The Thesis Committee for Karen Oren Banks
Certifies that this is the approved version of the following thesis:

Framing the Food Landscape of Travis County

APPROVED BY
SUPERVISING COMMITTEE:

Co-Supervisor: _____
Bjørn Sletto

Co-Supervisor: _____
Cynthia Osborne

Framing the Food Landscape of Travis County

by

Karen Oren Banks, B.A.

Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Science in Community and Regional Planning

And

Master of Public Affairs

The University of Texas at Austin

August 2011

Dedication

The thesis is dedicated to all of the community members who gave their time to participate in this project.

Acknowledgements

I owe my deepest gratitude to Dr. Bjorn Sletto for his guidance and encouragement during the making of this thesis. I am also extremely grateful for the support and patience of Dr. Cynthia Osborne throughout this process. Additionally, I would like to acknowledge the work of Sustainable Food Center and the City of Austin/Travis County Sustainable Food Policy Board for their devotion to food justice in Austin.

June 28, 2011

Abstract

Framing the Food Landscape of Travis County

Karen Oren Banks, MSCRP/MPaff

The University of Texas at Austin, 2011

Co-Supervisors: Bjørn Sletto and Cynthia Osborne

Food is something that we all need to survive but it is not something that we all have access to. In the mid 1990's, a community-based movement arose to systematically address injustices in access to this basic human necessity. The community food security movement approaches issues of food security at each stage of the life cycle of food to ensure that each stage is sustainable, socially just, and equitable. This study uses this framework to challenge traditional notions of food security by critically examining the economic, social and environmental barriers to food equity in Austin, Texas. Austin is said to be one of the best cities to live in the United States, but not because it is food secure. This study therefore examines the food landscape of Travis County and the accessibility of food resources to meet the food needs of area residents. It utilizes a combination of quantitative analysis of food retail locations, focus groups and surveys to gather information about the food needs of underserved residents in Travis County.

Table of Contents

List of Tables

List of Figures

Introduction

The spatial distribution of access to healthy food is a growing concern in American cities. Because of the inter-dependent relationships between the environment, the life cycle of food, the food system, and social injustices, the United States is now seeing a burgeoning food security movement that is challenging the status quo of food production in the United States.

In the United States, food security, specifically access to healthy, affordable food, is the most commonly accepted measure of the ability of individuals to meet their food needs. For proponents of a systematic approach to food security, social and environmental injustices in food access are paramount to issues of physical access. Community food security offers a comprehensive perspective of food access. The community food security movement advocates for more than just consideration of individual access: it aims to address all aspects of the life cycle of food to ensure that each element is sustainable, socially just, and equitable. It addresses inequities in both physical and financial access to food by placing human needs at the center of the holistic cycle of food. It aims to capitalize on both urban and rural community assets and resources in order to create lasting access opportunities for community members. The movement is also concerned with the lack of sensitivity to cultural and dietary variations in food needs among industrial food producers, which dominate the US food supply. Ultimately, the movement attempts to break down existing power relations within the food industry that facilitate supermarket redlining, industrial monoculture, and a culture of cheap, unhealthy food.

In order to break down these systematic injustices, the community food security movement promotes community-based initiatives that address prejudicial food systems practices. This holistic approach offers an alternative solution for communities with high rates of food insecurity. One such community is Austin, Texas. Austin is located in one of three states with the highest rates of food insecurity. While over the past decade, Austin has been praised as one of the best cities to live (Business Review USA, 2011; US

News and World Report, 2009; Kiplinger, 2006; CNN Money Magazine, 2002), to weather the recession (Brookings Institute, 2010), for jobs (Forbes, 2008), to play (National Geographic, 2007), for Hispanics (Havana Journal, 2005), to make movies (Movie Maker, 2004), and for singles (Forbes, 2003), it has not received accolades for being the most food secure community. Even with the flagship Whole Foods Market, a board of the City of Austin and Travis County charged with addressing issues of food access, and a multitude of food-focused non-profit agencies, Austin residents still suffer from disparities in food access. In 1995, a report by the Sustainable Food Center shed light on areas of east Austin that disproportionately lacked access to healthy food sources. Over 15 years old, this report is still referenced as a principal resource for information on food access in Austin. However, in the intervening years, the City of Austin has changed drastically.

This study examines the food landscape of Travis County and the accessibility of food resources to meet the food needs of area residents. In my study, I ask:

- Does the food system meet the food needs of the community?
- Do people have enough to eat?
- Are people able to easily access the foods they want in sufficient quantities and of sufficient quality?
- Are people able to access foods that are appropriate for their dietary needs?
- Are people able to access foods that are culturally-appropriate?

In this study, I aim to identify demographically and geographically distributed disparities in food access in Travis County in order to isolate the variables impacting food access. In the context of this study, food access refers to the ability of area residents to easily locate and afford to purchase diet- or culturally-appropriate, healthy ingredients that are of sufficient quality and of sufficient quantity. In order to understand if food is accessible, this study analyzes the spatial distribution of the food landscape across Travis County. The locations of grocery, convenience, and discount stores, emergency food providers, farmers' markets and community gardens provide an indication of the types of

food resources available to residents, particularly residents in areas with high concentrations of low-income and minority populations.

Food insecurity rates nationally are greatest among low-income and minority populations. This study therefore, is concerned with identifying if there are discrepancies in food access which could lead to food insecurity for residents of East Austin, an area with historically higher concentrations of minority and low-income residents. This study examines a multitude of variables that influence food access, including household socioeconomic status, mobility patterns, cooking skills and knowledge of nutrition, and food shopping habits of residents. Based on the responses from residents, this study seeks to determine which variables constitute barriers to food access, and ultimately aims to identify potential, socially-acceptable solutions to improve food access in East Austin.

This study relies on a combination of qualitative and quantitative research methods to paint a comprehensive picture of the food landscape in Travis County. Spatial analysis of the distribution of food resources across Travis County, with a particular focus on resources available in East Austin was conducted using Geographic Information Systems (GIS). To better understand the disparities in food access facing East Austin residents, I conducted focus groups in 11 zip codes in this area. Residents participated in these semi-formal discussions about their shopping and eating habits as well as their perceptions of food access concerns and solutions. Prior to the discussion, participants filled out a 26-question survey and partook in an interactive mapping activity to identify where their food comes from. The combination of these techniques provides quantitative data by which to draw descriptive statistics while also offering a brainstorm of solutions to food access issues in East Austin.

This report begins with an examination of the history of food security in the United States. In chapter 1, I will discuss the evolution of food security, a federal measure by which to gauge the food needs of a household or community. Over time, food security has metamorphosed from the preoccupation with the physical conditions resulting from hunger to concerns over the availability and access to healthy food. Included in this chapter is a discussion of the community food security movement, a

grassroots effort that challenges the bureaucratic conception of food security. This movement is concerned with how the entire food system, from production to consumption, affects food security. It raises awareness about environmental issues related to the production and distribution of food, and calls into question the relationship between socioeconomic determinates and food access. At the heart of this discussion is a debate over institutional, racially-driven food injustices that are not always directly addressed by measures of food security or by efforts of the community food security movement.

Following this examination of national issues of food access, this report will begin to unravel concerns about food access in Travis County in chapter 2. Research on food security in Austin, first arose in 1995 with the publication of a report called *Access Denied* by Sustainable Food Center. Since that time, no other comprehensive research on food access has been conducted. This chapter summarizes the available data on socioeconomic characteristics of Travis County and emergency food services. It provides a description of the food landscape of Travis County, with a particular look at East Austin, the target area for this study.

The remaining three chapters discuss the methodology, findings and recommendations of the research for this study. Included in chapter 3 is an analysis of the assumptions of this study and the limitations of the research methods. Chapter 4 provides a lengthy examination of the responses from participants during the 11 focus groups in East Austin. Based on these responses, chapter 5 offers a series of recommendations for the City of Austin and Travis County to improve food access in East Austin.

Chapter 1: The Evolution of Food Security in the United States

In the latter part of the 20th century, the American notion of hunger gained new meaning when compared to the incidence of famine and malnutrition experienced in other countries. The clinical conditions associated with hunger were not the same social dietary problems facing citizens in the United States. Hunger is a physical condition caused by a lack of food which in turn is caused by the social, economic and physical conditions of one's surrounding. With rising incidences of obesity and other diet-related diseases, these circumstantial dimensions that impact access to healthy food came to dominate the discussion of food consumption. While a portion of the population did still endure conditions associated with hunger, the physical symptoms of hunger were no longer generally applicable problems in the United States. The United States therefore needed a way to distinguish the social from the physical conditions of hunger.

In 1990, the American Institute of Nutrition presented an index by which to measure the magnitude of hunger based on an evaluation of economic self-reliance. This index was informed by the concept of food security, which introduced spatial and economic dimensions to hunger and established a causal relationship between circumstance and food. How often, from where, and what types of food people consume became the variables by which to measure the degree of food security one experienced. Food security offered three typologies of hunger in the United States:

- *Food security*: Access by all people at all times to enough food for an active, healthy life. Food security includes at a minimum: (*a*) the ready availability of nutritionally adequate and safe foods, and (*b*) an assured ability to acquire acceptable foods in socially acceptable ways.
- *Food insecurity*: Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.
- *Hunger*: The uneasy or painful sensation caused by a lack of food. The recurrent and involuntary lack of access to food. Hunger may produce malnutrition over time (Jensen, 2002).

Recently, the index for measuring food security was revised to create a more sensitive measure of food security, which no longer includes hunger. At the crux of

the new index is access. The relationship between circumstance and food availability form the basis for measuring the degree of food security experienced by an individual. Today, food security is broken down into four classes:

- *High food security:* No reported indications of food-access problems or limitations.
- *Marginal food security:* One or two reported indications of food access problems, typically anxiety over food sufficiency or shortage of food in the house, and little or no indication of changes in diets or food intake.
- *Low food insecurity:* Reports of reduced quality, variety, or desirability of diet but with little or no indication of reduced food intake.
- *Very low food insecurity:* Reports of multiple indications of disrupted eating patterns and reduced food intake (Ver Ploeg, 2009).

This classification of food security shifts the focus of food access from the physiological responses resulting from a lack of food to the causes of that lack of food. "…the conceptualization of hunger as a problem of food insecurity is most useful in the context of a society in which the norm is the existence of a dense, stable network of well-endowed sources of food to which nearly all people assume regular, ready access (Eisinger, 1999)." This assumption of consistent access to an availability of appropriate and healthy foods in sufficient quantities does not, however, apply to all populations. Of growing concern, therefore, is the role of environmental and socioeconomic factors in restricting one's access to food.

TRENDS IN FOOD INSECURITY

To be food secure, a household, or even a community, needs a sufficient supply of nutritionally-adequate and affordable food within a reasonable travel distance. For the USDA, "nutritional adequacy" is measured against recommendation of the food pyramid, affordability is measured against the Thrifty Food Plan, and availability is measured against the top foods consumed in the United States. Simply having food available does not mean one is necessarily food secure. Myriad factors affect food access, including the location of full-service grocery stores, the quality of food, mobility, geographic location within an urban or a rural setting, the cost of food, and neighborhood demographic and

economic characteristics. Rates of food insecurity are highest for households with incomes below the poverty line, single female followed by single male headed households, and minority households of Black or Hispanic residents. Since 1999, the rate of food insecurity in the United States has remained fairly consistent, with a slight but gradual increase every year until 2008 when the rate spiked at 14.6% over 11.1% in 2007. In 2009, 17.4 million Americans experienced food insecurity at some point during the year. That means that 14.7% of Americans did not have consistent access to enough food for an active life. Of those, 9% experienced low food insecurity and 5.7% experienced very low food insecurity. For those with low or very low food insecurity, budgetary constraints compounded by the price of food are often the main impediments to access enough food for an active and healthy lifestyle. This is of particular concern for poor or single parent households on a fixed-income. Depending on the time of year, families may have difficulties meeting their monthly household expenses and face a tradeoff decision: for instance, whether to buy healthy food or pay the rent.

The price of food can exacerbate this tradeoff by causing further tradeoffs in food quality choices. The price of fruits and vegetables limits the amount and variety of nutritionally-adequate foods people can purchase (Yeh, 2008). However, the cost of food varies depending on geographic location and store type (Chung, 1999; Henrickson et al, 2006); in particular, food at chain stores is cheaper than at non-chain and convenience stores (Chung 1999). Chain stores have the advantage of economies of scale, being able to purchase more at lower costs, thereby saving the customer money.

At issue then, is the geographic distribution of chain or full-service grocery stores versus convenience stores. The distribution of grocery and convenience stores is often compared regionally across urban and rural landscapes, across neighborhoods, or based on the income distribution of residents. Based on a review of relevant literature, Ford and Dzewaltowski (2008) concluded that access and availability of healthy foods varies geographically and that low-income neighborhoods with high concentrations of minorities have lower quality food environments. Larger chain stores are more likely to be located in higher-income neighborhoods, particularly rural, suburban areas, whereas

lower-income neighborhoods have higher concentrations of non-chain and convenience stores (Chung, 1999; Dunkley, 2004; Hendrickson, 2004; Powell, 2007). "In 1995, the poorest 20% of urban neighborhoods had 44% less retail supermarket space than the richest 20%" (Eisenhauer, 2001).

A low concentration of chain stores can be especially detrimental for neighboring households that lack a vehicle. The distance that residents must travel, the frequency with which residents purchase food, and the amount of food residents can purchase are all impacted by mode of transportation (Clifton, 2004). Reliance on public transportation or walking limits the amount of food a person can purchase based on what one can carry. It also limits the distance one can travel to purchase food. Reliance on a ride from a friend or a taxi limits the number of times one goes grocery shopping. Immobility compounds the impact of access to nutritionally-adequate, affordable food in low-income neighborhoods.

Due to a dearth of chain stores in low-income neighborhoods, lower-income households spend more on food (Chung, 1999; Eisenhauer, 2001), particularly for inferior quality food (Hendrickson et al, 2006). Low-income households are relying more on non-traditional sources for food, like discount stores and supercenters, which offer a limited selection of food items. While these sources offer cheap options and generally accept government assistance, healthy options, including fresh produce, are typically unavailable.

However, the lack of chain stores in low-income neighborhoods impacts more than just access to food. As Eisenhauer explains, chain stores improve quality of life (2001). They are symbols of stability encouraging further investment in a community. They offer jobs, convenience, quality, a wide variety of healthy food options, and cost savings. The industry practice of selective location favoring affluent neighborhoods, known as redlining, reinforces institutional prejudices by isolating communities from services by which to fulfill their basic needs. "Ultimately, long term isolation and loss of resources can increase distress, hopelessness and hostility (Eisenhauer, 2001)."

The negative consequences from redlining are most detrimental for African Americans. Holding income constant, neighborhoods with high concentrations of African American residents are found to have fewer chain stores than neighborhoods dominated by any other race and ethnicity (Powell, 2007). For African Americans, inaccessibility to grocery stores is a barrier to fruit and vegetable consumption (Yen, 2008). The prevalence of Black, as well as Hispanic, households facing food insecurity is likely related to high rates of poverty amongst minorities, yet it is compounded by a dearth of proximate food retailers. These racial and ethnic dimensions of food insecurity allude to issues of social injustice in food access.

However, the social and cultural dimensions of food and access are not issues addressed by measures of food security. The main elements of food security--access to nutritionally-adequate, socially acceptable sources--are based on the dietary normative set by the USDA. These dietary norms are reflective of the consumption patterns of the dominant culture, which are in turn influenced by the variety of available products, cooking skill, nutritional knowledge and family traditions. The measures of food security do not account for cultural and dietary variations in food consumption. Denial of cultural variations in food assumes that everyone has the same dietary needs, enjoys the same meals and retains the same cooking knowledge. This reproduces the perception that all people eat the same foods, and thereby reinforces this misconception by encouraging the availability of only those foods deemed to be most consumed.

Limiting the variety of foods available accelerates the loss of cultural food traditions and can be detrimental for individuals with restrictive or specific dietary customs. Basing the availability of food items on generalizations in food consumption trends, excludes the availability of ingredients appropriate for ethnically diverse meals or for restrictive dietary habits. Furthermore, this generalization has implications for the field of agriculture and crop diversity; increased cultivation of only those crops of select varieties by which consumption is measured can lead to a loss of diversity in seed stock. While food security raises awareness about the role of economic and spatial variables in

food access, disregard for diversity in food choices raises concerns about the sensitivity of the measure to issues of social justice.

THE RISE OF COMMUNITY FOOD SECURITY

For proponents of community food security on the other hand, holistic approaches that encompass both food access and food production are central to preventing uncertainty in food availability. In the mid 1990's, the community-based, systems concept of community food security arose as a response to disparate and ineffective national efforts to address food security (Allen, 1999). With the shift in conceptualization of hunger in the late 1990's came an awareness of the role of food safety, nutrition, socially acceptable sources, and adequate quantity in relation to food security. Failure of the disjointed and laggard government assistance programs to produce lasting results prompted discussion about an alternative, holistic solution to food security, that being community food security. According to the Community Food Security Coalition, community food security is:

> *"a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice" (CFSC, 2009).*

Community food security embodies six principles: meet the food needs of low-income people, address a broad range of issues impacting the food system, empower the community to meet its own food needs through resource and asset building, foster a stable local agriculture base, and create inter-disciplinary and inter-agency projects. Community food security pushes the discussion of food beyond immediate access to encompass the life cycle of food. It builds on the spatial and economic dimensions of food security by adding to the discussion elements of justice, environmental resource management and autonomy.

FOOD JUSTICE OR LOCALISM

Encompassed in the community food security movement is a movement toward food justice. Food justice is a concept derived from the framework for environmental

justice, except that food justice aims at creating dynamic relationships between people, place and food that challenge the existing power structure of the agro-food industry. "Theoretically, the food justice framework opens up linkages to a wider range of conceptual frameworks drawn from the literature on democracy, citizenship, social movements, and social and environmental justice" (Wekerle, 2004). Framing food insecurity issues through the lenses of community relationships validates local knowledge and provides opportunities for active citizen engagement thereby challenging institutional barriers to food equity. Preoccupation with the transformation of the food system toward an emphasis on local production can however overshadow the dimensions of social justice embodied in the definition of community food security by creating an exclusionary movement of localism (Gutheman, 2008).

Challenging the institutional power and racial structure of the agro-food industry often results in fragmented efforts to achieve community food security because of conflicting priorities. It allows for myriad diversions from the goal of community food security because the concept is broad. This broadness encourages efforts that fulfill a general good rather than addressing sensitive individual differences. Dissonance between the guiding tenets of the movement--local agriculture, low-income food needs, and self-reliance--can lead to a tradeoff in values by prioritizing one tenet over another (Guthman, 2006; Allen, 1999; Campbell, 2004; Hassanein, 2003).

For example, attempts to both secure profitable market opportunities for local famers and at the same time foster food security, especially for low-income households, are both central goals for the movement, yet in practice, these objectives can be divisive. While both are key elements of community food security, there is a false correlation between the two objectives caused by juxtaposing supply and demand schedules. Economies of scale and government intervention in the agricultural market place local farms at a competitive disadvantage to global and national farmers and corporate agribusinesses, making them reliant on higher sales prices. For low-income families, higher prices and selective market location often make local produce inaccessible. The dichotomy between food affordability and agricultural profit results in rifts among

community food security proponents, forcing allegiance to either local farms or low-income residents (Allen, 1999). The resulting devotion to local farms breeds further socioeconomic divisions by prioritizing the desires of affluent community members over all other objectives (Allen, 1999, Campbell 2004).

The focus on localism negates the goal of community food security to foster self-reliance by reinforcing broad institutional barriers to food equity. The preeminence of locality overshadows the movement's objectives of community asset and resource building, and self-reliance. Localism tends to be a solution favorable to the financially dominant, the result of which is two-fold; it reaffirms the existing institutional inequalities, and creates a culture of exclusivity around locally grown food (Guthman, 2008; Allen, 1999; Campbell, 2004). To rely strictly on the vitality of proximate farms to ensure community food security is damaging since this subsector cannot exist as a substitute for large-scale, monoculture production. The duality between local and corporate agriculture production is such that both systems are necessary (Allen, 1999; Campbell 2004). While the systematic approach of community food security offers lasting, institutional transformation of the current food chain, the movement is subject to compartmentalization and contradiction.

DEFRAGMENTING THE LOCAL FOOD MOVEMENT

A common critique of the environmental movement is its inability to see the forest for the trees. There is a "disjuncture between the geographic scale(s) at which a problem is experienced, and the scale(s) at which it can politically be addressed…" (Kurtz, 2003). The spatial scale at which an environmental injustice is experienced differs from the regulatory scale at which the injustice is contended. This disjuncture between the local scale of experience and national scale of influence is also pervasive in the community food security movement. The scale at which the movement operates, at the local level, is disconnected from the national scale at which political decisions regarding the regulation of food are determined. The tendency for the movement to emphasize local efforts over collective national action obscures the various avenues

available for community members to exercise their democratic right, conflates ends and means, and perpetuates existing social relations of power (Allen, 1999; Born, 2006; Guthman, 2008).

The scale at which the community food movement is perceived to operate, the local scale, is a social construction (Born, 2006; DuPuis, 2005). It is a subjectively defined boundary (Kloppenburg, 1996). This boundary differs by place and is determined based on established political boundaries, on social and environmental landscapes, and by those with interest in transforming the food system (Born, 2006; Kloppenburg, 1996). It is the agenda of those involved in the movement that sets the scale of action. In the case of the community food movement, those setting the agenda and defining the local scale--the decision-makers--tend to be from a "narrow, sectionalist, even authoritarian, elite…" (DuPuis, 2005). Whether consciously or not, this influential group is reproducing social norms derived from a white-dominated cultural history (Guthman, 2008). This reproduction of institutional prejudices suppresses the voices of those for whom the movement is intended to help.

By focusing on the agenda of a narrow section of the population, the community food movement is not necessarily addressing larger issues. This movement, like other social and environmental movements, suffers from a top-down approach to community change. Those with means often have the time and resources to push changes that align with their values and goals. These changes however may not be goals or ends but may be means or strategies (Born, 2006). Efforts to strictly promote local agriculture miss the larger picture of creating a sustainable food system, which instead may require a combination of production scales, both local and national. It also misses the goal of creating an equitable food system which requires the inclusion of all voices in the decision-making process.

In order to resolve the conflicting interests of agendas and scales within the community food security movement, the scales at which decisions about food resources are determined need to be accessible for all persons participating in the movement. Food democracy is a form of participatory democracy that makes it the right and responsibility

of all engaged in the food movement to participate in the decision-making process (Hassanein, 2003). This involvement will help shift the social power relations present in the movement and change the focus of the movement to grasp the larger picture of injustice.

MEASURING COMMUNITY FOOD SECURITY

Unlike food security, community food security does not measure individual food needs. Community food security is measured in terms of a community's ability to satisfy the food needs of the entire community (Gottlieb, 1996). Since community food security is a fairly new concept, there is no concrete comparison by which to evaluate if a community is food secure. Currently, the best measure of community food security is based on projects funded through the USDA Community Food Projects Competitive Grants Program. The programs and people engaged in activities funded through this grant program are scrutinized in terms of their classification as community food security projects. Since 2005, 307 community food projects in 39 states have been funded by the USDA. Within the state of Texas, only two projects were funded, both in Austin. Nationally, 837,100 people participated in community food projects with an additional 2.5 million people receiving food. Because of these projects, 2,339 jobs were created, 2,936 acres of farmland were preserved, and 18.8 million pounds of food was generated (Abi-Nader, 2010). While it is useful to understand the impact of community food projects, it does not provide a model by which to measure of the position of a region in terms of being community food secure. This study attempts to evaluate the community food security of Austin, Texas based on a qualitative analysis of the food landscape paired with a quantitative analysis of community perceptions of food access.

Chapter 2: Case Study of Austin, Texas

Research on disparities in food access in the Capital city is not a novel endeavor. In 1995, a burgeoning non-profit organization, Sustainable Food Center, produced an influential report exposing inequality in food access, availability and quality for residents of east Austin. This area was defined by Manor Road to the north, the Colorado River to the south, IH-35 to the west and Airport Boulevard to the east. At the time, the study area was composed of a high concentration of low-income and Hispanic residents. Relying on interviews with residents, observational surveys of area stores and context analysis of food resources, the report concluded that "the food system of East Austin reflects the characteristics of a community in which access to nutritious, affordable food is difficult for many residents" (Fitzgerald 1995). From this report arose the creation of a bus line connecting residents to nearby grocery stores as well as an awareness of the benefits of alternative food programs, like farmers' markets and community gardens. This study builds upon this antiquated yet frequently cited study, by providing updated and enhanced information on disparities in food access in Austin.

FOOD INSECURITY IN TRAVIS COUNTY

Texas is one of three states, along with Mississippi and Arkansas, with a rate of food insecurity significantly higher than that of the national rate. From 2007-2009, 17.4% of the residents in Texas suffered from low or very low food insecurity, compared to 14.7% nationally (Ver Ploeg, 2009). It is estimated that the price tag for food insecurity in Texas is over $9 billion a year, due largely to treatment of preventable diet-related illnesses, like diabetes, and lowered employee productivity (Hagert, 2007). From 2006 to 2007, the rate of diabetes in Texas rose from 8% to 10.3% (Texas Diabetes Council, 2008). Food assistance receives the second most requests from clients calling Texas 2-1-1, the free, state resource assistance hotline. Travis County is no exception. Calls to 2-1-1 for food assistance in Travis County increased by 8% in 2009 (Travis County, 2011). In Travis County, the Capital Area Food Bank (CAFB) is the main

provider of emergency food assistance. Of the 21 counties in Texas in which CAFB operates, Travis County is home to the most emergency food assistance programs. There are 93 food pantries and soup kitchens in Travis County.

Based on estimates from a recent report by Feeding America and the Capital Area Food Bank, anywhere from 200,900 to 368,800 people seek food assistance from the CAFB annually. On a weekly basis, the CAFB and its 350 partner agencies provide assistance to between 41,000 to 54,900 people (Mabli, 2010). Of those households receiving assistance from CAFB, only 24.5% are currently employed while 78.3% have incomes at 130% or below the federal poverty level. Slightly over eighty percent are food insecure; however, only 26% receive benefits from the national Supplemental Nutrition Assistance Program (SNAP) (Mabli, 2010).

According to a report by Travis County Health and Human Services, since 2007 enrollment in SNAP in Travis County has steadily increased. At the end of calendar year 2010, 11% of Travis County residents were enrolled in the SNAP program (Travis County, 2011). However, this number could be a lot higher. Over half (53%) of residents in Travis County eligible to receive SNAP benefits are not taking advantage of the benefits (Texas Food Bank Network, 2009). Of those residents who receive services from the CAFB and are eligible for SNAP benefits but are not enrolled, 44% have low food insecurity and 43.2% have very low food insecurity (Mabli, 2010). Under-enrollment is causing a loss of over $157 million in revenue in SNAP benefits and over $281 million in economic activity for the state (Texas Food Bank Network, 2009).

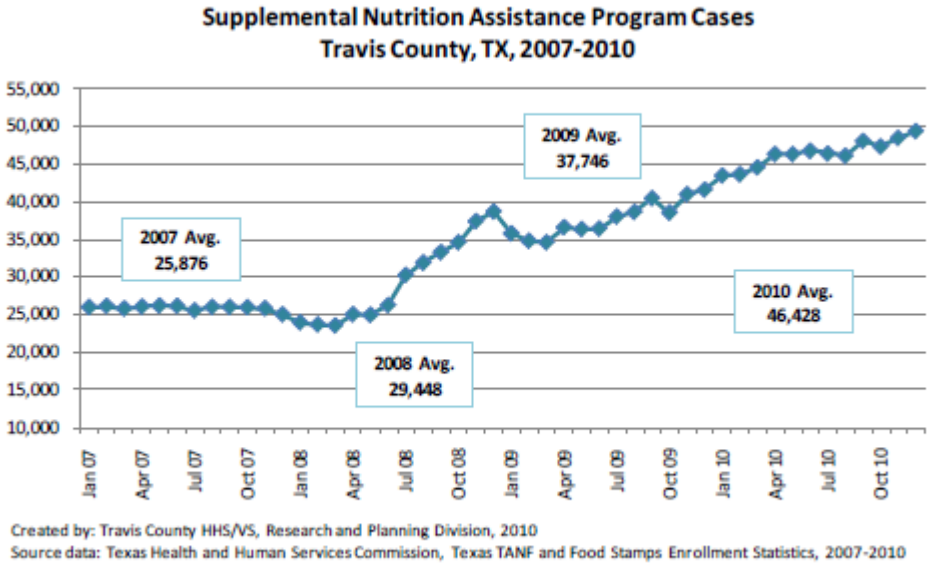

Table 1: Supplemental Nutrition Assistance Cases, Travis County, 2007-2010 (Travis County, 2010)

This steady increase in food assistance enrollment is an indication that families in Travis County are trying to stave off food insecurity because of changing demands on household incomes. While the increase in SNAP enrollment is potentially attributable to new outreach strategies or transformations in program requirements, it is more likely that other economic pressures are the cause of increased demands for government assistance. In 2008, the consumer price index for food increased by 6.4% over the previous year, with minimal change in 2009 and 2010, 0.5% and 0.3% respectively (Leibtag, 2011). The USDA predicts that the cost of food will increase by another 3-4% in 2011 (Leibtag, 2011).

Compounding the cost of food is an economic recession which has encumbered the United States since 2007. At its peak in October, 2009, the United States experienced an unemployment rate of 10.1%. According to the Brookings Institute, Austin was one of the strongest performing metropolitan areas (Wial, 2011). While Austin weathered the recession and recovery fairly well, comparatively, many residents still did not escape the

rash of layoffs that swept the nation. The lack of consistent income can be an impetus for seeking government assistance to supplement one's budget.

Another financial hardship facing Travis County residents, especially low-income households, is the rapid population growth and subsequent increase in taxable housing value. According to the US Census Bureau, the Austin-Round Rock MSA was one of the fastest growing metro areas in 2009, with a 3.8% increase in population (Bernstein, 2009). In certain areas of Austin, especially east Austin, this growth significantly impacted property values. From 2000-2005, residents in the 78702, 78617 and 78653 zip codes saw a 100% increase in the taxable value of their single-family homes. Residents of the 78721 zip code saw the taxable value of their single-family homes increase by as much as 80% (Frank and Robinson, 2005). With limited mechanisms available to help low-income families alleviate the financial burden caused by a rise in property taxes, residents may seek assistance to help cover other household expenses. For whichever reason, more families continue to seek financial assistance to meet their household expenses, including their food needs.

THE UNDERSERVED OF AUSTIN

Since 1995, East Austin has changed dramatically, especially in the last five years. The boundaries of the city limits have expanded and the demographics of the region have shifted. East Austin though, continues to house higher concentrations of low-income and minority populations. These areas with high concentrations of low-income and minority populations form the target area for this study, which extends beyond the original boundaries for that of Access Denied. This study focuses on 11 zip codes: 78617, 78653, 78702, 78721, 78723, 78724, 78725, 78741, 78744, 78745, and 78753 (see Figure 1). Together, these zip codes form a contiguous area that encompasses 285 square miles of primarily East Austin. Identification of the area in terms of zip codes provides a common spatial reference by which to easily gather and compare information on demographics, retail locations, and social service provision.

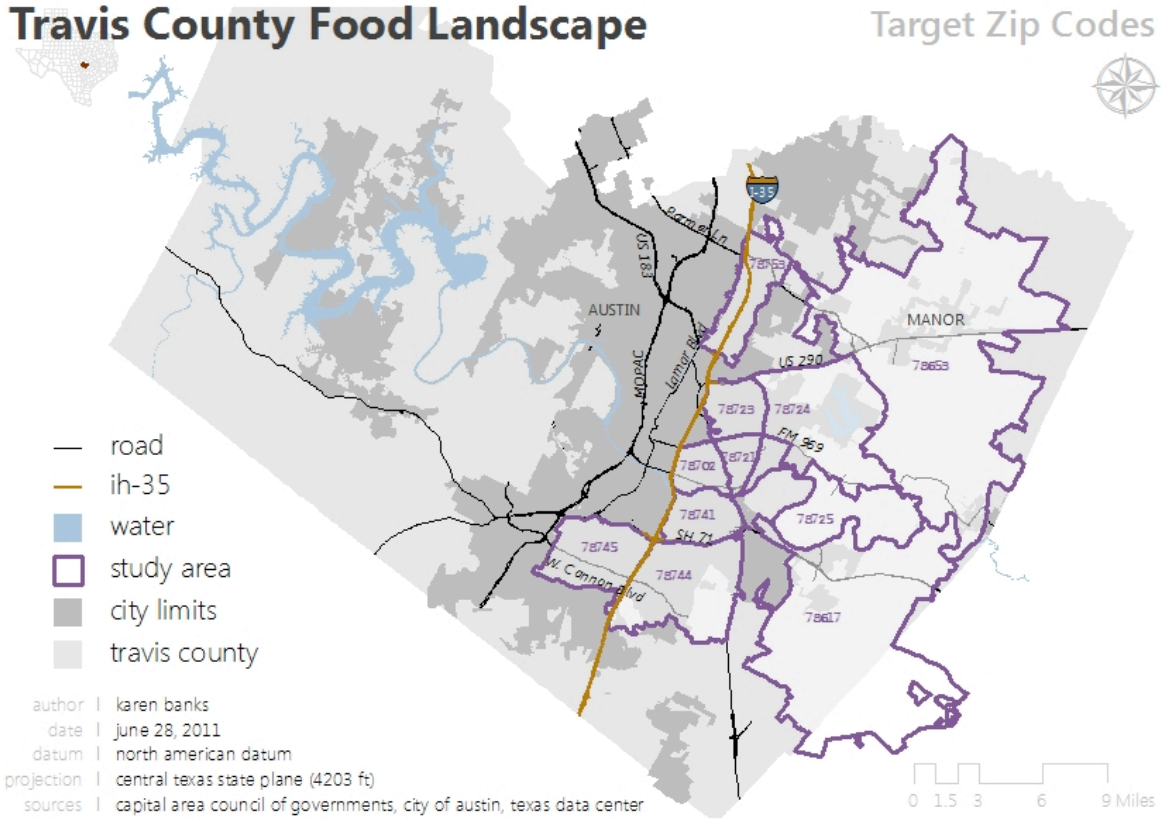

Figure 1: Target zip codes.

These 11 zip codes were identified as the target area for this study because they are underserved areas of Austin. In the context of this study, underserved is signified by a high concentration, above the county average, of individuals below the poverty level, or the lack of a full-service grocery store. Each of these factors significantly impacts a household's access to healthy food and represent what the USDA defines as a food desert. In 2008, the USDA adopted the term food desert, defined as "an area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominately lower income neighborhoods and communities" (Ver Ploeg, 2009). Of the 11 target zip codes, five (78617, 78653, 78721, 78725, and 78744) lack full-service grocery stores and are located in the peri-urban zone of Austin.

Peri-urban areas occupy the urban frontier, encompassing both urban and rural spaces, suburban development and farms. These regions serve as zones of transition and

areas of conflict between rural agricultural activities and the built urban landscape. While traditional perceptions of agriculture are reminiscent of the pristine countryside far from the city center, this image runs counter to the reality of farms in the peri-urban area that abut the city limits (Dixon, 2003). For farms in these areas, access to urban markets provides economic opportunities yet leaves them subject to inflated land values and utility costs. New residential development within these regions maintains a precarious relationship with the rural landscape because it is encouraged by growth in the urban core yet it is not entirely situated within the confines of the formal urbanized area. Residents in these areas often lack the amenities, like non-emergency sources of nutritious and affordable food, and infrastructure common to urban core dwellers because of the perceived low population density.

According to data from the 2000 Census, all zip codes except 78653 and 78725 have median household incomes below the county median which is significantly higher than the state median. Four zip codes, 78617, 78653, 78725, and 78745 have median household incomes above the state median.

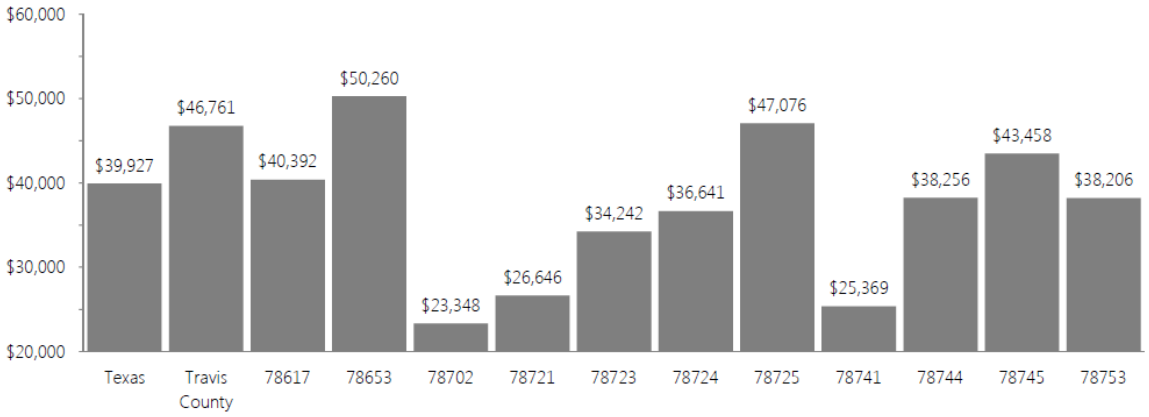

Table 2: Median household incomes from 2000 for target zip code areas (U.S. Census Bureau, 2000).

Six areas have rates of individuals with incomes below the poverty level that are above both county and state levels: 78702, 78721, 78723, 78724, 78741 and 78744. Three have rates below both the state and county rates: 78617, 78653 and 78745. Subsequently, the

areas with the highest rates of poverty are also home to majority minority populations. Only 23% to 49% of the population in these areas is white.

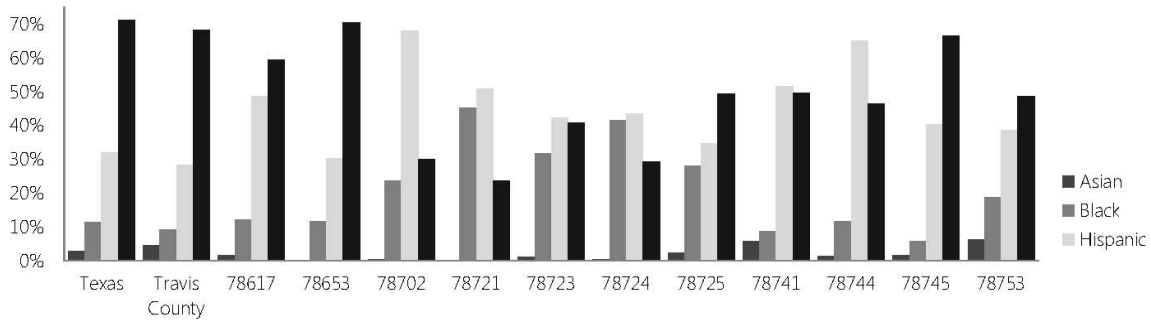

Table 3: Racial distribution from 2000 for target zip code areas (U.S. Census Bureau, 2000).

Accordingly, based on the data presented above, it is possible to conclude that at least two of these areas qualify as USDA defined food deserts: 78721 and 78744. However, food access is also affected by other factors including store quality, availability, cost and distance. Additionally, not every person in a food secure location is food secure. Even in zip codes with rates of poverty above the county and state level, a number of individuals still fall below the poverty level. This is particularly true in the 78745 zip code which is home to seven full-service grocery stores and seven food pantries. While it has a rate of poverty lower than that of the state and the county, and while the median household income is greater than that of the state median, it is also home to several affordable housing developments. During a conversation with residents at an affordable housing complex in this zip code similar issues of cost, quality and convenience pertaining to food access were raised.

	Total Population	White	Black	Hispanic	Asian	Median Household Income	Individuals below poverty level
Texas	20,851,820	71.0%	11.5%	32.0%	2.7%	$ 39,927	15.4%
Travis County	812,280	68.2	9.3	28.2	4.5	46,761	12.5
78617	15,222	59.3	12.1	48.5	1.5	40,392	11.0
78653	4,715	70.2	11.7	30.1	0.2	50,260	7.8
78702	22,534	30.0	23.7	67.7	0.4	23,348	28.8
78721	10,124	23.5	45.2	50.8	0.1	26,646	25.7
78723	30,110	40.8	31.8	42.3	1.2	34,242	19.6
78724	15,428	29.1	41.4	43.4	0.3	36,641	16.3
78725	1,836	49.3	27.9	34.5	2.4	47,076	12.0
78741	40,661	49.5	8.8	51.6	5.9	25,369	32.9
78744	33,706	46.3	11.7	64.8	1.4	38,256	17.6
78745	53,044	66.4	5.9	40.3	1.6	43,458	9.5
78753	44,210	48.5	18.7	38.5	6.3	38,206	13.7

Table 4: Racial and economic status of residents in the target study area (U.S. Census Bureau, 2000).

FOOD RESOURCES

Compounding the need for families to seek food assistance is a lack of easily accessible, full service grocery stores. Based on data from the Texas Comptroller of Public Accounts of retail stores, this study found that there are 325 food retail stores in Austin (see Figure 2). These include full service stores like HEB; wholesale stores like Costco; convenience stores like Diamond Shamrock; and ethnic stores like Hong Kong Market. Of these, 85 are full-service grocery stores, including major chains like HEB, Walmart and Randall's as well as smaller local stores like Wheatsville and Fresh Plus. This list also includes La Michoacana and La Hacienda because these smaller chain meat markets are frequented by study participants (see Figure 3).

Within the zip codes of this study there are 153 food retailers, 25 of which are full-service grocery stores. Both 78745 and 78753 contain the most full-service grocery stores, with seven a piece. Not only are these areas home to the most people of all of the target zip codes, their proximity to IH-35 also makes them attractive sites for retail

services. Four of the zip codes that lack full-service grocery stores (78617, 78653, 78724, and 78725) experienced the greatest population growth from 2000-2010 because of their location along the urban fringe. For residents in these areas, a full-service grocery store is as close as three miles but more often is up to 15 miles away.

	Total Population	Food Retailer	Full Service Store	Food Pantry	Discount Store
Travis County	812,280	325	85	93	38
78702	22,534	22	3	17	2
78741	40,661	18	2	5	3
78721	10,124	5	-	2	-
78723	30,110	10	4	7	2
78724	15,428	12	-	3	-
78753	44,210	36	8	2	5
78744	33,706	5	1	2	1
78617	15,222	14	-	2	1
78745	53,044	21	7	7	6
78725	1,836	-	-	-	-
78653	4,715	10	-	2	1

Table 5: Food retail landscape of Travis County and the target study area.

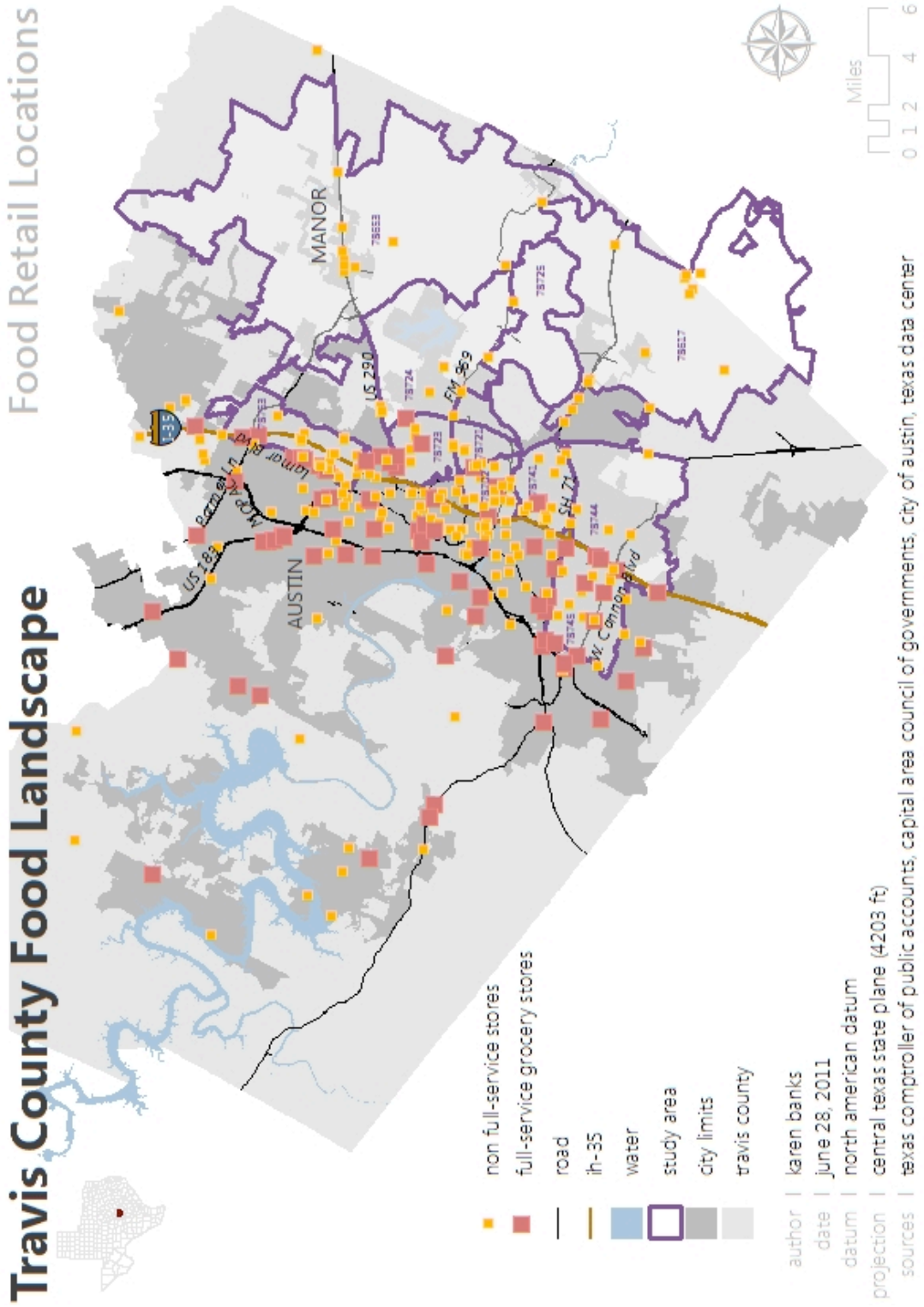

Figure 2: Retail Store Locations in Travis County

Figure 3: Full Service Stores in Travis County

Due to a dearth of full-service grocery store, residents will often turn to alternative resources, like emergency food programs, community gardens and discount stores to meet their food needs. Of the 93 emergency food programs in Travis County, half of the programs (49) are in the target zip codes (see Figure 4). By far, the zip code 78702 has the most emergency food programs due to its proximity to downtown and the abundance of social services located in the region. This area is home to 17 food pantries and soup kitchens. Thirteen out of 28 community gardens in the county are located in the study area (see Figure 4). Additionally, 21 of the 38 discount stores in Travis County, like Dollar General and Family Dollar, are located in the study area. Still, the 78725 zip code, in addition to lacking a full service grocery store, also is absent an emergency food program and a discount store. The 78725 zip code does not have a single food resource. There are five convenience stores and two food pantries in 78721, and there are 12 convenience stores and two food pantries in 78724. These areas however, lack a full service store as well as discount stores. While these programs help to supplement one's food diet, they are not a substitute for a full-service grocery store, but again, the presence of a full-service grocery store does not guarantee food security.

Figure 4: Food Pantries in Travis County

Figure 5: Farmers' Markets and Community Gardens in Travis County

Chapter 3: Methodology

ASSUMPTIONS

People consume food from a number of sources, including grocery stores, food pantries, farm stands, restaurants, mobile food carts, friend's homes, backyard gardens, and delivery services. This study assumes that food purchased from a grocery store and prepared at home is the healthiest and most economical form of access. Purchasing food at a grocery store is also the most common form of access. While food from a backyard garden is cheaper and healthier than food from a grocery store, it is more time and labor intensive, and is no longer a common practice. Like backyard gardens, food from a nearby farm is also fresher than that from a grocery store however, it is often more expensive than the grocery store. Furthermore, farmers' markets operate a limited number of days a week, and some are only open part of the year. Prepared food from restaurants, in general, tends to be unhealthier and more expensive than meals prepared at home. While the location of restaurants, especially fast food restaurants, is another indicator of food security, particularly in relation to diet-related diseases, it was not accounted for in this study.

Numerous studies have been conducted on food access, food deserts or food security. Each study takes into consideration a different set of demographic, socioeconomic or health parameters by which to measure food access issues. Missing from this analysis of food access is consideration of the physical health of residents in the target areas. This study assumes that limited access to fresh fruits and vegetables and other healthy food items is a cause of diet-related diseases. While recent research in public health provides convincing evidence of the relationship between the built environment, food access and diet-related diseases, this study does not contribute to that body of knowledge. Instead it focuses on the spatial dimension of food access and their impact on community needs.

Additionally, this study assumes that residents in neighborhoods of affluence are food secure. However, not all residents in these neighborhoods have incomes above the

poverty level and not all affluent neighborhoods have a full-service grocery store. Regardless of income, neighborhoods that lack a full-service grocery store often face the same complications in access to healthy foods, requiring habitual changes in shopping patterns to accommodate the distance. The distance is an added burden for families with lower-incomes who already face financial constraints on quantity and selection. While an affluent area may not be considered a food deserts, there still may be residents who are food insecure.

TARGET POPULATION

The target population for this study was selected based on three criteria: 1) resident of one of the target zip codes, 2) responsible for household food needs, and 3) between the ages of 18-65. While this study explicitly focuses on the needs of underserved residents in Austin, the income level of residents was not a requirement for participation. Instead, participants were strategically recruited from select areas of the city with high concentrations of low-income individuals or without a full-service grocery store. In order to better understand the factors that influence food access in Austin, this study examines the food shopping and consumption patterns of residents in Austin. Therefore, target participants were those who do the majority or shopping and/or cooking for a household. Due to vast situational variations in housing and assistance available to individuals 65 and older, as well as the general dependency of youth under 18 on their parents, the target population was between the ages of 18-65.

Participant recruitment was a two-phase process involving the establishment of relationships with community organizations followed by direct outreach to residents. Information on community resources within target neighborhoods was gathered through internet searches and word-of-mouth recommendations of food-focused and community organizations, including schools, libraries, community centers, churches, non-profit organizations and neighborhood associations. Contact was established with select organizations from this list in order to solicit support from the organizations in determining appropriate venues and times for focus groups and help with recruitment.

Interviews were conducted with over twenty community leaders, including church pastors, social service providers, non-profit program directors, neighborhood association members and passionate residents. Recruitment of target participants was therefore accomplished through outreach to organization constituents, as well as general distribution of flyers to schools, select businesses, and door-to-door.

METHODS

This study utilized a combination of methods, including quantitative analysis of food retail locations, focus groups and surveys to gather information about the food needs of underserved residents in Austin, with the primary tool being focus groups.

Contextual analysis

Quantitative analysis on the availability of food resources in Travis County was conducted based on data of the location of grocery and convenience stores, emergency food providers, discount stores, farmers' markets and community gardens. This information was gathered from non-profit and public agencies, and supplemented by general searches through the internet and Google Earth. Grocery and convenience store locations in Travis County were requested from the Texas Comptroller of Public Accounts based on NAICS industry classification of grocery and convenience stores and warehouse clubs and supercenters. The list was cleaned to exclude duplicates, no longer operational stores, wholesale distributors, and tobacco stores. The list was also supplemented by information on ethnic stores, and supercenters or general stores, like Walmart. An internet search for key terms, like Walmart, food store, grocery store, convenience store, Indian grocery store, Asian grocery store, ethnic grocers, and markets was conducted to provide further information on area stores. Additionally, an internet search for key terms like 'dollar discount', 'family dollar', and 'dollar tree' produced a list of discount stores in Austin. While discount stores are not a primary source for food, they offer a limited selection of low-cost foods for residents in grocery deficient areas. Furthermore, they accept government assistance vouchers. Classification of food retailers for this was based on the Texas Nutritional Environments Assessment

designation of food stores. The Texas Nutritional Environments Assessment is a comprehensive survey tool designed by the Texas Department of State Health Services to measure the availability, quality and cost of select healthy food items sold at commercial food stores.

Data on food pantry and soup kitchen locations was provided by the Capital Area Food Bank. Community garden locations were provided by Sustainable Food Center and the Coalition of Austin Community Gardens. Farmers' market information was provided by Sustainable Food Center, Edible Austin, Cedar Park Farmers' Market, Barton Creek Farmers' Market, Georgetown Farmers' Market Associations, the River Valley Farmers' Market network and the San Marcos/New Braunfels Farmers' Market Association.

This information was collected from 2009 through 2011. During this period, several stores closed their doors and were removed from the list, and a couple of new community gardens and food pantries emerged and were added to the list. Food resources in Travis County are in a constant state of flux, therefore this analysis of the food landscape is only reflective of this two year period.

Spatial analysis of the information collected on food resources was conducted using ArcGIS 10 to provide a visualization of the food landscape in Travis County. Addresses for the grocery, convenience, farmers' markets, community gardens and food pantries were geocoded in ArcGIS in order to show the spatial distribution of food resources in Travis County. This information was combined with political boundary and urban infrastructure shapefiles from the Capital Area Council of Governments, the City of Austin, and the US Census Bureau. The target zip codes for this study and IH-35 were clearly symbolized in each of the maps draw attention to the imbalanced distribution of resources across Travis County.

Qualitative Analysis

Qualitative information on factors affecting food access was collected through a combination of semi-structured focus groups and individual surveys, also conducted during the focus groups.

Focus Groups

Focus groups were selected as the primary research method because the conversational design of this technique enables the researcher to delve further into an issue with follow up questions based on participant responses (Babbie, 2007). This format permitted the researcher to explore a gamut of variables related to food access, including transportation, finances, store quality, knowledge of nutrition and cooking skills, and shopping preference. Furthermore, the researcher was able to capture responses from a greater sample of the population. This group arrangement, however, can produce false results due to the propensity of participants to be in agreement about responses or because dominant voices are permitted to dictate the conversation (Babbie, 2007). Attempts were made to avoid these propensities by directing questions to each individual and maintaining a space accepting of diverging opinions. Additionally, it is difficult to draw general conclusions about a population based on responses from focus groups because of the difficulties in consistently analyzing such qualitative data and the limited data collected from relatively few participants. This study therefore, contributes an understanding of food access issues facing a limited, non-random sample of the population in East Austin.

The focus groups for this study were interactive discussions guided by 15 topical, open-ended questions about personal food shopping and eating habits, transportation, cost, nutritional education, neighborhood-specific social concerns, and opinions on how to improve food access. They were held at times that were convenient for the majority of residents in an area. Focus groups lasted for between 30 minutes to an hour and were conducted in English and Spanish. Each participant was compensated for their time with a box of local produce.

From June through October, 2010, 19 focus groups were conducted at 16 locations in 11 zip codes in Austin. These locations included both publically accessible as well as privately run institutions.

Austin's Colony Community Center		78725
Dove Springs Recreation Center	5801 Ainez Dr.	78744
East Rural Community Center	600 W. Carrie Manor St.	78653
Elroy Public Library	13512 FM 812	78617
Gus Garcia Recreation Center	1201 E. Rundberg Ln.	78753
Haynie Chapel	16415 Greenwood Dr.	78617
LBJ High School	7309 Lazy Creek Dr.	78724
Oak Meadows Baptist Church	6905 S IH-35	78744
Rosewood Zaragosa Neighborhood Center	2808 Webberville Rd.	78702
Ruiz Branch Library	1600 Grove Blvd	78741
Sierra Ridge Learning Center	201 W. St. Elmo	78745
South Rural Community Center	3518 FM 973	78617
St. James Episcopal Church	1941 Webberville Rd.	78721
Turner Roberts Recreation Center	7201 Colony Loop Dr.	78724
Windsor Park Branch Library	5833 Westminster Dr.	78723
YMCA East Communities	5315 Ed Bluestein Blvd	78723

Table 6: Focus group locations.

All focus group sites, with the exception of Sierra Ridge, were located east of IH-35. The sites were selected because of their location within the target zip codes and their involvement with the community. Most of the sites are public facilities operated by the local government of either the city or the county and provide a variety of services. Two of the focus group sites were privately managed community centers that provided a public space for residents within a select neighborhood. The community center at Sierra Ridge in 78745 is part of a Foundation Communities[1] multi-family affordable housing complex. The community center at Austin's Colony serves residents of this peri-urban

[1] Foundation Communities is a "nonprofit organization providing service-enriched, high-quality affordable housing that enables families and individuals with low incomes to permanently improve their educational and economic standing." For more information: www.foundcom.org/

neighborhood in 78725. Three of the facilities are churches which pose a unique recruitment challenge due to individual devotion or aversion to certain religious sects. The congregation at these sites was not the primary audience. Two of the churches operated weekly emergency food assistance programs while the third was enthusiastically involved in the community. Of the eleven sites, seven operated weekly emergency food assistance programs.

Questionnaire and Mapping Activity

Before the focus group conversations, participants individually filled out a 26-question survey on their food habits and demographics. Incorporation of individual surveys into the survey design enabled the researcher to gather quantitative information about focus groups participants for statistical analysis. The questionnaire design was based on a similar survey from a study conducted by the UT School of Public Health in 2010 on the participation of low-income residents in farmers' markets located in underserved areas of Austin. The questions on the farmers' market study were sensitive to the language and cultural variations of households in underserved areas. For this study, the survey consisted of questions about the frequency of meal preparation, dining out, and food shopping, financial constraints, possible incidents of food insecurity, and demographics. From this information, the researcher is better able to describe the composition of the population in these target areas facing food access issues.

In conjunction with the questionnaire, participants also partook in an interactive exercise to map the three locations where they get the majority of their food from. Data on the location of grocery and convenience stores, food pantries and farmers' markets from the contextual analysis was used to create a 36"x48" poster mapping the food landscape of Travis County. Focus group participants were instructed to place labeled, colored dots on the three locations where they get most of their food from. This activity

not only helped to spark conversation about the myriad shopping options in Austin, but also provided a visual display of the distance some residents travel to access healthy food. Disparities in food access in east Austin are identified based on an evaluation of major trends in participant responses during the focus groups and to the questionnaire, as well as patterns of food retail patronage.

LIMITATIONS AND POSITIONALITY

Translation

As mentioned above, several focus groups were conducted in Spanish, ten in total. Of these, half were conducted all in Spanish while the other half was a mix of both Spanish and English speakers. Be it that a third of the population in Austin is Hispanic, it was important for this study to provide opportunities for those proficient in Spanish to participate. Reliance on a translator during focus groups in some instances led to a lack of continuity in conversation. Dependency on a translator for transcription of focus group recordings meant that some understanding of the context or tone of a conversation was lost when reading the transcriptions. Additionally, the amalgamation of languages during a single session posed challenges in cohesion between participants and continuity of conversation. Even though efforts were made to arrange separate focus groups in Spanish and in English, time constraints limited the coordination of separate sessions.

Representation

This study recruited a limited, non-random sample of the population from select areas of East Austin. This restricted recruitment attracted a limited segment of the population to participate in the study. The participant population was predominately female of Hispanic origin and included a significant number of persons reliant on emergency food services. These participants gave a voice to a select subgroup of the

population of Travis County. They do not catch the sentiments of all populations in the county, particularly men and children.

Overall, a signification proportion of participants in the study were representatives of ethnic minorities. In 2000, the population of Austin was 53% Caucasian, 30% Hispanic, 10% African American, and 5% Asian. In 2010, the population of Austin was 49% Caucasian, 35% Hispanic, 8% African American, and 6% Asian. Comparatively, the ethnic composition of participants for this study was 16% Caucasian, 63% Hispanic, 17% African American and 1% Asian. Minority populations were overwhelmingly represented in this study (126 people), placing particular emphasis on minority concerns about food access.

Given the topic of food access, the majority of participants were female from households composed of two adults with at least one child. While food is consumed by all people, due to traditional gender roles and current public health concerns, food issues resonate more with female parents. Although gender stereotypes are changing, domestic concerns over grocery shopping and meal preparation still reside predominately in the realm of female household obligations, along with childcare. Rising national rates of childhood obesity are particularly disconcerting for parents, especially females because of, as mentioned above, their role as nurturer. This dominant characteristic of participants, as females and parents, provoked some discussion of childhood nutrition during almost all of the focus groups.

In addition to overrepresentation by minority and female populations, this study also included a greater proportion of persons reliant on emergency food services. This is significant because food access issues are more complicated for pantry clients. Food pantry clients have limited financial resources for grocery shopping, have restricted mobility options, and are confined to the hours of operation and regulations of the food

pantry. The shopping and consumption habits of food pantry clients are different than other participants because of a lack of options. Food pantry clients rely on a limited selection of free food which does not necessarily meet their dietary needs, or is of acceptable quality. Responses from this population however, did not vary significantly from other focus group discussions.

Positionality

Of concern in conducting this study was the perceived and experienced relationship between the researcher and the participants. As an English-only speaking, Caucasian graduate student with limited personal experience of the effects of food insecurity, I was concerned about correctly interpreting responses from focus group participants. In particular, I was concerned about accurately representing the stories of participants about the impact that limited food access has on their health and well-being.

Additionally, as a former professional in the field of local food systems who values local food production, I was concerned that my personal bias for local food systems would influence the research design and analysis of response. Questions for the focus groups and for the individual survey were carefully constructed and scrutinized with assistance from professionals in the fields of public health, planning and dietetics. This cross-disciplinary construction helped to avoid problems with leading questions and, made it such that all questions were understandable for all participants. Furthermore, I was concerned that my professional experience would persuade residents to respond in ways they deemed to be acceptable to the researcher. To avoid this propensity, I did not disclose my background prior beginning the focus group.

Chapter 4: Findings

PROFILE OF PARTICIPANTS

The total number of participants in the focus groups was 166: 110 female, 28 male, and 28 not reported. The majority of participants resided in zip codes in East Austin. Areas that had the most number of participants were: 78617, 78653, 78723, 78724, 78725, 78745, and 78753. The higher turnout from these areas might be attributable to the number of focus groups conducted in the areas: 3 in 78617 and in 78723, and 2 in 78753. It might also be attributable to the timing and location of the focus group or to the demands of the community. With the exception of participants who participated in focus groups in the 78745 and 78753 zip codes, most responses reflected a general discontent with either the quality or lack of grocery stores in their neighborhoods. Residents from 78617 and 78653 are particularly interested in food access because there are no full service grocery stores in their neighborhoods. Community surveys and public outreach efforts thus far have proved futile.[2]

Home Zip Code	Count = 149	%	Home Zip Code	Count = 149	%
78617	17	11	78741	2	1
78621	4	3	78742	1	1
78645	1	1	78744	5	3
78653	17	11	78745	16	10
78702	5	3	78747	2	1
78704	4	3	78752	1	1
78721	3	2	78753	15	10
78723	15	10	78754	6	4
78724	13	8	78758	5	3
78725	15	10	78759	1	1

Table 7: Distribution of participants by zip code

[2] In early 2010, the City of Manor surveyed residents to determine where they shop and the type of store they would prefer in Manor (Manor Messenger, 2010). That same year, the residents of Del Valle caught the attention of the Austin American-Statesman for their efforts to petition a chain grocery retailer to locate in Del Valle (Wermund, 2010). Thus far, no chain food stores have opened in either city.

The ethnic composition of participants was 63% Hispanic or Latino, 17% African American, 16% white and 4% American Indian, Asian or Other. Of the 63% Hispanic or Latino participants, 67% reported to be Mexican while only 13% claimed to be Mexican American. When asked what language participants speak most of the time, the majority (53%) reported to speak Spanish more often with 43% reporting to speak English most of the time. Half of participants (50%) reported to have been born in the United States while 42% reported to be from Mexico. The discussions during the focus groups are reflective of this ethnic composition with conversation about traditional diets, shopping choices, and the availability of culturally-appropriate ingredients. The sentiments shared by participants, frustrations over the cost of food, lack of high quality grocery stores with a variety of produce, let alone quality produce is a reflection of the food inequities present in Travis County.

Ethnicity	Count = 150	%
American Indian or Alaska Native	1	1
Asian	2	1
Black or African American	25	17
Hispanic or Latino	94	63
Mexican		67
Chicano		5
Mexican American		13
Anglo American		1
Central American		6
American		4
Other		2
White	24	16
Other	3	2
Language Speak Most	Count = 151	%
Spanish	80	53
English	65	43
Other	4	3
I don't know	2	1

Table 8: Ethnicity of participants.

In addition to ethnic composition, understanding the household composition of participants also helps to explain the dynamic of the focus group discussions. The average household size is four members, with a range from one up to 14 members per household. Half of the households have two adult members, with 48% of participants being married. A quarter of the participants lived in households with only one adult. Over 1/3 of participants do not have any children while a quarter have 2 children. The employment status of participants varies, with most either being employed full-time or part-time outside of the home, or employed as full-time stay-at-home parents. Over 60% of participants did not go to college.

Marital Status	Count = 151	%
Married	73	48
Separated or divorced	31	21
Single, never married	34	23
Widowed	12	8
Employment Status	**Count = 147**	**%**
Full-time	32	22
Part-time	30	20
Unemployed	9	6
Retired	21	14
Stay-at-home full time	53	36
Formal Education	**Count = 142**	**%**
Less than 12 yrs	44	31
High school/GED	47	33
Some college	23	16
College graduate	20	14
Advanced degree	7	5

Table 9: Marital and employment status, formal education of participants.

While participants earn a range of monthly incomes, over three-quarters (77%) of participants earn less than $1,999 per month. According to the Center for Public Policy

Priorities, a family of four with two adults and two children would need to earn a gross monthly income between $3,637 and $4,423, depending on the incurrence of insurance premiums, to afford to live in Austin (Hagert, 2007). Only 11% of participants earned enough to afford to live in Austin according to the Family Budget Estimator figures.

Monthly Household Income	Count = 137	%
$0-999	55	40
$1,000 - 1,999	51	37
$2,000 - 2,999	14	10
$3,000 - 3,999	3	2
$4,000 - 4,999	8	6
$5,000 or more	5	3
Below 100% Poverty Level	Count = 136	%
Yes	66	49
No	70	51
Receive SNAP	Count = 142	%
Yes	43	30
No	99	70
Receive WIC	Count = 148	%
Yes	31	21
No	117	79

Table 10: Income and poverty status.

To estimate the poverty level of participants, the recorded income of participants, was compared to the 100% of the Federal Poverty Guidelines. Almost half of participants (49%) earn below the poverty level. However, only one third of participants receive food assistance from the federal government: 30% receive Supplemental Nutrition Assistance Program benefits and 21% receive Women, Infants, and Children benefits. Since eligibility for the SNAP program requires that individuals earn a gross income at or below 130% of the poverty line, more than the 49% of participants that fall below the poverty line would be eligible to receive SNAP benefits. This discrepancy in eligibility

and enrollment means that fixed-income families may be facing an undue financial burden that could be alleviated through government assistance.

THE COST OF FOOD

As one participant stated during a focus group session at St. James Episcopal Church in East Austin: "it's hard to always have what you need if you don't have money to buy it." It is no surprise that the cost of food is a universal concern for the 166 participants in the focus groups. Of the top three considerations when making purchasing decisions--price, quality, and taste--people by far identified price as the number one factor. For families with limited financial resources, budgetary constraints force them to balance healthy foods with dense foods. For one gentleman at the Ruiz Branch Library focus group, there was no question about which he would choose. "I look at the asparagus and I realize I can buy a big ribeye for the same price so I get the ribeye." It is therefore a tradeoff between fruits and vegetables and fulfillment, and between satiety and health.

The consequence of this tradeoff is that it requires that people ignore their desires for a healthy quality of life in exchange for the basic feeling of fulfillment. Focus group participants responded unanimously that it is important to eat fruits and vegetables. According to a woman at the focus group at Sierra Ridge: "It helps your health. Lots of vegetables have plenty of vitamins...everything our body needs. It's truly fundamental [to] our overall well being." Among other things, fruits and vegetables were said to provide vitamins, nourishment, nutrition, and strength, to help lower cholesterol, to cause one to think clearly, and to help prevent diet-related diseases, like diabetes. Fruits and vegetable "help your body balance and process everything properly." The issue, however, is that fruits and vegetables are comparatively more expensive because you need to eat more of them to feel full and the satiety does not last as long. "I think for everyone, you know it's the expense" said a female participant during a focus group at the YMCA East Communities campus. "You look around and it's the most expensive thing in the store. You know, fruits and vegetables and milk. Pretty expensive."

Therefore, families with fixed incomes are faced with the dilemma of choosing between their values and meeting their basic needs.

The price of food and budget limitations force more than just a tradeoff between healthy foods and satiety, they also limit families' options, both in terms of variety and production method. Habit dictates that families will purchase the same products week after week, especially given budgetary constraints because the cost and preparation methods are already known. For another participant at the YMCA East Communities focus group, food habits were passed down from generation to generation: "I eat how my parents used to. They'll wanna eat it because they get used to it. Cause, what you eat most likely that's what you'll make for them. Like, while their little they'll get used to it." People have a general sense of the cost of groceries, with expected minor fluctuations in price due to season, food borne illness outbreaks, and changes in the agricultural market. This dependability makes it such that grocery shopping becomes a habitual act. While other factors, like taste, diet, and cooking ability determine what is on one's grocery list, the cost of food controls for what is crossed off the list.

The influence of cost is apparent in discussions about organically grown produce which tends to cost more than conventionally grown food. The general sentiment of focus group participants was summed up by a female participant at the Sierra Ridge focus group: "It's important to eat that [organic] food but sometimes it's not possible to buy them. That type of food is expensive." The cost of organic produce is prohibitive for families with fixed incomes even though it is preferable food and at times a dietary necessity. For one female participant at the Haynie Chapel focus group, who was sensitive to particular synthetic agricultural chemicals, organic produce was preferable but too expensive. "I would rather eat organic but they've put the price just so dang high that it's unbelievable and for people like me it is better." For one woman at the Sierra Ridge focus group, the reality of living on a fixed income makes it such that "it's not a question of whether we want to eat organic or not. We always look for what's more economical."

Discussion among focus groups participants at the Elroy Public Library indicated that they would be willing to pay slightly more for organic but the current gap between organically and conventionally grown produce is too large: "Even a little bit of a price difference I would take," and "If it was the same price or close to the same price then I would." Another participant at the YMCA East Communities focus group also shared this desire: "Oh, we would buy organic if we could afford it but we just can't afford to do that." Cost is a therefore a critical factor driving grocery shopping decisions. The cost of food reduces the diversify of one's diet and contributes to decision making that is counter to one's values: choosing satiating over salutary foods even though a healthy diet is of importance; and purchasing conventionally over organically grown produce.

UNDERLYING COST: BARRIERS TO HEALTHY FOOD

Even though the price of food is the dominant factor affecting the food shopping decisions of participants, it is not the only barrier to access to healthy food. The proximity of full-service grocery stores, as well as the quality of produce at the stores are also factors affecting participants' purchasing decisions. For one gentleman at a focus group at the East Rural Community Center in Manor, distance, quality and price all affected his food shopping decisions: "…you know it all ties itself in together…distance, availability, and uh, expense…it takes so much money, you know…" While the price of food is fairly uncontrollable due to the influence of national and global markets, store location and quality are two factors that can be more easily manipulated at the local level.

The proximity of full-service grocery stores is of concern for participants because of the inherent inverse relationship between the cost to travel to the store and the cost of food. The more one spends on gas or public transportation, the less money one has for food. As one focus group participant at Haynie Chapel reflectively stated:

> When I lived in Austin proper, it was a lot easier to go to the store, you know a couple of miles or something. From out here its 20 miles to go anywhere you go so you have to factor in gas money.

This relationship between distance and groceries presents fixed-income families with a tradeoff between gas and food. As relayed through the translator, one Spanish-speaking participant at the Elroy Public Library focus group expressed that "They would save money on gas and be able to buy more food." Consistently participants remarked about the distance to a nearby grocery store.

For participants in the focus groups at the Elroy Public Library, Haynie Chapel, Austin's Colony, South Rural Community Center, and East Rural Community Center and for one participant in the focus group at Gus Garcia Recreation Center, lack of access to full-service grocery stores was of primary concern to access healthy food. Located in transitional areas between the urban core and rural surroundings, the zip codes where these focus groups were held straddle the city limits. The lack of planning to include basic service amenities along with low density development in these areas contribute to the lack of a full-service store in these areas. For residents of Manor, Texas, a community of just over 3,000 people, approximately 14 miles east of Austin, distance to a full-service grocery store is a significant barrier. As one female participant remarked during the focus group at the East Rural Community Center:

> It's the distance, you know. If you go to the one [HEB] in Elgin it's 11 miles away where if you go down all the way down Parmer lane to shop, that's about 15 miles away.

This sentiment was shared by a male participant during the same focus group: "Manor makes the distance very expensive to travel." Residents of Del Valle, an unincorporated community of over 15,000 people 13 miles east of Austin, also face the same challenges as those in Manor. As one woman from Austin's Colony in Del Valle remarked: "We try to go to the closest HEB and it's like 9 or 10 miles away. There is just nothing where we live. It's just an underserved area in general." At times, residents have to travel up to 20 miles to buy groceries. For families on fixed-incomes, grocery shopping therefore is no longer a solitary errand. It requires forethought to incorporate into one's daily commute or merge with other errands so as not make a singular trip to the grocery store. Residents

of Del Valle explained how grocery shopping has become part of their daily routine during the focus group at Elroy Public Library:

> Female A: "When I worked in town, I stopped at the grocery store on the way home once a week, you know and pick up what I need."
>
> Female B who works in Austin: "That's what I do. Stop on the way home.
>
> Principle Investigator to Female C: "I know you were saying that you stop at the HEB near your work to get food."
>
> Female A: "To save that extra trip back to town."
>
> Female C: "If you forget something then you have alter your meal."
>
> Relayed through the translator for a Spanish speaking female: "… her husband works in Austin so if they run out of something he'll bring it back and mostly for little things like milk and eggs."

It also requires advanced preparation to place a cooler full of ice packs in the car so that food does not spoil. As stated through an interpreter, a Spanish speaking female at the Elroy Public Library explained: "Sometimes when they have to drive to the supermarket, by the time they get back with some of the produce it is already cooked and gross because of the distance." Spoilage of food is especially detrimental for families with a fixed-income because they may have to do without food for a period, substitute the spoiled food with cheaper items of less nutritional value, or reduce spending on another household expense to meet their food needs.

If an item is forgotten then a family must do without or alter their meal. Most participants preferred to do without the ingredient instead of seeking it out at one of the corner stores, the only places open daily that sell food. As one focus group participant in Manor stated: "There isn't enough large grocery stores. You gotta go to corner stores, and most of them have processed foods." Rather than opt to patronize the corner stores, one male participant at the Windsor Park Branch Library focus group would prefer to do without: "The HEB are far enough away if we're low on gas we're not going to go there. We'll eat whatever is in the pantry." The limited and expensive variety of healthy foods available in corner stores is a public health concern because families in areas without full-

service grocery stores must rely on these stores at time to supplement their diets where low-nutritional value items are cheaper.

Corner stores are unanimously perceived to be expensive with limited, low-quality produce by participants. The increased price of food at corner stores was thought to be a ploy by unprincipled store owners taking advantage of the lack of store competition. This perspective was reflected in the comment from a male participant during the focus group at the Elroy Public Library in Del Valle:

> My thing is that I don't [shop at] the convenience store, even though I'm wasting 5 or 6 bucks worth of gas not going in, I'm still not going to give him $5 or $6 for a pack of bacon. I can't do it. I would rather spend the $5 or $6 on gas and go to HEB. Them knowing there is no access to this type of stuff so they mark the food up real high. That's not cool.

The lack of access to stores poses an equity issue. The lack of full-service grocery stores east of IH-35 may be a reflection of the lack of population density needed to support a full service store. However, the population of east Austin has been growing over the past decade with rapid infill development in the City limits and new subdivision development along major east-west access routes: US Highways 71 and 290. Del Valle is slated to be home to the new Formula One race track. While planning for the race track is well underway, plans for basic services like a grocery store have yet to emerge. The lack of a full-service grocery store in these areas therefore might be a reflection of covert industry redlining.

East Austin has traditionally contained higher concentrations of lower-income residents as well as minority populations. Using IH-35 as the physical dividing line, in terms of sheer numbers, there are 18 full service grocery stores out of 127 food retailers (14%) in eastern Travis County compared to 64 out of 191 (34%) in western Travis County. The full service grocery stores in the eastern part of the county serve 20,848 residents per store compared to 10,140 in the west. Eastern county grocery stores serve twice as many residents as stores in the west. Because of the distance to stores, and the rising cost of groceries and of gasoline, families may have to settle for lesser quality food options from lower quality food resources to meet their food needs.

As mentioned above, quality, especially of produce and meat, is one of the three main factors participants considered when making their shopping decisions. Participants repeatedly referred to quality throughout all of the focus groups. Terms like freshness, not mildewed, not wilted, not bruised, not rotten, good appearance, looks good, good shape, pretty, nice, and fresh were used to describe expected food quality. The quality, combined with the price, of the food available at a retailer, as opposed to location or convenience, tend to be the main reasons participants shop at a particular store.

Not only are participants concerned with the quality of the produce they purchase, they are also concerned with the quality of the stores in their neighborhood. For participants in focus groups at Windsor Park Branch Library, LBJ High School, Dove Springs, Elroy Public Library, Sierra Ridge, Gus Garcia Recreation Center, and East Rural Community Center the quality of a store affect where they shopped. Differences in price, store selection, and the physical condition of the store all contribute to decisions about where to shop. The stores most discussed amongst participants included HEB, Fiesta, and La Michoacana. Fiesta is reported to be the most economical with the widest variety and quality of fruits and vegetables. La Michoacana is reported to have the freshest meat. HEB is reported to be the most frequented amongst participants, but it t is also the largest grocery chain in Austin. The stores most frequented by participants include the locations at Hancock Center, Ed Bluestein and Springdale Road, and IH-35 and William Cannon.

However, store quality amongst HEBs is reported to vary, causing some participants to bypass their neighborhood store for a store across town. As one female participant at a focus group at LBJ High School remarked: “I have been observing, depending on the area where the grocery stores are is the best quality or you can have more choices. [Some stores are] more cheaper, [others] more high.” Variations in HEB store quality was repeatedly discussed in focus group conversations. Each participant had their favorite HEB. For one male at the Elroy Public Library focus group: “Depending on which HEB, whether or not I enjoy the shopping trip. Some of them are a

little more well-kept than others." According to one participant in the East Rural Community Center focus group:

> If you go to the one [HEB] in Elgin, it's 11 miles away from where I am anyway. And it's not as big, you know, it doesn't have everything. Where if you go down, all the way down Parmer lane to shop, that's about 15 miles away, but if you're shopping for something there, you can get it there. At least it's big and you don't have to go somewhere else.

Another participant at the YMCA East Communities focus group shared that: "I like the big HEB on Riverside because it's got everything in there. I mean you could just go in there and have a field day. You can shop!" According to a woman at the LBJ School focus groups: "I do most of my shopping at the Springdale HEB but I prefer Hancock for the produce because there is better variety and the product. You don't find bad product. It is a lot more fresh." Expanding of the previous comment, a male at the LBJ High School focus group remarked:

> The Springdale HEB, I don't like it in there because, again like some of these ladies said, the food is not as fresh and it's not as quality and the prices there are much higher than they are at other stores that have better quality and quantity. So, if I was going to HEB, which I hardly ever do, I wouldn't buy very much because of the display, the cost, the store in general is not as well kept as it is on the 38th street or the Far West Blvd. Any of those stores you could feel comfortable versus over here. It's just like, this is a place. This is what you got. In the fruit area you see trash. And, people still shucking stuff around unlike at the other stores. You don't see that. People are not as friendly. It makes me want to hurry up and get out but at the other stores I could walk around forever, aisle for aisle. Not buying, just looking. But at this store I get just what I want. I look at nothing and I am out.

The HEB store at Ed Bluestein and Springdale Road was repeatedly the subject of negative commentary on store quality. Remarks were directed toward problems with panhandling and crime, traffic in the parking lot, and lack of cleanliness, variety and upkeep. Commentary extended beyond the physical condition of the store; there was an implicit sense of a racially-motivated stigma surrounding the store. One woman at the LBJ High School focus group noted that her friends labeled this store: "the ghetto HEB."

During the same focus group, another woman shared the following anecdote meant to give credence to the nickname:

> I was talking to one of my coworkers and I ask her 'Did you go to this HEB?' and she said 'No. I don't go to Rundberg and Lamar or that one that you live [Springdale] because there is only Hispanic people and Blacks.' And, I am like 'What do you mean?' Because I know there is only Hispanic and Black. 'When there is races like that, everything is bad.' She told me that.

This negative perception was again affirmed by a woman during the focus group at Windsor Park Branch Library: "[Improving the store is] never going to happen. It's the product of the neighborhood not enough they could do to make it make sense."

The issue of interest therein is whether the physical condition of the store is a result of prejudicial practices by the grocery industry or if the condition of the store is perceived negatively because of a racial stigma related to the neighborhood. In order to definitively claim unjust practices by the grocery industry, further study of the spatial variations in store quality would need to be examined. Regardless, as mentioned before, the unsatisfactory quality of the store causes participants to travel farther, expending more gas and time, to purchase higher quality goods at another store that is perceived to be safer and cleaner. This places an unjust burden on fixed-income families.

OVERCOMING ACCESS BARRIERS

To cope with budgetary constraints on grocery purchases, focus group participants adopt techniques to either stretch their food dollar or to save money. Participants regularly buy in season, seek sales or specials, and compare store prices in order to be able to purchase more for less. Season is another of the three factors participants consistently said affect their shopping decisions because produce, especially fruit, purchased in season is cheaper and tastes better. According to one young man at the Haynie Chapel focus group: "'Cause when you buy it out of season it is usually more expensive…and when you buy it in season, it is usually riper. A lot of it looks better. There is a lot to go around." Eating fresh fruits and vegetables is important to

participants and they prefer to buy fresh produce, so purchasing fruits and vegetables in season allows families to maximize their food budgets without sacrificing fresh produce.

Other tactics participants use to maximize their food budgets are to seek specials and compare prices between stores. Borrowing the aptly descriptive name used by one female participant at the Haynie Chapel focus group, most participants are "couponaholics". They seek out discounts, specials and sales in order to save money. Additionally, participants will compare prices between stores. Proximity of the HEB at Hancock Center and the Fiesta at the corner of IH-35 and 38th Street is such that participants can easily compare the prices before making their shopping decisions. "That's why I shop at both because there may be deals at one and they are both right across the street" said the woman who coined the term "couponaholic."

Another way for participants to save money is to prepare meals for their families at home. Responses during focus group conversations and to survey questions indicated that most participants consistently prepared at least one meal, mainly dinner, for their families. Over 52% of respondents claimed that their family dined together almost every day while another 31% eating together more than half of the time. Eating at home is reported to be healthier and more economical. One woman at the focus group at St. James Episcopal Church described that: "We all like to go out and have a little meal out every now and then but overall I prefer food at home. You can go back and have more. Tastes better. You know where it comes from. What's in it."

Participants hardly ate out because it is more expensive. Over 95% of respondents ate at a fast food restaurant less that twice a week while half of participants never ate at fast food restaurants. "In this economy, I used to take them to McDonald's, but not anymore. Now it's better for us to eat at home!" explained a woman at the Rosewood-Zaragosa Community Center focus group. Cost savings measures are especially important for families with fixed-incomes to meet their dietary and satiety needs.

		Count = 143	%
Dine Together	Almost always	76	53
	Sometimes	47	33
	Not very often	20	14
		Count = 149	%
Fast Food Consumption	Never	75	50
	1-2 days per week	67	45
	3-4 days per week	4	3
	5-7 days per week	3	2

Table 11: Dining habits.

Fresh is best according to focus group participants. As mentioned above, eating fruits and vegetables is important to participants, especially if they are fresh. Participants admitted to buying frozen vegetables on occasion, with canned less frequently. Overall though, their preference is for fresh produce. The preference for fresh produce is indicative of participants' responses for how to improve food access in their communities. During the focus groups, participants were asked to consider two questions: where would they like their food to ideally come from, and what are some ways to improve food access in their neighborhoods. The responses are reflective of the tension discussed previously between cost and values. They are also representative of the economic and physical situation of participants.

The ideal for participants varied from having food delivered to one's door, to being able to purchase whatever one wants, and to raising a big garden. Their responses reflect the conditions that surround the participants. For participants who live in grocery store deficient areas, the ideal is a farm or a garden. The dream of one participant at the Haynie Chapel focus group was: "I'd want a garden in my own backyard growing everything I needed. Cows in the back, maybe a pig." Agriculture is not unfamiliar to participants who live in peri-urban areas. To some, the notion of growing one's food is a tangible but waning generational skill. Reminiscing on what would be an ideal solution to address food access issues, one woman at the St. James Episcopal Church focus group commented: "Probably like we did many years ago, you know, right out of the garden.

Right there from your farm, your own animals, your own vegetables too." For those who live in proximity to a grocery store, the ideal is improvement of present amenities. One participant at the LBJ High School would like: "Something like Whole Food off of 6th Street. That type of environment." Their ideal is representative of the normative of the urban core. Tourists visit Whole Foods and Central Market as if they are cultural novelties. Farming is not foreign to urban residents though, as is reflected in their responses to the latter question.

For those within proximity to a grocery store, the solutions to increase access to healthy food included creating a space for a community garden with classes on how to grow food, improving the condition of nearby stores, and hosting a weekly farmers' market. Conversely, in the peri-urban areas, the overall sentiment is that a full service grocery store in a convenient location with a wide variety of items would improve access, rather than a small convenience store with a limited selection of items. This is because, as one participant said: "They can conveniently make that price ridiculous."

Discussion around farmers' markets emerged during most of the focus groups and elicited varied reactions. A farmers' market would serve the desires of participants with the provision of easily accessible, fresh, often organic produce. They are relatively easy to develop since they do not necessarily require a brick and mortar storefront. However, there was resistance to this solution because of perceptions about the markets currently in Austin. Participants indicated that the markets are expensive, too far away, and not at convenient times. While participants had heard talk of farmers' markets in the city, only a handful were familiar with their locations, which were not convenient for participants. Overwhelmingly though, the main concern with farmers' markets was the price of produce, specifically in Central Texas. This was fodder for debate for three women at the Sierra Ridge focus group:

> Female A: "…a lot of their produce is more expensive than the grocery store."
> Female B: "I believe that if it's expensive it's worth the effort because it's free of pesticides. Also, they have to find a way to provide for themselves."

> Female C:”There are many families that don’t have the possibility of buying more expensive items.”

While participants do not entirely agree a farmers’ market is the solution to increase access, they also do not entirely disregard it as a solution. The main factors influencing this possible solution are convenience and cost. For those living in peri-urban areas, convenience is essential to the optimal solution because the more money families can save on transportation, the more they can spend on groceries.

Chapter 5: Discussion and Recommendations

The main barrier to food access for focus groups participants is the cost of food. Even though this finding is not novel, it reaffirms the conflict between the tenets of the community food security movement to meet the needs of low-income residents and promote the proliferation of local agriculture. While focus group participants suggested farmers' market or community as a solution to improve food access, they also conveyed hesitancy about these alternative food sources because of the price of locally-grown food. The tendency of the community food security movement to emphasize local production as the ultimate solution to food access overlooks the financial, physical and social limitation of those that are most at risk for food insecurity (Gottlieb, 1996; McCullum, 2004). By neglecting to consider the financial limitations of low-income families, the community food security movement is perpetuating the very condition it seeks to challenge, food insecurity. The cost of food is a complicated, multifaceted problem that depends on market forces, government regulation, and global disasters. Controlling for the cost of food or conversely upgrading wages of consumers is beyond the scope of this study. However, drawing attention to the multitude other factors, like the location and quality of food stores and the availability of culturally-appropriate ingredients, affecting food access has the potential to help alleviate the cost burden.

For low-income households, access to healthy foods requires a tradeoff between ensuring a healthy diet and satiety, transportation and quality (Leibtag and Kaufman, 2003). This tradeoff is apparent in Travis County where residents reported to forego buying fruits and vegetables, especially organic produce, and to drive further to ensure that their food needs are met or that they obtain quality products. The lack of affordable healthy foods within a proximate distance can be a result of discriminatory grocery industry practices against low-income and minority populations. By neglecting to address these unjust practices, a community is reinforcing prejudicial institutional norms (Guthman, 2008). Improving the proximity and quality of stores in neighborhoods with

high concentrations of low-income and minority populations would create a more inclusive and effective movement toward community food security by alleviating some of the underlying barriers to food access.

The underlying barriers have significant impact on the dietary and cultural food needs of community members. The lack of full-service stores in areas of Travis County not only limits residents' access to food, it also restricts options for fulfilling dietary or cultural food needs. Providing for cultural variations in food is necessary to ensuring food justice and food security, even though it is not a consideration in national government measures of food security. Lack of recognition of these variations extends beyond issues of food just, raising concerns about large social injustices relating to socioeconomic status. While the availability of culturally-appropriate foods was raised as a concern for study participants, it is not the dominant signifier of food injustice in Travis County. The lack of full-service grocery stores in areas with high concentrations of low-income and minority populations provides a better indication of inequality in food access in the region. Failure to notice and address negative correlations between socioeconomic status and food access can harm efforts to improve community food security.

IF YOU BUILD IT, THEY WILL COME

The location of full-service, chain grocery stores in the peri-urban areas of this study was recommended by participants as the most desirable solution to improve food access. As pointed out earlier, neighborhoods with chains stores pay less for food. Therefore the location of a chain store in these peri-urban areas would reduce the burden of cost by shifting reliance away from high prices convenience stores and reducing the travel distance for grocery errands. Successful recruitment of a chain store would require a market feasibility study, identification of multiple possible locations, incentives, and strong political leadership (Pothukuchi, 2005). The grocery industry is in the business of making a profit so the challenge is convincing potential store operators that a market is available to at least meet, if not surpass, their bottom line. Additionally, the process of

locating a grocery store will require proactive participation on the part of the local government or a nonprofit organization. Community Development Corporation partnerships with chain grocery stores have been shown to be successful in locating grocery stores in underserved areas (Pothukuchi, 2005).

Underlying all of these elements are proactive efforts to plan for development of a grocery store. While a chain grocery store brings with it myriad benefits in addition to improved access, including outside investments, jobs and neighborhood pride, it can also have negative effects on a neighborhood. Unlike other cities studied in the literature, urban areas are host to more chain stores that rural areas in Travis County, with the most stores located in the Austin metropolitan area. Locating a chain store in the peri-urban area along the urban frontier could spark uncontrolled development outside the city limits, leading to further fragmentation of already endangered agricultural land. Urban sprawl in this region could exacerbate tensions between farmers and new residents by raising property taxes and exhausting the limited water supply. Organized, active participation from residents in planning for future development and in determining the location of a future store is necessary to attempt to control development.

For participants living in urban areas, the quality of existing grocery stores within their neighborhoods deters patronage at those stores. Instead participants will drive substantially further to shop at a store outside of their zip code because of the quality and variety available at the store. Improving the quality and variety of products at existing stores within the study area would increase the frequency with which participants shop at their neighborhoods grocery stores. This is beneficial not only for the customer because it save on travel cost and improves neighborhood pride, but it is also profitable for the grocery store.

Exemplar stores, according to participants, by which to model improvements include Central Market and Whole Foods. The wide variety of good quality produce, including organic, along with appealing product labeling, cooking and tasting demonstrations, a clean facility, and sufficient parking and staff all make these attractive

locations. They offer options and ideas for how to use ingredients. Customers trust the stores' selective scrutiny of the quality of products sold. Additionally, Central Market and Whole Foods are symbols of success located in primarily affluent neighborhoods. Not the primary shopping destination for participants, except for one gentleman who was particularly concerned about the additives put into food today, Central Market and Whole Foods were identified by a couple of participants as occasional shopping destinations. The perceived lower quality of stores in the study area and the lack of a higher-end grocery store like Central Market or Whole Foods is suggestive of supermarket redlining reinforcing institutional injustices in food access.

ALTERNATIVE FOOD SOURCES

A chain grocery store is not the only solution, however. A cooperatively-run, community based grocery store or a locally-owned store are other options. As Dunkely points out, "When a store has enough loyal customers, economies of scale are not as critical, and small stores can succeed" (2004). The challenge, then, is to develop a dependable customer base by offering a wide enough variety of desired food products within a limited space without price gouging. Creating a perception that differentiates a small grocery store from a convenience stores is imperative. Unanimously participants were unwilling to shop at a convenience store even if the store sold healthy produce. This rejection of healthy corner stores has implications for trends toward reliance on corner stores as temporary solution to fill the gap in access.

A suggested alternative to retail stores by participants is a farmers' market or a mobile farm stand. This is reflective of participants' ideal to acquire food directly from the farm. A farmers' market or a mobile farm stand, like a roadside truck market, would fulfill the desire for fresh produce but would only increase access to certain foods. Even though participants value and prefer to eat fresh produce, the bottom line is cost. If the price of produce at such stands is not near that of HEB, then this may not be a viable option. For local farmers, this means possibly offering produce at wholesale cost in low-

income areas. But it also means providing education about and experience with local farms and produce so as to actively engage low-income customers in the local food system.

Encouraging engagement with farmers' markets amongst minority populations requires additional efforts towards place making and the integration of cultural coding that resonate with the community (Alkon, 2008; Guthman, 2008). This requires stepping beyond a focus on food to directly target the racial and economic inequalities that perpetuate food insecurity (Guthman 2008). Farmers' markets are semi-public spaces whose layout reflects an image of unity through arbitrary boundaries that enwrap people within the same objectives in a shared space. This structure, however, also reinforces existing power dynamics that favor whiteness. In Travis County, farmers' markets consist of predominantly white farmers selling to a predominately white customer base. Incentivizing African American or Latino farmers to participate in the market, offering culturally-appropriate foods, creating key allegiances with minority-led community organizations, and provision of information in a dialect that resonates with African American and Latino communities can all help to begin to break down structural inequalities.

TRADITIONAL FOOD WAYS

Over the course of the past 50 year, our relationship with food has changed. According to one woman at the Elroy Public Library focus group: "A lot of people don't realize where food comes from." Generational gaps in the understanding of where food comes from were exemplified during a couple of the focus groups. "My grandfather, he used to grow like squash, snap peas, green beans. That's how we used to get our food. They had a garden. He grew everything," explained one woman at the St. James Episcopal Church focus group. Recognition of a loss of gardening and agricultural activities was especially prevalent amongst African American participants. This supports similar findings from previous research (Yeh, 2008). Present amongst participant

responses was also a desire to reverse this trend. Although less than a quarter of participants kept home gardens, a desire for fresh food made participants interested in learning to grow their own produce. Community gardens were repeatedly mentioned as solutions to increase access to healthy food. Targeting the development of community gardens in neighborhoods with high concentrations of African Americans would allow for the opportunity to capture waning generational knowledge about gardening.

Learning to prepare traditional recipes can also provide an opportunity to pass along generational knowledge. Traditional meals embody information about cultural customs, social values, and the ecoregion in which the ingredients are produced. Due to the global nature of communities today, the food traditions of citizens are just as likely to be from another country as from their place of residency. Of the participants in the focus groups for this study, 39% were not born in the United States. Of those, 43% were born in Mexico. Some focus group participants, especially Latino participants, expressed desire to retain their food heritage. One participant at the YMCA East Communities focus group reported that "I cook a lot of Mexican traditional dishes for my daughter. So, getting them exposed to our culture and our dishes." Another participant would stock up on wheat, grains, and nopales from Mexico when visiting and then freeze the ingredients upon returning to the United States. She claims they taste differently than the same produced purchased in Austin. The wheat is natural, straight from the field to the mill. The lack of availability of culturally-appropriate ingredients is therefore a barrier for these participants as they strive to retain their food heritage while trying to meet their dietary needs.

Sensitivity to cultural food traditions can fly in the face of local agriculture, since these traditions may require ingredients grown in a different ecoregion or climate. However, this is not the case with respect to the residents from Mexico in Austin. While the climate and ecoregions between Texas and Mexico vary slightly, it is possible to grow nopales and wheat in Texas. Texas is the third largest producer of wheat in the United States. Cultivation of nopales, wheat and perhaps other spices commonly used by

residents from Mexico by local farmers would fulfill the need for culturally appropriate foods and promote inclusivity of Latino residents in the local food system.

Seemingly contradictory to the objective of cultural sensitivity is foods acculturation. Much of the produce available at local food retailers is either place specific or socially acceptable. Desire to know how to prepare foreign foods available at food retailers was a shared sentiment amongst many focus group participants, including foreign born and US citizens. The most commonly referenced produce that participants are unaware of how to prepare are eggplant, persimmon, fig, greens and artichoke. As one woman at the Ruiz Branch Library focus group responded: "There are some things I don't buy because I don't know what to do with it. There are probably other ways you can prepare certain vegetables and I just need to know how to cook it." Locality specific cooking classes that offer instruction on how to prepare healthy meals using commonly available ingredients would improve the self-reliance of community members by providing them more options of meals to prepare. As another woman from the Sierra Ridge focus group stated: "We arrive and look and don't know what to prepare. Again, the same thing! We don't know how to mix things up with our food. We don't know how to make one thing into another." Providing information on food budgeting, food preservation and perhaps the incorporation of local produce could help families save money and increase opportunities for families to access healthy food. Even though the objectives of cultural-sensitivity and food acculturation seem conflictual, both aim to improve food self-reliance and promote inclusivity in the local food system.

FOOD DEMOCRACY

At the heart of this discussion about food access is people. While this study offers suggestions about how to change the physical circumstances that affect one's access to food, it thus far has not addressed the role of the individual. People, and by extension one's community, are crucial elements in transforming the structural inequities that constrain food access. To escape the trap of performing like a charity instead of a

movement, efforts to improve food access must embody food democracy. "Food democracy ideally means that all members of an agro-food system have equal and effective opportunities for participation in shaping that system, as well as knowledge about the relevant alternative ways of designing and operating the system (Hassanein, 2003)." Food democracy is an inherent principle of community food security. The movement promotes community self-reliance and encourages the proliferation of community assets and resources. Food democracy promotes the active participation of individuals in all aspects of the community food security movement. Active participation, however, requires that an individual values the objectives of community food security. This value is acquired through learning about and experiencing community food projects and policies. "The transition to food democracy requires that people develop the knowledge and skills necessary to actively participate in society and to have an impact on different political levels (Levkoe, 2006)." Providing opportunities for people to espouse some level of autonomy when working with community food projects will allow individuals to develop a personal narrative about the values of community food security.

Appendix A

FOCUS GROUP QUESTIONS

Moderator Introduction: "*Hi, My name is _____ and I am from the Community and Regional Planning program at The University of Texas at Austin. _____ over here will be helping me today by taking notes while we talk. I want to start out by saying thank you for coming to this discussion. This discussion will last about an hour and a half. I'll be asking you your opinion about questions related to your food choices and shopping habits. We will be taping this session, so that we can go back later and listen to what you had to say. We will not be able to link your comments to who you are, so anything you say will be confidential. Please feel free to be honest. We are not here to judge you; we are here to find out your thoughts and opinions. Do you have any questions before we start?"*

Ice Breaker Question: What do you consider "healthy eating"?

Topics and Questions

Food Retail Location

1. At what locations do you do most of your food shopping? Do you grow or produce any of your own food?

   (This is an interactive activity in which individuals mark with stickers on a map the three places from which they get most of their food. The stickers will be three different colors (red = main food shopping location, get most food from here, yellow = 2nd shopping destination, green = 3rd shopping location) and the last two digits of the person's zip code will be written on them. The food retail locations will already be marked on the map. Should a location not be marked, the individual will be given a colored pen to circle the location on the map. A sticky note with the name of the location and type of retail environment will be placed beside the circle on the map.)

Transportation

2. What forms of transportation do you use to get to the locations where you purchase food? Does this impact where you go and the number of time you purchase food?

Shopping Frequency

3. How often do you normally purchase food? Once a week, everyday, once a month? Do you shop all at once or do you make short trips more often?

Produce Selection

4. What types of fruit and vegetables do you usually buy? Are you able to buy a wide variety of fruits and vegetables (different types)? If so, do you typically purchase fresh, frozen, canned, etc.? Why?
5. What do you consider "high quality" fruits and vegetable? Do you typically purchase these items? Why or why not?
6. What are some reasons that limit the amount of fresh fruits and vegetables you buy?
7. Does the time of year affect what fruits and vegetables you purchase? Why or why not?
8. (Give individuals a sheet of paper with a list and pictures of unusual fruits and vegetables) Which of fruits and vegetables on this list would you buy or have considered buying but don't and why? Do you not know how to cook them? Are they too expensive? You are unfamiliar with them?

Meal Preparation

9. Do you regularly prepare or cook meals for your family? What would a typical meal consist of? Are you interested in learning how to use different fruits and vegetable in new recipes?
10. Is it important to you that your family eat fresh fruits and vegetables? Why or why not?

Access

11. What would help increase your consumption of fresh fruits and vegetables? Can you think of ways to increase your access to fresh fruits and vegetables? Would you like to see a grocery store in your neighborhood? If so, what type (a supercenter, Walmart, HEB, Fiesta, cooperatively owned store, etc.)? Would you like for the convenience stores to carry more variety of fresh produce? Would you like to have a farmers' market or farm stand? When and how often? Would you like to see a community garden in the area? Would residents be interested in joining a CSA? Would residents be interested in learning to grow their own food? Why or why not?

Appendix B

Individual Survey

1. How often do you and your family have dinner together?

- ☐ Almost always (6 or 7 days per week)
- ☐ Sometimes (3-6 days per week)
- ☐ Not very often (0-2 days per week)

2. In the past week, how often did you eat something from a fast food restaurant (like McDonald's, Burger King, Taco Bell, etc.)?

- ☐ Never
- ☐ 1-2 days per week
- ☐ 3-4 days per week
- ☐ 5-7 days per week

3. Does your family shop at a farmers' market?

- ☐ Almost always or always
- ☐ Sometimes
- ☐ Almost never or never

4. Do you grow your own fruits and vegetables?

- ☐ Yes ☐ No

5. How important is it to you that the food your family eats is not processed?

- ☐ Not at all
- ☐ A little
- ☐ Somewhat
- ☐ A lot

6. How important is it to you that the food your family eats is organic?

- ☐ Not at all
- ☐ A little
- ☐ Somewhat
- ☐ A lot

7. How important is it to you that the food your family eats is grown locally?

- ☐ Not at all
- ☐ A little

☐ Somewhat
☐ A lot

8. Rank the top five (5) household expenses you spend your monthly household income on (1 = most, 5 = least).

_____ Rent or mortgage
_____ Utilities (water, electricity, gas, trash)
_____ Transportation (gasoline, bus fare, etc)
_____ Daycare
_____ Phone
_____ Clothing
_____ Groceries
_____ Eating out
_____ Entertainment (movie, concerts, etc)
_____ Pets
_____ Other: _____

9. Do you receive Women, Infants, and Children (WIC) vouchers? ☐ Yes ☐ No

10. Do you receive food stamps (Lone Star Card or SNAP)? ☐ Yes ☐ No

11. Do you run out of food before the end of the month because you can't afford to buy more?

☐ Almost always or always
☐ Sometimes
☐ Almost never or never

12. Do you worry that you will run out of food before you can afford to buy more?

☐ Almost always or always
☐ Sometimes
☐ Almost never or never

13. What is your home zip code:_____

14. Number of adults in your household:_____

15. Number of children in your household:_____

16. Is anyone in your household currently on a special diet? ☐ Yes ☐ No

17. Has anyone in your household ever been told by a doctor that he or she is overweight? ☐ Yes ☐ No

18. What is your ethnicity/race?

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Other: _____

19. If you consider yourself Hispanic or Latino, how do you most identify yourself?

- ☐ Mexican
- ☐ Chicano
- ☐ Mexican American
- ☐ Spanish American
- ☐ Anglo American
- ☐ Central American
- ☐ American
- ☐ Other: _____
- ☐ I don't know

20. Your marital status:

- ☐ Married
- ☐ Separated or divorced
- ☐ Single, never married
- ☐ Widowed

21. Employment status:

- ☐ Full-time
- ☐ Retired
- ☐ Part-time
- ☐ Stay-at-home full time

22. What is the highest level of formal education you have completed?

- ☐ Less than 12 years
- ☐ High school graduate/GED
- ☐ Some college
- ☐ College graduate
- ☐ Advanced degree

23. Total household income per month:

- ☐ $0-999
- ☐ $1,000 - 1,999
- ☐ $2,000 - 2,999

☐ $3,000 - 3,999
☐ $4,000 - 4,999
☐ $5,000 or more

24. What language would you say you speak most of the time?

☐ Spanish
☐ English
☐ Other: _____
☐ I don't know

25. What language do you mostly think in?

☐ Mostly in Spanish
☐ Mostly in English
☐ Almost the same in Spanish and English
☐ Mostly in another language: _____
☐ About the same in English and another language
☐ I don't know

26. Where were you born?

☐ United States
☐ Mexico
☐ Central America
☐ South America
☐ Other place: _____

How long have you lived in the United States? _____ (years)

Appendix C

Texas Nutrition Environments Assessment Store Definitions

Grocery Store:

- Retail food outlet with a full range of items from all food categories including fresh fruits and vegetables, raw meat and other items that require preparation/cooking in addition to convenience items such as chips, canned goods, sodas, etc.).
- Typically offers a service deli, frequently offers a service bakery and sometimes has a pharmacy. (Pharmacy and health care items are not majority of merchandize sold in store).
- May carry some general merchandise items, but these items do not account for a large percent of the store.

Examples include: HEB, Randall's, Fiesta, Whole Foods, Super Wal-Mart, Super Target

Convenience Store:

- A small store that offers a limited selection of staple groceries, non-foods, and other convenience food items, i.e., ready-to-heat and ready-to-eat foods.
- Includes food marts within gas stations.
- May have limited fresh produce or raw items.
- May include refrigerated items such as milk and cheese.

Examples includes: Jif-E-Mart, Exxon Food Mart, etc.

General/Discount Store:

- Mainly carries general merchandise, but sometimes carries limited selection of staple groceries and other convenience food items, i.e., ready-to-eat foods.
- May include refrigerated and/or frozen food items.
- May or may not offer items at a discounted price.

Examples include: General Dollar, Family Dollar, Wal-Mart (not super).

Other:

- Specialty Stores such as meat markets, health stores, seafood markets, or grocery stores that specialize in culturally specific foods (Chinese, Asian, Indian, etc.).

Bibliography

Abi-Nader, J. (2010). *The Activities and Impacts of Community Food Projects*. Portland: Community Food Security Coalition.

Alkon, A.H. (2009). Breaking the Food Chains: An Investigation of Food Justice Activism. *Sociological Inquiry, 79(3),* 289–305.

Allen, P. (1999). Reweaving the Food Security Safety Net: Mediating Entitlement and Entrepreneurship. *Agriculture and Human Values, 16*, 117-129.

Asnes, M., Caplin, J. and Dickensheets, S. (2002, December 1). *10 Best Places To Live 2002.* Retrieved from CNN Money Magazine on April 15, 2011: http://money.cnn.com/magazines/moneymag/moneymag_archive/2002/12/01/333183/index.htm

Austin Business Journal (2005). *Austin Texas is number one place to live and work for Hispanics*. Retrieved from Havana Journal on April 15, 2011: http://havanajournal.com/cuban_americans/entry/austin_texas_is_number_one_place_to_live_and_work_for_hispanics/

Austin Business Journal. (2011, February 1). *Austin top place to live and work, pub says*. Retrieved April 15, 2011 from Austin Business Journal: http://www.bizjournals.com/austin/news/2011/02/01/austin-top-place-to-live-and-work.html.

Babbie, E. (2007). *The Practice of Social Research* (11th ed.). California: Thomson Wadsworth.

Basic Needs Coalition of Central Texas. (2007). *Poverty Fact Sheet*. Retrieved May 1, 2009, from Basic Needs Coalition of Central Texas: http://www.caction.org/basicneeds/issue_areas/PovertyFactSheet_2007.pdf

Bernstein, R. (2009). *Raleigh and Austin are Fastest-Growing Metro Areas*. Retrieved May 1, 2009, from US Census Bureau Newsroom: http://www.census.gov/newsroom/releases/archives/population/cb09-45.html

Campbell, M. C. (2004). Building a Common Table: The Role for Planning in Community Food Systems. *Journal of Planning Education and Research, 23*, 341-355.

Dukcevich, D. (2003, June 5). *Best Cities For Singles*. Retrieved from Forbes on April 15, 2011: http://www.forbes.com/2003/06/04/singleland.html

Dunkley, B., Helling, A., & Sawicki, D. S. (2004). Accessibility Versus Scale: Examining the Tradeoffs in Grocery Stores. *Journal of Planning Education and Research, 23*, 387-401.

Eisenhauer, E. (2001). In Poor Health: Supermarket Redlining and Urban Nutrition. *GeoJournal, 53*, 125-133.

Eisinger, P. K. (1998). *Toward an End to Hunger in America*. Washington, DC: Brookings Institution Press.

Fitzgerald, K. (1995). *Access Denied: An Analysis of Problems Facing East Austin Residents in Their Attempts to Obtain Affordable, Nutritious Food*. Austin: Sustainable Food Center.

Ford, P. B. & Dzewaltowski, D. A. (2008) Disparities in obesity prevalence due to variation in the retail food environment: three testable hypotheses. *Nutrition Review, 66 (4), 216-228*.

Frank, P. & Robinson, R. (2005). *Single Family Taxable Value, Percent Chance: 2000-2005*. Retrieved on March 1, 2011 from the City of Austin Department of Planning: http://www.ci.austin.tx.us/demographics/downloads/sf_tax_perc.pdf.

Gottlieb, R., & Fisher, A. (1996). Community Food Security and Environmental Justice: Searching for a Common Discourse. *Agriculture and Human Values, 3* (3), 23-32.

Guthman, J. (2008). Bringing Good Food to Others: Investigating the Subjects of Alternative Food Practice. *Cultural Geographies , 15*, 431-447.

Guthman, J., Morris, A. W., & Allen, P. (2006). Squaring Farm Security and Food Security in Two Types of Alternative Food Institutions. *Rural Sociology, 71 (4),* 662-684.

Hagert, C. A. (2007). *The Family Budget Estimator: What It Really Takes to Get By In Texas*. Austin: Center for Public Policy Priorities.

Hamm, M., & Bellows, A. (n.d.). *What is Community Food Security?* Retrieved August 22, 2009, from Community Food Security Coalition: http://www.foodsecurity.org/views_cfs_faq.html

Hassanein, N. (2003). Practicing Food Democracy: A Pragmatic Politics of Transformation. *Journal of Rural Studies, 19*, 77-86.

Hendrickson, D., Smith, C., & Eikenberry, N. (2006). Fruit and Vegetable Access in Four Low-Income Food Deserts Communities in Minnesota. *Agriculture and Human Values (23)*, 371-383.

Herzfeld, M., & McManus, A. (2007). In Search of a Method to Assess the Availability, Quality and Price of Vegetables and Fruit. *Nutrition and Dietetics, 64*, 248-253.

Jensen, Helen H. (2002). Food Insecurity and the Food Stamp Program. *American Journal of Agricultural Economics, 84(5)*, 1215-1228.

Kiplinger (June 2006). *50 Smart Places to Live*. Retrieved from Kiplinger on April 15, 2011: http://www.kiplinger.com/features/archives/2006/05/intro.html

Kirdahy, M. (2008, January 10). *Best Cities For Jobs In 2008*. Retrieved from Forbes on April 15, 2011: http://www.forbes.com/2008/01/10/jobs-economy-growth-lead-careers-cx_mk_0110cities.html

Kloppenburg, J. J., Hendrickson, J., & Stevenson, G. (1996). Coming in to the Foodshed. *Agriculture and Human Value, 13* (3), 33-42.

Koeppel, D. (September 2007). *Best Places to Live + Play: Cities*. Retrieved from National Geographic on April 15, 2011: http://www.nationalgeographic.com/adventure/relocating/best-places-to-live-2007/index.html

Leibtag, E.S. and Kaufman, P.K. (2003). Exploring Food Purchase Behavior of Low-Income Households: How do They Economize? *Current Issues in Economics of Food Markets, 747-07,* 1-8.

Leibtag, E. & Volpe, R. (2011). *Food CPI and Expenditures: CPI for Food Forecasters*. Retrieved March 1, 2011 from USDA Economic Research Service Briefing Rooms: www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/cpiforecasts.htm.

Leibtag, E. & Volpe, R. (2011). *Food Price Outlook, 2011*. Retrieved March 1, 2011 from USDA Economic Research Service Briefing Rooms: http://www.ers.usda.gov/briefing/cpifoodandexpenditures/consumerpriceindex.htm.

Mabli, J., Cohen, R., Potter, F., & Zhao, Z. (2010). *Hunger in America 2010: Local Report Prepared for The Capital Area Food Banks of Texas, Inc*. Retrieved 1 2011, March, from Hunger in America 2010: Central Texas Report:h ttp://cafbtx.convio.net/site/DocServer/4408.pdf?docID=601

Manor Messenger. (2010, March 4). City Concludes Grocery Survey: Everyone Wants a Grocery. *The Manor Messenger, 13 (2): p.1*.

McCullum, C., Pelletier, D., Barr, D., Wilkins, J., & Habicht, J.-P. (2004). Mechanisms of Power Within a Community-Based Food Security Planning Process. *Health Education and Behavior, 31* (2), 206-222.

Menzies, J.L. (2004, February 2). *10 Best Cities to be a Moviemaker*. Retrieved from Movie Maker on April 15, 2011: http://www.moviemaker.com/articles/article/10_best_cities_to_be_a_moviemaker_2961/

Mullins, L. (2009, June 8). *U.S. News looked at areas with strong economies, low living costs, and plenty of fun things to do*. Retrieved from U.S. News on April 15, 2011: http://money.usnews.com/money/personal-finance/real-estate/articles/2009/06/08/best-places-to-live-2009?PageNr=2

Pothukuchi, K. (2005). Attracting Supermarkets to Inner-City Neighborhoods: Economic Development Outside the Box. *Economic Development Quarterly, 19*, 232-244.

Texas Diabetes Council (2008). *Texas Diabetes Prevalence Continues to Rise.* Retrieved from Texas Diabetes on April 15, 2011: www.dshs.state.tx.us/**diabetes**/PDF/newsletter/fall08.pdf

Texas Food Bank Network (2009). *Central Texas SNAP (Food Stamp) Enrollment*. Retrieved March 1, 2011 from Capital Area Food Bank of Texas: http://www.austinfoodbank.org/hunger-is-unacceptable/central-texas-snap-enrollment.html.

Travis County Health and Human Services & Veterans Service Research and Planning Division. (2011). *2010 Community Impact Report Part I: Community Condition Highlights*. Retrieved March 1, 2011, from Travis County Health & Human Services: http://www.co.travis.tx.us/health_human_services/research_planning/publications/cir/cir_2010_pt_1/full_report.pdf

Ver Ploeg, M. (2009). *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences*. Retrieved September 1, 2009 from U.S. Department of Agriculture, Economic Research Service: http://www.ers.usda.gov/Publications/AP/AP036/.

Wekerle, G. R. (2004). Food Justice Movements: Policy, Planning, and Networks. *Journal of Planning Education and Research , 23*, 378-386.

Wermund, B. (2010, November 12). *In Del Valle, lack of grocery store has residents pushing petition: Quest for easier access to fresh, healthy food has been fruitless*. Retrieved December 1, 2010 from Austin American Statesman: http://www.statesman.com/news/local/in-del-valle-lack-of-grocery-store-has-1043574.html

Wial, H. (2011). *MetroMonitor: Tracking Economic Recession and Recovery in America's 100 Largest Metropolitan Areas*. Retrieved March 1, 2011 from The Brookings Institution: http://www.brookings.edu/reports/2010/0615_metro_monitor.aspx.