information**

In order to secure financing for a project, developers must be able to collect, analyze, and demonstrate market demand to financial institutions (banks or even individual lenders). Traditional market analyses, however, have proven inadequate to identify all areas with unmet demand, often because of limited data. Although, new data sources have been (and will likely continue to be) developed, in many cases that developers do not understand enough about them to use them. For example, Home Mortgage Disclosure Act datasets contain the annual incomes and ethnicity of individuals who purchase homes and the values of those homes. This data could be used to find untapped markets and tailor store styles and goods to specific locations. Organizations like The Reinvestment Fund, Social Compact, and MetroEdge are creating innovative tools, including new types of market analyses (several of which are referenced in this report). Tools and databases developed collaboratively by stakeholders in specific cities have in many cases not yet reached key operators and developers.

**Conclusion**

The barriers to food access are complex and varied. Obstacles related to history, a lack of financial institutions, land availability, construction and operation costs, zoning, and information all play a part. To complicate matters further, many of these factors are intricately connected (land availability has much to do with incentives created by zoning policy, for example). In spite of these complexities, stakeholders are removing barriers in creative and impactful ways. For the state of Alabama, gaining a deep understanding of how each of these challenges affects the landscape of food availability is critical to generating ideas and solutions to improve urban and rural access to healthy food.

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1 Ibid., 6.
4 “Food | The Reinvestment Fund.”
5 The Reinvestment Fund, “GIS Mapping and Geographic Information System Data.”
IV. Policies to improve access to affordable, healthy foods

The maps presented earlier in this report show that there are areas of Alabama with disproportionately low access to affordable, fresh, healthy food. Since limited access areas can be urban or rural, and each type of location has distinct associated challenges, solutions must be carefully tailored to each context. Even neighboring municipalities or counties can have drastically different characteristics. Although local and regional players must be at the table to determine a targeted approach and create specific programs and policies to increase food access, a review of strategies that have been successful in other places is helpful in understanding the landscape of options and opportunities.

Organizations and advocates have generally taken three approaches to improving access to healthy food: supermarket and grocery store investment, alternative food system investment, and regional food hub development. The strategies described in the following sections vary by popularity, economic impact, and underlying ideology. Each approach has introductory overview with a brief explanation of its underlying argument, and associated benefits and drawbacks. The subsections that follow will expand on points made in the overview. For simplicity’s sake, each category will be addressed separately. However, none of the strategies is mutually exclusive and an effective plan may include some or all of the described interventions.

**Supermarket and Grocery Store Investment**

The best-known and most often implemented solution to increasing access to fresh food for underserved areas is direct or indirect investment in supermarkets and grocery stores. The major benefits of this approach are clear: (1) large stores are able to secure consistent sources and affordable prices given economies of scale, and (2) they generate a number of local and regional economic and community development impacts including job creation, community stabilization, and provision of goods for other food-related businesses.\(^1\) Moreover, the majority of shoppers purchase their fresh food at these stores. There is a wealth of information on supermarket and grocery store investment and development strategies. Major contributors to this body of literature are The Food Trust, a Philadelphia-based nonprofit, and its various partner organizations.\(^2\) Although this loose coalition has created a wide array of tools and sophisticated arguments, it focuses primarily on working with existing grocers to incentivize their investment in communities they do not presently serve. As with any incentive based solution, market conditions and businesses reliance on acceptable levels of profit will constrain their actions; in some severely distressed or sparsely populated areas, no amount of incentive may be effective enough on its own to attract a new store.\(^3,4\)

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1. “The Food Trust | With Supermarkets.”
3. This weakness may be unavoidable in the American market-centric political-economic system but it is worth noting that non-market-based approaches do exist. The best known example of this is in the city of Belo Horizonte, Brazil. The city has established an integrated food policy that incorporates food security, social justice, and equitable access.
COLLABORATING TO BREAK DOWN BARRIERS

As discussed in the previous section, there are a number of reasons that supermarkets fail to develop in certain areas, including higher than average construction costs, a lack of available financing, and prohibitive operating expenses. In response, organizations have created different programs to incentivize investment in both national chains and independent supermarkets. Initially, these initiatives encouraged development of new supermarkets, but they have expanded to include investment in other types of fresh food retail.

The most acclaimed program is the Pennsylvania Fresh Food Financing Initiative (FFFI), and its model has been adopted in at least seven cities and states. Between its launch in 2004 and 2010, the FFFI generated $160 million in private investment from just $30 million in state funds; in just six years, it created a total of $190 million in project expenditures. As of March 2012, the FFFI has invested in over 80 new or existing grocery stores (about 2/3 of those in small towns or rural communities), with a projected impact of creating or sustaining over 5,000 jobs. The model has proven so successful that in 2012, The Food Trust helped to launch the FFFI-based federal Healthy Food Financing Initiative.

The Food Trust’s general approach is to create a coalition between public and private actors who

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1. Eric Hagan and Victor Rubin, Economic and Community Development Outcomes of Healthy Food Retail, 6.
2. "The Pennsylvania Fresh Food Financing Initiative."
collectively determine the most appropriate solutions for their specific context and then take steps to create conditions more conducive to supermarket investment (including driving regulatory change if necessary). The organization’s process consists of five stages: “Prepare and inform,” consisting of information gathering and stakeholder identification; “Empower,” in which initiative leaders network to educate and mobilize key actors; “Strategize,” the phase that brings together stakeholders as a coalition to plan for food system change, “Change policy,” during which coalition members formulate and recommend policy solutions, and “Implement, monitor, and evaluate,” the final stage involving carrying out the coalition’s action plan and tracking results.\(^1\) These steps, focused on assembling and working with local partners, typically reduce policy barriers to investing in fresh food retail and using public funds to attract private grocery stores. A second model launched in California is similar to the Food Trust’s initiatives in convening public officials, industry leaders, and financial institutions. The California FreshWorks Fund has raised over $250 million as of 2012 to invest in fresh food retail via loans, grants, and equity investments.\(^2\) The success of the flexible investment options included in the FreshWorks program indicates that there isn’t just one way to fund the development of fresh food retail.

The success of these programs points to the importance of collaboration among public officials, supermarket operators, and private investors. Effective cooperation can lead to zoning changes that facilitate supermarket construction, give supermarket industry operators information about new markets/customers, and assure financial institutions that they will receive appropriate returns on their investments. Developing a network of stakeholders that includes lenders and investors may also create opportunities for innovative supermarket financing. The national non-profit Local Initiatives Support Corporation (LISC), for example, broke new ground in 1992 by establishing The Retail Initiative, an investment fund formulated with private capital that works with Community Development Corporations to provide gap financing (in the form of equity capital) for commercial development projects.\(^3\) Investment funds of this sort provide a vehicle for attracting social impact investors and break down one obstacle to supermarket development.

Public-private cooperation is particularly needed to facilitate the land assembly process required to construct large stores in heavily populated urban areas. The large single land parcels needed for supermarket projects are not typically available in densely built cities, and smaller adjacent plots typically have different owners. The Tangerine Plaza shopping center, for example, developed in a low-income neighborhood in St. Petersburg, Florida, required amassing 32 separate land parcels with many owners and liens on some of the properties. The City of St. Petersburg, with its larger budget and local authority, was able to purchase the parcels, remove liens, and rezone the area for commercial construction.\(^4\)

Finally, partnerships among actors connected to local food systems can contribute to solving another key problem related to food retail outlet development: lack of information. The regulatory requirements for supermarket development can be overwhelming, particularly when they are unclear. The City of Chicago has taken steps to simplify the retail development process by creating an agency—known as Shop Chicago—that serves as a one-stop shop for supermarket operators and other interested parties. Developers and store owners also need a range of other data to determine the feasibility of locating a store in a specific location, and several organizations are creating information clearinghouses for ease of data gathering and use. The Healthy Food Access Portal, launched in 2013 as a joint project between The Food Trust, PolicyLink, and the Reinvestment Fund, serves as a repository of information concerning local, city, state, and federal policies to assist local leaders in developing new initiatives.\(^5\) Another non-profit, Social Compact, uses up-to-date economic and demographic data to provide detailed

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\(^1\) Karpyn et al., “Policy Solutions To The ‘Grocery Gap.” Please see page 474 for a chart detailing The Food Trust’s approach.
\(^3\) Michael Porter et al., *The Changing Models of Inner City Grocery Retailing*, 36.
\(^5\) Healthy Food Access Portal, “Publications & Media.”
market reports for different urban locations. The organization has also created a number of online mapping tools that allow project leaders to conduct their own analyses.1

ADDITIONAL BENEFITS OF SUPERMARKET DEVELOPMENT

Supermarkets bring a range of benefits to communities apart from increasing fresh food access, including job creation, local business district anchoring, sources of charitable donations, and improved real estate values.2 Since the average supermarket is 20,000 to 50,000 square feet and about 24 jobs are created for every 10,000 square feet of supermarket floor space, a new supermarket could create anywhere between 48 and 120 jobs.3

Supermarkets, because of the short shelf lives of many of their perishable goods, also make substantial contributions to local charitable organizations. The New Seasons Market chain in Oregon has donated more than 1,000 tons of food to the Oregon Food Bank since 2000. Their locally-minded policies have also led them to purchase a full third of their produce from local farms, further invigorating the local economy.4,5 The small to medium size of their stores allows for the staff capacity to create functional and productive business partnerships with smaller, locally-based food producers.

Finally, articles have documented the positive link between real estate values and the proximity of fresh food retail and supermarkets.6 In Oakland, California, for example, Policy Link researchers found that proximity to large food retailers increased housing prices by $20,000 to $30,000, a significant boon for individual owners and the local government through additional property tax revenue.7

Supermarkets bring a range of benefits to communities apart from increasing fresh food access, including job creation, local business district anchoring, sources of charitable donations, and improved real estate values.

Grocery stores often also anchor local business districts, and sometimes their central roles are only noticed in their absence. When the only supermarket in the city of Onaga, Kansas burned down in 2010, residents were forced to travel more than 25 miles for groceries.4 Though most shoppers had cars and already drove to purchase food, convenience resulted in a change in shopping habits. People began to shop at larger chain stores, like Home Depot, in the neighboring town while they shopped for groceries (why travel to two towns when you can just travel to one?). This resulted in catastrophic drops in sales for small, independently owned stores near the old supermarket. The ripple effect of the missing grocery store proved so detrimental to the town’s economy that the county government put $375,000 into a deal between a family and the local bank to open a new supermarket in the old location.
DRAWBACKS

The primary drawback to this avenue of increasing fresh food access is that by relying on large supermarkets and grocery stores, advocacy organizations run the risk of deepening or replicating the same inequalities and disparities that originally contributed to creating some food deserts. Incentives for supermarket and grocery store investment may lure companies that seek profit without attention to the multi-faceted needs of different consumer groups into communities they previously avoided due to lack of profitability. National supermarket chains can quickly carry revenue and profits outside of the community where they no longer circulate through the hands of community members. While local is not necessarily synonymous with community-minded, dollars spent at locally-owned businesses do have a larger multiplier effect and generate more benefits for local residents. Additionally, national supply chains are predisposed to carry goods with long shelf lives and cheap production chains, sometimes resulting in local food supplies lacking in cultural relevance. Cultural relevance of food is important for two reasons: (1) second generation immigrants tend to have worse diets and poorer health (e.g. higher rates of diabetes, obesity) than the first generation, a trend that is at least partially correlated to the shift in diet towards that of non-immigrants, and (2) when people have access to fresh foods they have used in their previous cultural contexts, they are more likely to eat higher quality diets. Said differently, when people have access to foods that they know, they are more likely to purchase and cook them; when most available food is unfamiliar, choosing low-nutrition, highly-processed food is much more common.

A second drawback to supermarket investment is the fact that all stores (large supermarkets, small, independent grocery, and everything in between) require a certain volume of sales to remain economically viable. In some rural areas, the density and market demand may simply be too low to support a for-profit store operating under a conventional business model. In these circumstances, not only do storeowners find it difficult to procure fresh food, but they must price it higher in order to earn profits given low sales volumes. Unfortunately, rural populations tend to be economically worse off than their urban counterparts and these higher prices put fresh, healthy food further out of their reach. Moreover, depending on the spatial spread of the population, even the most centrally located store may still require residents to travel tens of miles.

Alternative food system investment

For the purpose of this report, approaches that prioritize solutions distinct from supermarkets or grocery stores will be termed alternative or nontraditional. Advocates choose to invest in alternative food systems for two main reasons: (1) the standard economic models that underlie supermarket viability might not apply in their location or (2) producing more supermarkets could undermine systems that provide more value to residents than access to food and improved nutrition alone. Investments in solutions that are a part of an

1 Slocum, “Anti-Racist Practice and the Work of Community Food Organizations.”
2 Social Compact and International Council of Shopping Centers, Inside Site Selection.
3 Hagan and Rubin, Economic and Community Development Outcomes of Healthy Food Retail, 6.
4 Searching for Markets: The Geography of Inequitable Access to Healthy & Affordable Food in the United States.”
5 Born and Purcell, “Avoiding the Local Trap.”
6 Amar Patel and Garrett Martin, Going Local.
7 Corry Bregendahl and Arlene Enderton, 2012 Economic Impacts of Iowa’s Regional Food Systems Working Group.
8 Guendelman and Abrams, “Dietary Intake among Mexican-American Women.”
11 Caveat: Despite this reality, independent stores tend to be more flexible than chain stores and can take actions like reducing hours when sales slow.
12 Sheena Harrison, “Detroit: A City without Chain Grocery Stores.”
13 “Federal Nutrition Programs- Vital for the (Economic) Health of Rural America.”
alternative approach are not meant to completely replace or oppose supermarket-based food access; they are meant to provide options or additional support in places that cannot support conventional solutions on their own (though in some places, alternative food system investments might provide more benefits than traditional ones). The benefits of this approach are (1) continued development of existing food systems and infrastructure and, (2) detailed attention to local contexts in order to achieve optimal outcomes. Drawbacks include dependence on market forces (though to a lesser extent than investing in supermarkets and grocery stores) and the need for an existing or latent food system infrastructure. Note that this last drawback may actually be a benefit depending how rural the area in question is. The next section of the report will review three different alternative food system strategies including farmer’s markets & farm/food stand development, bodega and convenience store fresh food programs, and transportation of food or people to existing stores.

**FARMERS MARKETS & FARM/FOOD STAND DEVELOPMENT**

As the number of farmers markets and food stands in the US increases, so does our understanding of the economic and household benefits they provide. As these alternative fresh food outlets are increasingly supported by public and private actors, they offer a proven means of directing growing profits to farmers and circulating money locally. From a household perspective, farmers markets and food stands can provide affordable options that improve choice and quality of diet, particularly in rural areas where supermarkets are scarce. The value of the simultaneous benefits is particularly powerful

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1 Corry Bregendahl and Arlene Enderton, 2012 Economic Impacts of Iowa's Region- al Food Systems Working Group.


3 Eric Hagan and Victor Rubin, Economic and Community Development Outcomes of Healthy Food Retail.
because these types of economic changes act as implicit subsidies to support programs from which both farmers and individuals benefit. However, limited hours of operation compared to other retailers, as well as a smaller product selection compared to supermarkets are some key disadvantages of these fresh food outlets.

Communities experience direct economic effects when farmers focus on shifting their production to more local and regional destinations. Studies from Michigan and Iowa suggest that a significant number of full-time jobs are created when farmers increase the volume of fresh food they sell in their home states.\(^1\)\(^2\) For example, much of Michigan’s fruit and vegetable production is sold at low prices for canning, freezing, and drying, while imports from other states meet local demand for produce. If the state’s farmers increased vegetable sales into local fresh markets from 0.5% to 1.6% and into fresh vegetable wholesale from 56% to 83%, this move could result in an $81 million net gain to MI farmers, generating approximately 900 jobs.\(^3\) These numbers are actually fairly conservative estimates because they don’t take into account any of the service and secondary jobs that will be created to handle the increased supply of fresher, more perishable food. Outside public and private investments in farmers and farmers markets are another form of direct economic benefit. One program of note, the USDA Farmers market Promotion Program, encourages the success of these markets by providing grants of up to $100,000 for marketing, implementing Electronic Benefits Transfers (EBT) infrastructure, and farmer education.\(^4\)

Growth of farmers markets and farm stands has indirect economic effects as well. Prosperous local farms can generate positive spinoffs by creating entrepreneurial pathways to jobs through the food industry and by supporting other local businesses with purchases associated with farm operations (seed, building materials, etc.).\(^5\)\(^6\) Since most farmer’s markets are attended by local and regional farmers (though some markets do allow resale), consumer-to-farmer purchasing facilitates these local economic benefits.

It is increasingly possible for low-income consumers to use federal food supplement funds at farmers markets, a phenomenon that increases individual purchasing power captures another indirect positive economic effect. In addition to individual and family-level benefits, the action of accepting federal assistance money at farmers markets allows farmers and their communities to take in a source of federal funding apart from direct farm subsidies (i.e. an indirect subsidy). The Supplemental Nutrition Assistance Program (SNAP), the Women, Infants, and Children program (WIC) and senior citizen-based federal nutrition programs have gained a tremendous boost as organizations across the country focus on multiplying their effects. A number of nonprofit organizations have been supporting and advancing the development of the wireless technology needed to allow EBT cards to be used at farmers markets, resulting in an expansion of EBT dollars spent at these venues.\(^7\)\(^8\)\(^9\)

From a household perspective, farmers markets can be a significant alternative and/or supplement to the conventional supermarket food system, especially if the availability of stores is limited.\(^10\) Not only does having the ability to spend federal funds at farmer’s markets positively impact health, but many non-profit and community-based organizations are working to double the value of those dollars (e.g. ‘Double Up Food Bucks’ in Detroit, ‘Bounty Bucks’

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1 Corry Bregendahl and Arlene Enderton, 2012 Economic Impacts of Iowa’s Regional Food Systems Working Group.
2 Patty Cantrell et al., “Eat Fresh and Grow Jobs, Michigan.”
3 Ibid.
4 “Grants, Loans, and Support: Farmers Market Promotion Program (FMPP).”
5 Flora, "Iowa Concentrated Animal Feeding Operations Air Quality Study: Social and Community Impacts.”
6 Hagan and Rubin, Economic and Community Development Outcomes of Healthy Food Retail, 12.
7 Flora, "Iowa Concentrated Animal Feeding Operations Air Quality Study: Social and Community Impacts.”
8 Jennifer Obadia and Jennifer Porter, Farmers Markets: Impact on Fruit and Vegetable Consumption of Supplemental Nutrition Assistance Program Clients. 
9 Note: Farmer’s markets and food stands saw a drastic decrease in SNAP benefit redemption when the switch to cards from tokens was required in 1996. See: GrowNYC, Healthy Food, Healthy City: Greenmarket EBT 2011 Progress Report.
in Boston, ‘and Wholesome Wave’ in over 20 states), dramatically increasing the purchasing power of program participants. Wholesome Wave, for example, gives a one-to-one match to consumers at farmers markets for each dollar of federal nutrition assistance money. This action incentivizes nutrition assistance program participants to buy fresher, regionally and locally produced foods, while ensuring that farmers will benefit economically from attending these markets. This type of economic activity can help keep federal assistance dollars in communities that need it most.

Perhaps most importantly, these value-increasing food programs have begun to address some of the systemic disadvantages that program participants face, many of whom are rural. Although the list of these inequities is long, one of the most obvious inequities addressed is the limited availability of culturally relevant food; by directly connecting with consumers, over time farmers can adjust their production to include foods that are foundational for local populations.

**Bodega & Convenience Store Fresh Food Programs**

Though the national conversation on fresh food retail is still largely focused on supermarkets, a growing number of scholars and practitioners are looking to smaller stores (gas stations, bodegas, corner stores, convenience stores) as solutions in places where supermarket or grocery store development isn’t always feasible.

Supermarkets are generally preferred over bodegas and convenience stores because they can typically provide a greater variety of fresh foods at higher quality and lower price. However, as discussed in earlier sections of this report, not all areas can support new stores (due to economic, physical, or regulatory factors). In fact, areas that lack supermarkets often have disproportionately large numbers of convenience stores and residents must own or borrow cars to reach larger retail outlets; this discrepancy tends to be true for both urban and rural areas (though some studies discredit this claim). Though supermarkets benefit from

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Programs across the country are experimenting with assisting convenience stores to carry a larger variety and higher quality of fresh foods.

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1. Fair Food Network, “About Us.”
5. Raja, Changxing Ma, and Yadav, “Beyond Food Deserts.”
9. Raja, Changxing Ma, and Yadav, “Beyond Food Deserts.”
11. Liese et al., “Food Store Types, Availability, and Cost of Foods in a Rural Environment.”
12. Clifton, “Mobility Strategies and Food Shopping for Low-Income Families.”
14. Moore and Diez Roux, “Associations of Neighborhood Characteristics With the Location and Type of Food Stores.”
15. Hillier et al., “How Far Do Low-Income Parents Travel to Shop for Food?”.
economies of scale, programs across the country are experimenting with assisting convenience stores to carry a larger variety and higher quality of fresh foods.\textsuperscript{1, 2, 3} For example, New York City has more than 10,000 bodegas, accounting for 80% of grocery sales in some neighborhoods.\textsuperscript{4} Instead of trying to force the creation of new stores, programs like Greenmarket and the Healthy Bodegas Initiative in New York, the Healthy in a Hurry corner store program in Louisville, KY, and the Healthy Corner Store Initiative in Hartford, CT provide assistance to store owners via short-term, capacity-building interventions that help with healthy food advertising, the introduction of healthy alternatives, and infrastructure for storing and displaying fresh products.\textsuperscript{5, 6} These types of initiatives are flexible enough to be effective in urban or rural contexts.

In the end, even if supermarkets do turn out to be the best solution, the timeline for development in certain areas is measured in years. A transitional intervention like stocking the shelves of existing convenience stores can help bring immediate fresh food access to areas that may not see a supermarket or grocer for a long time.

**TRANSPORTATION ALTERNATIVES**

If we assume that limited access is a fundamental issue in shaping diets, then bringing food to the people is only one way of looking at the solution; the other side of that coin is to bring people to the food. As a part of a report on how transportation affects sustainable food systems, Kami Pothukuchi and Richard Wallace detail that lack of grocery stores, lack of affordable transportation, and low rates of automobile ownership in low-income areas are all part of the disparities among communities with less access to healthy foods.\textsuperscript{7, 8}

Therefore, taking steps to expand transportation options from people to food can provide healthy diet alternatives. Some of these transport-based strategies include: Increasing public and private means of transportation (with shuttle programs if necessary) to full-service grocery stores and supermarkets, improving roadways, bike lanes, and sidewalks in areas with poor fresh food retail outlets, and encouraging ride-sharing and/or group purchasing in areas with low automobile ownership.\textsuperscript{9}

In Onaga, Kansas, when the only supermarket burned down, the town provided a weekly van from the town to the nearest grocery store (over 25 miles away) for elderly and disabled citizens.\textsuperscript{10} Numero Uno Market in Los Angeles, California, offers door-to-door shuttle service for shoppers that spend over $30, and this service helped Numero Uno to be one of the top five grossing supermarkets in the city.\textsuperscript{11, 12}

An associated feasibility study found that at certain population densities and with low enough rates of vehicle ownership, shuttle programs like this can even be profitable.\textsuperscript{13} And jitney services still thrive, though illegal, in most cities.\textsuperscript{14, 15, 16}

\begin{itemize}
\item \textsuperscript{7} Pothukuchi and Wallace, *Sustainable Food Systems: Perspectives on Transportation Policy*, 116-118.
\item \textsuperscript{8} Note: Several studies have shown that low automobile ownership rates do not mean people don’t have some type of access to cars. Still, the effort required to find alternative automobile access is an additional step that could be avoided.
\item \textsuperscript{9} Pothukuchi and Wallace, *Sustainable Food Systems: Perspectives on Transportation Policy*, 123–124.
\item \textsuperscript{10} Sylvia Maria Gross, “Planting New Grocery Stores In Rural Food Deserts.”
\item \textsuperscript{11} Pothukuchi and Wallace, *Sustainable Food Systems: Perspectives on Transportation Policy*, 178.
\item \textsuperscript{12} Mark Vallianatos, Amanda Shaffer, and Robert Gottlieb, *Transportation and Food: The Importance of Access.*
\item \textsuperscript{13} Cassady and Mohan, “A Supermarket Shuttle Feasibility Study.”
\item \textsuperscript{14} Jitney: a taxi that delivers customers to and from grocery stores, often serving low-income immigrant communities.
\item \textsuperscript{15} Post-Gazette, “Pittsburgh Jitney Service Illegal, but Thriving.”
\item \textsuperscript{16} Changes in our transportation system have been implicated in the creation of food deserts and the overabundance of cheap, low-quality imports. Though it is likely a national or state issue, understanding how imports can edge out local and regional production is important. See Eric Hagan and Victor Rubin, *Economic and Community Development Outcomes of Healthy Food Retail*, 15., and Pothukuchi and Wallace, *Sustainable Food Systems: Perspectives on Transportation Policy*, 170.
\end{itemize}
DRAWBACKS

Similar to traditional fresh food retail, investment in the alternative food system approach requires, at its most basic level, economic activity that matches demand with supply. In some areas, there may never be enough demand to justify a market-based retail solution. For example, true barter systems exchanging goods and services are gaining strength in some rural areas, and as long as residents are able to maintain desired health levels, external action may be unnecessary. In areas where intervention is desired, programs and businesses may find themselves perpetually reliant on philanthropic, charitable, or grant-based funding streams.

A related drawback of alternative food system investment is the dependence on local and regional food infrastructures that may or may not exist. As the country’s food system industrialized and consolidated, parts of the food infrastructure (including aggregation and packing centers and meat processing facilities) were privatized or disappeared for other reasons. Attempting to rush to a locally prioritized market in places with limited infrastructure could be even more costly than relying on existing systems. On the other hand, in rural communities where agriculture still plays a significant economic role, gradually transitioning towards an alternative food system could have positive effects. One final approach to food system transformation, the regional food hub, has the potential to address some of these infrastructure concerns.

Regional Food Hub Development

The creation of regional food hubs is a relatively


2 Jed Webber and Amy Severino, “New England Farm Burns Down, Community Rallies.”

3 Micaela Fischer et al., Findings of the 2013 National Food Hub Survey.

Producers and consumers can benefit from investments in regional food hubs.
new strategy that has been gaining ground over the last decade. Regional food hubs are “… businesses or organizations that actively manage the aggregation, distribution and marketing of source-identified food products…” In theory, food hubs may serve to provide much-needed, size-appropriate infrastructure and marketing functions for local food produced by small and midsized producers.

An underlying assumption of this approach is that the rapid transition to an industrial agriculture system has wiped out the infrastructure needed for the processing, packaging, and distribution of locally and regionally produced foods. The benefits of investing in regional food hubs are: (1) increased access to larger markets for local and regional food producers, (2) increased access to locally and regionally produced foods for consumers, and (3) improved food system resilience. Though the ratio of benefits of food hub investments in urban as compared to rural areas accrue at different degrees to consumers and producers, any investment benefits all parties. In rural areas, developing food hubs may have more positive impacts for producers because of the likelihood that some amount of their economies are still agricultural. In urban areas, advantages tend more towards the consumer side as variety in food markets expands. In addition to the distribution benefits and access to markets, over 50% of food hubs participating in the 2011 National Food Hub Conference reported that they provided some sort of training to their producers, increasing opportunities for entrepreneurship and business growth.

The drawbacks of food hub investments stem from limited knowledge about their true impacts, early reliance on external funding, and the possibility that their economic value creation is actually just import substitution (though from certain perspectives, this substitution may be beneficial).

INVESTING IN FARMS AND FARMERS

Investments in regional food hubs are indirect investments in farms and farmers. As farms have consolidated into a fewer large corporate operations (likely due to NAFTA), these operators have reached the necessary scale to own and operate their own infrastructure. Over time, this process has effectively shut small and mid-sized producers out of access to distribution arrangements. The creation of food hubs that explicitly cater to small and mid-sized food producers thus gives small farmers access to markets that are usually dominated by national and even multinational food operations. In addition, the number of very small farmers in the US is on the rise. Investments in regional food hubs act as a signal to new farmers that they will have the support they need to thrive as new farm operators. Even better, the returns on these investments will flow to farmers, retailers and consumers alike.

CREATING AND SUPPORT REGIONAL FOOD INFRASTRUCTURE

While producers clearly gain from regional food hub investment, consumers benefit as well. Food hub development can result in better retail prices resulting from a reduction in distribution costs, and more choices due to a greater number of smaller producers. Furthermore, many food hubs offer needed services for both producers and consumers. Not only do they serve as aggregation points for farmers, but many also offer distribution, marketing, and sales services that facilitate moving food from small producers into low access areas, providing variety to consumers living in those areas. Take the Association of Land-Based Agriculture (ALBA) in Salinas, California, for example. By investing in a warehouse, cooler, and delivery infrastructure, ALBA created ALBA Organics and began to aggregate and distribute food from other local farmers. As a result, in 2010-2011, ALBA Organics delivered over $50,000 of local produce to two local school districts, Pajero Valley Unified & Santa Cruz, and those districts

1 Ibid.
2 Note: In practice, many farms already serve as informal hubs and investing in them can have ripple effects for any associated farms.
now buy over 70% of their produce from local farms. Working with El Pájaro Community Development Corporation, ALBA Organics also established a food enterprise incubator program and provides training, mentoring, and advice to farmworkers interested in starting their own operations.¹

**BUILDING A MORE RESILIENT LOCAL AND REGIONAL FOOD SYSTEM**

As the commonly-cited statistic states, the average plate of food in the US travels about 1,500 miles from farm to table.² While globalized transportation and the industrialization of our food system has likely given us the lowest food prices in history by relying on the benefits of comparative advantage, the system has become extremely susceptible to shocks to the very transportation systems on which it relies. For example, when Hurricane Sandy hit NYC, the highway closures made city residents and market owners feel the sting of the fact that most of their food is stored in warehouses over 100 miles away.³

Although some level of warehouse concentration is necessary and beneficial, reliance on systems with little redundancy and resilience is an increasingly risky proposition. Investment in regional hubs can reconstruct local food systems to be more robust and less dependent on (though not necessarily removed from) national and global distribution chains. And in a world of increasing fuel price instability and frequent significant weather events, more resilience is a goal toward which we should surely be striving.

**DRAWBACKS**

Research on businesses calling themselves food hubs in the US is limited since many of them are new (more than 60% of food hubs surveyed by the National Food Hub Collaboration were created in the last five years).⁴ Fortunately, this limited research is bolstered by the existence of farms that have been operating for decades as informal food hubs. Though researchers are continually adding to this body of work, conversation with farmers in almost any region can attest to the benefits provided by ad-hoc food hub farms.

**TABLE 1: FOOD HUB RELIANCE ON OUTSIDE FUNDING BY YEARS IN OPERATION**

<table>
<thead>
<tr>
<th></th>
<th>HIGHLY DEPENDENT</th>
<th>SOMEWHAT DEPENDENT</th>
<th>NOT AT ALL DEPENDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N</strong></td>
<td>NUMBER OF HUBS (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>0-2 years</strong></td>
<td>27</td>
<td>5 (19%)</td>
<td>10 (37%)</td>
</tr>
<tr>
<td><strong>3-5 years</strong></td>
<td>26</td>
<td>6 (23%)</td>
<td>5 (19%)</td>
</tr>
<tr>
<td><strong>6-10 years</strong></td>
<td>11</td>
<td>2 (18%)</td>
<td>7 (64%)</td>
</tr>
<tr>
<td><strong>11-15 years</strong></td>
<td>0</td>
<td>1 (11%)</td>
<td>5 (56%)</td>
</tr>
<tr>
<td><strong>16-20 years</strong></td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Over 20 years</strong></td>
<td>10</td>
<td>1 (10%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>87</td>
<td>15 (17%)</td>
<td>28 (32%)</td>
</tr>
</tbody>
</table>

Survey data collected about food hubs and their level of reliance on external funding.¹

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¹ Ibid., 51.
² John Hendrickson, *Energy Use in the U.S. Food System: A Summary of Existing Research and Analysis*. However, this number has been subject to question for some time.
³ “New York’s Looming Food Disaster.”
Government grant funding seems to be a common element among the new hubs (See Table 1 below). While the level of reliance on government grants seems to decrease with age, it is likely that new food hubs will require significant public dollars to get off the ground.

Finally, a factor often overlooked when expanding local food systems is the direct impact on external regional economies. Although there may be room to challenge this assertion, common understanding is that increased food system activity locally results in decreased activity elsewhere (i.e. where those goods were produced or processed previously). Unfortunately, the impact of these substitutions has not yet been studied at a systemic level.

1 Michelle Frain Muldoon et al., Innovations in Local Food Enterprise: Fresh Ideas for Practitioners, Investors, and Policymakers for a Just and Profitable Food System, 22.

2 Martinez et al., Local Food Systems; Concepts, Impacts, and Issues, 43–45.
V. Conclusion and Recommendations

The majority of the conversation in the United States about fresh food access centers on providing better links to full-service grocery stores and supermarkets. Yet there is broad variation in the environments that reportedly have limited options for fresh, culturally relevant, affordable food. Without recognition of this complexity, some areas with inadequate food access will continue to be overlooked or well-intentioned investments in these areas may fail because the supermarket solution offered does not fit the location-specific problem.

Fortunately, players from all over the national food system, including the retail supermarket industry, have recognized the realities outlined in this report and are working from a number of angles to increase options for healthy food consumption. While creative investment strategies are necessary, these investments can be made in supermarkets, the alternative food system, regional food hubs, and other points in the food value chain not covered here.

In this report, we have identified areas in Alabama with residents that have less access to supermarkets—and potentially, fresh food—than other areas in the state. Some of these locations are also facing higher diet-related mortality rates than the state average. We have also described key obstacles to developing new full service grocery stores and increasing fresh food options.

Our recommendations to counter these barriers are based on best practices undertaken by other food access organizations across the country. However, each of the suggestions is premised on a critical first step: convening a coalition of stakeholders to formulate a strategy for improving the state’s food system. This group should include leaders from a range of non-profits, representatives of government agencies, small and large farm owners, representatives from other businesses in the food system supply chain, developers, financial institutions, and local residents. The network this coalition creates will facilitate the implementation of future state and local food access initiatives.

The recommendations below follow two lines: The first set focuses specifically on attracting and expediting supermarket development in urban and rural areas, summarized in Table 2 on the following page. The second set centers on non-supermarket actions to improve access to healthy food. These alternatives are especially apropos in rural areas where insufficient demand may limit supermarket development potential.

Potential Solutions for Supermarket Development

1. Develop a state-wide food retail investment fund in partnership with financial institutions. Difficulty securing financing for supermarket development is a primary obstacle that stalls large projects. Partnering with a Community Development Financial Institution (CDFI) to establish an investment fund for food access interventions in Alabama, similar to the fund developed under the Pennsylvania Fresh Foods Financing Initiative model, would provide much needed equity financing for food retail development while also offering a structured vehicle for attracting additional food-related social investments.

2. Work with public agencies to assemble and market land in underserved areas. Urban food retail stores typically require larger lots than are available with a single owner,
and city agencies are in the best position to purchase, rezone, and manage the numerous adjacent parcels needed for these projects. As part of a collaborative process, other stakeholder organizations can take the lead on the remaining key elements of supermarket development, including securing community approval and orchestrating a financing package.

3. Create one-stop centers for store operators and developers to streamline the development process. Supermarket projects are subject to extensive regulatory requirements that can slow down implementation. Bringing representatives from key departments under one roof and consolidating zoning information in one easy-to-access location can advance food retail developments from approvals to land assembly to construction more rapidly. In urban areas these centers would be located within a city agency, as is the case with the City of Chicago’s Shop Chicago Initiative. Rural areas have fewer difficulties with land assembly and zoning restrictions, but regional one-stop centers could collect and present zoning and other development information across several municipal or county jurisdictions.

4. Create information clearinghouses for supermarket developers. As noted, organizations and coalitions like the Healthy Access Food Portal and Social Compact are already aggregating market and policy information to facilitate food retail projects in underserved areas, but Alabama stakeholders could create a data center focusing specifically on demographics, economics, and policies within the state. The local orientation would allow for more detailed data collection and analysis.

**Alternative Food System Recommendations**

5. Work with public officials and farmers to increase the purchasing power of low-income
consumers at farmers’ markets. Farmers’ markets and fresh food stands are excellent fresh food options that can benefit both producers and consumers, but these outlets are often not equipped to take EBT cards and goods are sometimes priced beyond low-income shoppers’ affordability range. The State of Alabama has recently expanded its efforts to enable farmers to accept Supplemental Nutrition Assistance Program (SNAP) funds through a federal grant for free equipment, but more marketing is needed to alert farmers to the existence of the program. In addition, a variety of local initiatives including Bounty Bucks in Boston and Wholesome Wave in several states have shown that it is possible to provide matching funds to extend low-income consumers’ nutrition assistance dollars at farmers’ markets. A similar program could significantly increase fresh food access in Alabama.

6. As a stopgap measure, consider creating a statewide or local initiative to improve fresh food quality in smaller stores. Increased variety and quality of fresh food is associated with higher fruit and vegetable consumption, and lack of quality and variety is a common complaint from consumers shopping for produce at smaller markets or convenience stores. A “Corner store” program similar to the Healthy Bodega Initiative in New York City or Healthy in a Hurry in Louisville, KY could provide small Alabama food retailers with technical assistance and financial incentives to carry and market a better selection of healthy foods. A Healthy Food Financing Initiative could perform these same activities if it had flexible resources.

7. Consider setting up a local or regional supermarket shuttle service. Residents of rural and urban low-income areas with limited access to transportation are often unable to afford the costs associated with traveling to distant full-service grocery stores. Rather than developing additional supermarkets, non-profits, public agencies, and store operators could collaborate to establish bus routes dedicated to increasing food access. The additional customers a shuttle service could bring to food retailers could incentivize them to provide financial support to such a program.

8. Strengthen existing regional food hubs and explore other areas for food hub investment. The USDA’s Agricultural Marketing Service lists three food hubs in the State of Alabama: Grow Alabama, Manna Market, and Moore Farms and Friends. Given the extent of the state’s agricultural production, investing in these hubs and examining the feasibility of creating new regional centers has the potential to shift the share of produce and other farm products sold in Alabama away from imports and toward local goods, creating jobs and improving farmers’ livelihoods.

The recommendations above are clearly not applicable in every location, nor can they be implemented simultaneously given resource constraints and differing local priorities. Each specific context will require local understanding that makes one size fits all solutions ineffective. Stakeholders across the state must work together to collaboratively identify the best and most effective pathways to action.

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1 Cason, “More Alabama Farmers Markets Gearing Up to Accept Food Stamps.”

2 USDA AMS, “Working List of Food Hubs.”
Preface: The mapping methodology used in this report draws significantly on the methodology from The Food Trust’s “Food for Every Child” report series. Changes were made to their methodology when fine granularity of data was unavailable (e.g. the Alabama Public Health Department was unable to provide health data at any finer geography than the Zip Code level). The research team behind this report is greatly indebted to several Food Trust staff members for their assistance in adapting their methodology.

These maps utilize three data sources: The first is 2010 Census data gathered from the US Census Bureau website. The second is the Infogroup Business Listing dataset accessed through MIT’s license of ESRI’s Business Analyst tool. The third is diet-related mortality data purchased from the Alabama Center for Health Statistics. Specific calculations are detailed below, mostly aligned with the methodology from The Food Trust.

**SUPERMARKET SALES**

The Infogroup retail data was used to determine which stores to consider as supermarkets and grocery stores (and their physical locations) for this map series. Any store with SIC code 541105 and an annual sales volume of over $2 million was considered. This resulted in a total aggregate annual sales volume of $7,771,798,000. The sales volumes from all the stores in each census tract was summed to give a total volume of grocery sales.

**SALES AND POPULATION**

The annual statewide ratio of sales to population was calculated by dividing the total sales volume by the total population: $1,605.02 per person per year ($7,771,798,000 / 4,842,196) or $30.87 per person per week. This data was used to create Map 3. For each census tract, a theoretical ideal sales volume was generated by multiplying the population by the statewide ratio of sales to population. Then, the actual total sales volume for each census tract was divided by its actual population. The actual ratio was divided by the theoretical ratio and the resulting odds ratio was mapped (somewhere from 0-5 times the statewide ratio).

**INCOME**

Median household income for state was gathered from the Census ($42,934), multiplied by the number of households in the state (1,906,642), and then divided by the total population (4,842,196) to create a statewide average per capita income ($16,905.50). Actual per capita income per census tract was compared with this statewide average to determine whether a census tract was high income or low income in Map 4.

**INCOME & SALES**

Map 5 was created by the crossing four categories from the aforementioned household income and sales data. Incomes were sorted into high and low based on the expected per capita income per census tract as compared to the statewide average. Sales ratios were sorted based on being above or below the statewide sales to population ratio. Map 6 is a simplification of Map 5 that highlights the census
tracts that are have lower income and lower than average grocery sales compared to the statewide ratios.

**DIET-RELATED DEATHS**

Unfortunately, the state of Alabama Health Department was unable to release diet-related mortality at the census tract level, the geography used in the rest of the mapping for this report. Therefore, diet-related mortalities are mapped at the finest level accessible, the zip code level. These zip codes are Zip Code Tabulation Areas (ZCTAs) created by the Census Bureau, a different coding system than the zip codes used by the U.S. Postal Service. Since zip codes and census tracts do not align, the final two maps in this series could not be completed using the exact methodology preferred by The Food Trust.

The available data was the number of deaths corresponding to a series of 104 different ICD-10 codes with diet-related causes (these codes were secured through email communication with a researcher from The Food Trust). The total number of deaths for the year 2007 (16,740) was divided by the total 2010 Alabama population (4,842,196) resulting in an odds ratio of 0.0034571 or about 35 deaths per 10,000 people. (Note: though there is a mismatch between the mortality data year and the state population year, the population is fairly stable over the three-year difference). The total number of actual deaths in each zip code was divided by the zip code population and then compared with the expected number of deaths for a population that size. The resulting ratio was mapped as either higher or lower than the expected number of diet-related deaths.

**INCOME, SALES, AND DIET-RELATED MORTALITY**

Map 8 in the series is an aggregate that is designed to show where the high mortality zip codes overlap with low income, low sales census tracts. Although the geographies do not align, the areas identified in Map 8 are the mostly likely to suffer from limited food access and should be further explored with on-the-ground research. The final zip codes were selected if 75% of their land area overlapped with the low-income, low-sales census tracts.
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farms%20years-later.


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