

# Health Impact Assessment

## Food System Plan to Promote Healthy, Local Food Production and Consumption in Davidson, NC

A Health Impact Assessment detailing the accessibility of healthy, local foods in Davidson, NC, recommendations for increasing access, and the potential health impacts of implementing these recommendations.

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A project of Davidson Design for Life in collaboration with a Regional Advisory Commission and funded through the Centers for Disease Control and Prevention's Healthy Community Design Initiative.



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College Town. Lake Town. *Your Town.*

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# 1. Introduction

## 1.1 Food System Planning

A food system is the “chain of activities and processes related to the production, processing, distribution, disposal, and eating of food.”<sup>1</sup> Within a conventional food system, food production and processing is industrial in scale and relies on advances in bio-technology. Typically food distribution occurs over a large distance, there is a significant amount of waste caused by over packaging, and consumers are removed from the source of their food.

In contrast, a local food system emphasizes strengthening and making visible the relationships between producers, processors, distributors and consumers of food. It is a place-based system and includes efforts to promote local and regional networks as well as environmentally sustainable methods for producing, processing, and distributing food. Local food systems reduce environmental impact, support the idea of social justice, and facilitate food security defined as a “residents’ access to healthful, affordable, and culturally appropriate foods at all times.”<sup>1</sup>

**Figure 1: Local Food System Diagram**



Food system planning is the “collaborative planning process of developing and implementing local and regional land-use, economic development, public health, and environmental goals, programs and policies to:

- Preserve existing and support new opportunities for local and regional urban and rural agriculture;
- Promote sustainable agriculture and food production practices;
- Support local and regional food value chains and related infrastructure involved in the processing, packaging, and distribution of food;
- Facilitate community food security, or equitable physical and economic access to safe, nutritious, culturally appropriate, and sustainably grown food at all times across a community, especially among vulnerable populations;
- Support and promote good nutrition and health, and;
- Facilitate the reduction of solid food-related waste and develop a reuse, recovery, recycling, and disposal system for food waste and related packaging.”<sup>2</sup>

Awareness of the increased need for food system planning has heightened due to:

- Recognition that food system activities take up a significant amount of urban and regional land;
- Awareness that planners can play a role to help reduce the rising incidence of hunger on the one hand, and obesity on the other;
- Understanding that the food system represents an important part of community and regional economies;
- Awareness that the food Americans eat takes a considerable amount of fossil fuel energy to produce, process, transport and dispose of;
- Understanding that farmland in metropolitan areas, and therefore the capacity to produce food for local and regional markets, is being lost at a strong pace;
- Understanding that pollution of ground and surface water, caused by the overuse of chemical fertilizers and pesticides in agriculture adversely affects drinking water supplies;
- Awareness that access to healthy foods in low-income areas is an increasing problem for which urban agriculture can offer an important solution, and;
- Recognition that many benefits emerge from stronger community and regional food systems.<sup>3</sup>

Food policy councils (FPCs) “provide local, regional, or state governments, as well as residents, information and advice about various policies and programs that support community-based food systems.” FPCs are typically comprised of community residents and representatives from the different food sectors (production, processing, distribution, consumption and waste recovery) who collaborate on mutual beneficial solutions to food system problems. Therefore, they often are formed to either participate in food system planning activities or as a result of recommendations from a food system plan.<sup>4</sup>



## Figure 2: Principles of a Healthy, Sustainable Food System

*In June 2010, the Academy of Nutrition and Dietetics, American Nurses Association, American Planning Association, and American Public Health Association initiated a collaborative process to develop a set of shared food system principles. The following principles are a result of this process and have been collectively endorsed by these organizations.*<sup>5</sup>

We support socially, economically, and ecologically sustainable food systems that promote health- the current and future health of individuals, communities, and the natural environment.

A healthy, sustainable food system is:

### **Health-Promoting**

- Supports the physical and mental health of all farmers, workers, and eaters
- Accounts for the public health impacts across the entire lifecycle of how food is produced, processed, packaged, labeled, distributed, marketed, consumed and disposed

### **Sustainable**

- Conserves, protects, and regenerates natural resources, landscapes and biodiversity
- Meets our current food and nutrition needs without compromising the ability of the system to meet the needs of future generations

### **Resilient**

- Thrives in the face of challenges, such as unpredictable climate, increased pest resistance, and declining, increasingly expensive water and energy supplies

### **Diverse In**

- Size and scale- includes a diverse range of food production, transformation, distribution, marketing, consumption, and disposal practices, occurring at diverse scales, from local and regional, to national and global
- Geography- considers geographic differences in natural resources, climate, customs, and heritage
- Culture- appreciates and supports a diversity of cultures, socio-demographics, and lifestyles
- Choice- provides a variety of health-promoting food choices for all

### **Fair**

- Supports fair and just communities and conditions for all farmers, workers and eaters
- Provides equitable physical access to affordable food that is health promoting and culturally appropriate

### **Economically Balanced**

- Provides economic opportunities that are balanced across geographic regions of the country and at different scales of activity, from local to global, for a diverse range of food system stakeholders
- Affords farmers and workers in all sectors of the system a living wage

### **Transparent**

- Provides opportunities for farmers, workers and eaters to gain the knowledge necessary to understand how food is produced, transformed, distributed, marketed, consumed and disposed
- Empowers farmers, workers and eaters to actively participate in decision-making in all sectors of the system

A healthy, sustainable food system emphasizes, strengthens, and makes visible the interdependent and inseparable relationships between individual sectors (from production to waste disposal) and characteristics (health-promoting, sustainable, resilient, diverse, fair, economically balance, and transparent) of the system.

## 1.2 Regional Food System Planning Efforts

In June 2013, the CONNECT Our Future project partnered with the Appalachian Sustainable Agriculture Project (ASAP), the Center for Environmental Farming Systems (CEFS) and the Carolina Farm Stewardship Association (CFSA) in order to conduct an assessment of the region's food and farm conditions, food production trends, and consumption patterns as well as provide recommendations for improving the local food system. In the long term, the CONNECT Our Future Food Systems Project seeks to develop a regional food system that supports locally-produced foods and enhanced food access as a vital, growing, and sustainable component of the regional economy, and to ensure sufficient rural and agricultural lands to support the local food production economy. Results and recommendations from the CONNECT Our Future *Food Systems Assessment Report* have been incorporated into this HIA and it has served as a model for data collection and organization for the corresponding Davidson's Food System Plan.<sup>6</sup>

### Figure 3: CONNECT Our Future

CONNECT Our Future is a three-year process in which communities, counties, businesses, educators, non-profits, and other organizations in the Charlotte region are working together to grow jobs and the economy, improve quality of life, and control the cost of government. The region consists of 14 counties: Anson, Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, and Union counties in North Carolina, and Chester, Lancaster, Union, and York counties in South Carolina. The food systems component of the CONNECT Our Future project focuses on supporting rural communities and areas that depend on an agricultural economy, while improving the quality of life for all residents.

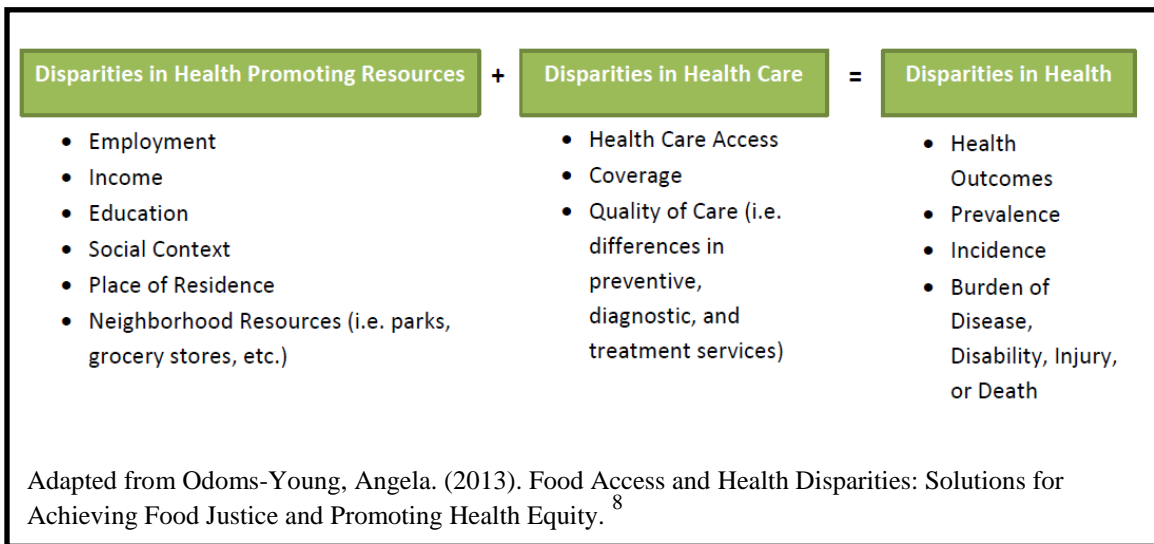




### 1.3 Food Accessibility and Health Equity

Health equity focuses on the root causes that lead to health disparities or “differences between specific population groups in the incidence, prevalence, mortality or burden of disease and illnesses.”<sup>7</sup> Taking a health equity approach requires: a broader definition of health to include one’s overall quality of life; an analysis of socioeconomic factors, including education, income and wealth inequality; and a willingness to address racial and social inequality. When health is measured in terms of access to opportunities, it becomes obvious that some populations have greater access to opportunities than others.

**Figure 4: Causes of Disparities in Health**



In terms of food accessibility, researchers examine the economic environment, social environment, physical environment, and available services. For example the level of poverty in an area or the enrollment rate in programs such as the Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) can provide an indication of the economic environment. Cultural norms such as food preparation and practices around sharing a meal contribute to the social environment. The physical environment— whether or not there is a full grocery store available, the density of fast food restaurants or unhealthy corner stores, the presence of a farmers’ market or community garden, etc.— constitutes the physical food environment. Available services also play a huge role in food accessibility. For example is there a bus service to the grocery store or farmers’ market? Are there food pantries, meals-on-wheels programs, or other social services available to address food security issues?

Hundreds of neighborhoods across the country do not have access to nutritious, affordable, and high quality food— particularly low-income neighborhoods, communities of color, and rural areas.<sup>9</sup> The availability of healthy options has been associated with an increase in the intake of fruits, vegetables, and low-fat milk as well as the ability to maintain a healthy body weight. Conversely, corner store usage has been associated with a higher intake of chips, candy, and sugar-sweetened beverages. Availability of healthy options combined with a decrease in availability of unhealthy options, an increase in

economic supports (such as SNAP, WIC, or Farmer’s Market coupons), and education and marketing campaigns should have a greater impact on health outcomes. The goal is to ultimately achieve community food security or “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice.”<sup>10</sup>

## 1.4 About this HIA

This health impact assessment (HIA) will examine what is already being done within Davidson to promote local food systems including efforts to increase local production, processing, distribution, consumption and disposal. It will consider the impacts of a local food system on the seven dimensions of health- physical, social, environmental, spiritual, economic, emotional, and intellectual- by considering typical components of a local food system and extrapolating what the potential health impacts would be if implemented. It will also provide suggestions for strengthening efforts to develop a local food system and managing the expected impacts to health. Because improved nutrition is the most obvious, often the most significant, resonating, and perhaps the most misunderstood health impact of local food system planning, an introduction to nutrition is provided below.

## 1.5 Nutrition 101

There are many health benefits to eating a nutritious diet including: decreasing the risk of chronic diseases such as diabetes, hypertension, and certain cancers; maintaining a healthy weight; promoting normal growth and development in children and adolescents; and decreasing the risk of micronutrient deficiencies.<sup>11</sup> So what exactly does eating a nutritious diet entail? There are an overwhelming number of resources out there on nutrition and making dietary changes to eat healthier. Unfortunately, much of this information comes in the form of “lose-weight-quick” programs or “wonder foods” and can be misleading or confusing to the average person.

In 2010, the United States Department of Agriculture (USDA) and the United States Department of Health and Human Services (USDHHS) released a set of dietary guidelines based on a review of the most recent scientific evidence.<sup>12</sup> These guidelines “provide information and advice for choosing a healthy eating pattern- namely, one that focuses on nutrient-dense foods and beverages, and that contributes to achieving and maintaining a healthy weight. Such a healthy eating pattern also embodies food safety principles to avoid foodborne illness.” The following excerpts from the *Dietary Guidelines for Americans 2010* shape our understanding of healthy nutrition, the analysis of Davidson’s food system, and the goals and recommendations of the food system plan included within this HIA.

## Figure 5: Overarching Dietary Goals

### Building Healthy Eating Patterns

- Select an eating pattern that meets nutrient needs over time at an appropriate calorie level.
- Account for all foods and beverages consumed and assess how they fit within a total healthy eating pattern.
- Follow food safety recommendations when preparing and eating foods to reduce the risk of foodborne illnesses.

### Balancing Calories to Manage Weight

- Prevent and/or reduce overweight and obesity through improved eating and physical activity behaviors.
- Control total calorie intake to manage body weight. For people who are overweight or obese, this will mean consuming fewer calories from foods and beverages.
- Increase physically activity and reduce time spent in sedentary behaviors.
- Maintain appropriate calorie balance during each stage of life– childhood, adolescence, adulthood, pregnancy and breastfeeding, and older age.

## Figure 6: Recommendations for Specific Populations

### Women Capable of Becoming Pregnant

- Choose foods that supply heme iron, which is more readily absorbed by the body, additional iron sources, and enhancers of iron absorption such as vitamin C-rich foods.
- Consume 400 micrograms (mcg) per day of synthetic folic acid (from fortified foods and/or supplements) in addition to food forms of folate from a varied diet.

### Women who are Pregnant or Breastfeeding

- Consume 8 to 12 ounces of seafood per week from a variety of seafood types.
- Due to their high methyl mercury content, limit white (albacore) tuna to 6 ounce per week and do not eat the following four types of fish: tilefish, shark, swordfish, and king mackerel.
- If pregnant, take an iron supplement, as recommended by an obstetrician or other health care provider.

### Individuals Ages 50 Years and Older

- Consume foods fortified with vitamin B<sub>12</sub>, such as fortified cereals, or dietary supplements.

### Figure 7: Foods and Nutrients to Increase

- Increase vegetable and fruit intake.
- Eat a variety of vegetables, especially dark-green and red and orange vegetables and beans and peas.
- Increase intake of fat-free or low-fat milk and milk products, such as yogurt, cheese, or fortified soy beverages.
- Choose a variety of protein foods, which include seafood, lean meat and poultry, eggs, beans and peas, soy products, and unsalted nuts and seeds.
- Increase the amount and variety of seafood consumed by choosing seafood in place of some meat and poultry.
- Replace protein foods that are higher in solid fats with choices that are lower in solid fats and calories and/or are sources of oils.
- Use oils to replace solid fats where possible.
- Consume at least half of all grains as whole grains. Increase whole-grain intake by replacing refined grains with whole grains.
- Choose foods that provide more potassium, dietary fiber, calcium, and vitamin D, which are nutrients of concern in American diets. These foods include vegetables, fruits, whole grains, milk, and milk products.

### Figure 8: Foods and Food Components to Reduce

- Reduce daily sodium intake to less than 2,300 milligrams (mg) and further reduce intake to 1,500 mg among persons who are 51 and older and those of any age who are African American or have hypertension, diabetes, or chronic kidney disease. The 1,500 mg recommendation applies to about half of the U.S. population, including children and the majority of adults.
- Consume less than 10 percent of calories from saturated fatty acids by replacing them with monounsaturated and polyunsaturated fatty acids.
- Consume less than 300 mg per day of dietary cholesterol.
- Keep trans fatty acid consumption as low as possible by limiting foods that contain synthetic sources of trans fats, such as partially hydrogenated oils, and by limiting other solid fats.
- Reduce the intake of calories from solid fats and added sugars.
- Limit the consumption of foods that contain refined grains, especially refined grain foods that contain solid fats, added sugars, and sodium.
- If alcohol is consumed, it should be consumed in moderation— up to one drink per day for women and two drinks per day for men— and only by adults of legal drinking age.

In addition to individual guidelines for eating healthier, the *Dietary Guidelines for Americans 2010* has a section devoted to what communities can do to create healthier environments so that individuals will have opportunities to purchase and consume healthy foods. Known as the Social-Ecological Model this approach involves developing coordinated partnerships, programs, and policies to support healthy eating and active living and goes beyond traditional individual education techniques. In order to help people make healthy choices skill building, environmental change, and the re-establishment of social norms is needed.<sup>12</sup>

**Figure 9: Dietary Guidelines for Americans 2010  
Call to Action**

**Ensure that all Americans have access to nutritious foods and opportunities for physical activity.**

- Related to disparities in health among racial and ethnic minorities, individuals with disabilities, and different socioeconomic groups.
- Access is the availability, affordability, safety, and acceptability of healthy choices.
- Recommended Strategies:
  - Create local-, state-, and national-level strategic plans to achieve Dietary Guidelines and Physical Activity Guidelines recommendations among individuals, families, and communities.
  - Recognize health disparities among subpopulations and ensure equitable access to safe and affordable healthy foods and opportunities for physical activity for all people.
  - Expand access to grocery stores, farmers markets, and other outlets for healthy foods.
  - Develop and expand safe, effective, and sustainable agriculture and aquaculture practices to ensure availability of recommended amounts of healthy foods to all segments of the population.
  - Increase food security among at-risk populations by promoting nutrition assistance programs.
  - Facilitate attainment of the nutrition, food safety, and physical activity objectives outlined in *Healthy People 2020*.

**Facilitate individual behavior change through environmental strategies.**

- Related to increased consumer education, easily fitting healthy choices into individual lifestyles, and environmental changes to support healthier behavior changes.
- Recommended Strategies:
  - Empower individuals and families with improved nutrition literacy, gardening, and cooking skills to heighten enjoyment of preparing and consuming healthy foods.
  - Initiate partnerships with food producers, suppliers, and retailers to promote the development and availability of appropriate portions of affordable, nutritious food products (including, but not limited to, those lower in sodium, solid fats, and added sugars) in food retail and foodservice establishments.
  - Develop legislation, policies, and systems in key sectors such as public health, health care, retail, school foodservice, recreation/fitness, transportation and nonprofit/volunteer to prevent and reduce obesity.
  - Support future research that will further examine the individual, community, and system factors that contribute to the adoption of healthy eating and physical activity behaviors; identify best practices and facilitate adoption of those practices.
  - Implement the U.S. National Physical Activity Plan to increase physical activity and reduce sedentary behavior.

**Set the stage for lifelong healthy eating, physical activity, and weight management behaviors.**

- Related to developing healthy lifelong habits throughout childhood, giving children a healthy start during pregnancy, and serving as good role models for children.
- Recommended Strategies:
  - Ensure that all meals and snacks sold and served in schools and childcare and early childhood settings are consistent with the Dietary Guidelines.
  - Provide comprehensive health, nutrition, and physical education programs in educational settings, and place special emphasis on food preparation skills, food safety, and lifelong physical activity.
  - Identify approaches for assessing and tracking children's body mass index (or other valid measures) for use by health professionals to identify overweight and obesity and implement appropriate interventions.
  - Encourage physical activity in schools, childcare, and early childhood setting through physical education programs, recess, and support for active transportation initiatives (e.g., walk-to-school programs).
  - Reduce children's screen (television and computer) time.
  - Develop and support effective policies to limit food and beverage marketing to children.
  - Support children's programs that promote healthy nutrition and physical activity throughout the year including summer.



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## 2. Baseline Conditions

### 2.1 Health

#### *Consumption of Fruits and Vegetables*



As part of the 2013 Behavioral Risk Factor Surveillance System, adults in Mecklenburg County were asked three questions related to fruits and vegetables consumption: 1). Have you consumed fruit one or more times per day? 2). Have you consumed vegetables one or more times per day? And, 3). Have you consumed fruits, vegetables, or beans five or more times per day?

- 54% consumed a fruit at least once a day
- 75% consumed a vegetable at least once a day
- 11% consumed fruits, vegetables, or beans five or more times a day<sup>1</sup>

#### *Sugar Drinks*

As part of the 2013 Behavioral Risk Factor Surveillance System, adults in Mecklenburg County were asked two questions related to drinks containing sugar: 1). About how often do you drink regular soda or pop that contains sugar? And, 2). During the past 30 days, how often did you drink sugar-sweetened fruit drinks (such as Kool-aid and lemonade), sweet tea, and sports or energy drinks (such as Gatorade and Red Bull)?

- 21% consumed one or more regular sodas daily, 27% weekly, 16% monthly, and 36% never consumed soda
- 14% consumed a sugar-sweetened beverage daily, 28% weekly, 22% monthly, 35% never consumed a sugar-sweetened beverage<sup>1</sup>

#### *Sodium or Salt-Related Behavior*

As part of the 2013 Behavioral Risk Factor Surveillance System, adults in Mecklenburg County were asked three questions related to sodium or salt intake: 1). Are you currently watching or reducing your sodium or salt intake? 2). How many days, weeks, months, or years have you been watching or reducing your sodium or salt intake? And, 3). Has a doctor or other health professional ever advised you to reduce sodium or salt intake?



- 55% are currently watching or reducing their sodium or salt intake
- Duration of time watching or reducing sodium intake is not available at the county level
- 23% have been informed by a health professional to reduce their sodium or salt intake<sup>1</sup>

### *Perceived Nutrition Environment*

As part of the *2013 Behavioral Risk Factor Surveillance System*, adults in Mecklenburg County were asked to what degree they would agree with the statement, “It is easy to purchase healthy foods in my neighborhood such as whole grain foods, low fat options, and fruits and vegetables.”

- 63% strongly agreed with the statement
- 28% agreed with the statement
- 9% either felt neutral, disagreed, or strongly disagreed with the statement<sup>1</sup>

### *Food Preparation*

As part of the *2013 Behavioral Risk Factor Surveillance System*, adults in Mecklenburg County were asked two questions related to food preparation: 1). How often in the past 12 months did you buy fruits or vegetables locally grown such as from a farmer’s market, CSA, roadside stand, or pick-your-own produce farm? And, 2). How many times in a typical week do members of your household eat a main meal together that was prepared at home?



- 16% at least once a week buy locally grown fruits and vegetables, 12% at least once a month, 22% a few times per year, or 50% never buy locally grown fruits and vegetables
- 19% said 1-2 days a week, 14% said 3-4 days, 19% said 5-6 days, 39% said every day, and 9.3% said they never eat a main meal together that was prepared at home<sup>1</sup>

### *Obesity Rates*

According to body mass index (BMI) calculations for the *2013 Behavioral Risk Factor Surveillance System*:

- 23% of Mecklenburg adults are Obese
- 38% are Overweight
- 38% are within the recommended range for their height and gender<sup>1</sup>

### *Actions to Control Weight*

As part of the *2013 Behavioral Risk Factor Surveillance System*, adults in Mecklenburg County were asked: which of the following are you trying to do about your weight?

- 50% were trying to lose weight, 27% were trying to maintain their weight, and 17% were doing nothing about weight<sup>1</sup>

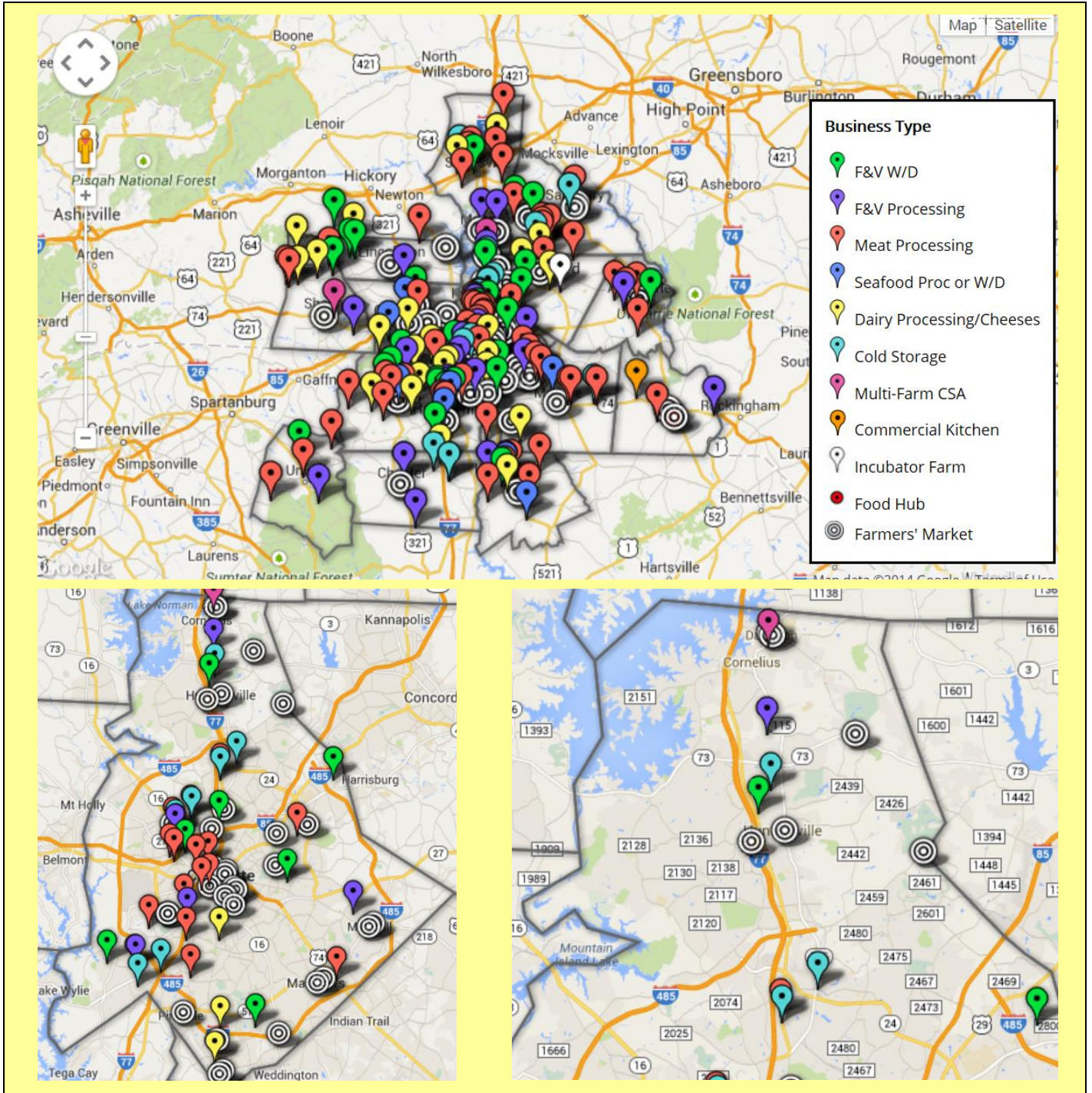




## 2.2 Food System

Local food systems tend to be regional in nature so some of the following information will be highlighted from the previously mentioned *CONNECT Our Future* report. However, when possible the information will be given for the smallest geographic area available (such as Mecklenburg County) with specific examples from Davidson being highlighted to support the data.

**Map 1: Local Food Infrastructure in the CONNECT Our Future Region<sup>2</sup>**





**Table 1: Snapshot of Mecklenburg County’s Local Food System**

<b>Production</b>	<b>County</b>	<b>North Carolina</b>
Farms by size (by gross sales)*	Small family farms (<\$250k) 92% Large family farms (\$250k-\$499k) 1% Very large family farms (\$500k+) 1% Nonfamily farms 6%	Small family farms (<\$250k) 85% Large family farms (\$250k-\$499k) 3% Very large family farms (\$500k+) 8% Nonfamily farms 4%
Proportion of principal farmers younger than 35	3.0%	4.6%
Number of farms	237 (0.5% of NC farms)	50,218
Proportion of farms growing fruit & vegetables	10.1%	7%
Change in farmland acres 2007-2012	-19.3%	-0.7%
Proportion of farms reporting positive net income	36.7%	43.2%
Proportion of farms with direct sales	16.0%	8.9%
<b>Retail Infrastructure</b>	<b>County</b>	<b>North Carolina</b>
Grocery stores/1,000 pop	0.21	0.19
Full service restaurants/1,000 pop	0.93	0.75
SNAP-authorized stores	750 (8.5% of SNAP-auth. stores in NC)	8,805
Farmers markets	10 (4.3% of NC farmers markets)	230
<b>Consumption, Access, and Health</b>	<b>County</b>	<b>North Carolina</b>
Proportion of population with inadequate fruit and vegetable consumption	77%	78.4%
Rates of diabetes and obesity	Diabetes (8.5%); Obesity (25.6%)	Diabetes (9.1%); Obesity (27.8%)
Proportion of children eligible for free/reduced price lunch	54%	56%
<b>Waste Management</b>	<b>County</b>	<b>North Carolina</b>
Estimated annual tons of residential food waste, commercial food waste (ICI), and municipal solid food waste (MSW)	Residential: 65853 (9.8% of NC total) ICI: 55680 (9.8% of NC total) MSW: 10781 (9.8% of NC total)	Residential: 673,362 ICI: 569,343 MSW: 1,112,308
<b>Equity</b>	<b>Charlotte-Gastonia-Rock Hill**</b>	<b>North Carolina</b>
Wages throughout the food system sectors	<u>Average annual wages:</u> farmworkers and laborers (\$22,590); animal slaughter and processing (\$23,140); food prep/service (\$20,830)	<u>Average annual wages:</u> farmworkers and laborers (\$20,320); animal slaughter and processing (\$23,750); food prep/service (\$20,130)

\*“Farms by size” is 2007 Census of agriculture data. Data for 2012 will not be released until December 2014. All other production data uses 2012 Census data.

\*\*Bureau of Labor Statistics Metropolitan Region defined as: Anson, Cabarrus, Gaston, Mecklenburg, and Union counties in NC, and York County in SC.

For more information on this county’s agricultural statistics, visit its [2012 Census of Agriculture profile](#)

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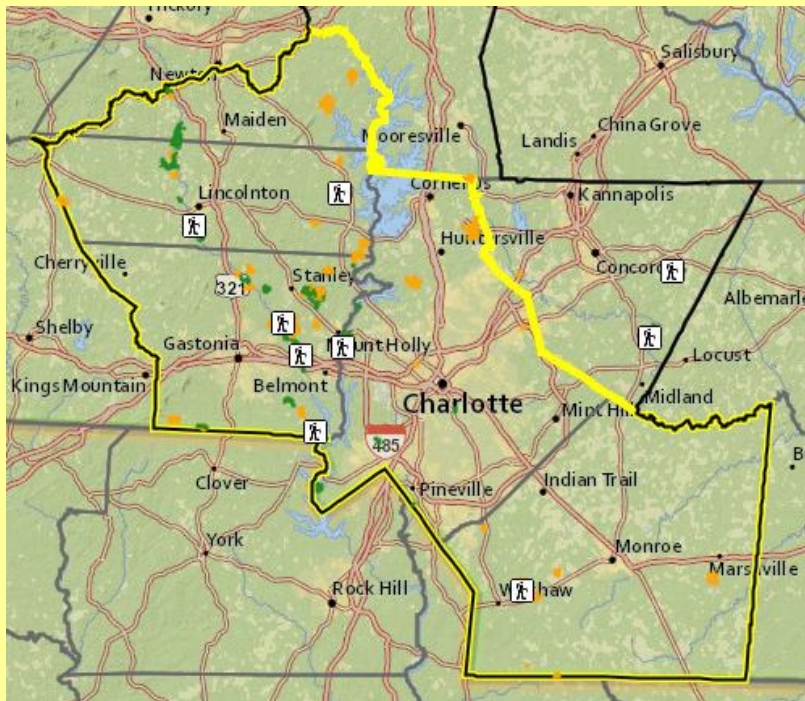
## 2.2.1. Production and Harvesting

### *Active Farms/ Farmland Preservation*

According to the U.S. Department of Agriculture, the CONNECT Our Future Region has 9,721 farms that reported agricultural receipts totaling over \$1.5 billion in 2012.<sup>4</sup> Mecklenburg County has 237 farms with the majority of these farms being small family farms (less than \$250,000 in gross sales).<sup>3</sup> The majority of the region’s farms grow crops like hay or grain, or produce animals like cattle that are subsequently sold outside the region to be raised. Only 4.8% of farms within the region produce fruits and vegetables.<sup>4</sup>

### **Figure 10: The Catawba Lands Conservancy**

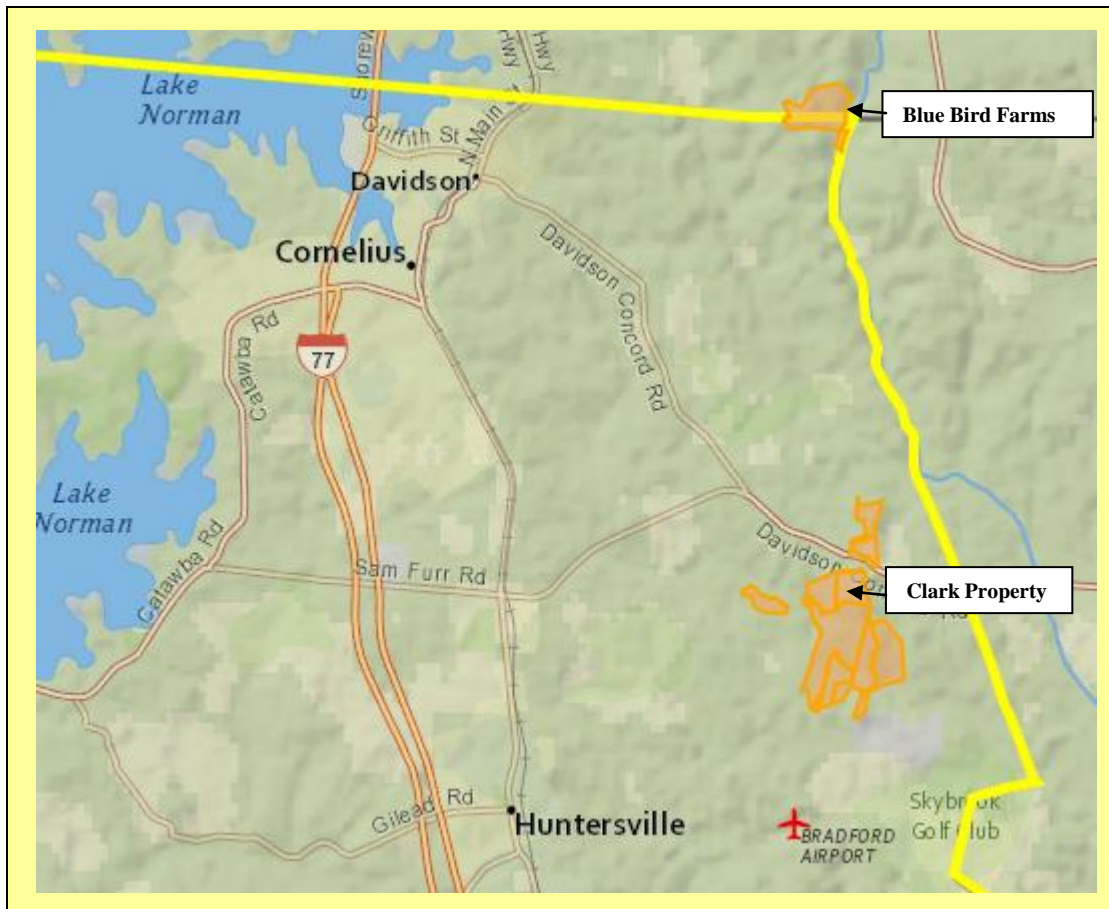
The Catawba Lands Conservancy (CLC) is a land trust— a nonprofit, community-based conservation organization that permanently conserves and manages land for public benefit— in the Southern Piedmont of North Carolina. CLC is dedicated to saving land and connecting lives to nature and conserves more than 170 properties and nearly 15,000 acres of farmland, wildlife habitat, and local drinking water in its six-county region (Catawba, Mecklenburg, Iredell, Union, Lincoln, and Gaston). The conservancy currently protects 44 local farms and conserves a total of 3,537 acres of rural farmland. Its local farms conservation goal is to save 10,000 acres of productive farmland by 2030.<sup>5</sup>



In and around Davidson, there is Blue Bird Farms located in the northeastern corner and occupying part of Mecklenburg and Iredell County. This 135-acre property features agricultural land, open fields, wetlands, hardwood forests, and 5 acres dedicated specifically to waterfowl habitat. The Catawba Lands Conservancy has had a conservation easement on this property since December 2003.<sup>5</sup>

The Clark Property is located just south of Davidson Concord Road and features 57 acres of forests, open fields, and rock outcrops along Ramah Creek. The Catawba Lands Conservancy has had a conservation easement on this property since December 2000.<sup>5</sup>

**Map 2: Local Farms with Catawba Lands Conservancy Easements**



Of the farms that provide produce to the Davidson Farmer's Market (see Table 2 & Map 5) KC Farms out of Mt. Mourne and Houston Farm out of Huntersville are the two closest providing seasonal produce.

### *Community Gardens*

The **Davidson Community Garden** was established by Davidson United Methodist Church in 2010 for the use and enjoyment of the entire town. It is one big garden (0.2 acres) tended by volunteers and envisioned as a gathering place to enjoy new friends,

learn new skills, and grow healthy food. The garden is located on Potts St. just west of the railroad tracks and behind the Wachovia drive-through near Fuel Pizza. Maintenance of the garden is provided by 12 crews with each crew consisting of 8-12 people from community organizations, schools, churches, and interested families (approximately 200 volunteers). Every crew serves 3 weeks out of the 8 month growing period. The community garden is an all-season, organic garden, using no pesticides or chemicals of any kind. The produce is grown in raised beds with flowers around the edges and a row of raspberries, blackberries, and blueberries. Plants and funding is provided by Davidson United Methodist Church, Brawley Nursery, Ace Hardware, and Jail North.<sup>6</sup>

Every evening food is delivered to Ada Jenkins' Loaves and Fishes program to provide families and individuals in need with fresh produce (approximately 2,000 pounds of food each year). Gleaning is also welcomed at the garden with the motto of "tend some, take some, share a lot." Education initiatives around the garden include composting, rain barrels, crop rotation, saving seeds, and the best selections for spring, summer, and fall crops. Funds for the garden are raised by selling herbs and produce to local restaurants, grants, and individual donations. For more information contact Connie or Eddie Beach at Beachclub@mi-connection.com.<sup>6</sup>

**Seeds Community Garden at St. Alban's** started in 2009 when parishioners who enjoyed gardening joined forces to repurpose a pipeline right-of-way adjacent to St. Alban's into a 120 square foot community garden complete with 52 garden beds with fruits, vegetables, and flowers. There is also a couple of bee hives, composting pile, and meditation garden. Each of the spaces in the community garden is rented out by 48 families for the cost of \$80 per year to cover water and maintenance costs for the garden and organic practices are used. At least 10% of the garden's produce (approximately 75 to 100 pounds) is contributed to Ada Jenkins' Loaves and Fishes program. The garden is located within the St. Alban's neighborhood off of Davidson Concord Road, next to St. Alban's Episcopal Church. For more information contact Amanda Miller at a.troffermiller@yahoo.com.<sup>7</sup>

### *School Gardens*

The **Green Teacher Network (GTN)** is a nonprofit organization with the mission "to establish and facilitate a collaboration of educators throughout the Charlotte region through quarterly workshops and other initiatives to share information, network and collaborate to enhance hands-on learning, supporting local foods, and expanding current health and wellness initiatives through school-based gardening." GTN's accomplishments to date include: holding quarterly workshops, establishing a partner network, assembling a database of "green" teachers, and developing a website to house resources, information on partners, funding ideas, and curriculum connections with gardening. More information and a list of school gardens within the region can be found at <http://gtncharlotte.org>.<sup>8</sup>



**Davidson Elementary School** has had a school garden for a few years now as part of a Field to Fork grant in partnership with Fuel Pizza. Students grow tomatoes, peppers, blueberries, cabbage, lettuce, and strawberries. Once the ingredients are harvested, students get to take them over to Fuel Pizza where they are prepared as part of a pizza or salad and served to students. Twenty to twenty-four third graders are involved in the project annually and the garden is tied into teaching about plants, soil, and healthy habits.

**Community School of Davidson** started a school garden in 2008 with the 8<sup>th</sup> graders as part of their Friday practicum. The practicum consists of 10 students, is required, and rotates every three weeks so all 105 students get a chance in the garden during different seasons. Students have the opportunity to grow and taste kale, watermelon, carrots, broccoli, potatoes, cauliflower, peas, beets, lettuce, strawberries, eggplants, chives, pepper, basil, and tomatoes. The garden is supported through sales from the garden (seeds, bulbs, produce, flowers, etc.) and through donations from the community and parents. During the summer months the garden is tended by volunteers and the garden has had a couple of workdays put together by churches and community groups. Long-term goals for the garden include partnering with others to sell produce from the garden and keep the garden going during the summer months when school is out, adding fruit trees and stepping stones, treating the garden for fire ants, and adding more vertical elements to the garden to take advantage of limited space.



### *Container Gardens/ Homegrown*

The **Growing Kids Club & Booth** at the Davidson Farmer's Market encourages and teaches children (ages 3-15) to participate in Market activities including planting their own summer garden using starter plants from market vendors; tending to the Club garden located behind Summit Coffee; and planting seeds for Mother's Day.<sup>9</sup>

**Mecklenburg County Extension Master Gardeners** and **Master Composters** regularly volunteer at the Davidson Farmer's Market showing others how to plant and tend a garden or landscaping, how to start a compost bin, what to compost, and how compost can be used. Truck sales on composting bins and rain barrels have also been arranged during the Farmer's Market to offer these items at a discount. The Mecklenburg County Cooperative Extension has a lot of resources for gardening and composting available on their website <http://mecklenburg.ces.ncsu.edu/>.<sup>10</sup>

**Davidson Parks and Recreation** also offers classes seasonally on gardening and composting for all age groups.

### *Chickens /Bees/Goats*

Regulations on keeping livestock animals and bees can be found within Section 10 of Davidson's Municipal Code. **Chickens** are allowed within town limits on single family lots. No more than four hens (no roosters) are permitted to be kept within a secure enclosure or coop at night and within a pen or securely fenced backyard during the day. The coop must be ten feet from property lines, regularly cleaned, and located in the backyard. According to the municipal code, someone can maintain a **bee** hive as long as the hive is located at least 75 feet away from houses on adjoining properties. There is also a limitation on how many hives a property can have based on the size of the property. **Goats** and other livestock (except horses/ponies) are not allowed within town limits.<sup>11</sup>

### **Figure 11: Davidson's Local Ordinances in Regards to Animals**

#### **Sec. 10-76. - Fowl and rabbits.**

(a) *Domestic fowl.* It shall be unlawful to keep geese, ducks, chickens, or other domestic fowl within the town, except in accordance with this article, provided that this section shall not prohibit the assembling of such fowl for shipment or the unloading of such fowl within the town, provided the fowl are not kept penned and located within the town for more than 24 hours; provided further that this section shall not apply to domestic fowl kept by any merchant for the purpose of resale.

(1) It shall be lawful for any person to keep, permit or allow chickens within the Town of Davidson under the following terms and conditions:

- a. No more than four hens shall be allowed for each single family lot. No chickens shall be allowed in multi-family complexes, including duplexes. Roosters are not permitted.
- b. There shall be no outside slaughtering of chickens.
- c. All chickens must be kept in a secure enclosure (a "coop") during non-daylight hours. During daylight hours, chickens may be located in a chicken pen or in a securely fenced backyard.
- d. Chicken coops must be situated at least ten feet from all property lines and the coop and chickens must at all times be located in the backyard of the residence.
- e. Chicken coops must be kept in a neat and sanitary condition at all times and must be cleaned on a regular basis to prevent offensive odors.

#### **Sec. 10-80. - Keeping bees.**

(a) It shall be unlawful for any person to locate, construct, reconstruct, alter, maintain, or use, on any lot or parcel of land within the corporate limits of the town, any hives or other enclosures for the purpose of keeping any bees or other such insects unless every part of such hive or enclosure is located at least 75 feet from a dwelling house located on the adjoining property.

(b) On lot sizes of 15,000 square feet or less, no more than four hives (colonies of bees) will be permitted. The hives shall be no closer than 15 feet from any property line. On lots larger than 15,000 square feet, additional hives will be permitted on the basis of one hive for each 5,000 square feet in excess of 15,000 square feet.

#### **Sec. 10-78. - Prohibition of livestock.**

(a) It shall be unlawful for any person to keep, have or maintain any livestock within the town limits except, however, parades or ceremonies when such livestock do not remain in the town limits for more than two nights. Horses and ponies housed on at least two acres single ownership, per horse or pony and owned, not boarded in single ownership and refrained from approaching closer than 200 feet to any adjacent residence may be excluded.



### *Edible Landscaping*

The Town of Davidson has incorporated some edible landscaping by planting cabbage plants around town hall. Additional edible landscaping (herbs, fruit trees, berries, artichoke, cabbage, edible flowers, etc.) could be incorporated in the planting of street trees, in the memorial tree program currently adjacent to Roosevelt Wilson Park, and the flowers and plants around Town Hall, in the roundabouts, or in conjunction with park landscaping.

### *Gleaning*

Barbee Farms in Concord and Correll Farms in Cleveland, NC hold gleaning events and partner with the Society of St. Andrews to coordinate volunteers and distribution of gleaned materials to local food pantries. Vendors at the Davidson Farmer's Market also glean excess produce the months of June through August and provide donated materials to the Society of St. Andrews and Davidson Presbyterian Church for further distribution. The Farmer's Market has also taken excess produce by bike to lower income neighborhoods and distributed to neighbors.

## 2.2.2. Processing

### *Processing, Packaging, Branding*

Frischia's Finest Inc. is a fruit and vegetable processing home-business located in Cornelius.

Several regional branding programs exist in the area to add value to local farm products, including the North Carolina Department of Agriculture's "Got to Be NC" program, the Hillsborough-based "Piedmont Grown" program, and the SEED Foundation's "Buy Fresh Buy Local" program. The region is also home to several annual food and farm events including the Charlotte area's Know Your Farms Tour.<sup>4</sup>

Davidson's buy local campaign, "Turn Around Shop in Town," was launched in November 2013 in conjunction with Small Business Saturday. The goal of the initiative is to encourage Davidson residents to shop in Davidson and keep sales dollars in our local economy. Local businesses return 68 cents of every dollar to the community and reinvest 85% locally; whereas, chain stores return 43 cents and reinvest 25% locally.<sup>12</sup>

### *Slaughtering*

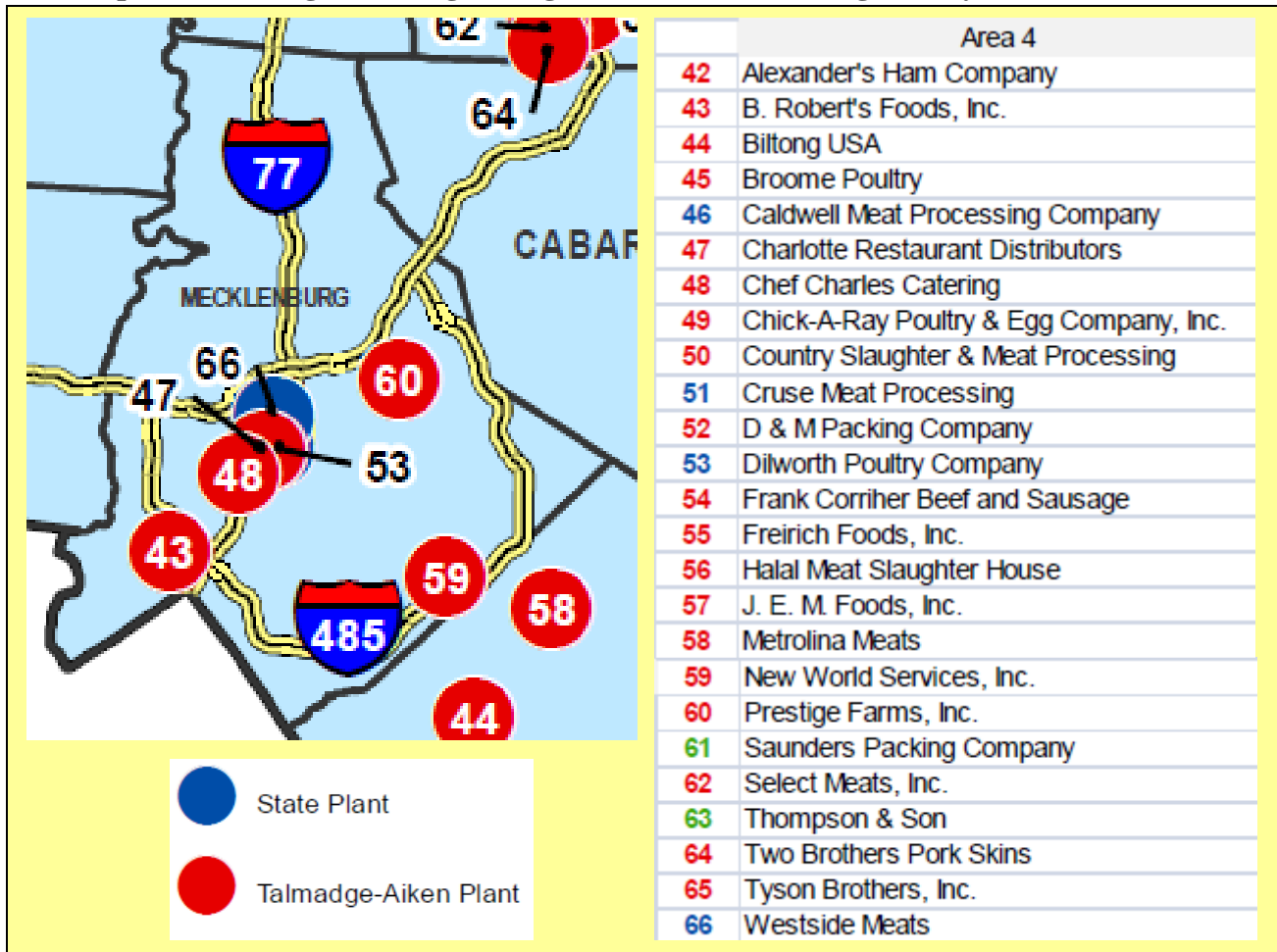
Currently farms looking to have animals slaughtered or processed in Mecklenburg County have three options depending on if they intend to sell the meat out-of-state, sell the meat in-state, or keep the meat for personal consumption.<sup>13</sup>

If a farmer wants to sell their meat out-of-state, then the animal must be slaughtered at a Talmadge-Aiken Plant that are staffed by state inspectors who inspect the meat daily and award it a USDA inspection seal. This meat can be shipped anywhere within the United States and exported to foreign countries. These plants can also slaughter and/or process Custom Exempt products including wild game if kept separate from inspected products. According to the following map, there are five Talmadge-Aiken Plants in Mecklenburg County: B. Robert’s Foods Inc., Charlotte Restaurant Distributors, Chef Charles Catering, New World Services Inc., and Prestige Farms Inc.<sup>13</sup>

If a farmer wants to sell their meat in-state, then the animal can be slaughtered at a State Plant. State Plants inspect meat under N.C.D.A. inspection requirements and are labeled “Inspected and Passed by N.C.D.A.” and bear a rhomboid shape inspection seal. Like the Talmadge-Aiken Plants, these establishments can also process wild game as long as kept separate from inspected meat. According to the following map, there are two State Plants in Mecklenburg County: Dilworth Poultry Company and Westside Meats.<sup>13</sup>

If a farmer wants to slaughter an animal for individual use or not to sell, then the animal can be brought to a Custom Plant or slaughtered on-site. These plants are inspected for sanitation and proper labeling of product, but the meat coming out of these plants is not inspected for disease or quality and cannot be sold.<sup>13</sup>

**Map 3: Processing and Slaughtering Plants in Mecklenburg County**





### *Cooking/Freezing/Canning*

In the past, classes on cooking and cooking demonstrations have been provided by Wooden Stone, Carolina Healthcare Systems, and Davidson Farmer's Market. Davidson Parks and Recreation have also partnered with area restaurants to provide cooking classes and summer camps for youth. The Mecklenburg County Family and Consumers Sciences program out of the NC Cooperative Extension has offered a series (May-August) of classes on home food preservation methods including canning and freezing food safely.<sup>14</sup>

### 2.2.3. Storage and Distribution

#### *Farmer's Market*

Within the CONNECT Our Future region, there are at least 67 farmers markets (the equivalent of one farmers market for every 38,000 residents) providing locally grown food. There has been growth in demand for locally grown food with direct sales increasing by 30% from 2007 to 2012 (\$3.7 million to \$4.7 million). There is a \$560 million gap between the amount that residents spend on fruit and vegetables and the retail equivalent sales of these same fresh fruits and vegetables produced by local farms.<sup>4</sup>

The **Davidson Farmer's Market** is a producer-only, year-round Market featuring more than 35 farmers and local producers from within a 100 mile radius. The market was started in 2007 with 5 to 7 vendors and is now up to 34 vendors. It is a 501 c3 non-profit, led by a board of directors with the mission "to sponsor a weekly farmer's market in Davidson which provides locally grown food, educates the public about nutrition and the importance of eating locally grown foods and offers musical entertainment, special events and cooking and other demonstrations to create a community festival for the Town." DFM's goal is to create a vibrant community gathering place with locally grown agricultural and horticultural products and family-friendly educational, musical and entertainment activities.<sup>9</sup>

The market is located next to Davidson Town Hall (216 South Main St.) and open weekly April through October from 8A.M. to 12 P.M. and bi-monthly November through March, 9A.M. to 12P.M. Products available at the market include: fruits, vegetables, meats, cheeses, breads, eggs, honey, flowers, pastas, and ready-to-eat foods. Additional programs that the market supports include: Growing Kids Club, World of Wonder, Master Gardener, Master Composter, and Gleaning at the Market. The market currently accepts EBT/ SNAP cards through a token system where participants receive tokens for money charged to their card, purchase food using the tokens, and the farmers are reimbursed by the market for tokens collected during the day. The market is also actively pursuing options to increase attendance by low-income individuals and families by working on an incentive program for EBT/SNAP card users, increasing education about the programs the market offers, and potentially partnering with Ada Jenkins to have a workshop on healthy eating and local food options including a field trip to the market.<sup>9</sup>

**Table 2: Vendors at the Davidson Farmer’s Market**

Vendor Name	Location	Products
Audrey’s Produce- Audrey Miller	Mt. Laurel, NC	Apples
Barbee Farms- Brent, Tommy, and Anna Barbee	Concord, NC	Tomatoes, peaches, other seasonal and green house produce (over 150 varieties)
Betty’s Blooms- Betty Brown	Davidson, NC	Flowers
Beverly’s Gourmet Foods- Beverly McLaughlin	Charlotte, NC	Prepared foods- vegan and gluten-free dishes, tomato pies, breakfast casseroles, tofu entrees, pasta dishes, soups, dips, etc.
Big Oak Farm- Mike Smith	Denver, NC	All natural beef and pork
C&O Farms- Tom Hanks and Seth Ross	Hickory, NC	Blackberries, blueberries, raspberries, homemade jams, farm fresh eggs and hand-blown glass jewelry
Cackleberry Farm-Randy Fisher	Concord, NC	Cow’s milk cheeses, butter, yogurt, sour cream, buttermilk, and free range eggs
Calico Farmstead Cheese, LLC- Jackie and Larry Gerringer, Anna G. Amoreill, June Gerringer-Deatherage	Gibsonville, NC	Fresh and aged farmstead cows’ milk cheeses, goat cheeses, and farm fresh eggs
Chef Charles Catering- Charles Semail	Charlotte & Davidson, NC	Barbeque, pate, sausages, baguettes, brioche, soups, spreads, and frozen entrees.
CJ’s Paw-Some Pastries- Cindy and Jennifer	Huntersville, NC	Dog treats
Coldwater Creek Farms- Brad Hinckley and Eric Williamson	Kannapolis, NC	Naturally grown produce, flowers, and vegetable plants
Commonwealth Farms- Jane Henderson	Concord, NC	Organically grown and sustainable flowers, herbs, and vegetables
Correll Farm- David and Cheryl, Sam and Gloria Correll	Cleveland, NC	Fruits and vegetables



**HEALTH IMPACT ASSESSMENT Food System Plan for Davidson, NC**

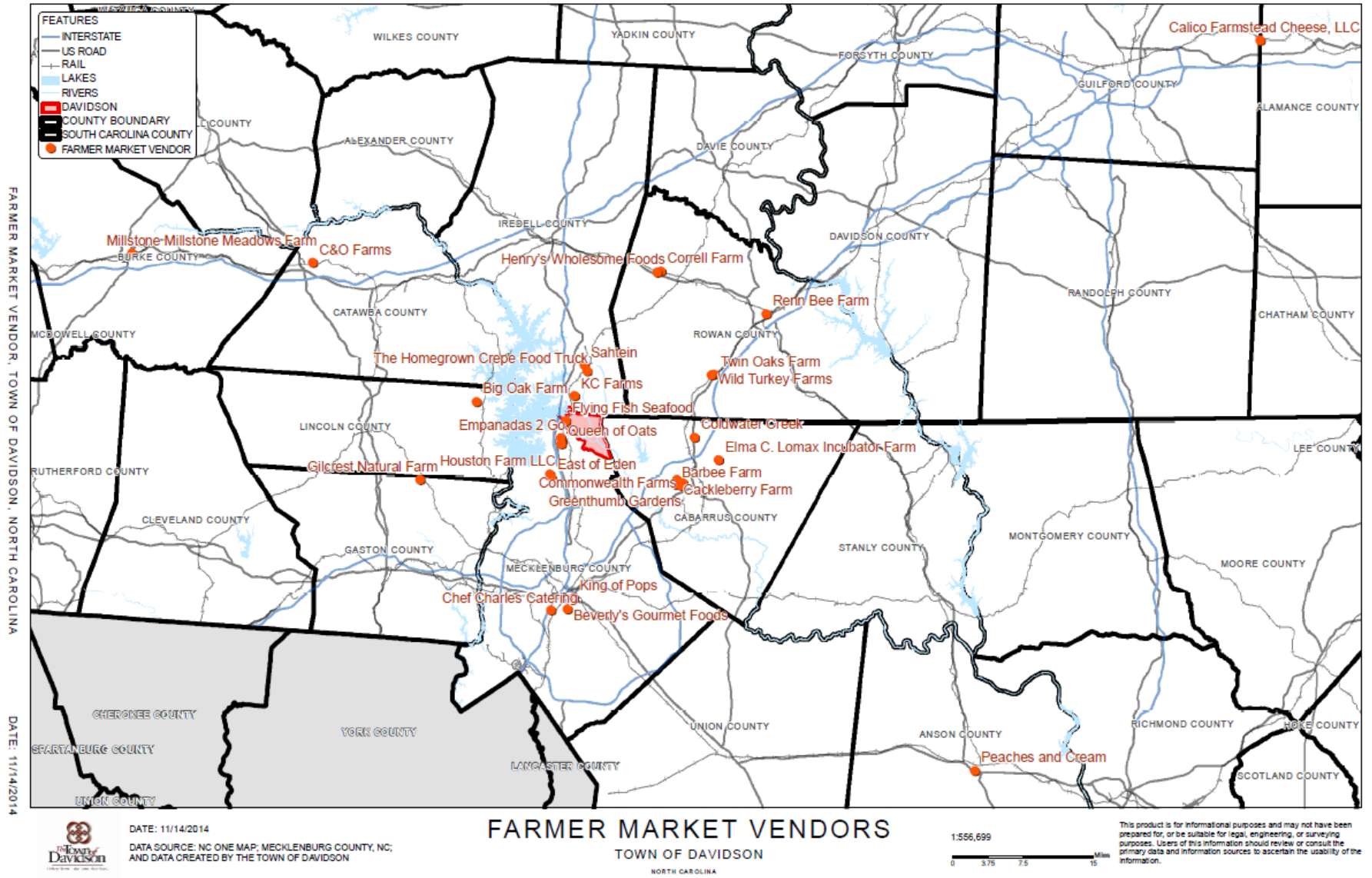
East of Eden- Jonathan and Jan Bostic	Huntersville, NC	Heritage turkey, eggs and fresh dog food
Elma C. Lomax Incubator Farm- Doug Crawford and Lynn MacDougall-Fleming	Cabarrus County, NC	Certified Organic produce
Empanadas 2 Go- Eduardo Dorta and Mimi Chalita	Cornelius, NC	Handmade, frozen empanadas
Essential Soaps- Linda Alley and Phyllis Rollins	Charlotte, NC	Soaps, oils, lotions, lip balm and other natural skin care products
Fiddlers Vineyard- Mark and Sherry Crowder	Cherryville, NC	Homegrown Muscadine , Scuppernong and fruit wines
Flying Fish Seafood- David and Peggy Meeks	Davidson, NC	North Carolina seafood
Gilcrest Natural Farm- Gil and Amy Foster	Iron Station, NC	Pasture raised chicken, beef, free- range eggs
Greenthumb Gardens- Lynn MacDougall-Fleming	Concord, NC	Organic vegetables and herbs
Half Moon Gardens- Patrick Poitras and Trisha Raglin	Mooresville, NC	Herb plants, perennials, and handmade soaps
Henry's Wholesome Foods- Henry and Rita Imhoff	Cleveland, NC	Bread, cookies, cinnamon rolls, doughnuts, pies, blueberries, tomatoes, and summer produce
Herr's Fresh Flowers- Jefferson Herr	Vale, NC	Flower arrangements
Houston Farm LLC- Bobby and Patsy Houston	Huntersville, NC	Seasonal produce
KC Farms- Chris and Kristi Goodrum	Mt. Mourne, NC	Seasonal produce and baked goods
King of Pops- Neil Ringer	Charlotte, NC	Icy pops
Lavender Garden- Rita Rodelli	China Grove, NC	Fresh lavender stems, wands, sachets, soaps, and bath products
Millstone Meadows Farm- Sara and Mark Hord	Morganton, NC	Breads, tarts, cookies, croissants, prepared foods, and lamb

**HEALTH IMPACT ASSESSMENT** Food System Plan for Davidson, NC

Mood Indigo Soaps- Rea Wright	Davidson, NC	Soaps, body butters, scrubs, lip balms, perfume oils and accessories
Peaches and Cream- Calvin Phillips	Wadesboro, NC	Peaches, strawberries and blackberries
Queen of Oats- Kelli Swick	Cornelius, NC	Granola, granola brittle, and breakfast cookies
Renn Bee Farm- Marcel Renn	Salisbury, NC	Honey
Sahtein- Courtney and Mitch Abraham	Mooresville, NC	Lebanese foods
The Homegrown Crepe Food Truck- Matt Alexander	Mooresville, NC	Sweet and savory crepes
Twin Oaks Farm- Greg Hartsell and Tim Sloop	China Grove, NC	Produce, flowers, and vegetable plants
Wild Turkey Farms- Lee Menius	China Grove, NC	Pork, beef, eggs, chicken, turkey, lamb and fresh eggs



Map 5: Davidson Farmer's Market Vendors



The **Eden Street Market** is located at 106 Eden Street and open Thursday and Friday (2:00 PM to 6:00 PM) and Saturday (8:00 AM to 3 PM). Eden St. Market is a grass-roots, worker-run community market / farmers market providing affordable space to the local farmer/artist/entrepreneur in order to make their products available to Davidson, NC and the surrounding community. The market offers NC seafood from Flying Fish Seafood, beef, pork and veal from Mills Family Farm, Bernice's Tea and Spice, Feeling Groovy Natural Body Care, First Level Readiness, the Fork and the Key, and Snicker Pig BBQ.<sup>15</sup>

The **Bradford Store** is located at 15915 Davidson Concord Road on the border of Huntersville and Davidson and is open during the spring and summer months. This "country store" was established in 1912 and offers fresh organic produce, meats, potatoes, eggs, cider, and homemade goods including candles, soaps, cakes, salsas, and cheeses. It also serves as an outlet for other farms including serving Homeland Creamery dairy products, Goat Lady Dairy goat cheeses, Hoffner Organic ground beef and bratwurst, RockingCaribbean Seafood, and McLaughlins meats.<sup>16</sup>



### *Produce Stands*

Produce stands are allowed in association with farmland within Davidson. A permit including an application fee and a \$1,000 bond is required for a produce stand or cart selling goods, wares, food or merchandise on public streets or within public parking lots according to Section 18-202 and Section 18-221 of the Davidson Municipal Code. Special events permitted or sponsored by the town are exempt from this requirement.<sup>11</sup>

### *Cost Share Agriculture*

There is a multi-farm CSA located at 310 Spring St. in Davidson. This CSA is ran by Wesley and Christy Shi of Know Your Farms. Barbee Farms (Concord) and Coldwater Creek Farm (Kannapolis) also offer CSAs from their farms.

### *Food Pantries/ Meals on Wheels*

**Loaves and Fishes** operates out of Ada Jenkins and serves the residents of Davidson, Huntersville, Cornelius, and South Iredell ( Mooresville and Troutman). Clients shop grocery style according to a list provided by the program and volunteers are available to help participants in selecting their food. A referral from a church pastor, school counselor, program staff or a representative of the Department of Social Services, the Salvation Army, or Goodwill is needed to participate and clients are eligible to participate once every 45 days. The pantry is open Monday, Wednesday, and Thursday, 12:30 to 3:30 P.M. and the second Saturday of every month from 9:30 A.M. to 12:30 P.M.<sup>17</sup>

### *Grocery Stores*

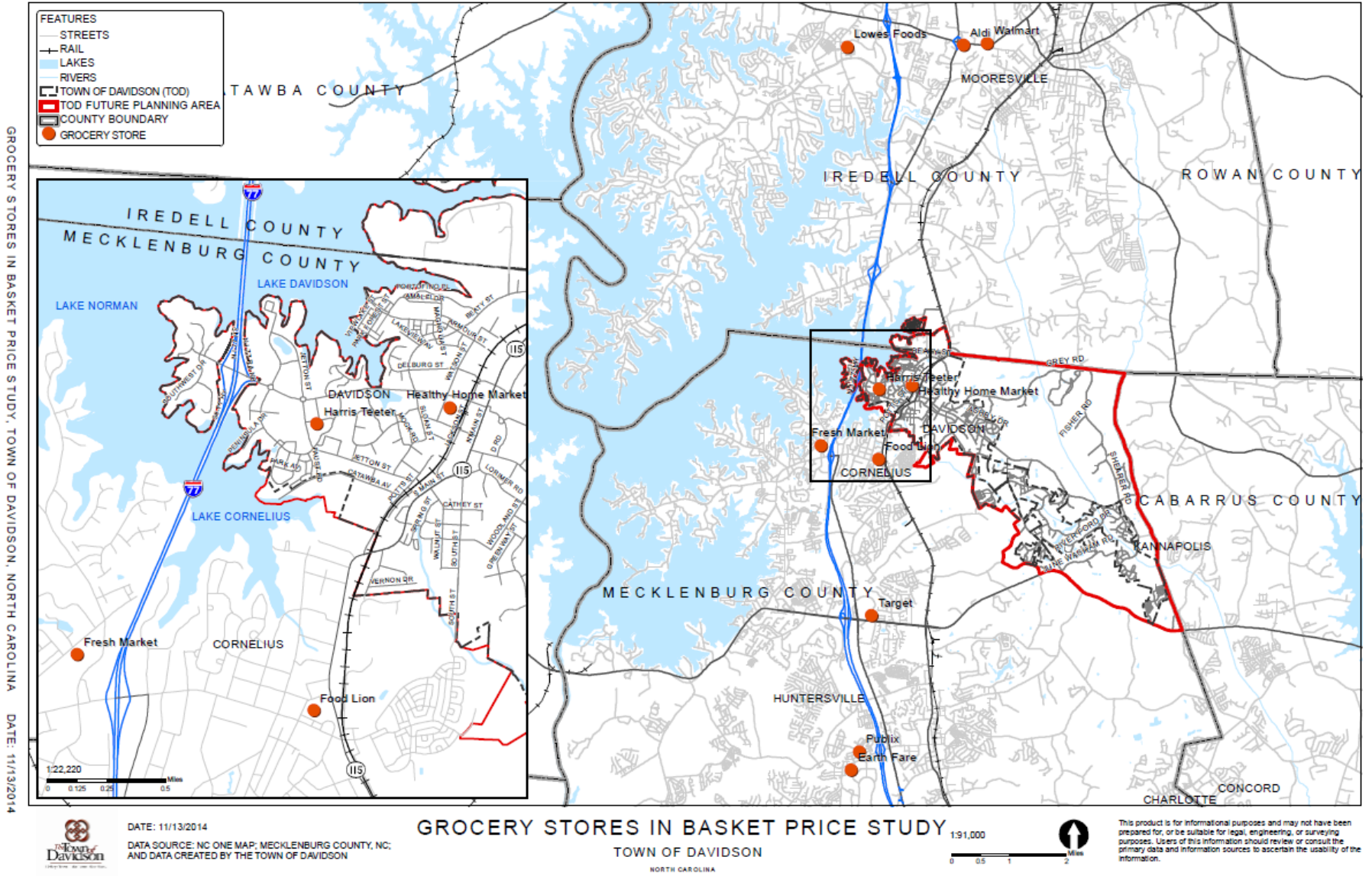
Davidson has one full grocery store— a Harris Teeter located at 431 Peninsula Dr. near the Circles at 30. There is also the Healthy Home Market located at 261 Griffith St. and specializing in locally grown and specialty foods. Davidson is not considered a food desert defined as a “geographic region where affordable and nutritious food is difficult to obtain, particularly for those without access to an automobile.”<sup>18</sup> In addition to Harris Teeter there are a large number of grocery stores and multipurpose stores (Walmart, Target, etc.) within 10 miles of Davidson. A study of food pricing was done to determine fiscal access to the different grocery and multipurpose stores.

As part of this fiscal analysis, a basket price study was done for the following items: red delicious apples, navel oranges, bananas, baby carrots, lettuce, cucumber, 1% milk, low-fat yogurt, sliced American cheese, 95% lean beef, lean hot dogs, eggs, sliced wheat and white bread. These items were selected after reviewing similar studies and with the goal of determining if healthy options for fresh produce, lean sources of protein, high-fiber carbohydrates, and low-fat dairy options were available at each store and for what price.<sup>19</sup>

The average basket price for the stores shown in Map 6 and Table 3 was \$35.13 and the range between the lowest store and the highest store was \$40.57. With a total basket price of \$20.84, Aldi’s was the least expensive store. With a total basket price of \$61.41, the Healthy Home Market was the most expensive store. See Table 3 and 4 for additional information and Appendix A for a copy of the study’s guidelines and evaluation sheet.



Map 6: Grocery Stores Included within the Basket Price Study



**Table 3: Basket Price Results for Stores around Davidson, NC**

	Unit	Aldi	Walmart	Food Lion	Target	Harris Teeter	Publix	Lowes Foods	Fresh Market	Earth Fare	Healthy Home
<i>Fruit</i>											
Red Delicious Apples	1 lb	\$ 1.00	\$ 0.98	\$ 1.29	\$ 0.79	\$ 1.79	\$ 1.79	\$ 1.99	\$ 1.98	\$ 1.99	\$ 3.99
Navel Oranges	1 lb	\$ 0.82	\$ 2.00	\$ 2.03	\$ 2.32	\$ 2.00	\$ 1.99	\$ 3.50	\$ 1.48	\$ 1.28	\$ 2.91
Banana	1 lb	\$ 0.44	\$ 0.52	\$ 0.58	\$ 0.73	\$ 0.65	\$ 0.65	\$ 0.69	\$ 0.69	\$ 0.65	\$ 0.79
<i>Vegetables</i>											
Baby Carrots	1 lb	\$ 0.99	\$ 1.48	\$ 1.40	\$ 2.39	\$ 1.69	\$ 1.69	\$ 1.99	\$ 1.00	\$ 0.97	\$ 1.99
Head of Lettuce	Each	\$ 1.19	\$ 1.48	\$ 1.69	\$ 1.67	\$ 1.69	\$ 1.49	\$ 1.69	\$ 2.49	\$ 2.99	\$ 2.99
Cucumber	1 lb	\$ 0.49	\$ 0.68	\$ 0.69	\$ 0.69	\$ 0.89	\$ 0.74	\$ 0.99	\$ 1.29	\$ 1.00	\$ 2.06
<i>Dairy</i>											
1% Milk	Gallon	\$ 2.88	\$ 2.98	\$ 3.95	\$ 3.59	\$ 3.99	\$ 3.79	\$ 3.99	\$ 4.29	\$ 4.28	\$ 6.99
Plain, Low-fat yogurt	32 oz	\$ 1.69	\$ 2.48	\$ 2.47	\$ 2.49	\$ 1.67	\$ 2.87	\$ 2.99	\$ 3.39	\$ 3.68	\$ 3.69
Sliced American Cheese	16 Slices	\$ 0.99	\$ 2.28	\$ 0.99	\$ 2.09	\$ 1.97	\$ 3.49	\$ 2.46	\$ 7.05	\$ 5.97	\$ 7.85
<i>Protein</i>											
95% Lean Beef	1 lb	\$ 4.89	\$ 6.19	\$ 5.99	\$ 5.79	\$ 6.49	\$ 5.99	\$ 7.49	\$ 5.99	\$ 7.49	\$ 6.99
Lean Hot Dogs	8 Count	\$ 2.49	\$ 4.28	\$ 4.99	\$ 5.02	\$ 5.99	\$ 5.99	\$ 5.99	\$ 4.99	\$ 6.99	\$ 5.99
Dozen White Eggs	Dozen	\$ 1.09	\$ 1.18	\$ 1.45	\$ 1.79	\$ 1.45	\$ 1.79	\$ 1.99	\$ 2.99	\$ 2.67	\$ 3.99
<i>Bread</i>											
Sliced Wheat	Loaf	\$ 0.99	\$ 1.58	\$ 1.89	\$ 1.59	\$ 1.99	\$ 1.89	\$ 1.99	\$ 3.79	\$ 4.79	\$ 6.19
Sliced White	Loaf	\$ 0.89	\$ 1.38	\$ 0.97	\$ 1.59	\$ 0.97	\$ 1.99	\$ 1.39	\$ 3.49	\$ 4.79	\$ 4.99
<b>Total Basket Price</b>		\$ 20.84	\$ 29.49	\$ 30.37	\$ 32.54	\$ 33.23	\$ 36.15	\$ 39.14	\$ 44.91	\$ 49.54	\$ 61.41



**Table 4: Average and Range of Item Prices for Stores around Davidson, NC**

	Average Price	Range
<i>Fruit</i>		
Red Delicious Apples	\$ 1.51	\$ 3.20
Navel Oranges	\$ 1.94	\$ 2.68
Banana	\$ 0.62	\$ 0.35
<i>Vegetables</i>		
Baby Carrots	\$ 1.51	\$ 1.42
Head of Lettuce	\$ 1.82	\$ 1.80
Cucumber	\$ 0.83	\$ 1.57
<i>Dairy</i>		
1% Milk	\$ 3.75	\$ 4.11
Plain, Low-fat yogurt	\$ 2.64	\$ 2.02
Sliced American Cheese	\$ 3.03	\$ 6.86
<i>Protein</i>		
95% Lean Beef	\$ 6.26	\$ 2.60
Lean Hot Dogs	\$ 5.19	\$ 4.50
Dozen White Eggs	\$ 1.82	\$ 2.90
<i>Bread</i>		
Sliced Wheat	\$ 2.28	\$ 5.20
Sliced White	\$ 1.94	\$ 4.10
<b>Total Basket Price</b>	<b>\$ 35.13</b>	<b>\$ 40.57</b>



Physical access to grocery stores, especially for low-income individuals who may not have regular access to an automobile is also worth consideration. Although Aldi is the least expensive store, it is also not accessible by transit from Davidson. Neither is Walmart, the second less expensive store. Stores that are accessible via transit are Food Lion, Target, Harris Teeter, Publix, Fresh Market, Earth Fare, and Healthy Home Market. Other considerations when grocery shopping by bus include storage of cold items, length of time in between busses and riding the bus, days of the week that the bus is available, and the amount of food that can be carried from the store to the bus stop and the bus stop to the person’s home.

Harris Teeter and the Healthy Home Market are also within walking distance of a large percent of Davidson’s low-income population but as the 5<sup>th</sup> and 10<sup>th</sup> most expensive stores, it is unlikely that this population group would choose to shop there if other less

expensive options are available. Similar to the transit concerns, walking with cold items or larger purchases may be a challenge.

### *Corner Stores/ Gas Station Stores*

There are two gas stations in Davidson– Rushco Liberty located at 644 Davidson Gateway and Exxon located at 601 Griffith St. The Ruscho store has a deli section offering sandwiches, fruits, vegetables, and salads. The Exxon station has some healthy options including a small stand of bananas and apples at checkout and gallons of 2% milk. The prices for these items are slightly higher than at the grocery store, which is to be expected for the added convenience.

### *Ethnic Cuisine Stores*

There are a couple of ethnic cuisine stores in the region. Tienda Maria Multi Servicio is a Mexican food store and is located at 19816 S Main Street in Cornelius. Ferruci’s Old Tyme Italian Market is an Italian food store and is located at 20910 Torrence Chapel Road in Cornelius. Each of these stores offers a variety of foods that are not available in regular grocery stores and cater to a particular ethnic group.

### *Food Trucks*

Food trucks may operate within the Town of Davidson in accordance with Municipal Code Section 18-281-291. Food trucks are allowed on private property and in parking lots with permission of the property owner as long as they are not blocking the flow of traffic or access to fire hydrants/ lanes, building and driveway entrances, ramps, or sidewalks. Other safety and nuisance prevention regulations apply including having approval from the health department to operate, a fire extinguisher, trash receptacles, and lighting if operated after dark. Food trucks are required to get a permit unless this requirement is waived for a town event, non-profit fundraiser, or private event.<sup>11</sup> A variety of food trucks are regularly a part of the Farmer’s Market as well as town sanctioned events such as Christmas in Davidson.<sup>9</sup>

## 2.2.4. Purchasing and Consumption

### *Recipes*

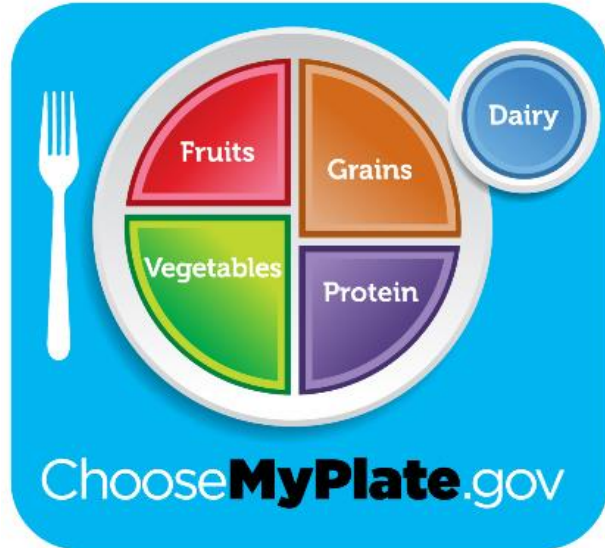
One of the challenges of eating healthier, locally grown foods is knowing how to prepare the food in a tasty and healthy way. The Davidson Farmer’s Market has an archive of recipes that it has used in its monthly newsletters as well as in conjunction with cooking demonstrations at the market. Recipes are also commonly given out with coupons at the grocery stores and within CSA boxes (especially when less common produce is provided). There is also a plethora of websites that share information on what’s in season and recipes for preparing what’s in season including: Eating Well

[http://www.eatingwell.com/food\\_news\\_origins/seasonal\\_local/eatingwell\\_in\\_season/eati](http://www.eatingwell.com/food_news_origins/seasonal_local/eatingwell_in_season/eati)

[ng in season a recipe for life](#)), Food Network (<http://www.foodnetwork.ca/in-season/recipes/>), and Cooking Light (<http://www.cookinglight.com/food/in-season/>).

### *MyPlate/ MiPlato*

MyPlate is a program of the United States Department of Agriculture Center for Nutrition Policy & Promotion that encourages consumers to make healthier food choices. The program was launched in June 2011 by First Lady Michelle Obama and USDA Secretary Tom Vilsack and essentially replaces the food pyramid. The MyPlate icon emphasizes eating fruits, vegetables, grains, protein foods, and dairy items. The website associated with MyPlate, ChooseMyPlate.gov, has additional information on weight management and calories, physical activity, healthy eating tips, a food and physical activity tracker, printable materials and other tools (BMI calculator, food plans, etc.).<sup>20</sup>



### *Restaurants*

**Tour de Food** is a company offering gourmet food tours throughout North Carolina including four tours in Charlotte and one in Davidson. The tour in Davidson starts at the Brick House Tavern and goes through historical downtown Davidson ending at the Davidson Beverage Company. Other stops on the tour include: Toast, Soda Shop, Flatiron, Fuel Pizza, Restaurant X, Campania, and Wooden Stone Gallery. Each tour offers food and beverage sampling, chances to meet the owners and chefs, as well as information about the history and architecture of the buildings toured. The tour of Davidson costs \$47 and tickets can be purchased at [www.tourdefood.net](http://www.tourdefood.net).<sup>21</sup>

Other restaurants known for their dedication to local food include Pickled Peach (which has a chalkboard listing which farm each ingredient comes from) and Carrburritos (which buys local when possible to supplement produce shipments and make their salsas). Campania also cooks with local food and also serves as a CSA drop off and pick up location.

### *Coupons/Incentives/EBT*

The Davidson Farmer's Market accepts EBT cards through a system of tokens where customers receive tokens to use for an amount charged to their EBT cards, vendors collect the tokens and are reimbursed by the market at the end of the day for tokens collected. The market is also considering offering a coupon or bonus bucks system and

additional outreach efforts to increase access to the market for low-income populations. During recent fundraisers they have collected \$1,000 to support these efforts and are working with a Davidson College intern to coordinate this program.<sup>9</sup>

### *Farm Tours*

**Know Your Farms Tour** offers farm tours in the 15 county Charlotte region of North Carolina. The tour is a great way to connect with local farmers and the local food systems throughout the region. There is a spring and fall tour highlighting area farms giving visitors the chance to build relationships with growers of all types.<sup>22</sup>

Know Your Farms Tour was started by Wesley and Christy Shi in 2009 as a way to reach a broad audience and give the whole community a chance to learn about local agriculture. Through the years, the tour has grown to be recognized as the leader among farm tours in NC.<sup>22</sup>

## 2.2.5. Disposal

### *Trash and Recycling*

Those living within the town limits of Davidson have their trash, yard debris, and recycling picked up curbside on a weekly basis by Republic Services on Wednesdays. In October of 2012 the town switched to large, red, roller recycling bins to encourage increased recycling and easier pick-up. Items that can be recycled include: glass containers, soft drink cans, tin or steel cans, newspapers, magazines, plastic bottles, spiral paper, and broken down cardboard.<sup>23</sup>



Residents in the extraterritorial jurisdiction (ETJ) can contract with Ross Sanitation to have their trash collected. There are also large recycling bins located behind Davidson Village Inn off of Jackson and Depot Streets that can be used by the residents of the ETJ for recycling. There is a Mecklenburg County Recycling Center located on Highway 21, south of Huntersville that will accept: cardboard, paper, construction materials, mattresses, paint cans, electronics, and pesticides.<sup>23</sup>

### *Composting*

To encourage composting, workshops on composting have been provided several times by volunteer Master Composters at the Davidson Farmer's Market. Davidson has also hosted a truckload sale with reduced-price rain barrels and composting bins. Leslie Willis

is Davidson's in-house Master Composter who received her training from the Mecklenburg County Cooperative Extension.

### *Manure*

It is possible to compost horse manure and additional guidance is provided by the North Carolina Cooperative Extension.<sup>24</sup> There are over 30 horse farms in the region who may compost and/or sell horse manure. According to Section 50-1 of the Davidson Municipal Code it is unlawful to place manure on the street, alley or other public place due to its offensive smell and potential health effects.<sup>11</sup>

### *Re-Use*

The Davidson Farmer's Market encourages its patrons to bring re-usable bags and often re-use plastic grocery bags if the customer does not bring their own. A lot of the gardens will also find creative ways to re-use items that typically go into the landfill including old tires, scrap lumber, plastic containers, leftover paint, etc.

### *Packaging Considerations*

Some of the restaurants in town are working towards using more sustainable packaging (non-Styrofoam) for their to-go orders including: Pickled Peach, Toast, Carrburritos, Millstone Bakery, Fuel Pizza, Davidson Pizza, and Flatiron. Vendors at the Davidson Farmer's Market are also encouraged to limit their packaging or use re-usable or recyclable packaging. So far there is no effort to brand local food with consistent packaging or labels, but if such an effort starts having environmentally friendly packaging would be encouraged.

## 2.3 Food Insecurity

Food insecurity is defined as "the state of being without reliable access to a sufficient quantity of affordable, nutritious food." Poverty and unemployment levels are typically used as indicators for food insecurity.<sup>25</sup>

According to the 2008-2012 American Community Survey for Davidson:

- 3.5% of the population reported receiving Food Stamps/ SNAP benefits in the past 12 months
- 4.8% of families have incomes below the poverty level
- 18.3% of families with a female householder and no husband present are below the poverty level. The majority (70%) of these families have children under the age of 5.
- 7.3% of the labor force (population 16 years and over) is unemployed<sup>26</sup>



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### 3. Assessment

Using the framework of the seven dimensions of health, different aspects of food system planning were analyzed to determine what the overall health implications could be for Davidson and the CONNECT Our Future region. The methodology for this assessment included a literature review as well as conversations with those involved with food system planning. A summary of the findings can be found in Table 5.

#### Figure 12: Seven Dimensions of Health

##### Physical

The ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress. The ability to recognize that our behaviors impact our wellness and to adopt healthful habits while avoiding destructive habits.

##### Emotional

The ability to understand ourselves and cope with the challenges life can bring. The ability to acknowledge and share feelings of anger, fear, sadness or stress, hope love, joy and happiness in a productive manner.

##### Social

The ability to relate to and connect with other people in our world and establish and maintain positive relationships with family, friends, and co-workers.

##### Environmental

The ability to recognize our own responsibility for the quality of the air, the water, and the land that surrounds us. The ability to make a positive impact on the quality of our environment, be it our homes, our communities, or our planet.

##### Spiritual

The ability to establish peace and harmony in our lives. The ability to develop congruency between values and actions and to realize a common purpose that binds creation together.

##### Intellectual

The ability to open our minds to new ideas and experiences that can be applied to personal decisions, group interaction, and community betterment. The desire to learn new concepts, improve skills, and seek challenges in pursuit of lifelong learning.








##### Economic (Occupational)

The ability to get fulfillment from our jobs or career fields while still maintaining balance in our lives. Our desire to contribute in our careers to make a positive impact on the organizations we work in and to society as a whole.



### 3.1 Summary of Findings

Community gardens, farmer’s markets, and encouraging cooking, freezing, and canning have the most positive effects on many dimensions of health including improving nutrition, providing opportunities for social interactions, improving the environment by keeping foods local, and providing opportunities for economic savings or growth.

<b>Table 5: Summary of Findings</b>	 <b>Physical</b>	 <b>Emotional</b>	 <b>Social</b>	 <b>Environmental</b>	 <b>Spiritual</b>	 <b>Intellectual</b>	 <b>Economic</b>
<b>Production &amp; Harvesting</b>							
Active Farms	+/-	+/-		+/-	+		+/-
Community Gardens	+	+	+	+	+	+	+
School Gardens	+	+	+	+		+	
Container Gardens at Home	+	+		+		+	+
Chickens, Bees, Goats	+/-			+/-		+	+
Edible Landscaping	+			+			+
Gleaning	+	+	+		+		+
<b>Processing</b>							
Processing, Packaging, Branding			+	+			+
Slaughtering				+/-			+
Cooking, Freezing, Canning	+	+	+	+		+	+
<b>Storage and Distribution</b>							
Farmer’s Market	+	+	+	+		+	+
Produce Stands	+		+	+		+	+
Cost Share Agriculture	+		+	+		+	+
Food Pantries, Meals on Wheels	+	+	+		+		
Grocery Stores	+						+
Corner Stores, Gas Station Stores	+/-						+
Ethnic Cuisine Stores	+/-	+	+		+	+	+
Food Trucks	+/-		+	+/-			+
<b>Purchasing and Consumption</b>							
Recipes	+	+	+			+	
My Plate	+					+	
Restaurants	+/-		+	+			+
Coupons, Incentives, EBT	+	+/-	+/-				+
Farm Tours	+		+	+/-		+	+
<b>Disposal</b>							
Trash and Recycling				+			+
Composting	+			+		+	+
Manure	+/-			+/-			+
Re-Use				+			+
Packaging Considerations			+	+/-			+

## 3.2 Impacts Associated with Food Production

### *Active Farms/ Farmland Preservation*

- **Physical-** Having active farmlands within a region can increase access to fresh fruits, vegetables, milk, eggs, and meat improving nutrition. Depending on how the farm is ran, the farmer and farm workers may also receive physical activity while planting, tending, and harvesting the produce or caring for livestock. If toxic chemicals are used, consumers and farm workers may have an increased exposure to these chemicals and experience negative health consequences.
- **Emotional-** There is often an emotional tie to farmland as farms are typically passed down from generation to generation and are part of a region's heritage. The aesthetic beauty of farmland and access to more natural settings can also be a calming presence. However, farming can also be a very stressful profession as it is dependent on factors outside the farmer's control (weather, insect damage, etc.) and is often a 24/7 job especially if livestock are involved.
- **Environmental-** Depending on the type of farming and management practices put into place, farms can be very environmentally beneficial or detrimental to environmental health. Farmland often provides open space that can be used as wildlife corridors and habitats (especially on the perimeters of the property) and pervious surface for groundwater regeneration. However, if large quantities of fertilizer or pesticides are used, if livestock have access to streams, or if riparian buffers are completely removed, farmland can have detrimental effects on water quality including contributing to E.coli, sedimentation, and algae blooms.
- **Spiritual-** Many people have a spiritual tie to the land and feel as if they need to be stewards of the land including cultivating food. Because farming is dependent on so many factors outside of the control of farmers, a certain level of faith is necessary to continue to invest in farming during times of less than ideal conditions.
- **Economic-** Farming can be a profitable business and provide employment opportunities for both the farmer, farm workers, and support services (i.e. food transport, machine provision and repair, packaging, etc.). It can also be an extremely resource intense endeavor especially during the initial startup and farmers can easily find themselves land wealthy but money poor. There are many ways to address this including low interest loans, government subsidies, and establishing a cost share program with consumers.

### *Community Gardens*

- **Physical-** Having access to a community garden can increase access to nutritional foods as well as likelihood of consuming a variety of healthy foods (people- especially children- are more likely to eat something that they helped grow). It can also provide opportunities for regular physical activity as the garden is established, planted, tended, and harvested.



- **Emotional-** Gardening can be a stress reliever and a community garden can provide a way to interact with others and receive counsel outside an institutional setting. Even the view of a garden or natural setting can have a calming effect.
- **Social-** As people volunteer in the community garden they have a chance to interact with others and develop friendships with other volunteers, garden coordinators, and often people who glean from the garden.
- **Environmental-** Because of the small scale nature of community gardens, sustainable gardening practices are typically used and often the gardens are placed in an otherwise unusable lot (either due to size or perhaps within a utility easement). Community gardens provide pervious surfaces for groundwater regeneration, beautify an area and provide access to nature in a more urban environment, and can provide nectar for pollinators.
- **Spiritual-** Similar to farming, there is a spiritual tie to community gardening, tending the land, and providing for others. In Davidson, both of the community gardens were started by churches (Davidson United Methodist and St. Alban's Episcopal) as a way to encourage fellowship and provide food for the less fortunate. St. Alban's even has a meditative garden as part of its community garden.
- **Intellectual-** Community gardens can be used as a teaching opportunity, especially for younger generations who can learn about different types of food and how it is grown. Depending on the features of the garden, workshops on eating healthy, planting, composting, pollination, and photosynthesis can be incorporated into the workings of the garden.
- **Economic-** Many community gardens allow volunteers or residents living around the garden to take produce from the garden for free or for a small donation to pay it forward or support the garden in the future. These prices can be significantly less than what it would cost in a grocery store or at the farmer's market and may save money and increase access to healthy food for those involved in the garden. With larger gardens or garden networks, a community garden coordinator position may also develop as the needs to manage the garden(s) increase.

### *School Gardens*

- **Physical-** Similar to community gardens, school gardens can increase access and willingness to consume healthier foods. School gardens can also provide opportunities for physical activity- especially for older kids who may establish, tend, or harvest the garden.
- **Emotional-** Successful school gardens can generate pride and a sense of accomplishment as seeds that students plant become vegetables or fruit that they can eat. Gardening can also be a calming practice and can even be used as a reward for good behavior.

- **Social-** School gardens can be used as a means of growing teamwork and interactions among students (both those involved directly in gardening and recipients of the food coming from the garden), parents (volunteers and those purchasing food from the garden), and teachers (often managing the garden and using the garden as a learning opportunity).
- **Environmental-** Because of the small scale nature of school gardens and the fact that the gardeners are young and more susceptible to toxic exposure from chemicals, sustainable gardening practices are typically used in school gardens. School gardens provide pervious surfaces for groundwater regeneration, beautify an area and provide access to nature, and can provide nectar for pollinators.
- **Intellectual-** School gardens can provide hands-on learning opportunities especially in the sciences (Biology, Chemistry, Physics); however, they have also been incorporated into mathematics (counting and measuring), English (writing stories about the garden), foreign languages (names of the produce in different languages), and social studies (agriculture's role in different cultures). The presence of a more natural setting such as the garden can also have a calming effect on children and decrease behavioral issues and increase learning ability.

#### *Container Gardens/ Homegrown*

- **Physical-** Having a container garden or garden plots at your own home can increase access to healthy foods and improved nutrition as well as providing some physical activity while planting and tending the garden.
- **Emotional-** Gardening can be a good stress reliever and in some instances can provide a respite from stressors such as technology overload (constant contact with the television, phone, computer, etc.), stress from work, or family commotion.
- **Environmental-** Because of the small scale nature of container or home gardens, sustainable gardening practices are typically used. Gardens provide pervious surfaces for groundwater regeneration, beautify an area, often take fewer chemicals to maintain than lawns, and can provide nectar for pollinators.
- **Intellectual-** Developing a container garden or home garden typically involves learning how to do this— what seeds or plants to plant when, how much water is needed, how much space will be needed for each plant, when are the vegetables ready to be harvested, weed identification and removal, pest management, etc.
- **Economic-** Growing your own food can save money on grocery bills especially when paired with freezing or canning your own food for long-term storage.

#### *Chickens /Bees/Goats*

- **Physical-** Having chickens can lead to increased access to eggs which are a great source of protein. The honey from bees is also a better source of sweetener than

processed sugar. Goats can provide milk and meat. Precautions need to be taken to make sure all animals and pens are kept clean and undisturbed to reduce the likelihood of bee stings and noise disturbances.

- **Environmental-** Bees as pollinators are good for the environment. Having backyard access to eggs, honey, and milk can reduce dependence on trips to the grocery store and food products that have traveled a long distance. However, if pet pens are not properly cleaned and maintained, pet waste can become an environmental problem.
- **Intellectual-** Having chickens or other livestock on your property can become a learning experience for children especially if you purchase and incubate eggs that then become your chickens.
- **Economic-** Having chickens, bees, or goats could potentially allow you to save on grocery bills and/or provide additional income as you sell products such as extra eggs, honey, or goat cheese.

### *Edible Landscaping*

- **Physical-** Edible landscaping such as fruit trees, cabbages, or edible flowers increases access to healthy food and provides an opportunity for physical activity through planting, tending, and harvesting.
- **Environmental-** Spaces can be beautified by incorporating edible landscaping. Plants that produce food tend to require less chemicals and a more targeted irrigation system than lawns, decreasing polluted runoff. Having easy access to fruit and vegetable plants can reduce dependence on trips to the grocery store and food products that have traveled a long distance
- **Economic-** Encouraging the use of edible landscaping can increase economic opportunities for those trained in that type of landscape architecture. It can also decrease grocery bills as people harvest produce off the private or publicly accessible plants.

### *Gleaning*

- **Physical-** Gleaning provides access to healthy foods for those who may otherwise not be able to afford fresh produce. Volunteers who help with the gleaning process also receive the physical activity benefits of harvesting produce.
- **Emotional-** Volunteers who help with gleaning can feel as if they have contributed to the well-being of another person which adds to self-worth and pride. If a family is gleaning together for their own needs, parents can feel good about providing healthy food for their children. It can also be fun to get out and search for food that has been left in the field or deliver food that has been left over from the farmer's market or community garden.

- **Social-** Gleaning is typically done in parties of multiple volunteers so there are opportunities for social interactions between the volunteers, farmers, and those receiving the gleaned materials.
- **Spiritual-** There are many references within the bible concerning the act of gleaning or purposely leaving food on the vine or within the field for less fortunate people to come behind and take. Both of the community gardens, which were formed by churches, encourage gleaning by plot owners or volunteers.
- **Economic-** By gleaning, participants can decrease what they would otherwise spend on food.

### 3.3 Impacts Associated with Food Processing

#### *Processing, Packaging, Branding*

- **Social-** In order to develop a regional “buy local” brand a partnership among growers, distributors, and economic development would need to occur providing social opportunities for those participating in the partnership. Also brand identification and purchasing locally grown items, indicates a strong social response to supporting the local economy or willingness to be part of a larger effort- even if it costs more than non-local products.
- **Environmental-** If a set of local packaging standards are adopted in order to provide some consistency in distribution of products (which is especially important for larger orders), then recyclable or compostable materials could be selected for positive environmental benefits.
- **Economic-** By combining what is produced locally under a common, recognizable brand, competition among local producers would decrease and each farmer could benefit from jointly securing contracts with larger institutes or stores that they would not be able to fill individually.

#### *Slaughtering*

- **Environmental-** Instead of traveling with live animals to slaughtering locations and traveling back with meat that has been inspected and is ready to sell, a mobile slaughtering unit which could travel to each of the small producers in a region would produce less air pollution. There would still be the environmental impact of driving to the location and slaughtering the animal (carcass disposal) but it would be less concentrated than having multiple farmers bringing animals to one location.
- **Economic-** There could be significant savings to farmers if they did not have to transport live animals to be slaughtered and if a mobile slaughtering unit could come to them. This could also provide additional job opportunities for butchers and meat

inspectors and decrease the amount of overhead that a stationary slaughtering facility requires.

### *Cooking/Freezing/Canning*

- **Physical-** Cooking, freezing, and canning fresh fruits and vegetables allows access to healthy, local foods all year long improving nutrition and decreasing food insecurity.
- **Emotional-** There can be an emotional tie to preparing a meal and certain foods are tied to memories or can be considered “comfort foods.” Also by freezing or canning excess food from the summer months, the stress of worrying about food availability in the off season is decreased.
- **Social-** Fixing meals together or preparing produce for freezing and canning (either by making them into jams, salsas, sauces or blanching them) can be a social activity with different people contributing portions of the final product and doing different tasks.
- **Environmental-** Freezing or canning your own produce can prevent excess in-season produce from being wasted and allow you to reduce the amount of packaging and emissions produced by transporting professionally canned or frozen products.
- **Intellectual-** Cooking, canning, and freezing food is a rebounding art form as more people are trying to reduce the number of preservatives they consume, grow their own food, and support local agriculture. Courses and workshops are being taught to teach people how to safely prepare foods for immediate consumption and long-term storage.
- **Economic-** Those freezing and canning food can typically get excess produce for a reduced rate by purchasing in bulk or at the conclusion of the farmer’s market when farmers are trying to keep from having to transport produce back to their farm. Produce with bruises or blemishes may not sell at the market or grocery store but if it is being transformed into salsas, sauces, or jams a few bruises won’t matter. With the proper safety certification, someone could also make additional income by selling their canned goods.

## 3.4 Impacts Associated with Food Distribution

### *Farmer’s Market*

- **Physical-** Farmer’s markets increase access to healthy, local food which improves nutrition. Those setting up, walking around, or tearing down a farmer’s market also get some physical activity.



- **Emotional-** Farmer's markets create a sense of community and encourage patrons to feel as if they are part of a larger effort to support the local economy. They also provide chances for increased social interaction which can lead to positive emotional responses.
- **Social-** Patrons to the farmer's market have the opportunity to interact with neighbors, farmers, volunteers, and business owners in Downtown Davidson. The market typically has special events in conjunction with the market which provide additional opportunities for social interactions.
- **Environmental-** By supporting local agriculture, farmer's markets reduce the dependency on commercially grown produce that travels long distances, which decreases harmful emissions and improves air quality. Small scale, local farms also typically use more sustainable practices than large scale commercial farming.
- **Intellectual-** The farmer's market hosts weekly cooking demonstrations and workshops on composting, gardening, and the environment. The market and individual farmers also provide recipes and tips on how to prepare the produce being sold.
- **Economic-** The farmer's market contributes to the economic wellbeing of farmers that participate in the market as well as the surrounding businesses which benefit from the extra foot-traffic each Saturday morning. With its efforts to take EBT cards and provide additional coupons to low-income individuals, the market also increases the amount of fresh, local produce that these customers can purchase.

### *Produce Stands*

- **Physical-** Small scale produce stands can increase access to fruits and vegetables (especially in urban environments), improving nutrition.
- **Social-** Produce stands provide an opportunity for consumers to socially engage with the person selling the produce as well as others waiting in line to purchase the produce. If the stand regularly sets up outside a center of employment, employees tend to work a visit to the produce stand into their weekly activities and develop a culture of eating healthy.
- **Environmental-** Conveniently located produce stands can decrease the need to drive to the grocery store and can increase the ability of small local stores to sell fresh, local produce, decreasing dependency on commercially grown and far-traveled produce.
- **Intellectual-** Those operating the produce stands can introduce consumers to atypical produce and provide them with recipes for fixing the items. They can also tell

consumers exactly where and how their food is grown.

- **Economic-** Operating a produce stand could provide additional economic opportunities especially for those with limited experience and education.

### *Cost Share Agriculture*

- **Physical-** Cost share agriculture programs increase access to healthy, locally grown food which increases healthy nutrition.
- **Social-** Those who sign up for a CSA get to know the farmers growing their food as well as those distributing the CSA boxes. They can also feel as if they are supporting a larger initiative to support local farmers and the local economy.
- **Environmental-** Having a CSA box prepared for you can reduce the number of trips to the grocery store and dependency on commercially grown food that is shipped long distances, improving air quality.
- **Intellectual-** Those operating the CSA program can introduce consumers to atypical produce and provide them with recipes for fixing the items. They can also tell consumers exactly where and how their food is grown.
- **Economic-** The whole purpose of the CSA is to provide farmers with upfront funding at the beginning of the season to “share” the expenses of planting and harvesting their produce. Consumers can also save money by purchasing the CSA box or buying in bulk versus purchasing items individually.

### *Food Pantries/ Meals on Wheels*

- **Physical-** Food pantries and meals on wheels programs provide food to those who would otherwise go hungry or eat less healthy. By increasing access to healthy food, their nutrition and physical health are improved.
- **Emotional-** Volunteers at food pantries or meals on wheels programs feel good about volunteering and helping someone meet their basic needs. Care needs to be taken to provide these services without further degrading the emotional well-being of those receiving assistance.
- **Social-** Food pantries and meals on wheels programs provide an opportunity for people to interact and serve their community.
- **Spiritual-** The majority of food pantries and meals on wheels programs and food drives are coordinated by places of worship in a way of giving back to the community and helping the less fortunate.

### *Grocery Stores*

- **Physical-** A full size grocery store can greatly increase access to healthy, affordable, and quality food including fruits, vegetables, low-fat milk, other dairy products, eggs, and lean meat. Having regular access to these items can improve nutrition and someone's physical health.
- **Economic-** Grocery stores provide a lot of job opportunities especially for students and those with limited experience and training. Grocery stores also often provide an anchor for other businesses within a shopping center and can serve as an indicator of a community's economic stability.

### *Corner Stores/ Gas Station Stores*

- **Physical-** Corner stores and shops associated with gas stations can either provide convenient access to healthy (milk or fruit stands) or unhealthy foods (sodas, candy, alcohol, etc.). Many government programs are available for these stores to increase their capacity to offer healthy options by increasing storage abilities and the appeal of healthy food displays.
- **Economic-** By offering healthier and often more expensive options, corner stores and convenience shops can take advantage of subsidies and increase their profit margins by capturing the segment of the market looking for healthy, convenient options for snacks or quick lunches.

### *Ethnic Cuisine Stores*

- **Physical-** Ethnic cuisine stores can increase access to foods from other cultures which depending on the fat content and chemicals within the food may be either beneficial or harmful to physical health.
- **Emotional-** The products sold in ethnic cuisine stores typically cannot be found in other stores and could have memories or family stories associated with them. Experiencing this link with a person's heritage can result in positive emotional health.
- **Social-** Ethnic cuisine stores can increase interactions with people of the same culture or those interested in learning more about a culture. They also tend to be small "mom and pop" stores ran by a family unit.
- **Spiritual-** Ethnic cuisine stores tend to offer special products during religious holidays that are tied to celebrations in the place of origin.
- **Intellectual-** Going to an ethnic cuisine store can be a learning experience about other cultures especially if the time is taken to taste test products and talk with store owners about the products they offer.

- **Economic-** There are economic opportunities available to those who want to own and operate an ethnic cuisine store. There are also opportunities for local farmers who are interested in tailoring the produce they grow to serve a specific ethnic group such as offering fresh herbs, peppers, or vegetables typically used in Italian, Mexican, or Cuban cooking.

### *Food Trucks*

- **Physical-** Food trucks can provide access to either healthy (fruit smoothies, wraps, sandwiches, un-fried meals, etc.) or unhealthy foods (deep-fried items, sodas, etc.). Those offering healthy items can improve nutrition whereas those offering unhealthy items can harm physical health.
- **Social-** Food trucks provide opportunities for people to interact with those preparing their food as well as each other as they wait to be served. A culture has developed around those who operate food trucks and their regular patrons including creative designs on trucks, innovative menus, online reviews, and location tracking methods.
- **Environmental-** Food trucks can have less environmental impact than a bricks and mortar restaurant which require land, larger amounts of electricity and water, and transportation of food to the restaurant. However, food trucks also require electricity to operate and typically travel to different locations to prepare and sell food which contributes to air pollution. Due to limited space and eating facilities, food trucks also tend to wrap food up to go instead of using reusable plates, glasses, and utensils increasing the amount of trash produced.
- **Economic-** Food trucks can increase job opportunities and business creation opportunities for those who may not be able to launch a bricks and mortar restaurant but who can afford to start a food truck business.

## 3.5 Impacts Associated with Food Consumption

### *Recipes*

- **Physical-** Having tasty recipes using vegetables or fruits (especially unusual or large quantities of vegetables or fruits) can increase consumption of healthy food and improved nutrition.
- **Emotional-** There can be an emotional tie to preparing a meal and certain foods are tied to memories or can be considered “comfort foods.” Sharing special recipes with friends or family members can also trigger emotional reactions.
- **Social-** Sharing recipes with other people, participating in a potluck or sweet swap where recipes and food items are exchanged, or working together to develop a cookbook of special recipes can increase social interactions and well-being.

- **Intellectual-** Recipes or cookbooks are a wonderful way of learning different ways of eating foods and trying different fruits or vegetables.

### *MyPlate/ MiPlato*

- **Physical-** Healthy eating campaigns like MyPlate/ MiPlato encourage and educate children and adults about eating healthier items and monitoring their portion size which helps them improve their nutrition and manage their weight.
- **Intellectual-** MyPlate/ MiPlato is an educational campaign with multiple resources for learning more about healthy eating and weight management.

### *Restaurants*

- **Physical-** Restaurants can provide access to healthy or unhealthy food options and portion sizes, impacting their patrons' nutrition and physical health.
- **Social-** Restaurants provide a location for meetings and get-togethers with friends or family encouraging social interactions and social well-being.
- **Environmental-** Restaurants who support the use of local, sustainably grown foods have a positive impact on the environment compared to those who ship their food in from long distances. Restaurants can also choose packaging for to-go orders that is more environmentally friendly.
- **Economic-** Restaurants provide economic and job opportunities for their owners and workers and can also support local farmers by purchasing locally grown produce and herbs.

### *Coupons/Incentives/EBT*

- **Physical-** By providing coupons or incentives and accepting EBT cards the farmer's market or other produce provider could increase access to healthy nutrition for low-income individuals and families.
- **Emotional-** There could be positive emotional impacts in the form of less stress for those who are able to purchase a greater amount of healthier food using the EBT card or coupons. However, care should be taken in providing these discounts in a manner that is not degrading for participants.
- **Social-** Providing discounts and EBT acceptance at the farmer's market allows those who may not otherwise be able to participate in the market the opportunity to do so. However, they may still feel uncomfortable shopping at the market or ostracized for using coupons or tokens.



- **Economic-** Patrons to the farmer's market or other produce providers are able to purchase more food thanks to coupons, incentives, or EBT acceptance which increases their economic savings and increases sales for the farmers.

### *Farm Tours*

- **Physical-** With increased knowledge of local produce, people are more likely to eat healthy, locally grown produce. Participants in the farm tour also walk around and get some additional physical activity on tour days.
- **Social-** Farm tours are opportunities for social interactions as a group and with farmer's who host the different groups at their farm. They also provide opportunities for partnerships between farmers, consumers, restaurants, and non-profit organizations.
- **Environmental-** Farm tours can have positive environmental effects as people switch over to buying local foods and tend to travel in groups to the different farms. However, people are still driving to and from the farms which generates greenhouse gas emissions.
- **Intellectual-** Farm tours provide a learning opportunity for those who go on the tour. They learn where their food comes from and how it is grown.
- **Economic-** Farm tours provide an economic opportunity for those coordinating the tour— a portion of the profits typically go towards supporting a CSA program or a related cause like farmland preservation.

## 3.6 Impacts Associated with Food Disposal

### *Trash and Recycling*

- **Environmental-** Recycling items has a positive environmental health impact and local food production tends to have less packaging than items shipped to a grocery store.
- **Economic-** Providing energy re-use or a product loop associated with recycling (for example recycled plastic bottles being turned into fleece) would create economic opportunities and savings. There are also job opportunities with trash pickup and recycling sorting.

### *Composting*

- **Physical-** Those who participate in composting receive additional physical activity as they rotate compost within the bins and spread compost on their gardens.
- **Environmental-** Composting has environmental benefits as it takes materials that are typically sent to the landfill (peels, coffee grinds, leaves, etc.) and instead decomposes them locally.
- **Intellectual-** There is a learning opportunity associated with composting (how to get started, what is compostable, what type of composting works best in your area, etc.) and workshops are typically offered through the cooperative extension or parks and recreation programs.
- **Economic-** By composting materials, gardeners and landscapers can save money on fertilizers and gardening soil.

### *Manure*

- **Physical-** Manure that has not been composted can have negative physical health impacts due to smell and parasites. However, if manure is composted or further processed it can be used to increase the growth of plants and provide opportunities for physical activity as manure is cleaned from stalls and spread into garden beds.
- **Environmental-** Manure can have positive and negative environmental impacts. Negative impacts include smell and parasites if the manure is not properly composted or treated. A positive environmental impact is the use of manure to rebuild the nutrients in depleted soils.
- **Economic-** Horse farmers can sell processed or composted manure adding to their income.

### *Re-Use*

- **Environmental-** Re-using materials typically trashed as containers for gardening or in landscaping projects can have a positive environmental impact. Re-using bags at the farmer's market also prevents more plastic bags from going into landfills.
- **Economic-** People save money by re-using materials instead of buying them new each time they plant a garden or go shopping.

### *Packaging Considerations*

- **Social-** If a regional brand is established, using environmentally friendly packaging will increase the culture around sustainable and local food production.

- **Environmental-** Packing for food products can be recyclable and environmentally friendly or be non-biodegradable (Styrofoam) and environmentally harmful.
- **Economic-** Developing a regional brand with unique packaging can create economic opportunities for those developing the packaging and those selling the produce as a larger, standardized unit.

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## 4. Recommendations

### 4.1 Summary of Recommendations

Davidson is already a model within the region of what can be done to promote healthy and locally grown foods. With the town's farmer's market, community gardens, food pantries, restaurants, Rushco, and grocery stores, locally grown food is readily available for the majority of residents. The majority of the following recommendations are to maintain and improve upon the current efforts, increase equitable access to fresh and locally grown produce, and better communicate about what is available within Davidson and the surrounding region. An overarching recommendation is to develop a food policy council composed of membership from the different groups identified within this report to better address issues concerning the food system in Davidson and coordinate efforts with the larger, regional food system.

### 4.2 Production

#### *Active Farms/ Farmland Preservation*

- Continue to work with Davidson Lands Conservancy and the Catawba Lands Conservancy to provide conservation easements on and the succession planning for active farmland.
- Consider establishing a voluntary agricultural district including providing benefits to farmers and events/signage recognizing agricultural heritage.
- Work with the North Carolina Cooperative Extension to encourage experienced farmers to mentor new farmers.

#### *Community Gardens*

- Highlight the work being done by the Davidson United Methodist Church and St. Alban's Episcopal Church to establish community gardens on Davidson's website or in the newsletter.
- Work with the two community gardens to develop a guidebook or collection of resources for others interested in developing a community garden.
- Encourage communication between the community garden organizers and potential volunteer opportunities, the Farmer's Market, and those in need of fresh produce.
- Provide land, water, electricity, and start up supplies whenever possible for new gardens to form.
- Work with developers wanting to incorporate a community garden as part of their open space requirements.

### *School Gardens*

- Support the efforts of the Green Teachers Network of Charlotte and encourage teachers to join.
- Include school gardens on volunteer opportunities/ days of service.
- Encourage communication between the school garden organizers, the Farmer's Market, and businesses that would support the school garden or let the students use their facilities to prepare food with the produce from the garden.
- Continue to work with the Master Gardeners, Master Composters, and the North Carolina Cooperative Extension to receive staff training and serve as an informational resource to those interested in starting a school garden.

### *Container Gardens/ Homegrown*

- Continue to offer classes and camps through the Parks and Recreation Department for gardening.
- Continue to organize truck sales that offer discount rain barrels, composting bins, containers, and flower beds for use in home gardening efforts.
- Work with the Davidson Farmer's Market and community gardens to offer discounts on plants or organize a seed/ plant exchange.

### *Chickens /Bees/Goats*

- Continue to allow chickens and bee hives in planning ordinances.
- Consider allowing goats and other small livestock within town limits with the necessary stipulations similar to chickens.

### *Edible Landscaping*

- Consider planting native fruit and nut trees within the memorial arboretum.
- Work with Davidson Farmer's Market to continue to incorporate edible landscaping around Town Hall and the parking lots used as part of the market.
- Plant edible landscaping whenever feasible along streetscapes and within parks.
- Allow/ encourage others to plant edible landscaping including roof top gardens, green walls, and along walkways.

### *Gleaning*

- Work with low-income populations, Ada Jenkins, the Davidson Farmer's Market, community gardens, farmers, and volunteer organizations to take full advantage of gleaning opportunities- including but not limited to providing transport of gleaned goods to pantries.
- Encourage surrounding churches to participate in gleaning opportunities provided by regional farmers.

## 4.3 Processing

### *Processing, Packaging, Branding*

- Consider partnering with local developers, universities, non-profits, and the chamber of commerce to build a commercial kitchen where organizations, entrepreneurs, and farmers can work together to create “value added” products such as salsas, sauces, and baked goods from locally grown produce.
- Form a coalition of growers interested in selling their produce to larger venues (schools, restaurants, grocery stores, etc.) or online sales and develop a shared system of pricing, packaging, measurement, and delivery to these venues.
- Build off the existing buy-local campaign– “Turn Around Shop in Town”– to include a greater push for local food purchasing- perhaps having a brand or symbol so consumers know when they purchase food products here they are consuming locally grown.

### *Slaughtering*

- Work with the United States Department of Agriculture, the North Carolina Cooperative Extension, and the CONNECT Our Future Local Food Group to establish a regional, mobile slaughter house and inspection center.

### *Cooking/Freezing/Canning*

- Continue to offer classes and demonstrations at the Davidson Farmer’s Market on cooking, freezing, and canning through the Parks and Recreation Department.
- During peak growing season, distribute information on freezing and canning fresh produce and recipes for cooking. Have an archive of these resources on the Davidson Farmer’s Market website and the Parks and Recreation website.
- Partner with churches and organizations that have large gathering spaces and kitchens to host events and classes.
- Incorporate gleaning and food pantries into the freezing and canning efforts so that surplus gleaned items will have a longer shelf life.
- Apply for grants (such as the Ball Jar grant) to support these efforts and provide the necessary equipment and materials.

## 4.4 Distribution

### *Farmer’s Market*

- Continue to provide access to electricity and public restrooms as well as property and maintenance for the Davidson Farmer’s Market.

- Make improvements to the entryway from Summit Parking Lot, the Tot Lot behind Summit Coffee, and widen the walkway and grade the property around the parking lot so there is a level surface for additional tent placement.
- Work with market organizers to identify and provide a permanent location for the Davidson Farmer's Market.

### *Produce Stands*

- Consider revising the municipal code to remove the \$1,000 permitting fee for produce stands- especially in low-income neighborhoods and large places of employment to increase access to fresh, local produce and provide economic opportunities.
- Work with schools and school programs to develop and operate produce stands in conjunction with concessions at games and to sell produce grown in school gardens.
- Allow produce stands in conjunction with community gardens to increase fiscal support of the garden.

### *Cost Share Agriculture*

- Offer town owned properties (Town Hall/ Parks and Recreation building) as places for CSA drop offs and display information on available CSA programs.
- Invite CSA organizers to present at a town staff meeting and town hall meetings and encourage staff to participate in their local CSA.
- Highlight available CSAs in the town-wide newsletter when their purchasing season starts.

### *Food Pantries/ Meals on Wheels*

- Participate in food drives and encourage residents to drop off food at Town Hall or the Parks and Recreation building.
- Work with Ada Jenkins, Loaves and Fishes, the Davidson Farmer's Market, and community gardens to help coordinate gleaning, food transport, and food storage for fresh produce to be available.
- Consider volunteering with meals on wheels programs to deliver meals during typical police patrols.
- Advertise volunteer opportunities with the various food pantries/ meals on wheels programs in the newsletter or website.

### *Grocery Stores*

- Work with Charlotte Area Transit and Iredell transit systems to increase public transit access to less expensive grocery stores such as Aldi and Walmart.
- Study transit routes available (especially on weekends and non-peak commuting hours) to see if grocery stores are reasonably accessible to those who do not have a vehicle and have to rely on transit.

- Work with grocery stores and transit systems to establish a regular grocery shuttle, provide low-income neighborhoods and seniors with information about the shuttle, and equip the shuttle with means of cold storage.

#### *Corner Stores/ Gas Station Stores*

- Encourage the development of gas station stores similar to Rushco, especially in neighborhoods that do not have convenient grocery store access.
- Work with partners (including the Mecklenburg County Health Department) to incentivize, provide the necessary equipment, advertise, and train corner stores to offer healthier options such as local produce.
- Conduct further studies to determine what is available at corner stores and compare prices to what is available at full grocery stores.

#### *Ethnic Cuisine Stores*

- Support the creation of additional ethnic cuisine stores or small bodegas.
- Like corner stores, encourage and support these stores in carrying healthier options.
- Ask if stores would be willing to display MyPlate/MiPlato icons in the different languages that frequent the store.
- See if there are any fruits and vegetables common in that cuisine that can be grown in this region and connect stores with interested farmers.

#### *Food Trucks*

- Select healthier food truck vendors for town-sponsored events and non-profit fundraisers.
- Encourage food trucks to use local produce in their food preparation as well as to sell produce directly from the truck especially in low-income neighborhoods.
- When creating a permanent location for the Davidson Farmer's Market include a location for food trucks.
- Create a handout (in English and Spanish) for those interested in starting a food truck business in Davidson explaining the necessary permits and regulations for parking a food truck especially in commercial areas.

## 4.5 Consumption

#### *Recipes*

- Encourage Davidson Farmer's Market to develop a cookbook of all its recipes and sell them as a fundraiser.
- Incorporate a healthy eating page on the Davidson Parks and Recreation website and add healthy recipes.



- Work with Loaves and Fishes to provide customers with recipes they can make with the products offered at the food pantry- especially if they are diabetic or watching their cholesterol.

### *MyPlate/ MiPlato*

- Add a MyPlate/ MiPlato icon to the break room bulletin board or above the microwave at town hall.
- Encourage schools to place MyPlate/ MiPlato icons in the cafeteria if they have not done so already.
- Work with grocery stores to incorporate MyPlate/ MiPlato within their store displays and beside the price tags for healthy items.

### *Restaurants*

- Develop a health ranking system for restaurants so it is easy for customers to determine which restaurants serve healthy, local options.
- Encourage restaurants to label their menus with nutrition information or at least have nutrition information available on request.
- Work with new restaurants to identify potential sources of locally grown produce and meats.
- Encourage restaurants to grow their own herbs on site either as edible landscaping or decorations within the restaurant.

### *Coupons/Incentives/EBT*

- Encourage Ada Jenkins and the Davidson Farmer's Market to partner in order to offer free classes with information about the farmer's market (location, how to use EBT at the market, etc.), ways of preparing produce offered at the market, a trip to the market, and additional coupons to encourage local food consumption.
- Work with area doctors to offer coupons for the Davidson Farmer's Market to patients needing to lose weight or improve their nutrition as part of a healthy eating prescription.
- Continue to evaluate the use of EBT and incentives at the Davidson Farmer's Market.
- Have links to electronic coupons as part of the healthy eating page on the Parks and Recreation website or the Davidson Farmer's Market website.

### *Farm Tours*

- Support regional farm tours through advertisement in the newsletter, on the website, at town meetings, and by displaying handouts at town hall.
- Encourage schools to take students on farm tours or pass the information on to student groups who may be interested in volunteering with the farm tour.
- Organize a Parks and Recreation trip around the farm tour.

## 4.6 Disposal

### *Trash and Recycling*

- Improve signage around recycling bins so that it is more obvious what is recyclable, what can be composted, and what has to be thrown in the trash.
- Continue to track the amount of trash and recycling the town collects and share this information with residents and area businesses.
- Work with Mecklenburg County to launch a campaign encouraging residents to reduce, reuse, and recycle.

### *Composting*

- Continue to offer demonstrations and classes on composting.
- Create a community composting center where residents can deliver leaf debris.
- Organize another sale of composting bins and worms at the Davidson Farmer's Market.
- Keep a Master Composter on staff and include resources on composting on the Parks and Recreation website.

### *Manure*

- Identify horse farms that compost their manure and keep a list available for town projects and for interested residents.
- Work with the North Carolina Cooperative Extension to encourage farmers to compost their manure in a healthy manner.
- Educate the public on what types of manure are safe to place in vegetable gardens and what is not (pet waste, etc.).

### *Re-Use*

- Continue to encourage the re-use of bags at the Davidson Farmer's Market.
- Encourage businesses to develop a resource re-use loop with farmers, community gardens, and school gardens so that materials that may be trashed (such as packaging crates, tires, or plastic containers) may instead be safely re-used within the gardens.

### *Packaging Considerations*

- If a regional branding initiative takes place for locally grown foods, make sure the packaging used is environmentally friendly and can be recycled or reused easily.
- Continue to offer re-usable bags at the Davidson Farmer's Market and as part of the Turn Around Shop in Town effort.

## 5. Concluding Remarks

There are a lot of potential health benefits to increasing local food production and increasing access (both physical and fiscal) to healthy food. This HIA provides a snapshot of what is being done locally, within Mecklenburg County, and regionally to develop a local food system. It also examines the potential impacts of local food production, processing, distribution, consumption, and disposal on the seven dimensions of health based on the activities already taking place and potential recommendations for increasing the local food system. There is a lot going on to promote health and the local food system, but it is not always being done in a coordinated manner or as part of a larger planning effort. To accomplish all the potential health benefits described in this assessment, it is essential for Davidson to be connected and work in coordination with regional food system planning and policy efforts to increase food production and decrease food insecurity.

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## Appendix A: Basket Price Study Guidelines and Evaluation Sheet

### Instructions

1. Go to each store, recording the information at the top of the page including the date and time your visit begins, if the store is located on a bus stop (if so which one), and your general perception of the store as being clean, safe, and offering quality food.
2. If someone asks you what you are doing, provide them a copy of the letter I gave you and tell them that if they have any additional questions they can call me directly.
3. Starting in the produce section, determine if the listed items are available and record the regular price, special price, and unit of measurement. Include what the special is in the note section. For example:

Item	Available	Substitute	Regular Price/Unit	Special Price/Unit	Unit Size (per lb, oz, count)	Notes
Red Delicious Apple	Y / N		\$1.00	\$0.50	count	Special buy one get one free with card

4. If the item is not available, then list the **cheapest** comparable item. If the item is only available in a different format list in notes. For example:

Item	Available	Substitute	Regular Price/Unit	Special Price/Unit	Unit Size (per lb, oz, count)	Notes
Red Delicious Apple	Y / N	Gala Apple	\$1.00		count	
Red Delicious Apple	Y / N	Sliced Apples	\$2.00		12 oz bag	Mott's bag of pre-sliced apples

5. Always go for the most basic and **cheapest regularly priced item** of equal selection in the store. For example if the store offers a lower priced **store brand** of milk or bread etc. go with that selection even if there is a special on regular brand name items. There is no guarantee that there will be a special the day someone goes shopping, but store brand items are typically cheaper. Include if it is store brand or the item's brand name in notes. If the size is not available, go with what is available. For example:



Item	Available	Substitute	Regular Price/Unit	Special Price/Unit	Unit Size (per lb, oz, count)	Notes
Gallon of 1% Milk	Y / N		\$3.00	\$1.50	1 gallon	Store brand, discount with card
Gallon of 1% Milk	Y / N	Half gallon of 1%	\$1.50	\$0.75	½ gallon	Only sold in half gallons
Gallon of 1% Milk	Y / N	Only 2% offered	\$3.00	\$1.50	1 gallon	Only 2% sold

6. If you have any questions, call me at (828) 781-8742.

HEALTH IMPACT ASSESSMENT Food System Plan for Davidson, NC

Store Name:

Date and Time:

Store Location:

On Bus Route:

Is the store clean and safe, with quality (not expired, over ripe, bruised) food?

Item	Available	Substitute	Regular Price/Unit	Special Price/Unit	Unit Size (per lb, oz, count)	Notes
<i>Fruit</i>						
Red Delicious Apple	Y / N		\$	\$		
Navel Orange	Y / N		\$	\$		
Banana	Y / N		\$	\$		
<i>Vegetables</i>						
Baby Carrots	Y / N		\$	\$		
Head of Iceberg Lettuce	Y / N		\$	\$		
Cucumber	Y / N		\$	\$		
<i>Dairy</i>						
Gallon of 1% Milk	Y / N		\$	\$		
Plain, Low-fat Yogurt	Y / N		\$	\$		
Sliced American Cheese	Y / N		\$	\$		
<i>Protein</i>						
95% Lean Beef	Y / N		\$	\$		
Lean Hot Dogs	Y / N		\$	\$		
Dozen White Eggs	Y / N		\$	\$		
<i>Bread</i>						
Loaf of sliced wheat bread	Y / N		\$	\$		
Loaf of sliced white bread	Y / N		\$	\$		

