Understanding site location factors of food pantries and free meal programs in the Des Moines, IA metro

by

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

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ABSTRACT

Food pantries and free meal programs provide a critical service to low-income individuals and families living in the Des Moines MPA given the high rates of poverty and food insecurity. The geographic proximity of food assistance programs for low-income individuals and families provides a valuable indicator for understanding the potential success of these services given their limited means and options for transportation. First, this research sought to develop an organizational profile for each organization in an attempt to understand organizational influences on the location selection processes and criteria in practice. Second, this research sought to evaluate the potential geographic accessibility of these services for low-income individuals and families living in the Des Moines MPA by evaluating their geographic proximity using GIS to specific demographic data, the public transportation system, and other supplemental services. The interview process found that program organizers underwent an intentional location selection process utilizing criteria and that the type of organization (religious, nongovernmental or governmental) appears to play a role in the location selection criteria utilized in the decision-making process. The GIS analysis found the majority of programs are geographically accessible due to their close geographic proximity to public transportation stops, supplemental services, census tracts with high percentages of poverty, and census tracts with high percentages of racial diversity among residents. In sum, while food assistance programs appear to vary in their location selection decision-making processes, in practice, they tend to find and select locations that effectively serve low-income individuals and families living in the Des Moines MPA.
CHAPTER 1.

INTRODUCTION

This research seeks to better understand the rationale and decision-making processes regarding location selection and assess the geographic accessibility of food pantries and free meal programs located within the Des Moines, Iowa metropolitan planning area (MPA). The research drew on original data collected through interviews with food program organizers to understand the location selection processes and assessed the geographic accessibility of these programs using geographic information systems (GIS). More specifically, the focus is to find out if food pantries and free meal programs employ any formal criteria and processes for evaluating potential locations in an attempt to understand how they operate and evaluate their potential geographic accessibility for low-income individuals and families. This research seeks to document and understand the specific factors taken into consideration in the site selection process for understanding the geographic accessibility of these services. This research also employs GIS analysis to gain a greater understanding of the geographic accessibility of food pantries and free meal programs for low-income individuals and families in the Des Moines MPA. This analysis of accessibility is based on the geographic proximity of food assistance programs to potential areas of need based on demographic characteristics, supplemental services, and the public transportation network. The combination of understanding the location selection processes and decision-making criteria from an organizational perspective and evaluating geographic accessibility using GIS from a user perspective will help create a greater understanding of the effectiveness of food pantries and free meal programs at being geographically accessible to their target populations.
This research study seeks to address the limited research on the location selection processes of food pantries and free meal programs. This research is useful because the location selection processes of food assistance programs play an important role in helping to inform the future success of programs, as geographic proximity to their target populations is an important indicator for their potential accessibility. With this purpose in mind, this research focused the literature review to:

• understand the role and scope of emergency food assistance programs;
• clarify the distinction between private and government run programs;
• trace their progression and development through modern history;
• identify the characteristics of emergency food assistance program users;
• explore the experiences of low-income individuals and families living in urban environments;
• discuss the role socio-economic and demographic characteristics play in influencing access to food types and food retailers;
• examine the mobility options available to low-income individuals and families;
• discuss the processes for location selection decision-making for nonprofit organizations;
• and identify effective methods for evaluating geographic accessibility using GIS.

This information provides a critical understanding of the development of food assistance programs, their role in communities, and the ability of low-income individuals and families who rely on their services to access them. Identifying the decision-making processes of
food assistance programs provides a critical piece of information for understanding how these programs operate within communities and offers critical insight for evaluating their geographic accessibility to clients, as geographic proximity is a critical component that influences the ability of low-income individuals and families to access these services (U.S. Health and Human Services [USHHS], 2014). Given the goals of this project, the research questions were:

1. Where are food pantries and free meal programs located in the Des Moines metropolitan area?
2. How do the food pantries and free meal programs select their locations?
3. Are the locations of food pantries and free meal programs accessible to the people who need their services?

Answers to these questions will help in understanding the locations and the location selection processes for food assistance programs and their geographic accessibility to low-income individuals and families. Community organizations and policy makers can employ this information to evaluate the current network of food assistance programs and develop ‘best practices’ for program organizers in evaluating their programs and streamlining operations. The roles of community planners and policy-makers allows them to influence the effectiveness of food assistance programs through regulatory processes and the surrounding built environment through the presence, or absence, of transportation infrastructure, housing options, potential employment opportunities, and neighborhood resources. In concert with program organizers being able to better evaluate and select
effective locations, these areas of influence impact the ability of low-income individuals and families to navigate the community, access the services they need, and lead healthy productive lives. Encouraging the development of more effective transportation methods and better community resources helps low-income individuals and families navigate their communities more effectively and in a timely fashion, which in turn impacts the ability of food assistance programs to be successful. Additionally, these interventions may allow for the creation of more effective and useful programs and in turn better communities and opportunities for low-income individuals and families. While planners, policy-makers, and community organizations may already be engaging in ways to improve the accessibility of their community’s food assistance programs, the knowledge gained from this research will provide another layer of understanding to help focus these efforts to ensure more effective community access to food assistance programs.

**The Des Moines Metropolitan Planning Area**

The research study seeks to understand the location selection decision-making processes and geographic accessibility for food assistance programs located within the Des Moines MPA as designated by the Des Moines Area Metropolitan Planning Organization (MPO). The Des Moines MPA is located in the central region of the state of Iowa and encompasses Altoona (city), Ankeny (city), Bondurant (city), Carlisle (city), Clive (city), Cumming (city), Des Moines (city), Grimes (city), Johnston (city), Mitchellville (city), Norwalk (city), Pleasant Hill (city), Polk City (city), Urbandale (city), Waukee (city), West Des Moines (city), and Windsor Heights (city) (see figure 1-1). Indianola (city) and Van Meter (city) are members of the MPO but they fall outside of the MPA boundary and are not
included in this research study. The Des Moines MPA boundary line provides a boundary to the planning efforts in the Des Moines metropolitan area and as such, provides a geographic demarcation for understanding the location selection decision-making processes for food assistance programs located within this urban metropolitan area.

![Map of Des Moines MPA](source)

**Figure 1-1: Member cities in the Des Moines MPA.**

The Des Moines MPA is a relatively small metropolitan area. According to the U.S. Census Bureau, the Des Moines MPA had a total population of 479,769 people in 2010. However, the region has been growing at a rate of 1.86% (Bandurski, 2016b p. 1). The region is predominately white – 85.6% of residents are White, 5.5% are Black, 0.3% are
American Indian, 3.5% are Asian, 0.1% are Pacific Islander, and 2.7% are Some Other Race (Bandurski, 2016b, p. 1) (see table 1-1). According to the 2010 Census data, 7.1% of residents in the Des Moines MPA are Hispanic (Bandurski, 2016b, p. 1). The Des Moines MPA population racial demographics are more diverse than the state of Iowa on a whole, but much less diverse in comparison to the United States. According to American Factfinder (2017a), 91.3% of Iowa residents are White, 2.9% are Black, 0.4% are American Indian, 1.7% are Asian, 0.1% are Pacific Islander, and 1.8% are Some Other Race (see table 1-1).

Table 1-1: Racial demographics of residents living in the Des Moines MPA, the state of Iowa, and the United States.

<table>
<thead>
<tr>
<th></th>
<th>Des Moines MPA</th>
<th>State of Iowa</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>85.6%</td>
<td>91.3%</td>
<td>72.4%</td>
</tr>
<tr>
<td>Black</td>
<td>5.5%</td>
<td>2.9%</td>
<td>12.6%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.5%</td>
<td>1.7%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Some Other Race</td>
<td>2.7%</td>
<td>1.8%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7.1%</td>
<td>5.0%</td>
<td>16.3%</td>
</tr>
</tbody>
</table>

Source: American Factfinder, 2017b and Bandurski, 2016b, p. 1
In contrast 72.4% of United States residents are White, 12.6% are Black, 0.9% are American Indian, 4.8% are Asian, 0.2% are Pacific Islander, and 6.2% are Some Other Race (American Factfinder, 2017b) (see table 1-1). 5.0% of Iowa residents are Hispanic and 16.3% of United States residents are Hispanic (American Factfinder, 2017a; American Factfinder, 2017b). According to the US Census Bureau data, the highest rates of racial diversity in the Des Moines MPA are concentrated in the central region of the Des Moines MPA (see figure 1-2).

Figure 1-2: Racial diversity in the Des Moines MPA.
The percentage of residents below the poverty level in the Des Moines MPA is greater than Iowa and the United States on the whole. According to the 2010-2014 American Community Survey, 24.5% of MPA residents, or 119,298 people, exceed 185% of the poverty level (Bandurski, 2016a, p. 6). In contrast, 12.5% of all people in Iowa and 15.5% of all people in the United States had an income in the last 12 months below the poverty level (American Factfinder, 2017c; American Factfinder, 2017d).

Figure 1-3: Poverty concentrations in the Des Moines MPA.
Population poverty is also concentrated in the central region of the Des Moines MPA (see figure 1-3), which is in line with current trends with poverty concentrating in city centers (Glaeser and Rappaport, 2006). The median household income in the Des Moines MPA is $64,145 (Bandurski, 2016b). In contrast, the median household income for all Iowa households is $53,183 and the median household income for all households in the United States is $53,889 (American Factfinder, 2017c; American Factfinder, 2017d). The population poverty data shows there is a significantly higher rate of poverty in the Des Moines MPA than the state of Iowa, and the United States as a whole, yet the median household income in the Des Moines MPA is higher than the state of Iowa or the United States, which may be skewed as a result of the wealthier regions of the Des Moines MPA. The high rate of population poverty in the Des Moines MPA when compared to the state of Iowa or United States as a whole is important as it indicates a potential increased level of need by residents for food assistance programs.

**Food Assistance Programs and Food Insecurity in Des Moines MPA**

Food pantries and free meal programs are spread throughout the United States with locations in “virtually every community” (Feeding America, 2017). There is an extensive network of independent, private food pantries and free meals programs operating throughout the United States. These programs are difficult to identify and quantify though as there is not a centralized database tracking their work or presence. Feeding America, a domestic hunger-relief organization and major player in food assistance, currently has a nationwide network of 60,000 food pantries and free meal programs (Feeding America, 2017). Some food assistance programs partner with Feeding America and others remain
independent. There are local and regional organizations that provide support for food assistance programs too. It is difficult to accurately estimate how many independent food assistance programs are operating throughout the country, but the Feeding America network data provides a general idea of the expansive scope and breadth of food assistance programs around the country.

Iowa also has an extensive network of food assistance programs and agencies throughout the state. Eight regional food banks serve approximately 1700 partner agencies that support hunger relief in Iowa, Illinois, Nebraska and South Dakota (see table 1-2). The vast majority of these programs are located in Iowa.

Table 1-2: Regional food banks operating in Iowa.

<table>
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<th>Regional Food Banks</th>
<th>Partner Agencies</th>
<th>Service Area (Counties)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Bank for the Heartland</td>
<td>530</td>
<td>93</td>
</tr>
<tr>
<td>Food Bank of Iowa</td>
<td>375</td>
<td>55</td>
</tr>
<tr>
<td>Food Bank of SiouxDlakes</td>
<td>100</td>
<td>11</td>
</tr>
<tr>
<td>Food Bank of Southern Iowa</td>
<td>47</td>
<td>13</td>
</tr>
<tr>
<td>Hawkeye Area Community Action Program</td>
<td>105</td>
<td>7</td>
</tr>
<tr>
<td>Northeast Iowa Food Bank</td>
<td>200</td>
<td>16</td>
</tr>
<tr>
<td>River Bend Foodbank</td>
<td>300</td>
<td>22</td>
</tr>
<tr>
<td>St. Stephen’s Food Bank</td>
<td>37</td>
<td>2</td>
</tr>
</tbody>
</table>

These food banks include the Food Bank of Iowa, Northeast Iowa Food Bank, River Bend Foodbank, Food Bank for the Heartland, Hawkeye Area Community Action Program (HACAP) Food Reservoir, Food Bank of Siouxland, Food Bank of Southern Iowa, Inc., and St. Stephen's Food Bank. The Food Bank of Iowa (2015), located in Des Moines, IA, currently works with 375 partner agencies located in 55 counties through central and southeastern Iowa. The Northeast Iowa Food Bank (2016), located in Waterloo, IA, currently works with over 200 agencies located in 16 Northeast Iowa counties. The River Bend Foodbank (n.d.), located in Davenport, IA, currently serves more than “300 charitable community organizations that support the hungry” located in the Quad Cities (metropolitan area in eastern Iowa and western Illinois) and 22 counties in eastern Iowa and western Illinois. The Food Bank for the Heartland (2016), located in Omaha, NE, “distributes food to 530 pantries, schools, emergency shelters and other nonprofit partners” located in 93 counties in western Iowa and eastern Nebraska. The HACAP Food Reservoir (2016), located in Hiawatha, IA, distributes food and grocery products to 105 partner agencies in seven eastern Iowa counties. The Food Bank of Siouxland (n.d.), located in Sioux City, IA, currently serves 100 member agencies located in 11 counties in northwestern Iowa, northeastern Nebraska, and southeastern South Dakota. The Food Bank of Southern Iowa, Inc. (n.d.), located in Ottumwa, IA, serves 47 partner agencies in 13 counties in southern Iowa. St. Stephen’s Food Bank (n.d.), located in Dubuque, IA, currently serves 37 food pantries and free meal programs in two eastern Iowa counties. These eight food banks and 1700 partner agencies provide an essential service to low-income individuals and families in their communities by providing access to food for those in need.
Food pantries and free meal programs have been in the Des Moines MPA since the 1970’s (DMARC, n.d.). The Des Moines Area Religious Council (DMARC) (n.d.), an interdenominational religious organization promoting “spiritual, moral, social, and civic welfare in the community” and major player for food assistance within the MPA established their emergency food pantry program in May 1976. It is reasonable to assume that there were other private charitable programs present during this time period and likely before, but there appears to not be any centralized databases that tracked them. In January 2009, DMARC (n.d.) launched their Move the Food initiative, which aimed to engage the whole community to “end hunger and improve health in Polk County” by changing the content of their food boxes to include more “healthy food including fresh fruits and vegetables.” In the past their food boxes contained a four-day supply of food but DMARC experienced massive demand from the community for their food assistance program in 2014 and 2015, and had to reduce their monthly allotment to a three-day supply per family. DMARC currently has twelve brick-and-mortar food pantry sites and one mobile food pantry in the metro, which serves more than 34,000 people annually. The Iowa Food Bank Association (IFBA) is another organization managing and working on food assistance in Iowa. The IFBA (n.d.) was formed in 2009 by the executive directors of the eight Iowa Feeding America food banks. The purpose of the IFBA (n.d.) was to create a way for the existing programs to collaborate to make hunger relief in the state more effective and efficient, and to give the food banks in the state a stronger voice at the state level. These organizations work on multiple levels of the spectrum to ensure that low-income individuals and families have the access to the food they need. Food assistance programs have been present in the
Des Moines MPA since the 1970s and their organization and cooperation works to ensure their services remain relevant and effective.

In the Des Moines MPA, there are 42 food pantries, 32 free meal programs, and one organization that has both a food pantry and free meal program currently in operation (see figure 1-4). These food pantries and free meal programs are operated by organizations with religious, non-governmental, and governmental foundations. Some of these food assistance programs are engaged in organizational partnerships and others operate as independent entities.

Figure 1-4: The locations of food assistance programs in the Des Moines MPA.
The scope and breadth of services varies from program to program though they all work to alleviate hunger and food insecurity and operate in response to needs they have perceived within the community. These food pantries and free meal programs are spread throughout the Des Moines MPA and provide an essential service for residents in need. According to Rick Kozin, the Polk County Health Department Director, “Over 50,000 people in our community are food insecure” (Polk County, n.d.). Feeding America (2016b) confirms this issue in their report “Map the Meal Gap 2016: Overall Food Insecurity in Iowa by County in 2014”, which estimates the rate of food insecurity in Polk County at 12.5%, which translates into 55,630 people. The report estimates that 57% of Polk county residents are likely to be income eligible for federal nutrition assistance (Feeding America, 2016b).

Dallas County and Warren County, which are partially located within the Des Moines MPA also struggle with food insecurity. The report estimates that 9.3% of Dallas County residents are food insecure, which translates into 6,710 people (Feeding America, 2016b). Similarly, 10.2% of Warren County residents are food insecure, which translates into 4,780 people (Feeding America, 2016b). While Dallas County and Warren County have only a small portion of their geographic area located within the Des Moines metropolitan planning area, a greater proportion of each county’s population is located within the metropolitan planning area, which makes these rates of food insecurity relevant. Given these high levels of need, the food pantries and free meal programs located in the Des Moines MPA provide an essential service for residents. Therefore, the processes utilized by these organizations to select their locations provide essential insight into the potential success of current and future food assistance organizations.
Methodology

Utilizing appropriate data collection methods is important as they directly shape the information the researcher is able to gain. In-depth interviews allow the researcher to gather data directly from a participant using relevant interview questions, which can then be analyzed into relevant and useful information per the focus of the research. In-depth interviews with people are quite laborious as they involve developing interview protocol, IRB approval, finding and making connections with participants, conducting the interview and gathering the data, and processing the data to make it useful and applicable to the research. While particularly involved, in-depth interviews are a very effective method for gathering a clearer understanding directly from people involved in the research focus. GIS allows researchers to utilize focused maps of regions to highlight the interactions between geographic areas and paired data. Paired data can represent community services, public transportation networks, neighborhoods organized by certain demographic data, and any other relevant information that can be represented spatially through a map. GIS allows researchers to analyze specific variables and deduce valuable insight about the experiences of people and regions without direct interviews of experiences, but these insights may rely on assumptions made by the researcher. In-depth interviews can be paired with GIS to help fill any potential gaps in the GIS analysis to create a more comprehensive understanding of the research focus.

Interviews with program organizers of food pantries and free-meal programs provided a valuable methodology for identifying how participating programs operated in the Des Moines MPA and allowed insight into how they organize their location selection processes. Interviews aimed to develop a profile of each organization and identify the
processes and criteria used during their location selection decision-making process. Geographic information systems (GIS) was utilized to identify the geographic proximity of food pantries and free-meal programs to potential areas of need according to demographic information, the public transportation network, and supplemental services located within the Des Moines MPA. This two-pronged approach was critical for the ability to identify and evaluate the location selection processes of food pantries and free meal programs, and evaluate their geographic accessibility for low-income individuals and families living in the Des Moines MPA.

Interview participants were identified using the Eat Greater Des Moines database for food assistance programs operating in the Des Moines area. To qualify for this research, food pantries and free meal programs needed to be located within the Des Moines MPA boundary line. Based on this, we identified 47 food pantries and free meal programs. The programs were contacted, using publicly listed e-mail addresses or phone numbers, and invited to participate in the study. Of the 47 programs, 19 agreed to participate, 1 declined to participate, and 27 programs did not respond to our inquiry. The participating programs included: 11 food pantries, five free meal programs, one food pantry and free meal program, one food pantry parent organization, and one free meal program parent organization. Interviews were conducted over the phone with the person that was in charge of operating the program. Some of these program organizers had formal titles while others were lacked one but held all the responsibilities of a program director. Phone interviews lasted between about 30 minutes and 65 minutes, with the majority of interviews lasting around 45 minutes. The goal of the interview process was to develop an organizational profile of each participating food pantry and free meal program by
understanding their history, how they operate within the community, and identifying the processes by which they selected their physical locations within the community. This goal was achieved using focused interview questions that were divided into three sections: history of the organization, logistics of operation, and services offered. These three sections provided insight into the origins of the organization and reasons for development, the logistics of daily operation, staffing and funding, the scope of services offered to clients, and the location selection processes. These profiles created a clearer understanding of the organizations, helped to identify the ways in which they made location selection decisions, and provided insight into potential ways in which organizational characteristics may influence the location selection process. The resulting data from the interview process was organized into a master sheet by questions and organizations so that it could readily be compared during the coding process. We then utilized open coding to identify themes and noteworthy experiences in an attempt to understand the findings and condense them into preliminary codes. Next, this research utilized axial coding to review the preliminary codes to see if they were accurate and represented within the findings. Finally, selective coding was utilized to find examples of the codes in the data and compare the major themes across the data. This process helped to organize the interview data, identify the major themes, confirm their presence, and find examples of them in the data.

The goal of the GIS analysis is to evaluate the geographic accessibility of food assistance programs in the Des Moines MPA by evaluating the geographic proximity of programs to public transit stops, supplemental services, and potential areas of need as understood using demographic data. By understanding the areas surrounding food assistance programs this research aims to create a greater understanding of their potential
geographic accessibility for low-income individuals and families. Programs participating in this portion of the research were identified using the Eat Greater Des Moines food assistance program database and additional Internet searches. To qualify for this research, programs needed to be located within the Des Moines MPA boundary line. Seventy-seven food assistance programs qualified to participate in this section of the research. This geographic analysis utilized ¼ mile buffers around all seventy-seven food assistance programs located in the Des Moines MPA, based on their reported physical addresses, to identify if the programs are within close geographic proximity to the public transportation network, supplemental services, and census tracts with higher percentages of poverty and racial diversity, all valuable indicators of food assistance program accessibility and usage. Accessibility was measured using the ‘intersect’ tool to identify the food assistance program buffers that overlapped with the features in question. This approach identified the public transportation stops, supplemental services, census tracts with high rates of poverty and census tracts with increased rates of racial diversity among residents that fell within the ¼ mile buffers around the food assistance programs. From here, we counted the numbers of features intersecting the buffers and identified the percentage food assistance programs that were accessible.

This mixed methods approach is valuable as it develops an understanding of the location selection process from an organizational perspective. Then evaluates the methods described by program organizers from users perspective to see if the food assistance programs operating in the Des Moines MPA are geographically accessible. This combined approach is useful as it allows for a clearer understanding of the effectiveness of the
reported location selection processes by checking if the program locations had the potential to be geographically accessible.

**Conclusion**

This research seeks to provide a clearer understanding of the decision-making processes of location selection and the potential geographic accessibility of food assistance programs in the Des Moines MPA. The findings will be useful information for program organizers, policy makers, and community planners interested in evaluating and bettering these services. The Des Moines MPA provides a valuable place for insight into the location selection processes and geographic accessibility of food assistance programs given the high rates of food insecurity and number of programs in operation. Identifying and documenting the location selection processes of food assistance programs operating in the Des Moines MPA provides valuable insight for understanding the geographic accessibility of these programs due to the need of close geographic proximity for accessing low-income individuals and families. Understanding these location selection processes will be useful for effective evaluation of these services and identifying potential intervention points to increase their effectiveness.
CHAPTER 2:

FOOD PANTRIES AND FREE-MEAL PROGRAMS:
AN OVERVIEW AND LITERATURE REVIEW

Food pantries and free-meal programs provide an important service for low-income individuals and families who experience food insecurity. Given the characteristics, experiences, and resources available to low-income individuals and families, it is important that these services are located conveniently and close to the people who need their services (U.S. Health and Human Services [USHHS], 2014). However, it is unclear how food pantries and free meal programs select their locations within communities. Given the need for clients to be close to these services for them to be accessible, understanding the location selection decision-making processes of food assistance program can provide useful insight for understanding the geographic accessibility of their services. It is important to explore the processes employed by these programs for location selection as a component of understanding their accessibility.

To fully understand the findings of this research though, we must first understand the historical and current framework of food pantries and free meal programs and their users as it is currently defined and explained in academic research, government publications, and media. The rest of this chapter will define what constitutes a nonprofit organization, a food pantry and a free meal program; explore their development and presence through modern history in the United States; identify the characteristics of food pantry and free meal program users; discuss the experiences of low-income individuals and families living in urban environments; identify the ways in which food accessibility is influenced by demographic and socio-economic characteristics; investigate the ways in
which mobility and transportation options influence the ability of low-income individuals and families to navigate and access urban environments; identify the processes for location selection decision-making for nonprofit organizations; and identify effective methods for evaluating geographic accessibility using GIS. This analysis will provide the foundational framework for understanding what these services are, how they operate, how they have developed through history, whom they target, and the experiences of target populations in urban areas.

**Defining the concepts**

*Nonprofit organizations* are entities that “provide goods and services that are not delivered by the business or public sectors, develop skills, create employment and foster pathways for social inclusion” (Weerawardena, McDonald, & Mort, 2010, p. 346). In essence, they “contribute to society through their social value creation” (Weerawardena et al, 2010, p. 346). According to the Larned A. Waterman Iowa Nonprofit Resource Center (2016), nonprofit organizations may provide this social value by contributing “across the broad spectrum of daily life” through focused action in “religion, health, social services, education, culture, community development, housing, and human rights” (p. 6). At their core, nonprofit organizations aim to deliver on their mission statement, which is a reflection of their values and purpose as an organization (Larned A. Waterman Iowa Nonprofit Resource Center, 2016, p. 12). In practice, a nonprofit “pursues a mission that is neither financially sustainable using a for-profit business model, nor for which there is public support sufficient to move government to action and the expenditure of taxpayer funds” (Weerawardena et al, 2010, p. 347). While a nonprofit organizations mission is the
core of their purpose, the nonprofit sector is increasingly competitive so it is important that these organizations remain viable without compromising the quality of their services. This balance requires nonprofit organizations to remain flexible and responsive to external and internal challenges all the while fulfilling their commitments to their clients, patrons, and the community in which they operate, all whom depend on the organization and their service (Weerawardena et al, 2010, p. 347). In this increasingly competitive nonprofit ‘marketplace’, nonprofit organizations must “strive for financial resources” so they have the ability to deliver social value to their clients (Weerawardena et al, 2010, p. 347). This balance of “money and mission” is central to the effective operation of nonprofit organizations as it is critical for remaining effective within their community.

*Food pantries* are nonprofit organizations that “receive, buy, store and distribute food” to individuals and households within their community (Wyoming Food Bank of the Rockies, 2016). Food pantries often receive food from individual and organizational donations, partnerships with local grocery stores and restaurants, and food banks. Local governments, religious organizations, and other charitable organizations may operate food pantries. It is important to note that food pantries and food banks are not the same. While a food pantry provides emergency food assistance directly to community members, a food bank is a “non-profit organization that collects and distributes food to hunger relief charities” but they do not usually “give out food directly to people struggling with hunger” (Feeding America, 2016d). This distinction is important because these terms are often used interchangeably. This research study will not investigate the location selection processes and accessibility of food banks as they do not directly serve low-income
individuals and families, but will focus specifically on food pantries and free meal programs as they do work directly with members of the community.

*Free meal programs* are nonprofit emergency food assistance organizations that provide a meal or meals at no cost to the client, though some do accept donations if a client wants to contribute to the cost of the meal. The number and frequency of meals varies from organization to organization. Some free meal programs offer three meals a day for 365 days of the year while other programs provide certain meals a day or at certain times during the week. Some free meal programs have kitchens and staff that prepare the food for each meal while other programs partner with area organizations or individuals to prepare and serve meals. Programs may receive food through donations from individuals, religious communities, corporations, grocery stores and restaurants, and by purchasing food from local grocery stores and food banks. The subsidized and free school lunch program is one example of a free meal program. However, there are programs that operate outside of the school system for community members too. Local governments, religious communities, and charitable organizations may operate free meal programs for their community. Implementation of the service may vary across organizations, but generally, their goal is to provide a meal to clients and alleviate hunger.

Free meal programs and food pantries intend to reduce hunger and *food insecurity* within their communities. Hunger "is an individual-level physiological condition that may result from food insecurity" (U.S. Economic Research Service [USERS], 2016). Food insecurity “is a household-level economic and social condition of limited or uncertain access to adequate food" (U.S. Economic Research Service [USERS], 2016). Another way to define food insecurity is a "lack of access, at times, to enough food for an active healthy life
for all household members and limited or uncertain availability of nutritionally adequate foods” (Feeding America, 2016a). It is important to note that “food insecure households are not necessarily food insecure all the time” (Feeding America, 2016a). A person or household's level of food insecurity may vary over the course of a month or year depending on their specific circumstances. Food insecurity may be caused by limited income or low wages, unemployment or limited employment, high cost of housing, and unexpected life events and expenditures, such as chronic or unforeseen medical costs (National Coalition for the Homeless, 2011). These life events and situations may force a household to make difficult decisions about where to direct their limited funds, which may cause them to fluctuate between having enough and not having enough to eat. Food insecurity can make it very difficult to be productive and efficient in life as it forces people to regularly make difficult decisions about financial expenses and food. Food insecurity detrimentally impacts the health of individuals and families too. Food insecurity may impact the ability of people to maintain consistent medication schedules, and may affect the development and prevention of medical conditions and diseases (Hampton, 2007, p. 1851). Children’s health status may be impaired as a result of experiencing food insecurity, which may make them “less able to resist illness and more likely to be hospitalized” (Hampton, 2007, p. 1851). Adults may experience increased risk of type 2 diabetes as a result of food insecurity, which may be challenging to manage because type 2 diabetes requires special dietary considerations that can be difficult to accommodate due to the realities of food insecurity and limited access of healthful foods (Hampton, 2007). These health impacts are considerable and it is important that there are readily accessible emergency food
assistance programs to help those in need and work to ensure we cultivate productive and healthy communities.

**Overview of Food Assistance Programs in the US**

Food assistance programs are managed by government agencies and private organizations. Food assistance programs operated by government agencies are historically rooted in utilizing surplus agricultural commodity crops. Government run programs include the National School Lunch Program, the Food Stamp Program, and the Supplemental Nutrition Program for Women, Infants, and Children. Each of these programs serves a variety of very specific target populations. Government run programs often have a rigid set of qualifying requirements that clearly and effectively focus the program on its intended recipients. These programs are centrally managed and enacted all across the country.

Privately organized food assistance programs are rooted in a charitable interest and the need for assistance seen in the public by charitable individuals and organizations. Privately operated programs often have a clear set of goals in their charitable work but may not have the strict qualifying requirements of government operated programs. Private programs play an important role in bridging the gap for people who do not qualify for government programs but still require assistance. The following two sections will briefly explain the history of food assistance programs operated by government agencies and private organizations.
Private Food Assistance Programs

The concept of “food banking”, the process of collecting unutilized food from area organizations so it can be redistributed to people in need, was developed by John Van Hengel, a retired businessman, in Phoenix, AZ in the late 1960’s (Feeding America, 2016c). Van Hengel had been volunteering at a local soup kitchen and through this experience met a woman who was searching through a grocery store’s garbage in search of food for her family. This woman suggested that there should be a place where “discarded food could be stored for people to pick it up” (Feeding America, 2016c). Given this conversation, Van Hengel established St. Mary’s Food Bank in Phoenix, AZ in 1967, through a partnership with his local parish, St. Mary’s Basilica (St. Mary’s Food Bank Alliance, n.d.). There was a clear need for this service as food banks were established in 18 cities across the country by 1977 (Feeding America, 2016c). This boom of food banks in the 1970s came as a result of an unstable economy, which was struggling with cycles of steep inflation, surging energy prices, and recession (U.S. Department of Labor [USDL], 2014). It is important to note that the terms food bank and food pantry seem to be used interchangeably here. However, St. Mary’s Food Bank Alliance still provides food boxes directly to clients through their central location and mobile pantry, which makes them more like a food pantry than a food bank and makes this historical information relevant to food pantries. The number of food banks continued to increase so van Hengel established Second Harvest, now Feeding America, a national organization for food banks (Feeding America, 2016c). Feeding America affiliated food assistance programs are currently located all over the country. However, Feeding America is not the only organization coordinating, operating, and partnering with private food assistance organizations. There are many privately operated and managed food
assistance programs throughout the country that operate independently and in partnership with other organizations. The expanse and scope of private, independent food assistance programs are difficult to pin down as there is no central database that tracks their operation, though it is safe to assume that they are spread throughout the country and operate in most every community.

**Government-Sponsored Food Assistance Programs**

The United States government has played an active role in making food available for people in need. The Commodity Credit Corporation (CCC) Charter Act of 1933 was established to primarily get loans to farmers and help them store non-perishable USDA foods until prices rose (U.S. Food and Nutrition Service [USFNS], 2013). In time, the program developed so farmers were allowed to forfeit their crops to pay loans, which left the government with a surplus of non-perishable USDA foods that the government sold and distributed to domestic and international food programs (U.S. Food and Nutrition Service [USFNS], 2013). The 1935 Agriculture Act expanded this program and allowed the government to purchase price-depressing surplus foods from the market and redistribute these foods using federal domestic programs and exports (U.S. Food and Nutrition Service [USFNS], 2013). The National School Lunch Act of 1946 provided funds to participating schools to purchase food for their lunch programs in an attempt to “improve the health and well-being of the nation’s youth” (U.S. Food and Nutrition Service [USFNS], 2013). The 1949 Agricultural Act made certain the foods acquired through the CCC price-support operations were distributed to “school lunch programs, the Bureau of Indian Affairs, and local public welfare organizations serving needy people” (U.S. Food and Nutrition Service
Additionally, the 1949 Agricultural Act authorized the CCC to “pay for processing, packaging, and handling costs for foods acquired under price support so that recipient outlets could more fully use them” (U.S. Food and Nutrition Service [USFNS], 2013). This change was a major step as it allowed foods to become more stable for distribution and more useful for program recipients.

In 1961, President Kennedy issued an executive order that mandated the “Department [sic] increase the quantity and variety of foods donated to needy households” (U.S. Food and Nutrition Service [USFNS], 2013). This was a clear shift in the USDA Foods Distribution Program from the disposal of surplus food to that of providing nutritious foods to needy households (U.S. Food and Nutrition Service [USFNS], 2013). In the late 1960s and early 1970s, the Nixon Administration proposed phasing out the USDA Foods donation programs but was unsuccessful. Instead, this move may have actually helped institutionalize the program (U.S. Food and Nutrition Service [USFNS], 2013). Several new laws were enacted during this timeframe that established food programs to target specific segments of the populations. These new programs included the School Breakfast Program, the Summer Food Service Program, the Child Care Food Program, the Nutrition Program for the Elderly, the Commodity Supplemental Food Program, and the Food Distribution Program on Indian Reservations (U.S. Food and Nutrition Service [USFNS], 2013).

During the 1980s, legislation was enacted that addressed homelessness and unemployment, and guaranteed some form of USDA foods assistance to emergency feeding organizations (U.S. Food and Nutrition Service [USFNS], 2013). The Emergency Food Assistance Program (TEFAP) was established in 1981 to help supplement the diets of low-income Americans and elderly people (U.S. Food and Nutrition Service [USFNS], 2013). The
Soup Kitchen/Food Banks Program (SK/FB) was created in 1988 to provide homeless populations with access to USDA foods. The TEFAP and SK/FB Program merged in 1996 with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (U.S. Food and Nutrition Service [USFNS], 2013). Some of the current government operated emergency food assistance programs include the Supplemental Nutrition Assistance Program (SNAP), Women, Infants, and Children (WIC), The Emergency Food Assistance Program (TEFAP), and the Commodity Supplemental Food Program (CSFP). These programs have specific eligibility requirements that address income, employment, nutrition risk, ability, age, and gender. While some privately operated food pantries and free meal programs may have some eligibility requirements, including, but not limited to residence, income, identification, and age, many of these programs offer assistance to all people who seek their help. The progression of policies enacted shows a clear transition from working to boost and support the commodity markets with the provision of food as a helpful benefit to providing access to safe and nutritious foods for those in need. Privately operated food pantries and free meals programs supplement the work of the government and help ensure that people who still need assistance can get help if they do not qualify for the federal and state programs.

**Food Assistance Programs Users**

Identifying the characteristics of food assistance program users is important for understanding the potential accessibility of these programs. Generally, users of food pantries and free meal programs experience low-income and limited income that is inadequate to cover essential expenses, employment in low-wage work or unemployment,
and limited education. Biggerstaff, Morris, and Nichols-Casebolt (2002) found in their research in Virginia that “a large percentage [of users] had less than a high school education, many were single parents, most were women, and their wages when they were employed were very low” (p. 274). Even when these people were employed full-time, the “resulting wages appeared to leave many families without adequate resources to cover the costs of food” (Biggerstaff, Morris, and Nichols-Casebolt, 2002, p. 274). Preble Street’s Main Hunger Initiative found in Maine that 75 percent of the people picking up food for families at the food pantries surveyed had to make decisions not to purchase food in order to cover other essential expenses, like medications, rent, and utility bills (Koenig, 2011). Respondents had been “making it” by combining work from two or three part-time jobs to make ends meet but “with the economy, one of those jobs is falling off,” which leaves individuals and families struggling again to make financial ends meet (Koenig, 2011). This insecure and limited employment situation leaves low-income individuals and families without enough income to cover all their necessary expenses. Biggerstaff, Morris, and Nichols-Casebolt (2002) also found that many of these users of food assistance have been homeless or “unable to pay their utility bills” (p. 274). Clancy, Bowering, and Poppendieck (1991) further affirm this precarious economic situation through their research looking at the characteristics of food pantry users in New York State, which found that “seven percent of households had no income” and the median income of respondents was 59% of the poverty level (p. 911). Additionally, “slightly more than 40 percent [of respondents] were spending over 60 percent of their incomes on housing” (Clancy, Bowering, and Poppendieck, 1991, p. 911). These high housing expenses, paired with limited and
uncertain income, play an important role in shaping the food insecurity of individuals and families and their need for food assistance programs.

Another characteristic of food assistance program users is the reality of having to merge assistance sources from multiple agencies and organizations. Kicinski (2012) found that food pantry users in Kent County Michigan had to use multiple sources of assistance to keep themselves and their families fed, including private food assistance programs and government assistance programs (p. 70). This requirement to merge assistance from multiple programs highlights the limited resources, the importance of these services, and the complexity of trying to manage and maintain food security and access. Additionally, Kicinski (2012) found that there were two types of food pantry users: “those who began using pantry services within the last two years (50.9 percent) and those who have used services for over a decade (22 percent)” (p. 70). Food assistance programs are often thought of as temporary solutions to individual and family challenges, but for some there is a larger need and limited resources that prohibit them from being able to move away from these services. Daponte, Lewis, Sanders, and Taylor (1998) confirm this longer-term need for nutrition assistance finding that “new pantry users are likely to remain pantry users for roughly 2 years” in their research in Allegheny County, Pennsylvania (p. 50). Kicinski (2012) identified economic change and loss of employment as one factor influencing food pantry use for those who started using the pantry in the last two years (p. 71). This research highlights that private food pantries and free meal programs, while providing emergency short-term use for some people, may also be providing longer-term additional nutrition support to supplement the gaps in governmental programs given the limited resources and precarious financial situations of low-income individuals and families.
The characteristics of food pantry and free meal program users include employment in low wage work, multiple part-time jobs, unemployment, limited education, single parent status, and a very limited income that may be split between housing, utilities, medical expenses, food, and other essential expenses. While these characteristics may vary locally based on the program and region, they do create a basic understanding of users for food pantry and free meal program organizers, which can be used to help identify potential communities that could benefit from the development of these programs and help create a better understanding of the potential resources clients are able to dedicate toward accessing food assistance programs and potential ability to access programs.

**Low-Income Individuals and Families and the Urban Environment**

Low-income individuals and families living in urban environments in the United States are predominately located in central cities (Glaeser and Rappaport, 2006). This concentration reflects a balance between the cost of property and increased access to public transportation networks (Glaeser and Rappaport, 2006). The concentration of poverty in urban central cities also creates many social and environmental challenges for the residents of these neighborhoods. These challenges include “diminished school quality and academic achievement; diminished health and healthcare quality; pervasive joblessness; and reduced employment networks and employment discrimination” (U.S. Health and Human Services [USHHS], 2014). These neighborhoods also experience “increased crime, especially violent crime; declining and poorly maintained housing stock and devaluation of home values; and difficulty building wealth and experiencing economic mobility” (U.S. Health and Human Services [USHHS], 2014). In addition, neighborhoods
with concentrated poverty experience lower-quality public services (Ludwig et al., 2012) and residents of these neighborhoods “are less likely to live in the vicinity of non-governmental social service organizations” (U.S. Health and Human Services [USHHS], 2014). Decreased proximity to social and charitable services is problematic as geographic proximity is a key factor in service utilization and success. These challenges intersect and influence each other to limit the available opportunities for low-income individuals and families living in these areas, which impacts their quality of life and health.

The concentration of low-income individuals and families in urban central cities, in conjunction with increased poverty, influences the ability of residents to be upwardly mobile and change their situation. Pervasive joblessness, employment discrimination, and reduced employment networks paired with diminished school quality and academic achievement means that residents are left with limited resources for quality employment opportunities that could have the potential to upgrade their quality of life and livelihood. Additionally, poor quality housing stock, devalued housing stock, and limited community services further act to limit economic mobility, as residents may be unable to sell their home, if they were able to purchase in the first place. Research in Baltimore suggests that poverty households perform better when they are able to move away from poverty neighborhoods and suburban areas (Clark, 2005). These changes in household performance are likely correlated to the structural changes of the community, including increased access to higher quality schools, public services and jobs, rather than directly related to a decrease in the concentration of poverty (Clark, 2005). However, the ability of low-income individuals and families to make these transitions is difficult given limited
resources and the characteristics and experiences of living in poverty concentrated urban areas.

**Food Accessibility in US Cities**

Accessibility to the food system in US cities, including grocery stores, supermarkets, restaurants, and other food retailers, is influenced by the race and ethnicity, and the socioeconomic status of individuals and families (Powell, Slater, Mirtcheva, Bao, and Chaloupka, 2007; Algert, Agrawal, and Lewis, 2006). Researchers have found that neighborhood income levels influence the type and prevalence of grocery stores and supermarkets available in urban areas. Powell et al. (2007) found through their research across 28,050 zip codes in the United States that “low-income urban areas have significantly fewer chain supermarkets than their middle- and high-income counterparts but have greater numbers of both non-chain supermarkets and grocery stores” (p. 191). Race and ethnicity plays an important role influencing the accessibility of these retailers as well. African American neighborhoods experience 48% less access to chain supermarkets than White neighborhoods (Powell et al., 2007). Similarly, Hispanic neighborhoods have only 32% as many chain supermarkets compared to non-Hispanic neighborhoods (Powell et al., 2007). The limited availability of chain supermarkets in low-income neighborhoods and neighborhoods of color is concerning due to the higher cost and differences in the types of food these retailers offer. Chain supermarkets, which are predominately more available in wealthier communities and White communities, “have been found to offer food at lower prices and to provide higher quality food products” (Powell et al., 2007, p. 193). In contrast, non-chain supermarkets and smaller grocery stores are more expensive and offer less healthy options than their chain counterparts (Powell et al., 2007). This difference in
the type of grocery stores present is problematic as it impacts the level of food security and health of low-income individuals and families due to the higher cost of foods and different types of foods available.

Given that low-income neighborhoods and neighborhoods of color experience more limited access to chain supermarkets, it is important to understand the types of food retailers that are available in these neighborhoods. Block, Scribner, and DeSalvo (2004) found through their research in New Orleans, Louisiana that “fast-food restaurants are geographically associated with predominately Black and low-income neighborhoods”, which indicates that low-income and Black people have more convenient access to fast food (p. 214-215). According to Block et al. (2004), “this study is the first to document that predominately black neighborhoods have higher density of fast-food restaurants compared to largely white neighborhoods” (p. 217). This increased geographic proximity to fast food retailers “may increase the consumption of unhealthy foods”, which has implications for health. This increased accessibility of fast food restaurants for low-income neighborhoods and neighborhoods of color paired with the limited accessibility of chain supermarkets further affirms the discrepancies in food accessibility based on the demographic characteristics of families and individuals.

**Mobility and Food Assistance Program Users**

Mobility options influence the ability of low-income individuals and families to access food assistance programs and food retailers. Mobility options may include walking, public transportation, ride sharing, borrowing a car, hiring a taxi service, and purchasing a private vehicle. According to research in Austin, Texas, the viability of mobility options is
influenced by the realities of life for low-income individuals and families, including “limited flexibility and personal control over their schedule” and the need to allocate energy and time to connect with existing transportation options, arranging options, and making back-up plans given the uncertainty inherent with said options (Clifton, 2004, p. 410). Low-income individuals and families may utilize a variety of approaches depending on the needs of the situation and trip.

Owning a private vehicle provides many advantages, including “increased flexibility in the scope and timing of shopping, ability to link trips and visit more destinations, ease of transporting purchases, and reduced travel time” (Clifton, 2004, p. 406). Automobile ownership allows low-income individuals and families to “search multiple destinations for lower prices, take advantage of sales, purchase goods in bulk, and time shopping trips around work and the arrival of a paycheck” (Clifton, 2004, p. 408). These advantages however come at a cost, as automobile ownership requires the purchase of a vehicle, a considerable expense, and continued operating and maintenance expenses. Given the added financial cost of owning a private vehicle, this option is not viable for some low-income individuals and families. Instead, borrowing a car, coordinating rides with friends, or hiring a taxi service may provide a viable solution for times when access to a car is necessary. Cars are either borrowed or hired for trips “when the trip or activity requires the speed, flexibility, and hauling capacity that transit cannot provide” or when the distance is too far to be covered on foot (Clifton, 2004, p. 408). Gasoline, money, or favors often serve as compensation in these informal arrangements. Some may be unwilling to lend or borrow a vehicle though due to the risk of accidents, the challenges surrounding insurance coverage, and potential pressure to remain independent (Coveney and O’Dwyer, 2009). In
these situations, hiring a car may be a more appropriate and viable solution. Using a taxi service allows low-income individuals and families to have the use of a vehicle just in the instances that they need, which provides valuable flexibility and speed without the financial burden of automobile ownership.

Public transportation provides added mobility for low-income individuals and families living in communities and neighborhoods with access to this service. The viability of public transportation depends on the quality of the public transportation network and service, proximity to transit routes and stops, and the available destinations in the network. Public transportation is only viable when it is present, and will take a person to the place or near the place they intend to travel. For those dependent on public transportation, the presence, proximity, and quality of the network plays a role in making housing decisions. People who rely on public transportation for mobility may make their housing choices around the existing network to ensure they have access to mobility. However, depending on the neighborhood or community, public transportation infrastructure and networks may be limited or not present, which may exclude public transportation as a viable approach to mobility.

Walking is another avenue of mobility for low-income individuals and families. Walking limits the reach and scope of travel but does provide access to nearby retailers and services (Clifton, 2004). The quality of pedestrian infrastructure and interaction with automobile infrastructure influences the viability of walking for transportation. Areas without sidewalks and crosswalks, and with expansive street networks may be unsafe for pedestrians so walking for transportation may not be viable in these areas. Walking is a slower transportation method and requires an increased amount of time to travel. The act
of walking influences the type of trips and scope of trips presented too. Individuals and families who use walking for transportation may not be able to carry as much home and may need to make more frequent trips to the markets, which again has an impact on already limited time and resources (Clifton, 2004). While walking for transportation does provide certain challenges, for some, walking is a perfectly viable mobility option for retailers and services that are located nearby.

Each of these mobility approaches has their advantages and disadvantages that must be weighed and considered. For many low-income individuals and families, “the lack of access to transportation resources hinders the acquisition of healthy and affordable food” (Clifton, 2004, p. 410). As such, it is important that there are viable mobility options for low-income individuals and families so they can access healthy and affordable foods. These options may include a private automobile, borrowing a vehicle, hiring a taxi service, using public transportation, and walking. However, each situation and experience shapes the viability of each mobility approach and must be addressed on a case-by-case basis.

**Location Selection Decision-Making for Nonprofit Organizations**

The location selection process for non-profit organizations, generally, has three phases: “planning for needs, identifying possible locations, and analyzing the feasibility of the locations” available (Hutton and Phillips, n.d.). The location selection process for-profit retail stores involves identifying the potential customer base and key competitions (Alexander, Cryer, and Wood, 2008). According to research in the United Kingdom, non-profit retail organizations also addresses these factors during their location selection process, though “some issues are more complex and nuanced” as a result of their clientele,
organizational needs, and available resources (Alexander et al., 2008, p. 546). Additionally, “systems and data availability for this market is considerably less developed while the budget to support such investment decisions could render this impracticable” (Alexander et al., 2008, p. 546). Alexander et al. (2008) discuss the importance of identifying viable access to their supply chain (i.e. donors) and the importance of access to a viable local volunteer labor market during the location selection process given the potential limited mobility options for volunteers (p. 547). Katz (2014) found that non-profit human service organizations operating in Los Angeles, CA “prefer to located in neighborhoods where social trust and social participation are higher, as these neighborhoods offer better availability of volunteers, educated employees, and donations” (p. 169). Organizers must walk this fine balance between finding locations that are accessible to their target populations and yet provide the essential needs of the organizations for access to labor and their supply chain. Given the limited resources available for this process, it is likely that program organizers aim to satisfice their location selection decision rather than optimize the process. Optimizing requires an exhaustive evaluation of the factors at hand in an attempt to maximize the value of the decision at hand (Eilon, 1972). In contrast, satisficing recognizes the complexity of a situation and allows the decision-maker to “determine not the best solution to the problem, but a solution that is “good enough”” (Eilon, 1972, p. 6). The satisficing approach to decision making allows decision makers with limited resources or complex considerations to weigh the options at hand and find the best available option for their organization rather than exhausting their resources during the location evaluation process or not delivering on their mission in an attempt to find the perfect solution. This research identifies the nuance and balance that must be navigated by non-profit organizers
during the location selection process. The location selection considerations of for-profit organizations must addressed by their non-profit counterparts with much more limited means and available resources, which means non-profit organizers must be creative and flexible as they navigate their location selection process.

**Evaluating Accessibility**

GIS is a valuable tool for understanding and evaluating spatial relationships (Park, 2011). One approach to measure accessibility using GIS is to utilize straight-line distances and radial buffers around features to identify if they are within close geographic proximity to the different variables in question. The straight-line distance method for measuring accessibility is the most widely used method for evaluating coverage (Gutiérrez and García-Palomares, 2008). Bader, Purciel, Yousefzadeh, and Neckerman (2010) employed this approach in their research in New York City on the disparities in neighborhood food environments along the lines of mobility options including vehicle ownership and public transit access. Foda and Osman (2010) utilized a circular buffer approach as a part of their research on public transportation stop accessibility in Alexandria, Egypt. Kinikin (2004) also utilized buffers to determine the “number of patrons living within a certain distance of each library” in their research on the Weber County Library System in northern Utah (P. 103). Radial buffers and straight-line distances are a widely utilized methodology in published research for understanding and evaluating spatial relationships and geographic accessibility and confirmed the viability of this approach for understanding geographic accessibility in this research.
Conclusion

Clearly understanding the role and scope of food pantries and free meal programs through history helps to cultivate a clearer understanding of the role these services play today. Identifying the people who need their services helps us to understand how these services interact with clients and their communities. Recognizing that low-income individuals and families experience limited income as a result of low-waged work, underemployment, and unemployment; limited education and educational opportunities; limited access to housing mobility and upward mobility; limited access to chain supermarkets and chain food retailers; and limited access to transportation informs our understanding of their lives and experiences. Understanding the location-selection decision-making process in practice for nonprofit service organizations is important as it helps to create a baseline of this process for organizations with similar experiences to food assistance programs. Identifying well-established methodologies for evaluating accessibility with GIS is important as it creates a framework for evaluating and understanding the accessibility of food assistance programs to potential users. In sum, this information is useful to this research as the realities for low-income individuals and families living in urban areas helps to indicate the ways in which food assistance programs can best operate within communities to help ensure successful implementation of service and provide a means to identify target populations using demographic information for evaluating geographic accessibility.
CHAPTER 3:

FINDINGS

In-depth interviews with program organizers provided valuable insights into the operations and location selection processes of food assistance programs. Geographic information systems (GIS) helped identify the geographic proximity of food pantries and free-meal programs to potential areas of need according to demographic information, the public transportation network, and supplemental services. This two-pronged approach provided important insight by creating a more complete understanding of accessibility and location selection by merging information from organizers and potential areas of need with GIS.

Organizations Surveyed

Seventeen food assistance programs and two complementary organizations participated in this research. Specifically, these programs and organizations included eleven food pantries, five free meal programs, one program that operated a food pantry and a free meal program, one food pantry parent organization, and one organization that oversees funding to free meal programs. Seven of these programs were established in the 1970s, six established in the 1990s, and six opened from the early 2000s through 2016 (see figure 3-1). The specific purpose for the establishment of each program varied from organization to organization but the common theme was in response to perceived need within the community. Of the participating programs, 89% (17 of 19) reported being established due to a perceived need that program organizers saw in their communities.
This perceived need for assistance was often triggered by events impacting the community including the 1993 floods, economic challenges stemming from the 1980 farm crisis, and student hunger in area schools and areas of the community that were not being served by the existing food assistance programs. One program reported being established as a result of the development of a federal funding stream and one program organizer reported they did not know why their program was established. The majority of the programs did still report the reason for their development as a response to community need.

The organizational foundation of each program and any organizational partnerships are important to identify and recognize as they influence the potential resources, including funding streams, available to the program. For this research, the following organizational foundations were identified: governmental, non-governmental, and religious. Food assistance programs that reported being operated by governmental agencies were
categorized as having governmental foundations. Non-governmental food programs were defined as non-profit, privately operated programs that were not affiliated with or established by any religious organizations or groups. Food assistance programs that reported affiliation with a religious organization or group were classified as having religious foundations. Food assistance programs with religious foundations encompassed the majority of the organizations participating in this research. Programs with religious foundations accounted for 63% (12 of 19) of the participating programs, governmental foundations for 16% (3 of 19), and non-governmental foundations for 21% (4 of 19) (see Figure 3-2).

![Food Assistance Program Foundation](image)

*Figure 3-2: Organizational foundations for participating programs.*

Organizational partnerships were important for understanding the breadth and scope of food assistance programs as partnerships influenced funding and food sources. For this research, programs were classified as partnered if they had an affiliation or
support from a larger parent organization or group of organizations that provided food or funding. With this distinction in mind, 89% (17 of 19) of the participating programs were members of a partnership and 11% (2 of 19) of the programs were independent (see figure 3-3). Partnered programs reaped the benefit of their partnerships though funding assistance and the donation of food from parent organizations. These partnerships appeared to make a major difference in the operation of partnered programs. Independent programs seemed to be able to hold their own without the added support of a partnership but they appeared to experience challenges balancing food and funding. That is not to say that partnered programs were without challenges but the safety net of their partnerships appeared to make a difference when it came time to face shortages of food and funding as they had additional support from their partner.

![Partnership vs. Independents](image)

**Figure 3-3: Number of participating food assistance programs engaged in organizational partnerships or operating independently.**
Funding sources varied from program to program and were influenced by the program's foundation and partnerships. Funding streams, as reported by respondents, included government and private grants, private donations, donations from local governments, business donations, corporate donations, donations from area religious communities, area tax allocation, fundraiser events, and support from partnerships with parent organizations. Many of the programs relied on diverse funding streams and capitalized on multiple methods to fill out their budget. However, the foundations of the program (governmental, religious, and non-governmental) influenced the ability of each organization to access funds. For example, one program with religious affiliation reported not being able to use state and federal revenue streams since they were a religious organization and as such did not qualify. This organization appeared to fare ok without government funding options due to a partnership with a larger religious organization. However, these program foundations do play an important role by influencing potential funding options.

The hours of operation for participating food pantries ranged from 6 hours per week to 40 hours per week and free meal programs ranged from 1 meal per month to 21 meals per week. These hours of operation were influenced by each program's clientele, budget and staffing options. Some participating program organizers reported attempting to expand their hours but found that their clientele preferred certain times of the day and days of the week, so they tailored their hours to match the needs and availability of their clients. Given the limited resources available to food assistance programs, it is critically important that they capitalize on the times where they can have the most effective outreach to clients. Staffing requirements and options also influenced the hours of operation for
participating programs. Certain funding sources and partnerships required programs to have at least 1 paid staff person. For instance, 89% (17 of 19) of the participating programs reported having at least 1 paid staff person. 1 program was in search of a paid part-time executive director. Only 1 program reported to not have any paid staff members. Some partnerships required programs to have trained staff to operate their computer system, which tracked outgoing food boxes and client usage. These requirements meant that trained staff, which could be volunteers and/or paid staff depending on the program, were needed at work for the site to be open. These trained staff requirements were a consideration when making staff schedules but they appeared to be manageable and worth it given the added benefit of partnerships. Utilizing volunteers was a critical aspect of staffing given the limited financial resources and programmatic goals of food assistance programs. All programs organizers reported utilizing volunteers to staff their programs. Volunteers were recruited using word of mouth, outreach with partner churches, outreach to area schools, and through connections with friends and family. Background checks were required for volunteers by 11% (2 of 19) of the participating programs but the others did not have formal vetting criteria. Some of the participating programs had more volunteers who wanted to help than they could use while others struggled to find volunteers. Some programs experienced strong loyalty with their volunteers while others did not. Clientele input and response, staffing options, and funding implications worked together to shape the hours of operation of each participating food assistance program.

Food pantry organizers reported, generally, that clients could collect one food box per calendar month. A few programs expressed the occasional exception but each food pantry mainly allowed their clients to collect one food box once per calendar month. Some
programs employed this practice as a result of requirements from partnerships and others settled on the practice of their own accord. Organizers reported food box distribution rates ranging from 45 boxes to 750 boxes per month. Food boxes tended to include canned and shelf stable foods including; dried noodles and pasta products, canned fruits and vegetables, canned meats, dry cereals, rice, peanut butter, and bread. Some locations carried frozen meats, dairy products, and fresh vegetables, but they did not last long at the pantry and were not guaranteed to be there. Food sources included donations from individuals, grocery stores, churches, and restaurants, partnerships, food rescue programs, and purchasing through wholesale and retail markets.

Generally it appeared food pantries that were open more hours per month were able to distribute a higher number of food boxes per month, based on their reported hours of operation and reported number of food boxes distributed per month (see figure 3-4). However, there were two outlier food pantries who held longer hours of operation and appeared to distribute a reduced number of food boxes as compared to their counterparts. It is difficult to definitely say why these two programs had reduced distribution with higher hours given the limited sample size and variety of program characteristics. One of these programs was independent with non-governmental foundations, and the other program was engaged in a partnership and had religious foundations. One potential reason for this reduced distribution with longer hours of operation may be the other services these programs may offer to the community, which may require the program to hold longer hours of operation to properly serve the community and may limit the hours their food pantry is open to the public. For example, one of the food pantries reported occasionally being unexpectedly closed due to funeral services and church services.
Figure 3-4: Food pantry food box distribution and monthly hours of operation.

The organizer reported that they would direct people to other food pantries in this event but that level of uncertainty may be enough to cause users to find another service with more dependable hours, given their potential limitations on time and mobility options. The other food pantry with a smaller distribution and longer hours also holds a number of other services at their location. So this discrepancy in the trend may be a result of the other services these organizations offer in addition to their food programs.

Free meal program organizers reported that clients were welcome at each meal they offered. Organizers across all the participating free meal programs reported serving a range of 2,800 to 23,800 meals per month. These numbers reflect organizations with single locations and organizations with multiple locations, ranging from 4 to 15 locations.
Meals varied considerably but most programs aimed to provide a “well-rounded” and approachable meal including some type of protein (meat or eggs), vegetable and/or fruit, and a dessert. That being said, one program did have very strict guidelines and oversight for the contents and nutritional value of each meal as dictated by their funding source. They strictly planned and evaluated each meal to ensure that it fit with the required nutritional guidelines. Given the strict nutritional requirements for each meal, this program contracted all their meals through a catering business and had them delivered to each location to ensure accountability, consistency, and accuracy. This was not the norm but rather a reflection of the organization and their funding requirements. Most participating free-meal programs sourced food through donations from individuals, restaurants, churches, and grocery stores, wholesale markets, and food rescue programs.

Food assistance program organizers in the Des Moines MPA described their target populations as: people who are living under the poverty line; people in need; people who are not being served by the existing food assistance network; homeless people; low-income people; kids and families in need; elderly people; residents of the service area; food insecure people; and anyone who is hungry. While these descriptions varied, the overall theme appeared to be people who are prone to experience food insecurity and hunger. Outreach to these target populations was reported to occur using: word-of-mouth; targeted outreach to supplemental services, including healthcare providers, homeless shelters, senior housing, human services, and resource offices; and outreach through websites, areas businesses, area churches, websites, and print publications.

Requirements for program eligibility varied from program to program. Some food assistance programs required clients to meet prescribed qualifications to use their services
and others did not (see figure 3-5). For example, four programs had geographic limitations on their service area, and required users to prove residency and provide identification; and one program required users to be 60 years old or older or be the spouse of someone 60 years old or older, and RSVP at least one day in advance. Five programs required clients to provide identification for each member of the household to ensure accountability.

![Eligibility Requirements](image)

*Figure 3-5: Number of criteria required for food assistance program eligibility.*

Two programs required clients to provide identification for each member of the household, a physical address, and basic health information including diet constraints and allergies. The final six programs did not have any requirements of eligibility for their clients.

Each participating program provided food assistance through a food pantry and/or free meal program but many include supplemental services as well. The specific supplemental services offered varied by program but were reported to include clothing
closets, health clinics, general equivalency diploma (GED) classes, computer access, wellness classes, nutrition education, financial assistance, tax help, educational programs, community outreach programs, access to federal energy assistance, and other programming aimed to help target populations. Supplemental services are important as they provide clients with additional help, which may incentivize program use.

The food assistance programs participating in this research include eleven food pantries, five free meal programs, one organization that operated a food pantry and a free meal program, one food pantry parent organization, and one organization that oversees funding to free meal programs. All of these programs are located within the Des Moines MPA and they all are working to alleviate hunger and food insecurity for people in need. These programs were mainly established in response to perceived needs within the community. The organizational foundations include religious, non-governmental, and governmental and while some programs operate independently others are engaged in organizational partnerships. These characteristics have the potential to influence the food and funding streams for each program but all the participating programs appear to be viably operating within the community. Many of the participating programs offer other services in addition to their food program, including clothing closets, health services, education programs, and wellness classes. Generally the food pantries offered one food box per household per calendar month and the free meal programs welcomed clients to all meals offered. Developing these organizational profiles is an important aspect of evaluating and understanding the location selection processes and criteria as reported by program organizers as understanding the organizations at large helps to create a clearer
understanding of the ways in which the organizational characteristics may influence the location selection decision-making criteria and process.

**Location Selection Processes and Criteria**

Identifying and understanding the location selection processes and criteria was a central goal of the in-depth interviews with food assistance program organizers. The interviews showed that these processes and criteria varied from organization to organization in practice. Based on the responses from the program organizers, the reported location selection criteria and considerations can be divided into five general categories: physical accessibility, location of clients, financial cost considerations, facility requirements, and existing services. These general categories encompass all the criteria that were reported to be considered through the location selection process.

The goal of understanding these program's physical accessibility is to gain insight into how clients may access the services and their ability to do so, including analysis of access via public transportation, walkability, American Disability Act (ADA) compliance, and the proximity to or presence of parking options. Physical accessibility was reported to be considered during the location selection process by 63% (12 of 19) of the participating food assistance programs. In practice, physical accessibility was discussed by programs organizers through an interest for their location to be walkable for potential clients, have public transportation access, have accessible parking options, and be compliant with the American Disability Act accessibility requirements. Physical accessibility of the participating programs appeared to be one important consideration during the location
selection decision-making processes given the number of participating program organizers who discussed considerations related to physical accessibility.

Client analyses focused on understanding whom their potential clients were and where they were located. Client analyses were reported by 53% (10 of 19) of the participating food assistance programs during their location selection processes. Respondents reported an interest in maintaining access for current clients through upcoming location changes, discussed analyses they completed using US Census information and mapping to identify potential areas of need, discussed working with residents when trying to meet community need, and discussed using information collected from clients to evaluate the success of locations after they were in operation. Client analyses appeared to play an important role in location selection and decision-making processes.

Organizational financial cost considerations centered on quantifying the cost of rent, cost to purchase, utility expenses, and operational expenses of a proposed location. Organizational financial cost considerations were reported by 47% (9 of 19) of the participating food assistance programs during their location selection processes. Program organizers seeking new locations reported a desire for new locations to be less expensive than their current options. Specially, organizers discussed their desire for new spaces to be 50% of their current rate or free. 78% (7 of 9) of the respondents that reported cost considerations said that they are using their current space because it was donated or already owned by the organization, a valuable cost saving when setting up and operating a food assistance program.
Criteria related to facility requirements are another category identified by participating organizations. Facility requirements were reported by 32% (6 of 19) of the participating food assistance programs. This category focused on the specific needs of the building, including a desire for areas with privacy for intake and health services, added space for food sorting, storage and distribution, office space for administrators, bathrooms, and buildings that are ADA compliant. Facility requirements did not appear to be a particularly widespread consideration across all participating food assistance programs but it certainly was a topic of conversation during the location selection and decision-making process for some programs.

Participating organizations reported addressing the presence of existing services by analyzing the proximity to and potential impacts of proposed services to existing services. Criteria related to the presence of existing services was reported by 16% (3 of 19) of the participating food assistance programs during their location selection processes. This category was discussed by organizers through an interest to be at least two miles between existing locations and proposed ones, identify areas that are not served by the current network of pantries, and try to foresee how new locations would impact existing ones. This research found that the presence of existing services did not appear to be a high consideration in the location selection and decision-making processes though a few organizations did report considering the presence of existing services.

The organizational foundations of the participating food assistance programs appear to play a role in influencing the factors taken into consideration when making location selection decisions. The organizational foundations for participating food assistance programs were identified as religious, non-governmental, or governmental.
Table 3-1 highlights the participating food assistance programs sorted by their organizational foundations and the criteria they reported for their location selection decision-making processes. The number of location selection criteria used per organization varied but all programs that responded to this interview question reported utilizing criteria from at least 1 category.

Food assistance programs with religious foundations accounted for 63% (12 of 19) of the participating programs. Program organizers reported at least 1 criterion from at least 1 category though none of the programs utilized all 5 categories. 9 of the 12 programs with religious foundations reported financial cost as a consideration during their location selection and decision-making processes. Program organizers reported that their organization “already owned the building”, needed their new space to be “50% of the current rate or free”, discussed the role of cost sharing or negotiating reduced rental prices, and that their “location was donated”. 7 of these 12 programs identified location selection decision-making criteria that fell within the category of physical accessibility. Programs organizers reported a preference for walkability, ADA accessibility, access to public transportation, and the value of being close to supplemental services. 5 of these 12 programs expressed criteria that centered on the category of clients. Program organizers reported a desire to remain accessible to current clients, utilizing mapping and census information to identify areas of need, and a desire to be close to the homeless shelter and other homeless populations. 4 of these 12 programs reported criteria that fell within the category of facility requirements. These program organizers reported needing a new location due to growing demand, the value of a mobile option for accessing clients, a need for more space for food sorting and storage, and a clean environment that is hospitable and
provides privacy for clients. 2 of these 12 programs reported utilizing criteria that fell within the category of existing services. These program organizers reported a desire for space between locations and reviewing the current food assistance program network to be able to accurately identify that areas not currently being served.

Table 3-1: Location selection criteria and organizational foundations for food assistance program as reported by organizers.

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Location Selection Criteria</th>
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<tbody>
<tr>
<td></td>
<td>Organizational Foundation</td>
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<tr>
<td>Food Pantry</td>
<td>Religious</td>
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<td>Food Pantry</td>
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<tr>
<td>Free Meal Program</td>
<td>Religious</td>
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<tr>
<td>Free Meal Program</td>
<td>Religious</td>
</tr>
<tr>
<td>Food Pantry Parent Organization</td>
<td>Religious</td>
</tr>
<tr>
<td>Free Meal Program Funding Source</td>
<td>Government</td>
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<tr>
<td>Free Meal Program</td>
<td>Government</td>
</tr>
<tr>
<td>Food Pantry</td>
<td>Government</td>
</tr>
<tr>
<td>Food Pantry</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>Free Meal Program</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>Food Pantry and Free Meal Program</td>
<td>Non-Governmental Organization</td>
</tr>
</tbody>
</table>

Food assistance programs with non-governmental foundations accounted for 21% (4 of 19) of the participating programs. 3 of these 4 programs responded to this portion of the interview process and one program organizer refused to answer these questions because they were not present during the location selection process and did not feel comfortable speaking to their location selection decision-making process. All 3 of the non-governmental programs that responded to this section of the interview reported physical
accessibility as a consideration during their location selection process. In practice, all of these organizers identified access to public transportation as important and one program organizer also discussed the importance of accessible parking options and handicap accessibility. Two of the organizers reported client considerations as an important criterion in their location selection process. These program organizers discussed this through a desire to be close to homeless populations by locating in downtown Des Moines. One organizer reported facility requirements as a consideration during their location selection process. This program organizer mentioned the importance of an office for their executive director, a check-in office with privacy, space for a nurse’s office with privacy, clothing closet space, and area for food storage and distribution. None of the participating non-governmental programs reported criteria relating to the categories of financial cost or existing services.

Food assistance programs with governmental foundations accounted for 16% (3 of 19) of the participating programs. Program organizers reported at least one criterion from at least one category though not programs utilized all five categories. All three of the programs with governmental foundations reported client considerations as important criteria during their location selection process. Program organizers reported working with the community members to meet their needs and interests, evaluating their locations using demographic information collected from clients, and always working to be closer to more clients. 2 of the 3 programs reported physical accessibility as important criteria during the location selection process. Program organizers reported working to make sure their buildings were ADA compliant, had accessible parking, and were spread out through the Des Moines MPA. 1 of the 3 programs identified the importance of facility requirements. 1
of the 3 programs reported existing services as a consideration during their location selection process. This organizer reported the importance for the building to be ADA compliant. None of the participating food assistance programs with governmental foundations reported criteria related to financial cost for their location selection process.

The location selection decision-making process and criteria as reported by program organizers helps to provide valuable insight into this process in practice in the Des Moines MPA. According to the interviews with organizers, there appears to be a general interest to understand and consider different location selection criteria related to physical accessibility, clients, organizational financial cost, facility requirements, and other existing services. None of the programs reported criteria from all of these categories but they did appear to be making a concerted effort to understand their potential locations at varying degrees and make sure they worked for their organization and service. Organizational foundations appeared to influence the potential criteria considered by each organizations. Given the responses to the in-depth interviews, it appears that religious organizations may have central concerns regarding the organizational financial cost of a location in a way that appears to be different from the cost concerns for non-governmental and governmental organizations. Religious organizations also reported considering criteria related to the other categories but the standard response across most participating religious organizations centered on organizational financial cost. In contrast, the program organizers of non-governmental and governmental programs more frequently reported location selection criteria and considerations related to physical accessibility and client analysis. This does not mean that non-governmental and governmental programs are not concerned with organizational financial cost but may identify that organizational
foundations may play a role in influencing the location selection decision-making process and criteria. These findings are valuable as they provide another perspective for understanding the geographic accessibility of food assistance programs operating in the Des Moines MPA by understanding the location selection process in practice from the perspective of food assistance program organizers.

**Evaluating Geographic Accessibility**

Geographic information systems (GIS) was utilized in this research to evaluate the geographic accessibility of food assistance programs by evaluating the geographic proximity of programs to public transit stops, supplemental services, and potential areas of need as understood using demographic data. By understanding the areas surrounding food assistance programs this research is able to create a greater understanding of their potential geographic accessibility for low-income individuals and families. This geographic analysis took place by utilizing ¼ mile circular buffers around all seventy-seven food assistance programs located in the Des Moines MPA, based on their reported physical addresses, to identify if the programs were within close geographic proximity to the public transportation network, supplemental services, census tracts with higher percentages of poverty, and census tracts with higher percentages of racial diversity among residents, all valuable indicators of food assistance program accessibility and need.

The geographic proximity of food assistance programs to the public transportation network provides valuable insight into the potential geographic accessibility of food assistance programs, as the public transportation can be one effective method for low-income individuals and families to travel in the Des Moines MPA. This research evaluated
the accessibility of food assistance programs to the public transportation network by identifying the food assistance programs that are within $\frac{1}{4}$ of a mile from one or more public transportation stops.

*Figure 3-6: Public transportation routes and food assistance programs in the Des Moines MPA.*

Overall, 73% (56 of 77) of the food assistance programs located in the Des Moines MPA are located within $\frac{1}{4}$ of a mile from at least one or more public transportation stops (see figure 3-6). Of the programs participating in this research, 68% (11 of 19) were located within $\frac{1}{4}$
mile of 1 or more public transportation stops. All of the independent programs (2 of 2) and 65% (11 of 17) of the partnered programs were accessible via public transportation. Two of the 3 government programs, all the 4 nongovernmental programs, and 7 of the 12 religious programs were located within ¼ mile of a public transportation stop. This measure is based on public transportation stops that intersected with the food assistance program buffers.

The geographic proximity of food assistance programs to supplemental services is another valuable indicator for understanding the geographic accessibility of food assistance programs. Low-income individuals and families experience limited resources, including time and methods for travel, so it is important that trips are efficient and effective. If possible, it is beneficial to combine multiple errands and stops into one single trip so it can help encourage the use of a food assistance program if the program is located near services that low-income individuals and families may need. This research identified 42 supplemental services in the Des Moines MPA, including health services, homeless shelters, social services, and transitional living facilities (see figure 3-7). Overall, 38% (29 of 77) of the food assistance programs located within the Des Moines MPA are within ¼ mile from 1 or more supplemental services. Of the programs participating in this research, 47% (9 of 19) were located within ¼ mile of a supplemental service. All (2 of 2) of the independent programs and 41% (7 of 17) of the partnered programs were accessible in this way. 1 of the 3 government programs, 3 of the 4 nongovernmental programs, and 5 of the 12 religious programs were located within ¼ of a mile of 1 or more supplemental services. This measure is based on supplemental services that intersected with the food assistance program buffers.
Figure 3-7: The locations of supplemental services in the Des Moines MPA.

Poverty is a useful indicator of food assistance program usage and need. Government operated food assistance programs have specific poverty thresholds that dictate whom qualifies for assistance through their programs. However, there are many low-income individuals and families who may not qualify for government operated food assistance programs but do experience poverty. For this subset of the population, privately operated food assistance programs provide a useful point of access for food assistance. Given the limited resources available to low-income individuals and families experiencing
poverty, it is important that food assistance programs are located within close geographic proximity to the people who need their services so they can access them.

Figure 3-8: Population poverty rates by census tract and food assistance programs in the Des Moines MPA.

Generally, census tracts within the Des Moines MPA that have a significant presence of poverty, 20% or greater, have food assistance programs located within them or within close proximity. There are 113 census tracts located within the Des Moines MPA and 22% (25 of 113) of these census tracts have 20% or more of residents who experience poverty
(see figure 3-8). 22 of the 25 census tracts that experience poverty rates of 20% or greater have 1 or more food assistance programs located within their boundaries or within ¼ mile of the boundaries of the census tract. As such, 88% of the census tracts located within the Des Moines MPA experiencing poverty rates of 20% or greater have geographic access to one or more food assistance programs. This data was calculated by selecting census tracts based on the rate of poverty being 20% or greater and then counting the number of census tracts that had 1 or more food assistance programs located within or intersecting the census tracts. This approach identified the areas that are currently being served and potential areas that will need attention in the future. It is important to note that four census tracts with a poverty rate 20% or greater do not have access to a food assistance program and have limited access to public transportation and supplemental services. This is noteworthy because it is an area of the Des Moines MPA that is potentially not being served by the current network of programs and could potentially benefit from future attention and need.

The percentage of racial diversity among residents living within a census tract or neighborhood is another useful indicator for food assistance program usage and need. Generally, areas of communities with higher rates of residents of color have a higher rate of need for food assistance programs. This does not mean that all neighborhoods with high rates of racial diversity require assistance but rather recognizes that, generally, the concentration of residents of color is one indicator of potential need for food assistance programs. 32 of 113 census tracts located within the Des Moines MPA experience rates 20% or greater of residents of color and 21 of those 32 census tracts have geographic access to one or more food assistance programs (see figure 3-9).
Figure 3-9: Racial diversity rates by census tract and food assistance programs located in the Des Moines MPA.

As such, 66% of the census tracts within the Des Moines MPA with 20% or more residents of color have access to one or more food assistance programs. This data was calculated by selecting census tracts based on the rate of residents of color being 20% or greater and then counting the number of census tracts that had one or more food assistance programs located within or intersecting the census tracts. This data identified areas that are currently being served and potential areas that will need attention in the future. Note there
are 4 census tracts with 20% or more residents of color that do not have access to a food assistance program and have limited access to public transportation and supplemental services. These census tracts are noteworthy because they are an area of the Des Moines MPA that is potentially not being served by the current network of programs and could potentially benefit from future attention and food assistance programs.

This research found that the bulk of food assistance programs operating within the Des Moines MPA are generally accessible to the low-income individuals and families who need their services. Nearly 75% of the food assistance programs are within ¼ mile of a public transportation stop and/or a supplemental service. Nearly 90% of the census tracts experiencing 20% or more poverty and nearly 70% of the census tracts with 20% or more residents of color have access to one or more food assistance programs. While there are certainly a few areas for improvement regarding accessibility, these findings indicate that food assistance programs operating within the Des Moines MPA are located in areas where they are needed and accessible to low-income individuals and families.

**Conclusion**

Interviews with food assistance program organizers located in the Des Moines MPA provided comprehensive organizational profiles and a greater understanding of their location selection decision-making criteria and processes. Nineteen food assistance program organizers participated in the in-depth interview process. These organizers operated eleven food pantries, five free meal programs, one program that operated a food pantry and a free meal program, one food pantry parent organization, and one organization that oversees funding to free meal programs working in the Des Moines MPA.
The interview process with organizers developed a profile of each organization by understanding their history, the logistics of their operation, the services they offered to the community, and their location selection process from the organizational perspective. This interview process and resulting data found the organizational foundations (religious, nongovernmental or governmental) appear to play a role in the location selection criteria decision-making process by influencing the potential criteria the organizers took into consideration. This greater organizational understanding of food assistance programs located in the Des Moines MPA that participated in the in-depth interview process was combined with the GIS analysis of geographic accessibility for all food assistance programs operating in the Des Moines MPA. GIS analysis found the majority of programs may be geographically accessible due to their close geographic proximity to public transportation stops and supplemental services with the Des Moines MPA. Additionally, food assistance programs were located in close geographic proximity to the majority of census tracts with higher percentages of poverty and racial diversity among residents, another valuable indicator for evaluating their potential geographic accessibility to populations who may need their services. There are areas of improvement that are not currently being served by the existing network of food assistance programs but it appears a large portion of potential residents and neighborhoods who may require these services may have avenues to access them. Overall, the findings of this research indicate that food assistance programs operating in the Des Moines MPA are utilizing criteria during their location selection process to help ensure they are accessible to their target population and are generally located in areas of the Des Moines MPA where they have the potential to be accessible to low-income individuals and families who may need their services.
CHAPTER 4:

DISCUSSION

This research sought to better understand the location selection criteria and decision-making processes of food assistance programs in the Des Moines MPA and their potential geographic accessibility for low-income individuals and families who may need their services. This chapter discusses the implications of the findings for understanding the ways in which the location selection processes of food assistance programs take place in practice, the potential influence of organizational characteristics on the location selection process, and the potential geographic accessibility of food assistance programs operating in the Des Moines MPA using both interview data and GIS. This research set out with the understanding that food pantries and free meal programs operate as charitable entities working to help mitigate hunger and food insecurity for low-income individuals and families. As charitable programs, they are likely to experience limited financial resources and as a result may be more likely to be located in available buildings (i.e.: church basements and other low cost or affordable locations) without regard for the neighborhood demographics or need, rather than facilities located in close geographic proximity to areas where their services are needed. The findings suggest that the food assistance programs do employ criteria and considerations in their location selection decision-making process; that the organizational foundations of the food assistance program may influence the criteria they reported utilizing; and that the majority of food assistance programs located within the Des Moines MPA appear to be geographically accessible to low-income individuals and families due to their close geographic proximity to neighborhoods with higher percentages of poverty, neighborhoods with high rates of racial diversity among
residents, the public transportation system, and supplemental services. These findings are noteworthy as they generally indicate a concerted effort by food assistance programs organizers to select locations that appear to be geographically accessible to low-income individuals and families living in the Des Moines MPA.

**Food Assistance Programs and the Location Selection Process**

Interviews with food assistance program organizers in the Des Moines MPA found that 95% of the participating programs utilized one or more criteria in their location selection decision-making process. The criteria reported by program organizers fell into overarching categories, which included the assessment of physical accessibility, client analyses, organizational financial cost, facility requirements, and the presence of existing services. Criteria related to physical accessibility was reported by 63% of the participating organizations, client analysis criteria were reported by 53%, organizational financial cost criteria were reported by 47% of organizations, facility requirement criteria were reported by 32% of participating organizations, and criteria related to the proximity of existing services were reported by 16% of the participating organizations. None of the participating program organizers reported criteria related to all these categories though all programs reported using at least 1 or more of them. The presence of these criteria indicate food assistance program organizers are generally engaged in identifying and understanding who their potential clientele is, understanding how their target populations travel through the metropolitan area, considering what it costs to open and operate a program, identifying what they require in a building to provide a successful service, and seeking to understand where current food assistance program facilities are located. This
information is important, as these varying considerations during the location selection process for food assistance programs may be valuable in ensuring that potential locations are viable and that the food assistance programs deliver their services effectively.

The frequency that program organizers reported their criteria may indicate they are most concerned with the physical accessibility of clients, which is a critical consideration when opening and operating effective food assistance programs given the experiences of low-income individuals and families living in urban environments. Criteria related to client analyses were reported at the second highest frequency by participating program organizers, which indicates that program organizers are attentive to whom their clients are and where they are located within the Des Moines MPA. Physical accessibility and client analysis work hand in hand for evaluating potential locations for food assistance programs. Low-income individuals and families experience limited time and financial resources, and limited means for effectively traveling through the metropolitan area (Clifton, 2004). While some low-income individuals and families may own or have access to a vehicle which expands their scope and ability to access services, it is important that food assistance programs be located in close geographic proximity to areas of need, the public transportation system and supplemental services to ensure they are more readily accessible to low-income individuals and families (Clifton, 2004; U.S. Health and Human Services [USHHS], 2014). As such, understanding where potential clients are currently located and the possible avenues for physical accessibility provides valuable insight into the potential viability of a proposed location. Food assistance program organizers could rent and outfit their most desirable building based on their ideal facility requirements, but if low-income individuals and families are unable to physically access the site, than it could
become defunct and ineffective. So it is important for food assistance programs to understand who their clients are, where they are located, and the potential avenues for physical accessibility with proposed locations. Based on the findings of the interview process with program organizers, it appears that the majority of participating food assistance programs are trying to address the critical issues of physical accessibility and client analyses in their location selection decision-making process.

Organizational financial cost criteria were the third most frequently reported criteria in the location selection decision-making process. Criteria related to organizational financial costs were reported by 47% of the participating program organizers. Organizational financial cost criteria centered on quantifying the cost of rent, cost to purchase, utility expenses, and operational expenses of a proposed location. This lower rate of reporting organizational financial cost criteria, compared to other categories, indicates that generally food assistance programs operating in the Des Moines MPA appear to prioritize understanding who their clients are, where they are located, and how they will gain access to their location, over the potential organizational financial cost of the location. This is important because it affirms the charitable nature of these services and their mission based goal to serve the community (Weerawardena et al., 2010, p. 346). This does not mean that program organizers are not acutely aware of the organizational financial cost of their location and operation or that they are making decisions that impede or limit the viability of their services in pursuit of a location without regard for the cost. However, given their reported core missions, it appears that food assistance programs may at times prioritize their programmatic goals of alleviating hunger and food insecurity for target populations over the organizational financial cost of a potential location and operation,
which is indicated by organizational financial cost criteria being reported less frequently than criteria related to their potential physical accessibility and client analyses.

Facility requirements and the presence of existing services were the final two categories encompassing the location selection decision-making process and criteria reported by the participating food assistance program organizers. Facility requirements are important to consider in the location selection process as facility characteristics may provide the necessary amenities for a space to be operated as a food assistance program. In practice, facility requirements were discussed through a desire for specific needs from their building, including a desire for areas with privacy for intake and health services, added space for food sorting, storage and distribution, office space for administrators, bathrooms, and buildings that are ADA compliant. However, based on the lower rate of reporting for criteria related to facility requirements, it appears the specific characteristics of a potential building may not be of the upmost importance when compared to the physical accessibility of the space, client considerations, and the organizational financial cost of the building.

The lower rate of reporting facility requirement criteria is understandable as the mission of these organizations is to serve the community, which can sometimes be done with facilities that are less than perfect. With their mission in mind, it may be easier for organizers to compromise on the amenities in a potential building to be more accessible to their target population than to have a better building, relatively speaking, and be less accessible to the community. Criteria that addressed the presence of existing services were reported at the lowest rate by program organizers during the location selection process. While this category could play an important role to help ensure new programs and
locations are not redundant by encroaching on the service areas of existing programs, it appears that generally the presence of existing services may be the least important category for the participating program organizers in the location selection decision-making process. Facility requirements and the presence of existing services were reported by some participating program organizers during the in-depth interview process though these categories appear to not play as important of a role in the location selection decision-making processes as physical accessibility, client analysis, and financial cost for food assistance programs located in the Des Moines MPA.

Program organizers, across all participating organizations, reported criteria related to physical accessibility at the highest frequency, followed by client analysis criteria, organizational financial cost, facility requirements, and the presence of existing services. However, each program organizer did not report a clear ranking or order to the specific criteria utilized by their organization during their location selection process. Instead of a steadfast ranking system, there appears to be more of a fluid continuum and balance between each location selection criteria based on the current options in consideration, similar to the decision-making approach of satisficing (Eilon, 1972). According to the reported missions and goals of the participating food assistance programs, these organizations seek to provide their service to their community to reduce food insecurity and hunger, and it appears they will work to find the best available options and avenues to achieve this mission by balancing their needs and resources. With their mission and goals in mind, and the lack of clear ranking reported, it appears that the participating food assistance program organizers do employ specific criteria to guide their location selection processes though they may compromise and work within the best available options to
achieve their goal of reducing food insecurity and hunger rather than compromising their mission to achieve the perfect location. In other words, the criteria reported by program organizers appear to be more of a consideration in the location selection decision-making process and presented as goals for a location. It did not appear that these criteria, if not all were met perfectly, would immediately disqualify a potential location. Of course, this may be the case, that certain categories could definitively negate the viability of a potential location. For example, the organizational financial cost of a proposed location may have the potential to immediately negate its viability. However, it seemed that these location selection decision-making processes were made more on a case-by-case basis than on a clear, categorically organized and weighted, set of decision-making criteria. So while the different categories are reported at varying rates with a potential preference for physical accessibility followed by client analysis criteria, organizational financial cost, facility requirements, and existing services, there may be much more flexibility in the case-by-case rank of these criteria as program organizers work to find the best suited location for their specific organization’s needs and situation. This insight into the variable weight of location selection criteria is important because it indicates a concerted effort by food assistance programs organizers to find the best available options for their organization during the location selection decision-making process without compromising the viability of their services or losing sight of their reported mission to alleviate hunger and food insecurity for low-income individuals and families, which is in-line with the mission centered purpose as non-profit organizations (Weerawardena et al, 2010). The variability and flexibility of the criteria rank may also be influenced by the organizational realities for the location selection process. Food assistance programs experience limited resources and walk a fine
to ensure a viable service so they may satisficing their location selection decision rather than optimizing it. Satisficing recognizes the complexity of a situation and allows the decision-maker to determine a solution that is “good enough” for their needs (Eilon, 1972, p. 6). Their goal and purpose as nonprofit organizations is to create social value for their clients and community, so they must balance the location selection decisions against their mission to serve their clients to ensure that they remain viable as nonprofit organizations (Weerawardena et al, 2010). This flexible decision-making approach appeared to be central to the location selection process of the participating organizations, one that utilized criteria but lacked a formal ranking system, and falls in line with the satisficing approach, which would streamline the location selection process for program organizers as they weighed criteria and made complex decisions about potential locations.

**Organizational Foundations and Location Selection**

The organizational basis for food assistance programs located in the Des Moines MPA appear to play a role in influencing the types of criteria that program organizers take into consideration during their location selection decision-making processes. Participating programs were divided into three categories based on their organizational foundations: governmental, non-governmental, and religious. This research found that organizations with religious foundations reported organizational financial cost considerations at a higher rate than organizations with non-governmental and governmental foundations. Organizational financial cost criteria were reported by 75% of the participating food assistance programs with religious foundations. In contrast, none of the programs with non-governmental and governmental foundations reported criteria related to financial cost
for their location selection process. This difference in the criteria utilized in the location selection decision-making process is important because it may identify a difference in the experience of food assistance programs based on their organizational foundations. Food assistance programs with religious foundations appear to have organizational financial cost as a more central consideration when compared their non-governmental and governmental counterparts. This increased attention to organizational financial cost in the location-selection process for religious organizations may be a result of the potential revenue streams that are available to them. Organizations with religious foundations are more likely to rely more on donor contributions for a large portion of their budget (Twombly, 2002). In contrast, organizations with non-governmental and governmental foundations are more likely to rely on government grants and contracts, which can be difficult to obtain but are more stable once they are secured (Twombly, 2002). Donor contributions have the potential to provide a solid budget for certain charitable organizations but they are inherently less dependable than government grants and contracts, which may be the difference that causes food assistance programs with religious foundations to report criteria for organizational financial cost at a higher rate than their non-governmental and governmental counterparts. This is not to say that non-governmental and governmental food assistance programs are not actively considering or conscious of the organizational financial cost of potential locations but may indicate that financial cost may not be as central of a concern given the different types of funding streams available to them.
Geographic Accessibility

Evaluating the accessibility of food pantries and free meal programs located in the Des Moines MPA using GIS was the final component of this research. This analysis served as a check for the criteria and location selection decision-making processes as reported by the participating food assistance program organizers. This evaluation of accessibility utilized the locations of all 77 food assistance programs located in the Des Moines MPA. This broader range of programs allowed for better understanding of the potential geographic accessibility of the food assistance programs located in the Des Moines MPA. This research evaluated the potential geographic accessibility of food assistance programs by analyzing their geographic proximity to census tracts with high percentages of poverty, census tracts with high percentages of racial diversity among residents, the public transportation network, and supplemental services such as health services, homeless shelters, social services, and transitional living facilities. All of these measures provided valuable insight into the geographic accessibility of food assistance programs for low-income individuals and families living within the Des Moines MPA.

Poverty rates in urban areas are a valuable indicator for identifying areas of need and useful for evaluating the geographic accessibility of food assistance programs because program users experience low-income, limited income, unemployment and underemployment (Koenig, 2011). In the context of the Des Moines MPA, 25 of the 113 census tracts in the MPA have high concentrations of poverty, with rates of poverty 20% or greater. The significant concentration of poverty in these 25 census tracts indicates that these are areas of the Des Moines MPA where residents may benefit from having access to food assistance programs. The majority of these high poverty census tracts are located
within the central area of the metropolitan area, which is in line with the national trend of concentration of poverty in urban city centers (Glaeser and Rappaport, 2006). This research found that 88% of the census tracts with 20% or more of residents experiencing poverty have one or more food assistance programs located within their census boundary or within ¼ mile of their census boundary. Similarly, 60% (46 of 77) of the food assistance programs operating within the Des Moines MPA are located inside or within ¼ of a mile of census tracts where 20% or more of residents experience poverty. These findings are noteworthy as they indicate that the food assistance programs located within the Des Moines MPA are located in areas where residents may need them and that the majority of programs have the potential to be geographically accessible to low-income individuals and families. This is important because it may indicate that their location selection decision-making processes and criteria may be effective at identifying areas of need and providing a accessible services. There are food assistance programs located in neighborhoods with less than 20% of the residents experiencing poverty, though it is feasible that these programs are serving smaller pockets of poverty that are concealed with our analysis at the census tract level. Overall, the evaluation of accessibility on the basis of concentrated poverty indicates that the majority of food assistance programs within the Des Moines MPA are potentially accessible to low-income individuals and families who may need these services.

The percentage of racial diversity among residents living in an urban area is another indicator for food assistance programs usage and need. The racial demographics of urban areas have been found to influence the types of food options that are available to residents. Urban areas with higher percentages of racial diversity among residents have been found to have significantly fewer chain supermarkets and greater access to independent
supermarkets and grocery stores, which provide more expensive and less healthy options than their chain counterparts (Powell et al. 2007). This disparity in the types and cost of food available to communities of color leaves the families living in urban areas with higher cost and lower quality food options, which paired with limited income and employment options, means that residents of these communities may face greater challenges with food insecurity and hunger (Koenig, 2011). In the context of the Des Moines MPA, 32 of the 113 census tracts have 20% or more residents of color living in them and majority of these are located in the central region of the Des Moines MPA. This research found that 66% of the census tracts with 20% or more residents of color living within them have one or more food assistance programs located within their boundary or within ¼ of a mile of their census tract boundary. Similarly, 67% (52 of 77) of the food assistance programs operating in the Des Moines MPA are located inside or within ¼ of a mile of a census tract that currently experiences 20% or more of residents of color. These findings are important because they indicate that the location selection and decision-making processes appear to be able to effectively locate food assistance programs within areas of need based on racial demographics and provide services that have the potential to be accessible to target populations.

The public transportation network has the potential to provide low-income individuals and families a means for accessing food assistance programs. However, the public transportation network is only viable if the system has transit stops within close to the desired destinations of riders (Clifton, 2004). This analysis utilized maps of the public transportation system in the Des Moines MPA to identify the food assistance programs that are potentially accessible through the public transportation network. This research found
that 73% (56 of 77) of the food assistance programs within the Des Moines MPA are located within ¼ of a mile from a public transportation stop. This high percentage of food assistance programs within ¼ of a mile of a public transportation stop indicates that these programs are potentially accessible via the public transportation system. This is important, as public transportation appears to provide a viable method for low-income individuals and families living in the Des Moines MPA to access food assistance programs. Additionally, given the large number of programs within close proximity of the public transportation system, there should be enough quantity and variety of programs to ensure that low-income individuals and families are able to access a program that they can use, even if some programs have certain requirements for eligibility and use.

The proximity of supplemental services to food assistance programs provides another valuable level of analysis for understanding the geographic accessibility of food assistance programs. Low-income individuals and families experience limited resources and multi-use trips can help alleviate their burden by addressing multiple errands all in one trip. As such, the proximity of supplemental services to food assistance programs can provide valuable insight into the potential accessibility of food assistance programs for low-income individuals and families. For this research, supplemental services include health services, homeless shelters, social services, and transitional living facilities. This research found that 38% (29 of 77) of the food assistance programs within the Des Moines MPA are located within ¼ of a mile of less from one of these supplemental services. This information is important because, when paired with the other findings of this research on accessibility, it appears that program organizers prioritize being located close to communities of need and the public transportation system, rather than in close geographic
proximity to supplemental services. Though being close to supplemental services would help some program users alleviate the burden of multiple trips, being closer to the communities that need their services is a more effective way to be accessible to low-income individuals and families living within the Des Moines MPA.

Geographic accessibility is a critical concern for food assistance program organizers during the location selection decision-making process. The accessibility of a location works to help ensure the program remains viable and serves the organizations’ target audience. This research found that a clear majority of food assistance programs are potentially accessible to low-income individuals and families living within the Des Moines MPA. This is noteworthy given the limited resources available to program organizers. Their resources are limited and yet they are still able to provide effective and accessible services within the community. Program organizers reported utilizing criteria in their location selection process to help ensure they found locations that were viable for them. These criteria were formal in that they were specific considerations during their location selection process and yet they were informal at the same time in that they were without a clear rank or weight, which means that the individual criteria may be addressed and weighed on a case-by-case basis. Yet the programs were generally able to provide services that appear to be geographically accessible to their target populations. This may be a result of the organizers process of responding to needs they see within their own community. Some organizers may rely more heavily on the qualitative data they collect within the community through the stories and observations of perceived need. Food assistance programs while formal and professional may rely more heavily on more “informal” evaluations of community need and location viability, which may be a result of limited resources. However, they appear to
still be able to provide viable and effective food assistance programs. This level of success may be a result of their target populations who may go out of their way, out of necessity, to gain access to these services. Or may be a result of their status as charitable food assistance programs that are working to provide help to community members and will go out of their way to ensure they provide a viable service.

**Policy Implications**

The process of evaluating the geographic accessibility of food assistance programs operating within the Des Moines MPA identified four US Census tracts that experience high rates of poverty and high rates of racial diversity among residents that are not effectively served by the existing network of food assistance programs. Additionally, these Census tracts experience limited access to the public transportation network and supplemental services. These factors combined together identify four gaps in service within the Des Moines MPA. Increased racial diversity within these US Census tracts was the first indicator that there may be a gap in the current network of food assistance programs (see figure 4-1). However, increased racial diversity alone is not enough of a stand-alone indicator to identify a gap in the network. There are plenty of communities that have increased racial diversity that do not also experience high rates of poverty, another valuable indicator of need for food assistance programs. However, in the context of these four US Census tracts in the Des Moines MPA, residents also experience high rates of poverty (see figure 4-2). Given the combination of high rates of poverty and high rates of racial diversity among residents, these four census tracts are areas that are currently not being served by the existing network of food assistance programs.
The gap of coverage in the network of food assistance programs is further exacerbated by the limited access to the public transportation network and supplemental services within these communities. As such, these four US Census tracts are valuable areas of the Des Moines MPA for planners, policy-makers, and food assistance program organizers to further investigate the needs of residents.
Figure 4-2: Gaps in the food assistance network according to increased poverty rates.

These US Census tracts could benefit from further analysis to identify why they are being overlooked and how they can be improved to increase the quality of life for residents. There certainly appears to be a gap in the network of food assistance programs that may benefit from future development of food assistance programs, the public transportation network, and supplemental services.
Conclusion

Overall, this research has identified through the interview process that food assistance program organizers in the Des Moines MPA do utilize specific criteria and considerations during their location selection decision-making processes. Additionally, these location selection processes in practice have developed a network of food assistance programs in the MPA that appear to be geographically accessible to low-income individuals and families based on their close geographic proximity to census tracts experiencing concentrated poverty, census tracts experiencing high rates of racial diversity among residents, the public transportation system, and supplemental services. These are valuable findings as they create a framework for understanding food assistance programs in practice and identifies their agency to identify and select effective locations within the Des Moines MPA. Though there are some areas for improvement, generally, these programs are able to find effective locations to help serve their community.
CHAPTER 5:

CONCLUSION

Food pantries and free-meal programs provide an essential service for low-income individuals and families struggling with hunger and food insecurity by providing free meals and food boxes to those who qualify for their services. The success of these programs at achieving this mission depends on their accessibility to their target populations, who tend to be low-income individuals and families and therefore have limited resources. These clients tend to live in urban areas, are often concentrated in the central regions of the metropolitan area, and tend to have limited financial resources from low-wage work, limited income, unemployment, and underemployment. These realities mean low-income individuals and families are forced to work multiple jobs to make ends meet, which creates constraints on their time that can be compounded due to limited access to mobility options. As such, it is important that food assistance programs are located in close geographic proximity to neighborhoods and communities that may need their services, the public transportation system, and supplemental services, all viable ways to encourage easier geographic accessibility to these critical services.

This research study sought to address the limited research on the location selection processes of food pantries and free meal programs. Specifically, this research sought to understand: how food assistance programs select their location; if program organizers utilize formal criteria and processes for evaluating potential locations; and if the programs are geographically accessible to their clients. This new information regarding the location selection processes and geographic accessibility of food assistance programs is important because it helps to evaluate the existing networks of food assistance programs by creating
a clearer understanding of their operation in practice, and providing valuable new information about their location selection processes and potential geographic accessibility so program organizers, planners, and policy makers can develop and apply effective interventions to positively affect the quality and effectiveness of food pantries and free-meal programs operating within their communities.

**Research Implications**

This research is important as it contributes to the discussion about the criteria and decision-making processes utilized by food assistance program organizers during their location selection process. This research found that the participating food assistance programs do employ specific criteria and considerations during their location selection decision-making process, which indicates that food assistance programs are seeking certain characteristics for their locations rather than just opting to be located in the places that they can be without regard for the characteristics of the location. Interviews with the participating food assistance program organizers identified the importance of understanding their clients, the physical accessibility of a proposed location, its organizational financial cost, potential building requirements and needs, and the proximity of potential locations to existing services. None of the participating program reported criteria from all of these categories but they all did report utilizing criteria from at least one category. Program organizers did not report individual criteria ranking or weight but that does not mean that they were not consciously working to understand each location and their potential advantages and disadvantages. The lack of a formal ranking system may be due to the limited resources available to program organizers and their central mission to
alleviate hunger and food insecurity for low-income individuals and families living within their community. This combination of mission and resource constraints may leave program organizers looking for the best available location, which means their criteria may be weighted on a case-by-case basis to ensure that organizers are able to select the most effective location for their organization. The presence of these criteria indicates a conscience effort by food assistance program organizers to find locations where they can most effectively serve their target populations, and alleviate hunger and food insecurity in their community. This is important because it identifies a concerted effort by program organizers to find the most effective location for their service rather than just opting to take a location solely out of convenience to the organization.

This research found that organizational foundations appear to influence the location selection decision-making process for food assistance program organizers. The majority of the food assistance programs with religious foundations reported organizational financial cost as a central consideration in their location selection decision-making process while none of the food assistance programs with governmental and non-governmental foundations reported organizational financial cost as a consideration in their location selection process. In contrast, the programs with governmental and non-governmental foundations reported criteria related to physical accessibility and client analyses more frequently. This difference in the reporting rate of different criteria utilized by program organizers along the lines of their organizational foundation may be an indication of differing access to resources and revenue streams. This information may indicate that any interventions or assistance applied to these services may need to be specifically tailored.
based on organizational foundations rather than being applied to all food assistance programs, regardless of their organizational characteristics.

This research identified that the majority of food assistance programs operating in the Des Moines MPA are located within ¼ mile from census tracts experiencing concentrated poverty, census tracts experiencing high rates of racial diversity among residents, the public transportation system, and supplemental services, which indicates that they may be geographically accessible to low-income individuals and families who may benefit from their services. This is important as it identifies that these programs are able to identify areas of need and find effective locations within their communities. While the location selection criteria and processes in practice varied from organization to organization, overall their different approaches seem to be effective at achieving their goal of effective and accessible locations. This may be a result of their status as charitable food assistance programs because they will prioritize approaches that will achieve their missions within the community. In the end, the majority of food assistance programs operating in the Des Moines MPA are likely to be geographically accessible to their target populations due to their close geographic proximity to areas of need based on poverty and racial demographics, the public transportation system, and supplemental services.

This new information regarding the location selection processes of food assistance programs and their geographic accessibility is important as it identifies that these programs have more autonomy and power that they appear to have. Food assistance programs experience limited means but that does not mean that they are unable to operate effectively within a community. The programs operating within the Des Moines MPA appear to utilize specific criteria and considerations in their location selection processes to
help them attain effective locations that have the potential to be geographically accessible to low-income individuals and families, which is essential to their mission of alleviating hunger and food insecurity.

**Limitations**

This research provides valuable insight into the location selection processes and geographic accessibility of food pantries and free meal programs in the Des Moines MPA, yet explorative research of this nature often identifies areas of additional research and as such carries certain limitations. The participants of this research are limited to food pantries and free meal programs located within the Des Moines MPA, which is a unique situation where there are a few parent organizations that provide support to many programs operating in the area. These widespread partnerships mean that there is a limited presence of truly independent food pantries and free meals programs, which may have a different set of practices and experiences than their counterparts who are partnered. This limitation does not negate our findings but is worth recognizing as it may influence the generalizability of these research findings.

The food assistance programs participating in this research had predominately religious foundations (63%), which may have implications for the generalizability for the conclusions drawn along the lines of organizational foundations. With this in mind, this research could benefit from an increased number of voices from more food assistance programs with non-governmental and governmental foundations. However, the limited number of non-governmental and governmental voices may be reflective of the broader class of charitable food assistance programs. Either way, the generalizability of this
research could benefit from collecting more data from programs with non-governmental and governmental foundations to be able to draw more steadfast conclusions about the role that organizational foundations play in influencing the location selection decision-making process for food assistance programs.

This research looked at geographic accessibility by analyzing the geographic proximity of food assistance programs to certain demographic data by census tract, the public transportation system, and supplemental services. Our approach for understanding accessibility using GIS does provide valuable insight for understanding the potential geographic accessibility of food assistance programs, though this approach may overlook some of the specificity of experiences and particular challenges low-income individuals and families may face when trying to access a program. For example, this GIS based approach assumes that the public transportation system is accessible to low-income individuals and families who rely on the service and that it operates in a timely and effective manner. This research did not evaluate the quality of the public transportation system but rather assumed that it was an accessible and effective method for transportation in the Des Moines MPA. These limitations in the type and scope of participants and the assumptions about the effectiveness of the public transportation system require recognition though they do not negate the valuable information learned from this research. This research still provides valuable new information about the location selection decision-making processes and geographic accessibility of food assistance programs.
Future Research

This research provides a critical foundation for helping to guide future research and investigation into the broader and more universal experiences of food pantries and free meal programs with the location selection process. Future research can add more value to this body of literature by conducting research in a broader variety of metropolitan areas, interviewing clients of food pantries and free meal programs to gain their insight in the effectiveness of location selection methods by understanding how clients perceive geographic accessibility, by including more interviews with independent food assistance program organizers, and by including more programs with non-governmental and governmental foundations. This will help fill out the picture by cataloging the experiences of a wider variety of organizations, which will help develop a clearer and more comprehensive understanding of the location selection decision-making processes and geographic accessibility of all food pantries and free meal programs.

Research in a broader variety of metropolitan areas may help increase the variety of voices and experiences for food pantries and free meal programs. Place may influence the experiences and realities of low-income individuals and families and as such there may be value to collect information from a variety of metropolitan areas. This additional information could help to confirm the conclusions of this research or help identify additional factors that may influence the accessibility of food pantries and free meal programs. It is important that these voices are heard and that their experiences are cataloged so program organizers, community planners, and policy makers are able to more effectively apply interventions and increase the quality of these essential services.
Interviewing clients of food pantries and free meal programs will help provide a much clearer understanding of the geographic accessibility of food pantries and free meal programs. There are many ways to understand the potential geographic accessibility of food assistance programs for clients but the most accurate is to talk directly with clients. This is an intensive process that will require a substantial investment from researchers but would provide a valuable check to GIS based analyses of accessibility and have the potential to identify more place specific challenges for low-income individuals and families who need these services. In-depth interviews with clients are involved but they would be a helpful check to accessibility measured using GIS and demographic information.

Interviewing a wider variety of food assistance program organizers is another area of useful future research. While this research does include the voices of a few independent food assistance program organizers, they were limited in the Des Moines MPA due to the presence of a few parent organizations and widespread organizational partnerships. This research could benefit from including more voices from independent programs as it would help confirm the findings of this research or introduce new critical insight into the ways in which organizational partnerships influence the abilities of food pantries and free meal programs in the location selection decision-making process and their geographic accessibility for clients. Similarly, the participants of this research were from organizations with predominately religious foundations, so this research could benefit from interviewing more organizers from food assistance programs with governmental and non-governmental foundations. These wider variety of voices based on organizational foundations would also help to confirm the findings of this research or identify new insights into the location
selection processes of food assistance programs and their potential geographic accessibility.

Future research can provide valuable new information to this area of research by interviewing more food assistance programs operating in a variety of metropolitan areas, interviewing clients of food assistance programs to gain their perspective on geographic accessibility and by including voices from more programs with a focus for increased diversity along the lines of partnerships and organizational foundations. These areas of future research may help to confirm the findings of this research or add new valuable information about the experiences of food pantries and free meal programs with their location selection decision-making processes and potential geographic accessibility to low-income individuals and families.

**Conclusion**

This research sought to understand the location selection process for food assistance programs operating in the Des Moines MPA and evaluate their geographic accessibility for low-income individuals and families. To achieve this goal, interviews were conducted with program organizers of 19 food assistance programs located in the Des Moines MPA. The purpose of the interviews was to develop an organizational profile of each program to understand their operation in practice and their location selection process. This information was used to further understand the location selection process in practice in an attempt to understand the influence of organizational characteristics on the location selection process. GIS was used to evaluate the geographic accessibility of the seventy-seven food assistance programs operating within the Des Moines MPA.
Accessibility was measured using buffers to identify the geographic proximity of food assistance programs to the public transportation network, supplemental services, and US Census tracts with high rates of poverty and nonwhite residents. The goal here was to identify if the methods described by food assistance program organizers had the potential to be successful at finding accessible locations.

This research found that food assistance programs operating within the Des Moines MPA do undergo an intentional location selection process that does utilize criteria in an attempt to find effective and successful locations. Program organizers reported criteria that addressed issues related to physical accessibility, client analysis, organizational financial cost, facility requirements, and the presence of existing services. The reported criteria appeared to serve as considerations during the location selection process that were sorted on a case-by-case basis rather than by a steadfast ranking system. The mission driven purpose of these organizations appeared to come first and as a result the criteria utilized appeared to be more flexible. However, these flexible criteria did not inhibit the ability of program organizers to find effective locations. Program organizers appeared to seek the best available option to ensure they had a viable service.

This research is important as it identifies an intentional location selection process that appears to be generally successful at finding and selecting effective locations for food assistance programs operating in the Des Moines MPA. This research is useful as it creates a baseline of data for planners, policy-makers, and program organizers to think critically about food assistance programs in practice and the surrounding built environment, which can be used to identify gaps in the network and areas for improvement. Areas for intervention and improvement include an evaluation of the public transportation network
and an investigation into underserved US Census tracts. Overall, this research identified that food assistance programs have much more agency than anticipated, which allows them the ability to develop viable and effective services, even with shoe-string budgets and limited resources, to create valuable change within their communities and neighborhoods. Though there may always be areas for improvement or aspirations for a better service, these programs are doing well to enact positive change by working to mitigate the impact of food insecurity and hunger for low-income individuals and families living within the Des Moines MPA.
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IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Date: 2/10/2016
To: Jacob Howe
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CC: Francis Owusu
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From: Office for Responsible Research

Project Title: Mapping Food Pantries and Free Meal Programs in the Des Moines, IA Metro Area

The Co-Chair of the ISU Institutional Review Board (IRB) has reviewed the project noted above and determined that the project:

☐ Does not meet the definition of research according to federal regulations.
☒ Is research that does not involve human subjects according to federal regulations.

Accordingly, this project does not need IRB approval and you may proceed at any time. We do, however, urge you to protect the rights of your participants in the same ways you would if IRB approval were required. For example, best practices include informing participants that involvement in the project is voluntary and maintaining confidentiality as appropriate.

If you modify the project, we recommend communicating with the IRB staff to ensure that the modifications do not change this determination such that IRB approval is required.
APPENDIX B. ORGANIZER INTERVIEW GUIDE

Intro

- Thank you for taking the time to speak with me.
- I really appreciate your time and insight into food assistance programs in DSM.
- Ask once more if they consent to participating in the study.
  - ARE YOU WILLING TO PARTICIPATE IN MY STUDY?
    - If yes, continue.
    - If no, stop, thank participant for their time, and wish them a wonderful day!
  - Remind participant that they can skip any questions and that they should feel free to stop the interview at any point.
- Ask if they have any questions about the project and interview process.
  - Remind participant that the interview will take about 30 to 60 minutes.

Interview Questions

History
1. How long has the program been operating in the Des Moines metro?
2. Why was the program initially established?
3. What is the foundation of the organization (religious, government, NGO, other)?

Logistics
4. How is the program funded?
5. How did you select your location?
   5.1. What were the criteria for selection?
6. What are the hours of operation?
7. How do you find help? Are they volunteer or paid?
8. How do people learn about your services?
**Services**

9. Is there a group of people that you target (want to reach)?
10. What kinds of services do you offer?
11. What are the requirements for eligibility?
12. How frequently can people use the service?
13. On average, how many meals are served per meal service or day or month?
14. Can people come early before service or are the doors closed until service begins?
15. Where do you source food?
16. What kinds of foods do you often have?
17. Do you ever run out of food? If so, why is it?
18. If there is any, what happens to excess food at the end of a meal service?

**After-Interview Questions**

- Ask participant if they have any questions for me.
  - If yes, answer.
  - If no, remind them they can e-mail me at jahowe@iastate.edu if they think of anything later.
- Thank participant for their time and remind them that their insight is very important for understanding food assistance programs and their rationale for location choices.
- Wish participant a wonderful day!