

Spring 4-2014

The Dayton Food System: Current Access to Food in Dayton and Future Possibilities

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Honors Thesis

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Department: Philosophy

Advisor: Daniel C. Fouke, Professor of Philosophy

April 2014

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Abstract

Downtown Dayton and its surrounding areas are considered to be a food desert by the USDA, which means there is limited access to healthy foods within a .5 mile radius. The implications of this include driving further for groceries or turning to convenience stores for highly processed foods. This has created health concerns for the residents of Dayton, including obesity and diabetes. The purpose of this study was to understand the food system issues, their complexity and implications, and to understand what groups are currently doing to support the food system, and what is necessary to push the issues forward and make positive progress. The research was done through interviews with the various people, groups, and organizations involved in the food system. This research will provide suggestions for further actions with the goal of making healthy, local foods accessible to all those in the area.

Acknowledgements

Thank you to all of those who directly and indirectly participated in the formation of this research. A special thanks to: Dr. Daniel Fouke for his patience, valuable comments, and expertise throughout this project; all the participants interviewed for this project for being open and sharing important information; John Jones, MPA who assisted in the design and support of the project; and all those who gave interest and support for the Dayton food system.



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Introduction

According to the United States Department of Agriculture, Downtown Dayton and its surrounding areas are considered to be a 'food desert' at a .5 and 1-mile radius. A food desert can be defined as a "lower income community without ready access to healthy and affordable food"¹. This is based on income and access, including access to transportation and where the stores are. Figure 1 shows the areas in Dayton that are considered to be food deserts. The light grey areas are considered to be food deserts at a .5-mile radius and the dark grey areas at a 1-mile radius. The implications of this are that convenience stores

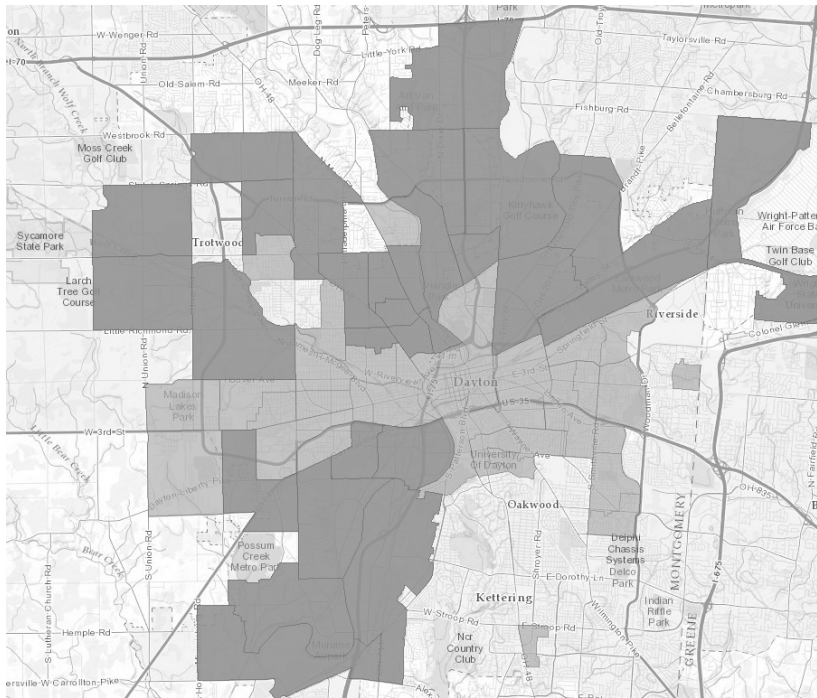


Figure 1 Dayton Food Desert Area Light Grey is considered to be a food desert at a .5 mile radius. Dark Grey at a 1-mile radius according to the USDA.¹

and fast food restaurants are the accessible stores to shop in. The restaurants in the area carry fried foods with few vegetables; if they do have them, they are found fried. These stores carry foods with high

sugar, fat, and salt content that are unhealthy and inexpensive. There is a lack of fresh, nutritious food in these areas. What makes the situation worse is that Dayton is a unique

¹ "Food Access Research Atlas." United States Department of Agriculture. March 25, 2014. <http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx#.Uzysha1dUWU>.

market. The census data in 2010 shows that the city of Dayton and its surrounding areas have a low income and high population density. Figure 2 shows the median household income from the American Community Survey (ACS) 2012,² depicting how severe the



Figure 2 ACS Median Household Income 2012 Trends show a very low-income population in the core and some surrounding areas of the city.²

low-income levels are. When comparing the areas considered to be food deserts and the map of median household income, the same areas that have poor access to food also have very low income. According to a study done by Richard Stock, Director of Business Research Group at the University of Dayton, in 2008, Downtown Dayton and its

² Social Explorer. ACS 2012 5yr- Median Household Income (In 2012 Inflation Adjusted Dollars)

surrounding areas are unable to support a grocery store.³ His findings show the need for creative solutions to eliminate the problem.

The conditions I have been describing show that food security is a significant problem in Dayton. Food security is “access by all people at all times to enough nutritious food for an active, healthy life.”⁴ It can also be defined as not having to worry about where the next meal will come from. The Food Research and Action Center did a study in 2012 and asked “Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?”⁵ Dayton reported that 22.5% of participants responded “yes” to this question, ranking Dayton 4th of 100 large metropolitan areas.⁵ The national average was 18.2% in 2012.⁵ This shows that many people have experienced the inability to know where their next meal was coming from at least once in 2012. What is unclear is how many of these people are facing hunger and food insecurity on a recurring basis. According to the Food Bank, there are over 127,000 food insecure people in the area, 38,690 of which being children. The Food Bank strives to fight food insecurity by providing meals and food to people in need. In 2013, they served over 7 million meals. In addition, they gave away 1,450 backpacks per week through their backpack program for hungry children on weekends. Although these numbers are high and the food bank meets a lot of the need, the numbers express how great the needs and hunger in the area is.

³ Richard Stock, Director of Business Research Group, University of Dayton, Unpublished Study. 2008

⁴ "Food Security in the U.S." United States Department of Agriculture. September 4, 2014. <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.aspx#.UzyfQK1dUWU>.

⁵ "Food Hardship in America 2012," Food Research and Action Center, February 2013, http://frac.org/pdf/food_hardship_2012.pdf.

As far as access to stores in general, it is a concern that Montgomery County is below the state average. The county has fewer grocery stores and gas station convenience stores than the state average.⁶ There are also fewer stores in the county that accept WIC (Women, Infants, and Children supplemental nutrition program) and SNAP (Supplemental Nutrition Assistance Program) than the state average. There are more convenience stores without gas than the state average.⁶ From these numbers, it is shown that not only are there less grocery stores, there is poorer access to utilize food assistance programs in the county because of less stores accepting these programs than the state. These claims are consistent with the lack of food access and security in the Dayton area.

There are major implications of food deserts and food insecurity on nutritional intake and thus health. In 2010, just 22% of Montgomery County adults and children met the daily recommended five servings of fruits and vegetables.⁷ This is less than a quarter of the county getting the proper daily nutrition necessary for a healthy life. In addition, County Health Rankings ranked Montgomery County 74th worst of 88 counties in Ohio for health outcomes, including morbidity and mortality.⁸ The county also ranks in the lower 25% for access to healthy foods, and it is also considered an area to explore, meaning it is highlighted so that the community can take a closer look at the issue.⁸ These

⁶ Beiswenger, Lisa, Nora Hesse, Kayla Krockner, and Kedra Spergel. "Montgomery County Food System Assessment." Thesis, The Ohio State University. http://www.mcoho.org/services/mc_food_policy/docs/Montgomery_County_Food_System_Assessment.pdf.

⁷ "Community Health Assessment 2010." Public Health - Dayton & Montgomery County. 2010. http://www.phdmc.org/images/uploads/CHA_ID_final.pdf.

⁸ "Montgomery County, OH." County Health Rankings & Roadmaps. 2014. <http://www.countyhealthrankings.org/app/ohio/2014/rankings/montgomery/county/outcomes/overall/snapshot>.

statistics rank Montgomery County as one of the poorer counties in Ohio for nutrition, which has a great impact on health.

Poor nutrition due to food deserts and food insecurity has had an impact on the health of residents in Montgomery County, influencing obesity and diabetes rates. In 2010, 38% of all adults in Montgomery County were overweight and another 30% were obese.⁷ That is almost two-thirds of the county with a weight problem. In 2008, 25% of third graders were obese and another 17% were overweight.⁹ That is just less than 50% of third graders that have a weight problem. Correlated with obesity is diabetes, which is also on the rise in Montgomery County with an increase from 8.9% in 2004 to 11.2% of people being diabetic in 2010.¹⁰ There is a large population in the county that does not have access to healthy food, not getting adequate nutrition, and is suffering because of it.

There is a justice and ethical component to current access to food in Dayton. According to the Declaration of Human Rights, “everyone has a right to a standard of living adequate for the health and well-being of himself and of his family, including food....”¹¹ This right is currently not being respected. In addition, people have a right to access to healthy and affordable food. It is a duty to support local food because it helps the community and local economy. People have a responsibility to their community and place in which they live because of how great their impact is. They can impact others, giving opportunities for jobs, profit, and stability while also preparing a better place for

⁹ "2008 PRC Child Health Assessment." Dayton Children's. Accessed April 2, 2014. http://www.childrensdayton.org/cms/resource_library/files/b03d6601df965e4d/2008_child_health_assessmentreport__dayton_children_s_servcie_area_final.pdf.

¹⁰ "Diabetes Interactive Atlas." Centers for Disease Control and Prevention. January 23, 2014. <http://www.cdc.gov/diabetes/atlas/>.

¹¹ "The Universal Declaration of Human Rights." UN News Center. Accessed April 01, 2014. <http://www.un.org/en/documents/udhr/>.

future generations. People have a right to healthy, affordable, and nutritious food, making this an issue of equal rights. People have equal rights and should have an equal opportunity to obtain access to nutritious food. According to Will Allen's Good Food Manifesto, "...we can move along to a continuum to make sure that all of citizens have access to the same fresh, safe, affordable good food regardless of their cultural, social or economic situation."¹² It is our duty to ensure that people in this community have an equal right to these types of opportunities.

This study was conducted to assess the current food system in Dayton and the need to make progress on the food issues. It was done to determine what is currently happening to support the food system, what is missing to make progress, what types of barriers must be overcome to address food access, and how to keep the momentum going. In addition, future possibilities were researched and recommendations are made.

Methods

The method of this study was qualitative. Interviews were conducted of the people involved, interested, or a part of the food system. This included academia, government, producers, vendors, restaurants, local organizations, community representatives, etc. Twenty-eight interviews were conducted with representatives from each of the groups above. The interviews were standardized, keeping around 80% of the questions the same. In addition to these questions, other questions were used to get an understanding of the groups and motivation behind their involvement in food issues. Table 1 includes the list of standard questions that were asked during the research process. To assist with the data

¹² Allen, Will. "A Good Food Manifesto for America." Growing Power. Accessed April 2, 2014. http://www.growingpower.org/Will_Allen_Good_Food_Manifesto-1.pdf.

collection, interviews were recorded. It is stressed that although there were standard questions, they were more open ended, conversational, and discussion based rather than data based. These questions were meant to develop a well-rounded snapshot of the food system in Dayton, future needs and possibilities.

Table 1 Sample Standard Questions

Who are you and what organization(s) are you a part of?
Describe your involvement with the local food system.
What is our perception of the local food system?
What are your concerns with the food system in Dayton?
What effect on society do you see due to the food system?
What are you currently doing to support the health of the local food system?
What needs to happen to make positive progress?
What is the region lacking that it needs to attain progress?
What will change look like?
What are the various options for bringing food to the city? (Food Cooperative, Urban Agriculture, Growing Power UD Partnership)
What resources do you have to bring to the issue?
What can universities, civil society, and local government do to assist this process?
What is the best way to keep the momentum on the issue going?
Who else should I be talking to?

Results

There were common themes and issues that were brought up among almost all of the interviews. First, was that the food system itself in Dayton is not fully developed and understood. Current projects that were mentioned can be found in the appendices. It is a growing food system that has made strides in the past years. Small scale things are increasing in number and size, there are restaurants interested in local foods, bee-keeping

is now allowed in the city, and the CSAs (Community Supported Agriculture) and farmers' markets are on the rise. According to participant 12, a public health employee, there have been six new farmers' markets this year. The scene of downtown is changing and there are big trends towards backyard gardening and growing one's own food. In 2006, there were just 15 community gardens and now there are about 80 community gardens, two-thirds of which are in the city of Dayton, according to participant 1, a coordinator of community gardens. People are getting excited about, and interested in, local business, food, and being civically engaged. Despite the successes recently, there is still work to be done.

There were other common themes including access to, and pricing of food; health and nutrition; education about, and awareness of, the problems with the food system; Dayton as a market; the lack of organization and coordination of food activists and growers; and fairness and ethics. Each of these themes will be addressed separately, although they overlap.

Access

Access to nutritious food is poor in Dayton. There is a general consensus that access is poor in the urban areas for whole, healthy, or local foods. There are many convenience stores and corner stores, offering fast foods, fried food, seldom offering vegetables. When vegetables are offered, they are usually fried. The west side of Dayton has been said to have "terrifying[ly]" poor access to healthy food, according to participant 20, coordinator of a nonprofit community kitchen. People can go for miles and miles without seeing a grocery store. The Dayton Public Health Corner Store Initiative tried to put healthy foods

in corner stores, but convenience stores do not have the refrigeration for produce, some people were reluctant to them because they had never tasted vegetables in their whole form, and it is hard to keep the price of local produce down. In addition to a lack of nutritious food, there is a lack of ethnic foods that refugees and immigrants in Dayton are used to. Refugees are used to having fresh produce in their backyard and now the lifestyle is so different that they use convenience foods. There is very poor access to ethnic foods and the ethnic food available has a much greater expense because refugees must travel to Columbus or Cincinnati to find them. Good food is not well distributed and the population is in need of fresh fruits and vegetables.

Transportation in Dayton is also a factor when considering access. The public transportation that is available is unreliable and sometimes impractical. For many in Dayton, a personal car is not a resource. People must borrow a car, take public transportation, or walk to get to a grocery store. Because of this it is an inconvenience to do grocery shopping, especially if you have a limited budget and children. Getting children onto the bus, taking them to the grocery store, and getting them home, while carrying the groceries is an inconvenient task. For many, it is just simpler to go to a convenience or corner store. Second Street Market is even not on a bus route and is not accessible for people without their own vehicle. Access to nutritious, local food is impeded by the limited public transportation available to residents in Dayton.

Access is not the only factor preventing people from purchasing fresh produce. The affordability of healthy foods is also a factor. There are trends to shop at convenience stores due to prices. With SNAP recipients, it is common to buy nonperishables and shelf stable products that will not go bad due to the idea that all of the money must be used on

the first of the month. This mindset, in addition to the affordability of healthy foods, has set barriers to addressing the food system.

There are effects on other communities in Dayton due to the current food system. For University of Dayton students, there are three stores around, Dorothy Lane Market, Wal-Mart, and Kroger on Wayne. This leaves an option that is incredibly expensive, an option that is unsafe, and one that has a poor variety of foods. The university has a shuttle that sends students to Wal-Mart, which was named “one of the top five most dangerous Wal-Marts in the country” according to participant 8, a food activist and professor. The Kroger on Wayne has fewer fresh and less organic foods and less variety than other Kroger stores. Residents living in Dayton that can afford nutritious foods and own a car can get in their car and drive to Trader Joes or a different Kroger to purchase groceries. This is inconvenient for them and they wish to find these types of things in the urban setting, so that they do not need to travel further for good food that they wish to find in walking distance from their homes. The food system has an impact on many parts of a community, not just those in need.

Price

Price is a large barrier that must be addressed in order to give the population equal access to healthy foods. People demand cheap food. With the high cost of local food, prices of local food will only drop if more people fill the demand. Not only is there a high cost for local food, but there is a high cost for nutritious foods as well. It costs about \$1.50 more

per day to eat a healthy diet than to eat an unhealthy diet.¹³ It is easier to focus on getting more calories for \$1 than getting healthy calories for the same price. Although price has been a factor, other factors must be considered as well. According to participant 16, involved in a nonprofit, the food pantry at Catholic Social Services reaches 13,000 children and adults annually but cannot give away fresh produce for free. If it cannot be given away for free, one must look at why this is and what other barriers must be addressed to make people demand fresh foods. Despite this food pantry being unable to give away produce for free, according to participant 17, involved in a nonprofit, during the summer months, the Food Bank in Dayton, which serves over 70,000 people annually, runs out of common fruits and vegetables very quickly. This shows that the majority of people will take it if it is free or very low cost.

The issue facing the urban consumer is two-fold. “People who can afford good food can’t get it in an urban environment and people who can’t afford it can’t get it either”, says participant 22, a local business owner. The food system must be reformed to provide better access, lower prices for low-income residents, and address other obstacles to food security.

Health and Nutrition

The price of food and accessibility of healthy food have had a great impact on the health of the individuals in Dayton. With corner stores stocking highly processed foods, it is

¹³ Rao, Mayuree, Ashkan Afshin, Gitanjali Singh, and Dariush Mozaffarian. "Do Healthier Foods and Diet Patterns Cost More than Less Healthy Options? A Systematic Review and Meta-analysis." *BMJ Open*, December 5, 2013. <http://bmjopen.bmj.com/content/3/12/e004277.full?sid=820d6e1a-280e-47a6-b8c5-498bfa4657e3>.

easier to buy more calories cheaply. “The lack of accessibility affects nutritional health because of fast food, convenience stores, high sodium, fat, and added sugar foods...for some people it is addictive” according to participant 10, a professor of dietetics. In addition, there are deficiencies in vitamin D because there is a lack of vegetables in the diet. This has a direct impact on obesity, diabetes, and other chronic diseases. According to participant 5, an urban farmer, the food desert has left people in wheelchairs because they’re too heavy, losing the ability to walk, and experiencing a severe disability. Being overweight does not always indicate that someone is food secure. Being overweight in a low-income setting may result from an unhealthy and less expensive diet. Brain function is also affected because the quality of calories matters. “In Dayton Public Schools, basically every kid is hungry and teachers worry, especially over holiday breaks, if the kids will get food... Issues with the education system could be fixed if children were not hungry”, says participant 22, a local business owner. Hungry, malnourished children are unable to learn at their highest potential. According to Ohio Food Banks, food insecurity among children results in more frequent nurse visits, higher rates of depression and diabetes, increased likelihood of repeating a grade, lower scores, and many other negative impacts¹⁴. It will take time to see the impact of efforts to improve the food system upon health because it will only become apparent over the long term, yet if things were cheaper, people might go away from the norm and try healthy options.

¹⁴ "Child Hunger in Ohio." Ohio Association of Second Harvest Foodbanks. 2012. <http://ohiofoodbanks.org/sfspsummit/childhunger.pdf>.

Education and Awareness

There are a large number of educational barriers that must be overcome to address the food system in Dayton. Education was the most mentioned theme through this research, in many ways. Education for all income levels, on how to buy, prepare, store, preserve, cook and enjoy nutritious local foods is important for the food system. Each of these topics will be addressed below.

People are uneducated about nutrition and the impacts of food choices on health. They are often unaware of the connection between the idea of eating high calorie, processed, low quality foods and the sickness and disease that will result. Some people's priorities are not about the quality of food but the amount they can get for the least amount of money. If parents work in fast food restaurants, there is a blurred line between what they do at work and what they feed their children. The key is to eat fruits and vegetables to attain better nutrition. In order bring this about there must be more education on how nutrition (the quality of calories) and changes in lifestyle affect the health of individuals.

We live in a culture that wants easy, familiar, and fast food. The culture does not want to invest time into food because it is so cheap and readily available yet unhealthy. In addition, there is a lack of education on the preparation of foods at home. This has become a barrier to addressing food access in Dayton. The introductions of unfamiliar foods is a barrier because it may be foreign to some people to have a whole fruit or vegetable, they don't think they'll like it, want it, or need it, and are reluctant to try it. According to participant 15, a nutrition educator, "this generation of parents did not have the training in their upbringing preparing them do things like cook foods" and the EFNEP

program noted that “income levels between \$0 and \$3,400 a month eat fast food very often, yet how do they do that if they have no money?” They are used to eating without cooking or low input cooking like a microwave. Through expansion of educational programs, training on how to prepare meals and try new foods will be necessary to overcome the current food system.

In addition to a lack of education on how to prepare foods, there is a lack of knowledge on how to store foods. This becomes an issue with food safety. Participant 16, involved in a nonprofit organization, stated that Catholic Social Services Refugee Resettlement has problems with food safety. “Refugees don’t understand refrigeration and perishables. Milk will be left outside the refrigerator and spoil.” Education is necessary on freezing, containing, and preserving groceries to make them last an entire month. This, along with a re-education process of the SNAP mentality of buying all at once for an entire month, can allow for fresh produce to be more practical for a lower income family. Current educational opportunities are voluntary, which makes it more difficult to educate all people. There must be a greater incentive for the community to participate in these educational opportunities in order to make a greater impact.

There is also a lack of education on how to grow food. “We’ve cultivated an entire society of people who do not know how to take care of themselves. They can’t cook, garden, they only shop at to-go marts and live off junk” says local business owner participant 22. They do not know the value of nutritious food, how to cook, or grow food. Gardening can be a tool through which the community can get better nutrition. Training people how to grow their own food can address the food system directly by giving a population tools to acquire better nutrition at a low cost. Children can also be very

receptive to this. According to participant 2, coordinator of a youth gardening program, City Beets feedback has shown that after participating in the program, kids are taking a more active role in the kitchen and buying different foods. Participant 2 says “kids get excited about food and farming; they see it as cool and want to do it. With early access they can beat the system, understanding how the food system operates and can [grow and cook] themselves.” If you teach children and parents how to grow their own food, showing the benefits and the paybacks, this type of education can be a benefit to the community.

An educational reformation does not just apply to the lower income populations; the upper class can also be informed about SNAP and food assistance. Providing non-biased, easily attainable information and research about food assistance programs, what can be bought with it, what cannot be bought with it, and what it is like to be on it can do this. It is important to do this because of the misconceptions about living off the government’s money. Society is under the impression according to participant 17, involved in a nonprofit dedicated to food, that “those who do receive SNAP are not using it on coke and energy drinks, they are spending it on food.” If the upper class can understand what it is like to live off of these assistance programs, the level of concern these people gain may drive change. According to participant 17, “many people in the area make above the income level to qualify [for SNAP] and still cannot put food on the table.” Once the community understands what it is like to be in this type of situation, they may be more willing to step up and help.

The awareness of these issues must be addressed to make progress. People must be aware of health impacts and nutrition. As obesity and diabetes rates continue to rise,

people will inevitably become more aware. An understanding of SNAP and food assistance can make an impact because we currently pay, through tax dollars, for the inexpensive, unhealthy diet they currently have. We should be paying for people on food assistance to eat healthily. With education and awareness, the culture might begin to value and demand nutritious, local, or organic food. How this can be done is explained in the conclusions.

There are many different cultures in the city of Dayton that are affected by the food system. Before being able to address it, we must invite the population groups to discussions of what they want food to look like, what kinds of produce they want, why nutritious foods are necessary, and other questions. In addition, it is important to address the barrier of getting people to buy, like, and eat something that they are not used to eating, without taking away their culture. This might be done by working with the community members and giving them the opportunity to participate through public deliberation or a series of forums.

Education is incredibly difficult to implement. Educational reform has to be implemented in schools, through churches, at community meetings, in universities, and at grocery stores by providing recipes. The problem with the current methods, like EFNEP (Expanded Food and Nutrition Education Program) is that they are based on volunteers. Participants volunteer to be a part of the projects and it has been found that it is hard to keep people coming back. These programs are only so big and can only reach a small percentage of the population. The implementation of expanding educational opportunities is an incredible barrier. If educational reform were easy, it would already be done.

Dayton as a Market

As stated previously, the city of Dayton is a unique market. Large grocery chains have opted to pull out of the urban areas, yet there is no bigger city in the area and there are fewer stores because of the low-income population. There are people living downtown that are frustrated because they cannot get the things they need downtown. If people want to come downtown and live downtown, they want to feel that there is enough around them to sustain themselves there.

There is currently not enough demand for nutritious, local, or organic food because there is not enough understanding of the benefits of each. There must be a demand to create the market. In order to increase demand, education of the benefits of nutritious, local food must create a desire for it. Simple economics states that as demand is increased, and thus supply, the prices can drop, making quality food more accessible to all people. With the focus being on local, nutritious foods, the profit margins of small, organic, vegetable farmers might increase (as they increase in scale) and they might be able to provide healthier food options to those who need it.

The supply of nutritious, local food is also lacking in the area. If larger entities like the hospitals, or universities said they wanted to purchase local food for supplying in dining halls, there is not enough supply to do something on such a large scale. In order to ramp up production, according to participant 14, agriculture official, “it must be sustainable in three ways: environmentally, socially, and financially”. There are currently not enough avenues where people can spend their money locally and keep it in the community.

Farming is a business. It is very hard to make urban agriculture, organic farming, or small local farming an enterprise and keep the prices low. With urban agriculture, there are many small projects, like Mission of Mary Farm and community gardens, but they are not working together to try and make profit collaboratively. According to participant 1, coordinator of community gardens, Community gardens spring up because people can grow what they want yet there is “no good path to move from gardening to small farmers and learn how to become entrepreneurs.” This would include learning things like “setting prices based on how much labor and how much you invest in a crop” according to participant 23, a local farmer. In order for farmers to commit to anything in the future, things must be economically sustainable and promising to make it worth their while.

Organization

There are a lot of people interested and devoted to the food system in the Dayton area, yet they are not connected and are lacking an organized way of collaborating. Participant 23, local farmer, puts it bluntly; “The frustration about Dayton is that there are so many of these random little things, the issue is that nobody is willing to work together and [subsume]... their ego into a larger project.” The independent pieces are not working together towards a larger effort. It has been a challenge to collaborate with others and the loose organization has caused many failed efforts for a larger cause. For example, Miami Valley Grown, mentioned by numerous participants, fell apart recently. Miami Valley Grown, which was meant to connect growers to consumers, fell apart because of “a

vacuum of leadership at the top” according to participant 23. The lack of organization is why many projects do not get off the shelf.

There must be a catalyst to improve the organization and be the driving force that connects people and moves forward with the food system. There are many beliefs of what people should be or could be doing to support the food system but no commitment to a larger cause. “There are 1000 ideas of what other people are doing but no actual commitment. Nothing is going to work unless people start saying they’ll do something,” says participant 21, a local business owner. In addition, there is a lack of a public outcry and advocacy for healthy, local foods. Nobody is advocating that the average person in Dayton needs nutritious food downtown. A large entity, like the city or a university, must be the trigger by promising to support and harness the energy of the community and make it go. This alone will not be enough but it can jumpstart work on the issue. A catalyst is needed to improve the linkages between what is going on and bring people together, building relationships and trust between interested parties.

In addition to a lack of organization and coordination, the area is lacking funding to get projects off the ground. Volunteers drive many organizations devoted to food education, gardening, etc. The food system will not be fixed through volunteers. There must be a larger entity that can pay staff to give people incentive to give their time to this effort. Similarly, there is a lack of funding for the projects themselves. There are great ideas but no money to fund them. For example, there is not enough money to get public school kids fruits and vegetable snacks at school. Without big money, not much can really get done. But where is this money going to come from? The programs that are currently in the schools are federally funded and without an increase in federal funding,

these programs cannot be improved to reach more people. Without big money from donors, fundraisers, grants, or some other source, no changes are going to occur.

Fairness and Ethics

It was expressed through the course of this report that this all comes down to an ethical argument. It is unfair for people to have poor access to healthy food. According to participant 9, an academic director of community involvement, “Food is a right but eating healthy food is [also] a right.” We have a duty to buy local food because it eliminates externalities and supports a low carbon footprint and food miles, and supports a currently struggling economy that many people depend upon. Later on I will provide economic values that support this claim. What is actually happening is that part of a generation of people is being denied access to nutritious food, and thus learning potential and knowledge because of the link between quality of calories, hunger, and brain function. Good nutrition goes a long way in helping people in their future and they are currently being denied that. It is not a privilege to have healthy, nutritious food; it is a right. The bottom line is that we all need to eat and have nutritious food and we all deserve a healthy meal. It is our duty to fix this problem and allow the community to have equal opportunity to adequate nutrition.

Conclusions

From the results, it can be concluded that the key for the future is to increase access and make things more affordable and feasible for those people who need it through creative solutions. Education can increase demand and, with increased access and affordability, the needs of the community can be met. There are ways that universities, local government, and civil society can involve themselves to make progress on the issue. Many designs and models were mentioned through the interviews and will be described in further detail. These concepts can serve as brainstorming points towards finding a model for Dayton. In addition, the ideas of urban agriculture, the Growing Power and UD partnership, and a food cooperative were explored in more depth as possible elements of a solution. The people already invested and interested in the food system can work towards creating universal access to healthy foods. Final recommendations will be made that will address key difficulties like collaboration and organization.

Universities

In general, there are many ways universities in the Dayton area can support the food system. First, as stated above, the universities can support local food by buying local. Antioch College grows some of their own food through their farm on campus but why not support local farmers by buying as much local food as possible. This can increase demand for local food and increase the supply in the area over time. According to participant 7, a county government employee, “if there is an interest, demand, and [farmers] can make money, they will grow [and meet the demand].” Second, universities can be tools for research and brainstorming. They can research such things as why people

are not eating a healthy diet and the behavioral changes that must happen. They can brainstorm ideas for change, bring them to nonprofit organizations, and work with them to tailor them to the community. Third, they can partner with different community groups and The Ohio State University (OSU) extension. Through these types of partnerships students can be taught about food issues. Growing power offers an opportunity to extend this even further, as I will explain later. Lastly, universities can strive to keep graduates in Dayton by connecting them to Dayton through jobs and organizations. By keeping graduates in Dayton, the market of downtown can be positively impacted, raising the demand for healthy and local foods. Universities can strive to buy local food and educate their students about the food system and access in Dayton.

For the University of Dayton specifically, they have done great things and have great possibilities, yet can still do a better job at supporting the city of Dayton. The University of Dayton is a permanent entity within the city that strives to serve those in need in the area. Students are willing to serve, share knowledge, and get involved. They have been huge players in some projects and have made great strides through the composting program and sustainability program. The composting program is “Ohio's largest institutional food-scrap recycling effort and one of the largest university food composting efforts in the nation.”¹⁵ The sustainability program offers the Sustainability, Energy, and the Environment minor to all students. This interdisciplinary minor “provide[s] interested students with a deep appreciation of the complexity and inherent

¹⁵ "Sustainability." University of Dayton, Ohio. Accessed April 02, 2014. <http://www.udayton.edu/explore/sustainability.php#4>.

multidisciplinary in all discussions of sustainability, energy and the environment.”¹⁶ Many people want local food at UD and can go forward with it if the university begins working with distributors and producers. The Growing Power partnership, which will be talked about in detail later, is an amazing opportunity for the city. UD can also extend itself to support local businesses in communities through the entrepreneurship program, by engaging students at this level to advise local business. There is opportunity to make something similar but better than the Wilmington Grow Food Grow Hope program, which is a community gardening program that assists in the start up of community gardens all over southwestern Ohio. UD can even get creative and take the Christmas on Campus model and rather than adopting a kid for a day, adopt a struggling family for a year and show stability and support for them. UD has many positives and there are some great possibilities for their involvement in the future.

Despite these positive contributions of the University of Dayton, a coordinator of a nonprofit community kitchen, participant 20, has the impression is that “[UD’s] presence as a community builder in Dayton is non-existent.” UD also creates a bubble for the students who attend. The university does a poor job at sending students downtown or giving students the option of going downtown. At the same time, students at the university are not very willing to go downtown despite encouragement by clubs at the university and professors urging them. This is due to safety and having to ride the bus. Perhaps they can do a better job but it is a barrier to overcome student reluctance. For groceries, UD sends a shuttle to Wal-Mart. UD should be sending kids to Second Street Market to support local businesses and give students opportunities to buy local, nutritious

¹⁶ "About the SEE Initiative." University of Dayton, Ohio. Accessed April 02, 2014. http://www.udayton.edu/artssciences/see/additional_resources/about.php.

foods. With the new local farmers market on campus this year, it is apparent that students will support local food and are interested in it. Students should be going down to the city, the Oregon district, riverscape, etc. “The students need to see past the fact that everything they need is in the bubble that is UD campus because that is not how it is in real life” says participant 21, a local business owner. But despite all this, there are ways that UD can change this image, just by being involved, supporting the local economy, and urging students to explore the city, but at the same time making them feel safe. This is not easily done because urging students has not created a behavioral change in the past.

The City and Local Government

The administration of the city of Dayton could demonstrate that the food system is a priority by updating zoning, making land more accessible, and updating funding opportunities. Zoning restrictions could be lifted to make it easier to support urban agriculture and small farmers. Current zoning in the city states that “composting area shall not exceed 250 cubic feet in volume”¹⁷ and for participants 1 and 4, both involved in community gardens, this is not a large enough composting area for community gardens or urban agriculture on a larger scale. Although bee keeping has been approved, small animals are still restricted. According to participants 1, 2, 4, 5, 7, 8, 9, and 22, allowing chickens would enable residents to have their own source of protein in their backyard. According to participant 4, community gardener and food activist, there is already a group of people who have them illegally, called Dayton Underground Chickens. In addition, current water access is difficult for gardening. According to participant 5, urban

¹⁷ "City of Dayton, Ohio Zoning Code." City of Dayton. Accessed April 2, 2014. <http://www.cityofdayton.org/departments/pcd/planning/Documents/ZoningCode.pdf>.

farmer, gardening and harvesting are not exempt from the water sewage charges on water bills yet the water does not go into the sewage, it is used for plants. Participants 4, 5, and 21 mentioned that water access is difficult and expensive. The city can make growing food exempt from sewage charges and also put in additional taps for easier access. The city can make vacant land more easily accessible by making it cheaper and valuing gardening or farming as an option for this land more than they already do. It was expressed by most people that the city supports gardening and agriculture yet according to participant 5, the city is more likely to enforce regulations if the scale of gardening or farming increases. Despite how supportive the city is now, there is still concern that the stability of the lots is at risk. This past year, Garden Station was notified that it would be repurposed for commercial development. It's future is uncertain, and examples like this create a concern among people about the stability of community gardens and urban agriculture. It is estimated by participant 6, a local farmer, that there are about 100 areas of vacant urban land that can be farmed and an additional 10,000 vacant houses to be knocked down, according to participant 7, a county government worker. The city should advertise to people that land is available for growing food and make it easier to support local food on city land. Farming, gardening and food education on urban land should be incentivized by being tax exempt or offered discounts.

The administration can do a better job at setting an example and supporting local food movements and businesses. The city should take a more active role in these organizations, recognizing that current efforts are not working and creating ways for ideas to be brought forward. This cannot be left to volunteers; the city can step in to direct efforts. The Welcome Dayton campaign supports immigrants and refugees. This

campaign ought to be extended to include targeting of the immigrants agricultural background, providing ways for these communities to get involved with agricultural business. “Leaders can do a better job at setting a better example: go to the gym, go to local restaurants, order a salad,” says participant 22, local business owner. By being seen supporting healthy, local initiatives, and even making it a campaign, the benefits of healthy eating and local food can be publicized, increasing awareness. A campaign like Michelle Obama’s Let’s Move is “dedicated to solving the problem of obesity within a generation, so that children born today will grow up healthier and able to pursue their dreams.”¹⁸ This campaign stresses small changes that can make a great impact, making everyone a little bit healthier. Something like this in Dayton, for all age groups, could make a difference in the health of the community.

There is a connection between community food security and economics. It is plausible to think that if people know neighbors and work together, they will appreciate each other, have a sense of ownership, and build community. Other concerns, like crime, might be lifted once people feel that they have everything that they need, according to participant 19, coordinator of an urban youth gardening program. This can be because not having enough money to feed yourself or kids can lead to crime as a way to get income. If food were accessible, cheaper, and valued, crime levels might decrease. This is a movement towards neighborhoods containing everything they need and feeling a sense of community in those neighborhoods.

Funding and incentives are necessary for food projects. To the current grants available, the city and county administrations could add grants for agriculture and food

¹⁸ "America's Move to Raise A Healthier Generation of Kids." Let's Move. Accessed March 31, 2014. <http://www.letsmove.gov/about>.

related projects so that there would be fewer barriers to get them off the ground. Participant 22, local business owner, states “[legislators] need to offer tax incentives for farmers to go organic, sell locally, buy locally, etc.” so that community based behavior is rewarded and prices can be driven down. These types of steps can be taken to encourage proliferation of food projects in the area.

Civil Society

According to participant 18, an active community member in a group devoted to a thriving Dayton, the advantage of Dayton is that it is a “small big city.” The people in Dayton love to participate and get involved. If there is an issue, word travels fast and people find out. Once the right people hear or learn about it, they will step up and participate. Participant 18 states “Dayton loves to participate.” This makes Dayton unique and puts the civil society at an advantage.

Civil society can support local business to drive change in the area. Olive Urban Dive, a restaurant downtown that serves mostly local food and supports all local distributors, puts all of their profits straight into the local economy. More and more restaurants and businesses are popping up like this, making it easier to have an impact on the local economy. According to participant 13, a community development researcher, the food system is “growing and exciting... farmers markets are developing and increasing in the last few years” and “there has been a bloom in the local food market”. “Any small business like Olive will make 2-5 times the impact as a big business” says participant 21, local business owner. A dollar spent locally rotates several times. Civil

society should strive to support businesses like these to keep their dollar rotating in the community, building community and the local economy.

Civil society can also focus on grass roots movements and small changes to make a greater impact. Working on small projects, in several different little locations can make a difference and civically engage people but right now there is a lack of collaboration and corresponding a lack of influence. Groups working in their communities ought to be open to a larger collaborative effort.

Striving to make everyone in the community a little bit healthier through easy changes and grass roots movements can make a great difference. “We have to target people and ask them to make small changes; once those are adopted, move on to the next thing,” according to participant 22, local business owner. For example, participant 22 says, “if you want to eat out, walk to the restaurant, park in the farthest spot or eat local...if they don’t have the money, be sure that they are informed about the programs that are available.” Small changes like these can impact obesity rates, the health of the community and market, and assist in finding healthier options. Civil society can advocate for these small changes and be conscious of the businesses they support.

Making Healthy, Local Food the Norm

All members of the community in Dayton can work towards the goal of making nutritious, local food the norm. By eating local, “getting people out to see, touch, and eat food” according to participant 5, an urban farmer, it is easy to sell the positive impacts and keep it fun for people. Participant 2, coordinator of a youth gardening program, states that “it can’t be all work, it has to be fun and [modern].” By making people aware

of the resources they have, talking about food, bringing people together to eat food, and learn about food, the local food system can be fully realized. Participant 15, nutrition educator, points out that when people become enthusiastic and satisfied about local foods and see the impact on their health, the local economy can be supported and expanded to make healthy, local food the norm. For example, participant 6, a local farmer shared a telling story. A woman signed up for the CSA and got blood work done before, one year later she got blood work done again and risk factors, like cholesterol, had dropped. Overall she was much healthier. The impacts of food on health, such as this woman's experience, can be shared with others to make local food the norm. By sharing through social media, this might be attained. Even if they do not all have access, some do and by word of mouth it can be spread.

Future Possibilities to Make Change

Many creative ideas to address food access in the city were explored and mentioned through the course of this research. To solve these problems, existing resources ought to not be scrapped, but enhanced, and exposure and accessibility to them increased. According to participant 20, coordinator of a nonprofit community kitchen, "Second Street Market must be grown in a huge, macro way. It is one of the best resources that Dayton has and should be a regional destination, have a huge thriving footprint, and be an epicenter for people to grow, sell, and shop food." Some of the barriers to this currently are the size of the building, hours open, days open, and lack of food assistance acceptance. Second Street should improve some of this by expanding the hours and size and adding vendors. Even participant 23, a local farmer and vendor at the market, stated,

“there [is]... not a ton of produce vendors at the market.” According to participant 3, involved in a farmers market, Second Street is looking to do these things because the community demands it yet have run into drawbacks like the farmers’ ability to commit, staffing, and space.

If expanded, the Food Bank can pick up any excess that has not been sold. In order to accept SNAP, they can set up a system where people can go around to each stand, get charged, and bring a receipt to one place then have the card be divvied up. In addition to expanding Second Street Market, current farmers’ markets can cross advertise to increase exposure, through booklets, advertising their website, or word of mouth. Rather than starting a new farmers’ market for each community, by cross advertising between markets more business can be built for the ones that already exist. Promoting a shuttle to markets or transportation routes that include these markets will increase access and business for all of them. It is key to utilize what already exists and improve access to it, in addition to other methods. These other ideas and models will be explored in more detail.

Grocery Store

Although it was determined by Richard Stock in 2008 that a grocery store would not be supported in Dayton,³ it is six years later and the food system has changed. The idea of a grocery store, if well thought out, might address a large portion of the need. This could be a locally sourced endeavor through a private business. Despite the inability to attract stores to the area in the past, the community still demands it. According to participant 22, local business owner, if placed between UD and Downtown, a grocery store might thrive

off of transient customers. The store should be willing to have a farmers' market on Sundays or Saturdays outside and give coupons for produce. Participant 22 states that people want to shop at grocery stores for food, even if it services just 60% of the need in the area, it is the best place to use food assistance, customers can get the most out of their money, and it can benefit a large majority of the population.

The idea of subsidized grocery stores could also be explored here to tackle food deserts directly. Subsidized grocery stores are funded so they can be placed in low-income areas to increase access to nutritious foods in food deserts. Philadelphia has subsidized grocery stores and can be looked at as a model for this. The Fresh Grocer stores were given tax breaks and grants to open in underserved areas as a way to tackle obesity rates.¹⁹ This type of model can address access, placing nutritious food in areas that lack it. It can also address other issues, if combined with other models. This model for grocery stores is worth exploring for Dayton.

Commercial Kitchens

Commercial Kitchens, like Synergy Incubators, a nonprofit in Dayton, are necessary for aspiring food businesses to succeed. They are places that include a kitchen, storage, green space, education space, event space, and retail space. This type of resource can be where food businesses, from food trucks to bakers, can store, prepare, and sell foods. They would offer places for food trucks as a commissary, allowing them to store and prep food, clean dishes, and park trucks. The kitchen can "create a space for street food in our

¹⁹ Goodwin, Liz. "Battling Food Deserts: Can New Supermarkets and Revamped Corner Stores Curb Obesity in Cities?" Editorial. Yahoo! News, March 14, 2013. <http://news.yahoo.com/blogs/lookout/battling-food-deserts-supermarkets-revamped-corner-stores-curb-084328183.html>.

neighborhoods” according to participant 20, coordinator of a nonprofit community kitchen. The opportunities that it hopes to bring are to “help aspiring businesses, whether they’re start up or growing, and create vibrancy by engaging with the community,” says participant 20. This can allow for educational opportunities and community building through the availability of open educational space. These spaces can be used to educate on food safety, food handling, cooking classes, food business classes, or other things related to food. They should be open to everyone in the community. Successful commercial kitchens can be found in Columbus (The Food Fort), in San Francisco (La Cocina), and in other cities around the United States. According to the Urban Land Institute, “food incubators are one of the keys to bringing a food scene to the urban core, hooking into the wave of people moving to downtown areas where they can walk and bike more, drive less.”²⁰ Although Synergy Incubators is a work in progress, it is a promising idea for the city of Dayton food businesses.

Regional Food Hubs

A regional food hub is another method of creating a self-sustaining food system within a region, linking production, processing, distribution, and consumers with the local food system.

A regional food hub is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products

²⁰ Synergy Incubators. "Even as Culinary Incubator Gathers Momentum, Clients, it Must Seek a New Home." News release, November 27, 2013. Synergy Incubators. <http://www.synergyincubators.com/even-as-culinary-incubator-gathers-momentum-clients-it-must-seek-a-new-home/>.

primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.²¹

Through a regional food hub, large, consistent, and reliable supplies of local or regional food can be established for large entities to buy from. This would make it easier for universities, hospitals, and other large institutions to purchase local food. There are many models, whether they are privately owned, nonprofits, cooperatives, or public. When combining the idea of a food hub with other models, the impact on the community can be great. For example, Weinland Park in Columbus, Ohio is working on becoming a regional food hub by integrating processing, distribution, food cooperatives, urban agriculture, education and shopping all into the lower income community that is Weinland Park. This will be called the Food District.²² Although it is a large task to accomplish, they are taking it in small chunks to make the largest impact. A regional food hub is a way to integrate food at all levels of production to make it easier for consumers and large institutions to purchase.

Food Assistance Reform

Many people in the area are on food assistance programs and generally buy processed foods because they can get the most food for their dollar. A way to encourage those on food assistance to purchase healthy foods is to offer incentives for good behavior. This can be in the form of coupons for produce or a program called Double Value Coupon

²¹ Barham, James, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. "Regional Food Hub Resource Guide." U.S. Dept. of Agriculture, Agricultural Marketing Service. April 2012.

<http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5097957>.

²² "The Food District." The Food District. Accessed April 02, 2014.
<http://thefooddistrict.org/>.

Program. This is offered by Wholesome Wave, located in Connecticut, a nonprofit dedicated to “empower[ing] people in underserved urban and rural communities to make healthier food choices by increasing affordability and access to fresh, locally grown food in ways that generate significant impact on local economies.”²³ By offering coupons for produce, it reduces the cost for healthy options and rewards people with discounts. The Double Value Coupon Program doubles the value of SNAP or WIC if consumers go to a farmers market versus a grocery store. This is so that people can get the same amount of calories and food, yet better quality calories. They do this by finding farm-to-retail venues that are willing to adopt this program and then the venues accept the tickets at double value. This also creates an “economic stimulus by keeping federal nutrition benefit funds within local and regional communities.”²³ The Double Value Coupon Program has been shown to make a great impact. In 2012, 90% of DVCP consumers reported increasing their consumption of fresh fruits and vegetables and due to increased sales, farmers increased production through more acreage, more diverse products, and more greenhouses or hoop houses.¹⁷ This type of coupon program not only has an impact on consumption, but it increases production of local foods and feeds the money back into the local economy. Farmers’ markets all over the country, have adopted it with 306 participating markets in 24 states, including Washington, D.C. This is a sound idea that can be adopted in Dayton that will stimulate the economy and ensure a healthier community.

²³ Double Value Coupon Program (DVCP)." Wholesome Wave. 2014. Accessed April 01, 2014. <http://wholesomewave.org/dvcp/>.

One Bistro

One Bistro is a nonprofit restaurant in Miamisburg, Ohio that adopted a “pay what you can afford” model. “At the core of one bistro is a place from which we strive to serve a healthy, affordable meal to our neighbors, both those who have the ability to pay as well as those who under normal circumstances would not be able to eat out at a local restaurant.”²⁴ They strive to give anyone who walks in the door a meal, whether they can afford it or not. The payment options for this model are that patrons pay what they can, and if it is under the suggested price, they can offer their time through volunteering to compensate for the difference. Those who can pay the suggested price can pay it, pay more, and donate their time. What tends to happen is that the higher income customers pay more and the lower income pay what they can. This model has been very successful for One Bistro and continues to be a hit for the community. They started out as one store two years ago and have expanded to a food truck, and are looking to expand to upwards of five locations.²⁴ This type of model can increase access by taking the stress of paying away and build community by offering the opportunity to volunteer with others. It is worth noting for Dayton because it works in Miamisburg and can be further researched as an idea for Dayton.

Mobile Grocery Stores

Mobile Grocery Stores can tackle food deserts directly by bringing fresh produce to those who cannot obtain access to it. Rather than placing a permanent storefront in neighborhoods, like grocery stores, mobile grocery stores can take a school bus or RTA

²⁴ "One Bistro." One Bistro. Accessed April 02, 2014. <http://onebistro.org/>.

bus and deliver fresh produce all over. These mobile grocery stores can incorporate education and accessibility by providing recipes for meals containing the foods that are sold and accepting food assistance program coupons. A model for this can be found in Fresh Moves in Chicago. Fresh Moves, a nonprofit, was started because Chicago, like Dayton, is a food desert in some areas and it was too expensive to start grocery stores all over. The founders got creative and decided to take an old RTA bus, gut it, and turn it into a grocery store. "They're working hard to bring the Lawndale community fresh, delicious, nutritious produce – and educating the public at large about how fun it can be to eat healthily."²⁵ They have 32 weekly stops in seven different neighborhoods in food deserts and have made \$61,524 in total sales in 2013.¹⁹ A Mobile Grocery Store can be beneficial to the city of Dayton because of how extensive the food desert area is. They can deliver nutritious, local foods to those in need and tackle access directly.

Food Cooperative

There are many fluctuating details that must be worked out before a food cooperative can be fit for Dayton. Both participants 4 and 21 have done extensive research on this topic. Participant 21, local business owner and entrepreneur, states that something like this will take 5-10 people volunteering 20-40 hours a week above their job to make it work. In addition, participant 4, a community gardener and food activist, says people would need to be willing to buy a \$200 or so membership 3-5 years before an existing storefront, with about 1000 people necessary for this to happen. A food cooperative would not cost any less than a real grocery store if given a storefront and there is a low profit margin selling

²⁵ "Mobile Produce Market." Fresh Moves. 2012. Accessed April 2, 2014. <http://www.freshmoves.org/>.

groceries, according to participant 4. Participant 21 believes that there are very few successful cooperatives, other than all year round states like California. Despite this belief, according to Food Co-op Initiative, only about 19% of the food co-ops that have started since 2006 have failed.²⁶ A cooperative would be run by volunteers yet those volunteers must be compensated, through discounts, food, etc. and have repercussions if they do not show up. The problem with grants is that year after year it cannot be guaranteed that the cooperative would get the grants received the year prior. These details would have to be explored and researched heavily before determining whether a food cooperative is the best model for Dayton.

Despite the above details, there is a lot of positive support for a cooperative. Some people argued that if made into a nonprofit, it can be fed back into the community and be most beneficial. According to participant 5, local urban farmer, it would need a creative structure to get the rich and the poor shopping in the same area with cross-class support. If people got creative and appealed to people's compassion, starting a community cooperative with a sliding scale pricing based on income, kids, etc. it could make a larger impact, according to Participant 9, an academic director of community involvement. Those with higher incomes would be helping those who have greater need. Most importantly, the biggest way to get food in the places that need it is to accept SNAP and food assistance coupons. If well thought out and accessible, a community cooperative could be fit to Dayton's needs.

²⁶ Reid, Stuart. "Why (Some) New Co-ops Fail." Food Co-op Initiative. November/December 2012. http://www.foodcoopinitiative.coop/sites/default/files/Why-Some-Co-ops-Fail_%23163.pdf.

With the positive support, there was also negative support for this idea. According to participant 6, a local farmer, a food cooperative is usually a “high-end place, not providing food to the masses that need it.” The people that need something like this cannot afford it and cannot be a part of it. People in the city would not be able to afford to buy into this unless it is placed in the right community. But the “right” community are cities like Oakwood, which have higher incomes. People do not know if it can happen in struggling communities like Dayton.

People do not have a complete understanding of how food cooperatives work. There are many different models that can be adopted and the details have yet to be worked out. According to participant 22, local business owner, people should not have to buy in to get access to healthy foods. If they can afford it, it can work if a food cooperative is established that gives discounts for only its paying members, yet this sets up just another barrier for those whose need is the greatest. It is not a model that will attract low-income populations unless there are abundant incentives. Despite the varying details, a food cooperative, when mixed with other models, can be a way to increase access to nutritious, local food.

Urban Growing

Urban gardening and agriculture can be a fantastic way to utilize vacant land and increase access to food. There are enough people in the area interested in gardening that if they can be mobilized to grow on many lots in the community, it can make a greater impact on food security. There are 80 community gardens, with two-thirds of them in the city, according to participant 1, a community garden coordinator. Community gardens are

generally small scale, grown for the growers, their families and friends where as urban agriculture is a larger scale profession: whether distributing as a for-profit or non-profit, it is distributed to others. Urban agriculture would require adjacent lots, nearby lots, or large lots to be grown on a large scale. There are a ton of opportunities with the vast number of vacant lots in the city, an estimated 100 acres. In order to grow on a larger scale, composting needs to be ramped up to get better quality soil and reduce the risk of soil contaminants in these lots. As mentioned previously zoning restrictions have restricted composting to 250 cubic feet, which participants stressed is not big enough. When restrictions are lifted and the city is on board, there are a lot of opportunities to get creative with vacant land. For example, greenhouses can be built and maintained year round. The presence of these as people drive by creates a positive impression and can improve the community in which they are placed.

Urban agriculture can provide opportunities to involve refugees and immigrants. This population is used to growing their own food and could be very receptive to this idea. Some refugee groups have already started growing their own food so that they can live in a culture that is more like where they came from. According to participant 16, who is involved in a local nonprofit, refugees have started growing corn on Neil Avenue and the Bhutanese are growing foods in their front yards. More and more refugees are gardening. If a larger entity were able to pay people to farm, refugees would be receptive to it if they could get their WEP (Work Experience Program, a program necessary for refugee resettlement) assignment done and possibly have a job opportunity. Urban agriculture can be an opportunity to welcome refugees by developing job skills, language skills, and assisting into their assimilation into the community.

This type of farming can be an educational opportunity for the citizens in Dayton. If people are taught how to grow their own food, they can utilize the knowledge and take it back to their own homes. Urban growing is an opportunity to farm creatively and sustainably on urban lots. Farming methods that can be explored are permaculture, aquaculture, hydroponics, and aquaponics. These could also be educational demonstration gardens for educating children through field trips to learn about growing food. This would provide a way to educate the community while growing food creatively.

There are many urban farms throughout the United States but an area near Dayton is doing it well. In Pittsburgh, Braddock Farm is a low-income area that was turned into a farming area.²⁷ Like Mission of Mary Farm in Dayton, they sell cheaply to local residents and at a higher price to the upper class. Having different price points for different people ensures that the low-income community can receive access to healthy food at a low cost. Utilizing this type of model to give people the opportunity to grow their own food and also purchase nutritious, local food at a lower cost is already occurring in Dayton and has the opportunity to grow.

Growing Power Partnership with UD

In the fall of 2013, the University of Dayton became partners with Growing Power, an urban agriculture training and growing site in Milwaukee, owned and operated by Will Allen. Growing Power specializes in creating community food systems, which “provide

²⁷ "Braddock Farms." Grow Pittsburgh. Accessed April 02, 2014.
<http://www.growpittsburgh.org/what-we-do/we-grow-food/braddock-farms/>.

high-quality, safe, healthy, affordable food for all residents in the community.”²⁸ They have a focus on sustainable farming methods and have done urban agricultural work in food deserts in Wisconsin and Chicago, IL and have regional training sites in many areas in the eastern United States. The goals of the partnership are to create a training site for the community and the university; where students from all academic disciplines can incorporate food into their curriculum and community members can also be trained in many types of farming. The first goal of this partnership is to start growing soil for the region. A compost facility will be a great resource for the community and there is a lot of positive support for this project.

Some members of the community were excited when they heard about this partnership. It is an opportunity to reboot the image of Dayton. It brings people together from all over to work in a system and get things done, while also giving them the tools to do such a thing. The publicity itself is great for awareness on food issues because more and more people will get on board and it will drive curiosity. The discipline of food can be worked into curriculum, degrees can be offered in farming and food business, and people can learn to grow their own food, while also educating the students on food, food related issues, and the food system. Students will have an opportunity to get out of the classroom and learn. It enhances the curricular program of the university because it ensures that when students leave UD, they are conscious of the food system. It is believed that this type of model is needed for Dayton, and according to participant 18, a community member active in a group dedicated to a thriving Dayton, this is what

²⁸ "Growing Power, Inc." Growing Power, Inc. Accessed April 02, 2014. <http://growingpower.org/>.

UpDayton members have asked their organization to recreate in Dayton. It is a missed opportunity if passed up.

The needs of the Dayton community may require a slightly different model than Growing Power but it can still work if tailored to Dayton. Dayton needs jobs and food. The primary concern is to take care of people in Dayton. According to participant 9, an academic director of community involvement, it is necessary that this be Dayton's thing, not the university's thing. The role of the university in this partnership is to be the administrator and driving force and not back out. It is an opportunity to place little pockets of farming in neighborhoods and use vacant land in Dayton. UD can secure places, work with schools, and get food to those who need it the most. Dayton can be a fit for some version of the Growing Power model.

A regional training site of Growing Power is in Cleveland, Ohio and can serve as an example for this type of partnership. The Rid-All Green Partnership, based on the east side of Cleveland, is in the agriculture innovation zone in one of the lowest income areas in that county. They have "reclaimed the land for growing fruits and vegetables, farming fish, creating soil...constructed two green houses, four hoop houses, a tepee, are adding an edible trail and a pond to add to [their] fish farming."²⁹ They sell through a CSA and have a retail space where they sell some products. Cleveland has become one of the top urban agriculture cities in the country and their presence as a community builder has given them recognition. The city is ranked second in local food and agriculture, with

²⁹ "An Urban Farm in Cleveland." Rid-All Green Partnership. Accessed April 02, 2014. <http://www.greenghetto.org/>.

“215 community gardens, 36 for-profit farms, and growing.”³⁰ Cleveland puts it eloquently, “As neighborhoods blossom, the city will bloom, and the foreclosure crisis will have served a purpose unimaginable.”³⁰ This sort of model, in conjunction with other models, can be fit to Dayton.

Proposals

As noted previously, groups in Dayton that are working on local foods are not well organized to collaborate. Through this research, it was found that there are a large number of projects in existence, working in the same area, under the same discipline, yet completely unaware of each other. The first steps towards making progress must be made to connect groups and foster collaboration, making them aware of each other and enabling them to work together with each other to accomplish their goals.

To address collaboration, larger entities must commit to taking a leadership role. There are many large entities in the area that have a great presence in the community: University of Dayton, Miami Valley Regional Planning Committee, OSU Extension, Metroparks, the city, etc. One of these entities must take a leadership role to be the catalyst for change. They must encourage people to be civically engaged and start brainstorming and organizing people. The key is to stop trying to do everything and do something. The needs of the community are simple; it needs nutritious, local food. Make this the larger goal and eliminate the conflicting priorities and idealism, like how things are to be farmed, e.g. organically, which are standing in the way of progress now.

³⁰ Plain Dealer Editorial Board. "Urban Farming, and Lots of It, in Cleveland." Editorial. Cleveland.com, January 14, 2012. Accessed April 02, 2014. http://www.cleveland.com/opinion/index.ssf/2012/01/urban_farming_and_lots_of_it_i.html.

Volunteers will also not solve the problem; there must be paid workers to ensure a consistent effort. This will be a difficult task because money is hard to come by, but once there is a plan in place and large time commitments are necessary, paid workers will go a long way.

In addition to organizing groups, leaders must show support for the food system. Institutions and businesses should sign the 10% local food shift set up by the Montgomery County Food Policy Coalition. This is a commitment to purchase 10% of all food locally. According to a study done in Michigan by Local Works, a 10% local food shift in Kent County would create “\$140 million in new economic activity, 1,600 new jobs, and \$50 million in new wages.”³¹ By starting with a 10% shift, it will be easier to then make the transition to 25%, 50%, and as close to 100% as possible, promoting an increase in supply as demand increases. This can drive the cost down and make local food more accessible for the community, in addition to helping the local economy.

To work on awareness, people must make food a priority. Through the larger entities mentioned above, work must be done on the educational barriers described earlier. They should establish programs on health, nutrition, food assistance resources, how to grow food, etc. This is a daunting task because education is incredibly difficult. Working through schools that have very little money is difficult. My hope is that this research might serve as a starting point for brainstorming points about what is necessary for Dayton. The ideas researched in this thesis as a whole have been shown to be impactful in the areas in which they have been implemented. Each of these concepts could have some impact on Dayton, and a mix of them can make the greatest impact.

³¹ "The Multiplier Effect of Buying Local." SOLE Support Our Local Economy. Accessed April 02, 2014. <http://solenow.org/2013/08/300/>.

Lastly, in order to work on awareness, collaboration, and education, there must be a platform to keep people updated on food. A website would be a great start, where people can go to find out about where to buy local food, what stores accept SNAP, where there are community gardens, etc. This research and the current projects listed in the appendices can be used to find ways of reaching out to community groups and the website could be a place where they are brought together and made aware of each other. The Montgomery County Food Policy Coalition started a website this year³² and it could easily be used as the platform for this information. Sharing it through social media and making it known will drive the issue and keep the momentum going.

There are many opportunities to make an impact on the food system and this research was meant to direct people's efforts to make a consolidated effort and make the most impact. It is meant to be shared and utilized as a tool to increase awareness and jumpstart the creative brainstorming necessary to make change.

³² "Montgomery County Food Policy." Montgomery County, Ohio. Accessed April 02, 2014. http://www.mcoho.org/services/mc_food_policy/.

Appendix A:

A Current, but Not Exhaustive List, of the Organizations in Dayton Working on Food Related Issues

Organization	Mission Statement	Related Program(s)	Description	Resources Available	Contact/W ebsite
Five Rivers Metroparks	"Protect the region's natural heritage and provide outdoor experiences that inspire a personal connection with nature." ¹	Community Gardening Program	A program designed to assist with developing and maintaining community gardens through education and support. Currently there are around 80 community gardens, about 67% of which are in the city of Dayton. This program works with neighborhood groups, organizations, churches, corporations, schools, youth groups, etc. Headquarters is now located at Possum Creek Metropark.	Education (gardening, food, homesteading) Staff willing to be players in a larger collaboration, two larger community garden plots, a functional farm, local access to food	¹ http://www.metroparks.org/
		City Beets	A youth gardening program that employs teens over the summer. Includes education on food systems, food justice, budgeting, food preservation, gardening classes, harvesting, and cooking nutrition. During the season, they sell at the 2nd Street Market.		
		2nd Street Market	Improving local food access by being Downtown's farmers market.		
Garden Station			Was originally started to be an art park and community garden, has become a Dayton original that attracts people from all over. It is a hub for food activists. It offers accessible community garden beds, music performances, cooking classes, gardening workshops, and more. Entirely volunteer based.	Education (gardening, canning, cooking, DIY, etc.), community garden plots	http://daytongardenstation.org/ https://www.facebook.com/GardenStation
Mission of Mary Farm	Exists to make healthy food affordable, accessible, and available to people living in the Twin Towers Neighborhood in Dayton	CSA, Roadside Stand	An urban nonprofit farm located in the Twin Towers Neighborhood in Downtown, started to meet the needs of people in the area and live out the Marianist values. The CSA sells half its share in the neighborhood at half the price, delivering it to the area and accepting food assistance. The other half is sold at double the price with the understanding that they are subsidizing.	CSA, Roadside Stand, Community Meals, Subsidizing Model, Knowledge on Urban Farming	missionofmaryfarm@gmail.com
Patchwork Gardens	"Vegetable garden working towards providing fresh, local food all year round." ²	CSA, Farmer's Markets	A 24-acre vegetable garden farm close to Dayton started in 2007. Primarily does business through a CSA but also sells to restaurants and farmers markets. Directly affecting the 160 families in the area.	Know how to grow food and run business, Education on enjoying unfamiliar foods and preparing foods for families	² http://www.patchworkgardens.net/

Montgomery County Food Policy Coalition	To improve the local food system, and eliminate hunger and health issues due to poor nutrition, through changes in public policy and programs.	Committees: Land Use, Production and Distribution, Health, Nutrition, and Access	A county organization working towards improving the local food system. Held a Food Summit in Fall 2013 about Local Foods, providing an educational opportunity while also launching a 10% local food shift. Interested in all facets of food issues, including business, agriculture, government, hunger, access, nutrition, and health. Volunteer run.	Educational opportunities	http://www.mchios.org/services/mc_food_policy/index.html
University of Dayton	"A diverse community committed, in the Marianist tradition, to educating the whole person and to linking learning and scholarship with leadership and service." ³	Fitz Center	There is a primary focus on educating leaders to build communities, building partnerships, and helping solve problems and achieve results with student programs.	Source of community partnering, education, volunteers through students	http://www.udayton.edu/artsciences/fitzcenter/
		SEE (Sustainability, Energy, and Environment)	Growing Power Partnership. Also have research classes that have involved the Dayton food system in the past.	Research, Partnership, Growing Power	http://www.udayton.edu/artsciences/see/
		Nutrition & Dietetics	Directors have been working on bringing service learning projects into the HSS program. Students have worked in the East End community, Food Pantries, and worked with GetUp Montgomery doing research and service learning.	Research, Education, Service Learning, Community Partners	³ http://www.udayton.edu/
Dayton Public Health	"To lead and innovate by working with our community to achieve the goals of public health: prevention, promotion, and protection." ⁴	Creating Healthy Communities	Focus on healthy eating initiatives, tobacco free, and healthy living. Part of this is a healthy corner store initiative, where fresh produce from local gardeners has been provided at corner stores. Also works through schools, and having physical activity programs.	Workshops, Food Access Initiatives, Youth Work	⁴ http://www.pdhmc.org/
		GetUp Montgomery	An obesity prevention program designated to increase healthy eating and active living.	Education, Promotion of Healthy Lifestyles	
		Environmental Health Food Safety Inspection	Inspection and licensing of all restaurants, groceries, and anyone who sells food in Montgomery county.	Regulations, Licensing	
OSU Extension	"Engaging people to strengthen their lives and communities through research-based educational programming." ⁵	Miami County Extension-Community Development	Local Food Council with the objective to bring together regulators, producers, eaters, growers, etc. around food to be an intermediary to change laws and make progress on food issues.	Local Food Systems Work	⁵ http://montgomery.osu.edu/
		Montgomery County Extension-Family and Consumer Science	Part of OSU Extension that offers cooking, canning, and preserving classes.	Educational Opportunities, resources from the Land Bank College System, Experts for Agriculture	

		Vacant to Vibrant	A program between OSU and the City of Dayton designed to take vacant lots in the city and turn them into urban gardens.	Gardening and Agricultural Education, Collaborations	
		EFNEP (Expanded Food and Nutrition Education Program)	Federally Funded Grant program geared towards providing nutrition education with limited resource families with children 18 or younger living with them. The adult curriculum is 8 courses long and they look at food safety, stretching the dollar, reading labels, storing food, handling food, nutrition, and preparing food. It is done at many locations throughout the area.	Educational opportunities, open for collaboration, proven success in classes	
Catholic Social Services	"Strengthening individuals and families in need through actions of faith, service and charity." ⁶	Food Pantry	Typical food pantry yet seems to be unable to get rid of fresh produce.	Food Pantry	⁶ http://www.cs-smv.org/
		Refugee Resettlement	Refugees are taught basic nutrition and how to grocery shop when resettled in Dayton. UD is working with this section and nutrition.	Some Refugees know Farm Skills	
The Food Bank	"To relieve hunger through the acquisition and distribution of food to hungry people throughout the Miami Valley." ⁷	Food Bank Distribution to Pantries & Mobile Farmers Market	Distribute donated foods to many food pantries in the Miami Valley area. Mobile Food Trucks deliver fresh produce in the summer to food deserts and to disabled people and seniors. This is a growing program, in 8 months went from 5 mobile stops to 11.	Access to Food Deserts and Communities, Mobile Farmer's Market	⁷ http://thefoodbankdayton.org/
		Kid Backpack Program	Kids that are food insecure and showing signs of hunger are provided backpacks each week on Fridays so they have food during the weekends. Currently providing 1,450 backpacks per week.		
UpDayton	"To attract and retain young talent, increasing the vibrancy of the Downtown Dayton area, and rebuilding community." ⁸	2013 Action Plan Livability Committee	The goal is to produce a booklet/map highlighting the available grocery options within a 4-mile radius of downtown. In addition to the map, an outreach and awareness campaign will be held to pass out the maps and talk to people in the area about what they're buying.	Booklet/Map, Education, Young Population, Recreating Dayton	⁸ http://updayton.com/
Grow2Live	"Teaches children how to grow their own vegetables and gain a sense of confidence and independence." ⁹		Started in 2013, it is a youth community gardening program dedicated to empowering the youth and teaching them about food and gardening in the west side of Dayton.	Youth Program, Education, Community Garden	⁹ https://www.facebook.com/Grow2Live
Synergy Incubators	"By providing food business entrepreneurs affordable professional kitchen space and training programs, Synergy Incubators nurtures the successful growth of food business in		The goal is to provide a commercial kitchen to the city as a non-profit organization. In addition to this commercial kitchen, educational space for cooking classes, events, and food trucks is to be provided. The purpose of this entity is to act as a community resource for all people by allowing businesses to prepare their foods, sell, pilot products, educate, etc. Help aspiring food businesses.	Commercial Kitchen Work In Progress, Community Minded, Education, Space	¹⁰ http://www.synergyincubators.com/

	Dayton, Ohio." ¹⁰				
Olive Urban Dive	"The Motto is local over import, labor over convenience and service over everything else." ¹¹	Restaurant	A Downtown Dayton Mediterranean restaurant that uses majority locally produced food, and only locally owned distributors or independent food producers. In addition, starting to grow some of their own food.	Education, Access to Local Produce, Local farm, Local Business, Knowledge, Contacts	¹¹ http://olivedive.com/
Mile Creek Farm		CSA, Farmer's Markets	Small family farm dedicated to producing fresh, organic vegetables and flowers. Distribution is done through a CSA and sells at 2nd street market. In addition, the family has had previous work with Urban Agriculture in Chicago with Growing Power.	Local Food Business, CSA, Urban Agriculture Experience	http://milecreekfarm.com/
Dorothy Lane Market		Honestly Grown Honestly Local	Locally owned and operated grocery stores that supply local foods in the stores. The local foods have tags near them indicating they are local, also indicating where they came from.	Local Grocery Store, Supplying Local Food, Higher End Products	http://www.dorothylane.com/
Homefull	"To work to end homelessness by providing housing, services, advocacy and education." ¹²	Micro-Farm	Created a small farm and have 200 raised beds with the shelter members and Homefull working there. Sell to Dorothy Lane Market and at farmer's markets.	Urban Agriculture, Producer	¹² http://www.homefull.org/services-and-programs/direct-client-services/gettysburg-gateway-micro-farm/
Learning Tree Farm	"To provide hands-on learning experiences in a traditional farm setting." ¹³	Field Trip Programs, Open Farm	This is a working farm dedicated to getting kids, teenagers, and adults into a rural setting where they can interact with a variety of farm animals, go hiking through trails, and pick food from the garden. They have field trip activities that incorporate exercise with obstacle courses, nutrition with gardening, and others.	Local Farm, Hands-On Experience, Education	¹³ http://www.learningtreefarm.org/index.html
Wilmington College	"To educate, inspire, and prepare each student for a life of success and service" ¹⁴	Grow Food Grow Hope	They work "to increase the access of fresh food for families, promote the benefits of local food production and to raise awareness about self-sustainability in our daily food habits". This is done through their own campus community garden and also community gardens all across southwestern Ohio. They assist in establishing community gardens throughout the area.	Community Gardening, Education, Model	¹⁴ http://www.growfoodgrowhope.com/

Aullwood Audubon Center	"An Audubon Center for environmental education and sustainable agriculture that provides activities that increase understanding and preservation of the planet by children and adults through education, research and recreation." ¹⁵	The Farm, Preschool Programs, 4H, Field Trips	Aullwood provides opportunities for school aged students to learn about sustainable farming and nature through their preschool programs and field trips. They have a sustainable farm that shows on a small scale what living on the land is. It is the oldest nature center in the Midwest.	Education, Farming Model	¹⁵ http://web4.audubon.org/local/sanctuary/aullwood/index.html
HML Network		The Garden Initiative: Urban Garden Initiative	This is a new project, still in progress that will be designed to teach and train Dayton's children, youth and young adults how to grow their own food and to maintain their own gardens by learning the dynamics of agriculture.	Local Gardening and Education Initiative, In Progress	
Antioch College	"Utilizes ecological agriculture to provide an integrated context for liberal arts learning" ¹⁶	The Farm	The Farm is integrated into curriculum and supplies food to dining services, which cooks meals from scratch each day. The Farm incorporates composting and sustainable farming into their curriculum.	Local University with Farm on campus, Supplying own Food	¹⁶ http://antiochcollege.org/campus_life/farm/about