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Tools for Community Self-determination

Metro Nashville Food System Assessment



Produced For **Metro Nashville**
by

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Executive Summary

Metro Nashville is well poised to claim a deserved title as a national food destination. With more than 108,000 acres of land zoned for agricultural use inside the city, surrounded by dedicated farmers who are patiently building up production for local markets, and with 645 restaurants that feature quality cuisine, Nashville may well be considered a Food City as well as the Music City.

Adding to these factors, Metro Nashville has the opportunity to place itself on the national map by expanding its efforts to reach out to low-income residents, fostering equity in food access, and boosting production of food in low-income communities. Several Nashville organizations effectively perform this work already. Their efforts can be more visible and will hold greater impact as Metro Nashville invests in stronger community foods coordination.

This food system assessment was commissioned by Metro Nashville as part of the ongoing Public Investment Plans process. One principal reason for performing such an assessment was to offer a solid base of evidence that can help guide food systems planning. Another was to bring an outside perspective to help inform the work of a dedicated core of local food leaders. Finally, budget recommendations were sought for Metro Nashville to implement.

Our research focused on several tasks:

- Compiled publically available data outlining current and historical conditions in the Nashville region. The study area encompasses a 150-mile radius surrounding the Nashville Farmers Market, but special emphasis was placed on the 14-county Metropolitan Statistical Area (MSA) since data is readily available for this geography. When specific recommendations are made, these refer to the joint efforts of the City of Nashville and Davidson County through the entity known as Metro Nashville.
- Interviewed 58 food system practitioners to learn about conditions on the ground, to compile specific professional expertise required to gain a complete picture of the food system in the Nashville metro area, and to identify how to strengthen community foods activity. Based on these interviews, we performed an analysis of key strengths, weaknesses, opportunities, and threats.
- Surveyed more than 200 farmers in the 150-mile radius to learn more about their goals as farmers, and their interest in expanding production to reach Nashville markets. Unfortunately, only 14 farmers responded to the survey.
- Summarized important experiences that have been gained in other communities when these seemed relevant to issues that Metro Nashville faces.
- Recommended specific strategies based on this foundational work for the Metro Nashville's budget process.

Our interviews with 58 food system leaders brought us to the inescapable conclusion that greater coordination is required among these food leaders. Several of our sources commented that efforts are "siloed," despite the fact that leaders are in regular contact with each other. Many attend meetings that offer social connection yet lack strategic coordination. There is currently no single gathering point where people meet regularly to build the community-based food system in a transparent and sustained manner. Efforts to frame a food policy council have been underway for nearly a decade, yet Nashville people mostly follow their individual visions, often without establishing collaborative agreements with others who have similar aspirations.

As just one example, at this writing, four different entities are pursuing plans to build food processing centers. Each has solid organizational reasons to do so, yet each works without reference to a long-term goal or vision. Each has independent financial resources. Millions of investment dollars are at stake. The risks of duplicating efforts are high. Yet the city currently has little power to shape a more common vision, and few resources to invest to ensure that coordination is efficient.

Nashville can no longer afford this lack of coordination, which costs billions each year. The fact that few metro farmers supply food to Nashville markets means that **the region's consumers spend \$4.5 billion each year buying food that was grown outside the region**. Additionally, residents fail to exercise adequately and are prone to eating food that is not as healthy as it needs to be, which **costs the metro region about \$1.7 billion each year in medical costs**. This confluence of factors results in a \$6.2 billion annual leakage from the region — and is only the most visible flow of a much larger leakage that is not well documented.

Greater coordination could help reduce costs and avoid duplication by raising issues such as: Do these facilities need to be separate, or should they be in one space or on a single campus? If separate, how can they effectively network? If combined, how can sufficient financing be obtained? How does each effort serve the greater needs of the community? Can for-profit businesses and non-profit organizations coordinate efforts in order to serve all the needs of the region?

Solid coordination is required to build an effective community-based food system, not simply a collection of strong businesses.

Our analysis leads us to propose a four-part strategy for strengthening the community-based food system around a long-term vision. Key elements are:

Raise the Visibility of Community Foods in the Nashville Region

- Community foods should become a central theme in the Mayor's ongoing communications with the public.
- **No investment is required; yet this will bring a solid return in reducing the leakage of \$6.2 billion annually.**

Coordinate Community Foods Activity

- Hire a Community Foods Coordinator (CFC) in the Mayor's office.
- **\$110,000 investment required each year for three years;** this will yield millions in cost savings in both community foods investment and public procurement.
- Savings in public procurement are projected to be \$200,000 or more each year after several years of coordination.
- Nashville farms and food businesses will gain additional revenues as community food trade is strengthened and coordinated.

Ensure Equity in Food Access

- Support Neighborhood Food Production and Food Planning by Nashville youth.
- **\$75,000 investment required** to launch coordinated food production in urban areas.
- The value of the food produced will exceed the initial investment.
- This investment will also enable Metro Nashville to leverage federal youth employment funds.

- This investment will also build the capacity of Nashville social service organizations.
- Over the long term, this investment will also help reduce leakage from the regional economy.

Streamline & Localize Institutional Food Purchasing

- Convene Metro Nashville food purchasing agents to coordinate food purchases across all agencies and the school district in order to reduce food-purchasing costs.
- Expand forward contracting by Metro Nashville Public Schools.
- **\$85,000 investment required** to evaluate current purchasing practices and make recommendations, as well as to leverage MNPS' food purchases.
- The FINA Group estimates that after several years of coordinated purchasing, Metro Nashville will save more than \$200,000 each year.
- Much of the money spent will be directed to local farms and processors, strengthening the metro economy.

This work plan requires an initial investment of \$270,000 of city funds. As public purchasing is streamlined through greater coordination, we anticipate savings of more than \$200,000 per year, which will go a long way toward funding this work — but it will take several years to get to this point.

Even further in the future, this work will help **stop \$6.2 billion of financial leakage** currently endured by the Nashville metro region.

Further, we recommend that additional funds be raised from foundations or other private and public sources to ensure that the Community Foods Coordinator can effectively leverage a long-term public vision for the growth of community foods. Depending upon the commitment the Mayor wishes to make to community foods, this could be as much as \$5 million of funds or incentives.

We further note that effective action requires framing this activity as community foods activity, rather than as “local” food activity, because the term “local” has often been misappropriated. For example, Nashville restaurants currently overstate the extent of local purchasing they accomplish. We also feel that the framing of “community food system” elevates the importance of ensuring equitable access for all Nashville residents, independent of income, while “local” food efforts have often been limited to those having more means.

Our purpose in this report is to collect the intelligence gathered from those who have worked so diligently to build a community-based food system for more than 40 years, to combine their insights with solid data from public sources and our own farmer survey, and to identify a short list of action priorities that will do the most to shift the Nashville food system to a more community-based set of priorities. We hope the data included in this report accomplishes this purpose, and is useful for food coordination for years to come.

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Background

Nashville very properly calls itself a Food City as well as the Music City. There are more than 3,000 places to eat in the city, and the dining-reservation website Open Table lists 624 restaurants that focus on well-crafted food. The Metro Public Health Department estimates that perhaps 30 new restaurants will open in 2017 alone.

Decades ago, pioneering restaurateurs such as Margot McCormack (Margot's and Marche), Jeremy Barlow (Tayst and Sloco), Sean Brock (Husk), Erik Anderson and Josh Habiger (Catbird Seat), and Laura Wilson (Wild Iris and Ombi) launched restaurants that featured foods grown on farms near Nashville. Their creativity in preparing savory meals using local ingredients certainly parallels the creativity of Nashville's musicians. They worked with a core of farmers who had taken bold leaps in the 1970s, growing sustainably raised food long before a solid market for locally grown foods had formed.

One core group of these farmers organized an annual Tennessee Local Food Summit that has met for four years in a row, in an effort to boost organic and sustainable production practices and increase the visibility of local farms. Sympathetic residents supported farmers by campaigning to protect farmland in urban Nashville. Urban pioneers such as the Nashville Food Project and Second Harvest Food Bank of Middle Tennessee doggedly opened food access to low-income residents.

Three years ago, Nashville Grown launched a distribution service that delivered farm fresh foods to Nashville restaurants. Last year, the Nashville Farmers Market took a bold stand to ensure that products sold at the market were sourced from the farms operating each stall. About the same time, Chef Laura Wilson's Grow Local Kitchen created a processing facility where emerging food entrepreneurs could develop value-added products.

For nearly a decade, food leaders in Nashville have sought to better coordinate this activity. Several joined together to form a food policy council, yet the political will to empower this group never coalesced. Several efforts strived to assess the Nashville food system, yet none was funded until now.

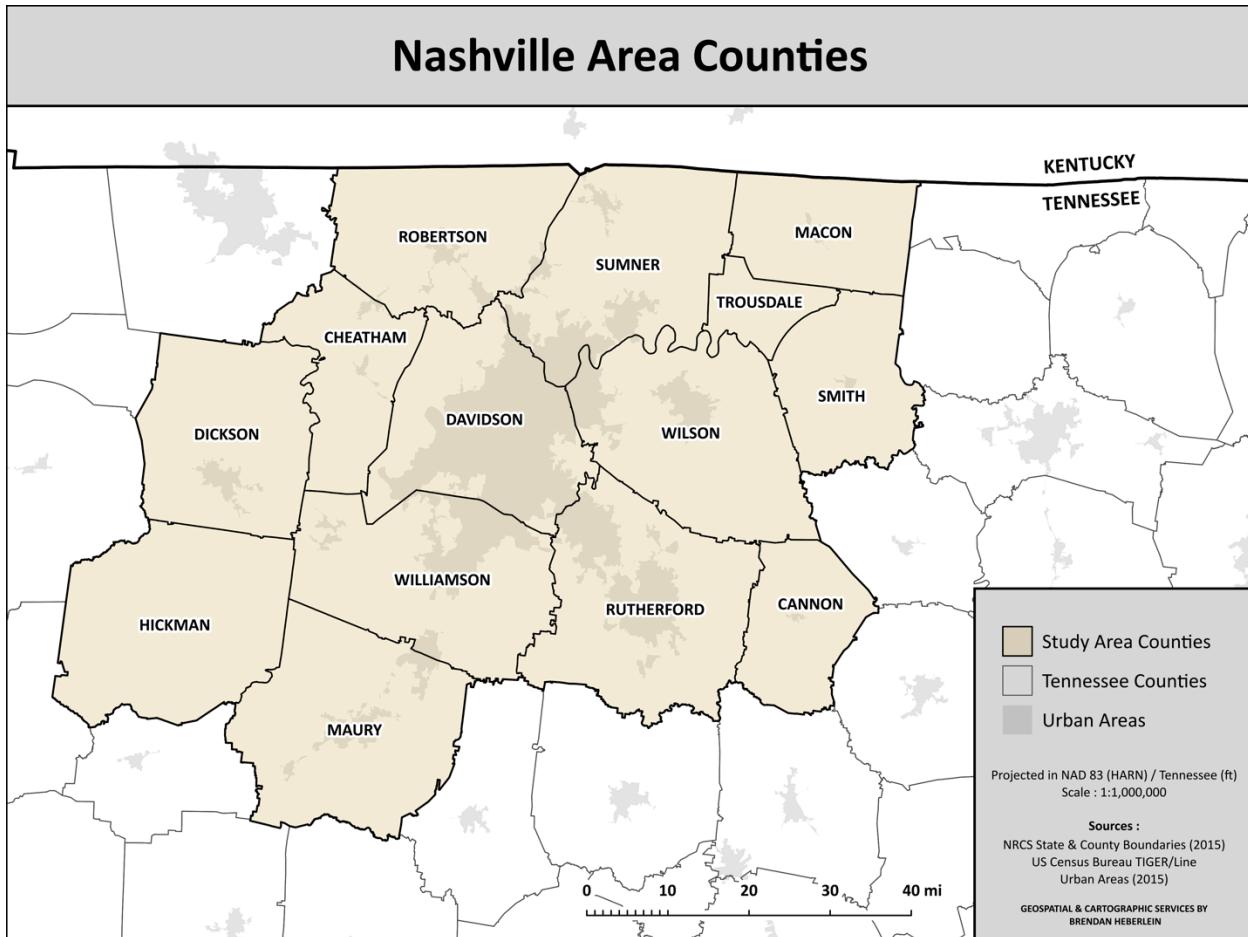
Under Mayor Megan Barry's Public Investment Plan (PIP) process, the Nashville Farmers Market, the Metro Public Health Department, and Metropolitan Social Services collaborated to raise \$30,000 to fund this food system assessment. Crossroads Resource Center of Minneapolis, Minnesota and New Growth Associates of Saline, Michigan were selected as the contracting team to perform this assessment, drawing upon \$28,000 of these funds.

Metro Nashville requested both research and evaluation of the local food system, resulting in a comprehensive report including insights, key findings, and recommendations to improve access to healthy food in our community including underserved areas and schools. The geography selected by Metro Nashville focuses on the city itself, the 14-county Metropolitan Statistical Area, and includes farmers raising food within a 150-mile radius from the Nashville Farmer's Market.

Crossroads' food system assessment began on December 21, 2016. Due to the timing of Nashville's budgeting process, this report was submitted on March 15, 2017. Necessarily, then, this report is somewhat abbreviated in order to meet this timeline.

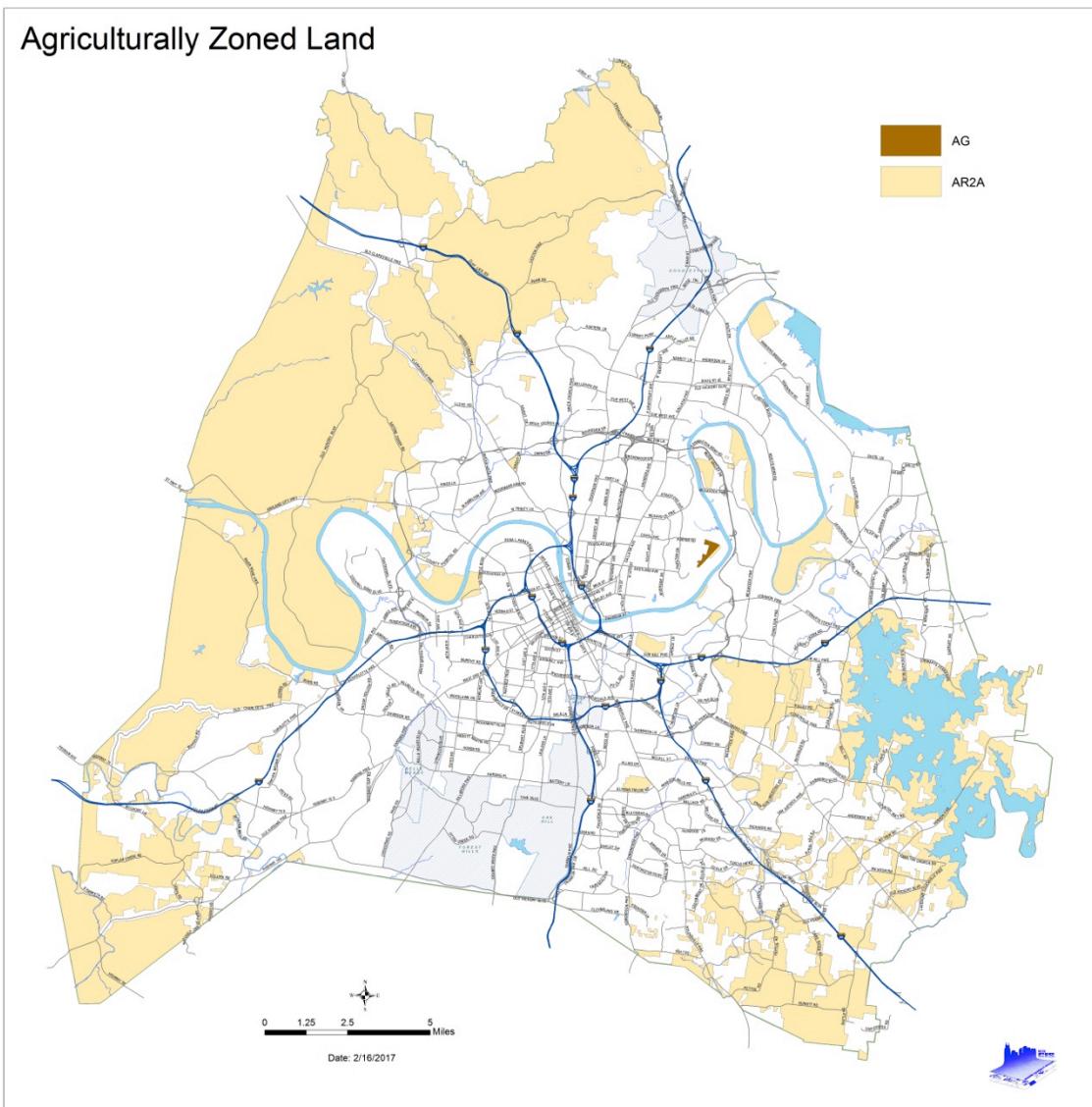
This food system assessment draws upon several sources: (1) public data sets showing food production, personal income, estimated food consumption, and health care costs for food-related conditions; (2) original data compiled from interviews with 58 food system leaders working in the Nashville Metropolitan Statistical Area (MSA); (3) original data compiled by surveying farmers who raise food within the 150-mile region; and (4) case examples from promising initiatives in other regions of the U.S.

Map 1: Counties in the Nashville Metropolitan Statistical Area:



Map 2: Agriculturally Zoned Lands in the City of Nashville

Note: Agricultural zoning does not in itself mean that a given parcel is actively farmed.



Source: Metro Nashville

Note that Metro Nashville has more than 9,000 parcels with 108,000 acres of land that are zoned AR2A. This is equivalent to 8% of the region's farmland.

List of Interviewees

The following 58 people were interviewed by Ken Meter or Megan Phillips Goldenberg of the consulting team.

| First Name | Last Name | Name of Organization | Role/Job Title |
|------------|---------------|---|--|
| Jason | Adkins | Trevecca Nazarene University | Director of Urban Farm |
| Blake | Angelo | City and County of Denver | Food Systems Development |
| Natalie | Ashker | Long Hungry Creek Farm | CSA Manager; Farmer |
| Chris | Babcock | Nashville Food Co-op | Coordinator |
| Phil | Baggett | Tennessee Grass Fed | Farmer & Owner |
| Jeremy | Barlow | Sloco | Owner & Chef |
| JoAnne | Berkenkamp | Natural Resources Defense Council | Waste Project Director |
| Linda | Breggin | Environmental Law Institute | Waste Project Manager |
| David | Cloniger | Second Harvest Food Bank of Mid TN | Food Resource Manager |
| Tana | Comer | Eaton's Creek Organics | Farmer |
| John | Compton | Vanderbilt Center for Biomedical Ethics & Society | Local Food Coordinator |
| Chris | Comstock | Cul2vate | Farming Trainer |
| Jackie | Contreras | Nashville Farmers' Market | Program Manager |
| Jaynee | Day | Second Harvest Food Bank of Mid Tennessee | Executive Director |
| Hank | Delvin | Delvin Farms | Farmer & Owner |
| Kenneth | Drinnon | KLD Farms | Farmer & Owner |
| Sylvia | Gainer | Green Door Gourmet | Farmer & Owner |
| Kent | Ford | Taylor Farms | Director of Foodservice Sales |
| Jae | Gerhart | Michigan State Extension | Local Foods Coordinator |
| Erin | Hafkenschiel | Metro Nashville | Dir Transportation & Sustainability |
| Rachel | Head | TN Dept of Education | Farm to School Specialist |
| Brian | Kelsey | Metro Nashville | Chief Strategy Officer |
| Tasha | Kennard | Nashville Farmers Market | Executive Director |
| Audra | Ladd | Metro Nashville | Manager of Small Business / Creative Economy |
| Joey | Lankford | Cul2vate | Director and farming trainer |
| Latif | Lighari | Tennessee State University | Associate Dean, Extension |
| Talia | Lomax-O'dneal | City of Nashville | Finance Director |
| Reggie | Marshall | Reggie's Veggies | Farmer & Owner |
| Tally | May | Turnbull Creek Farm | Farmer & Owner |
| Margot | McCormack | Margot Café & Marché | Owner |
| Keith | Meador | Vanderbilt Center for Biomedical Ethics & Society | Director |
| Kim | Molnar | Second Harvest Food Bank of Mid Tennessee | Chief Operating Officer |
| Elizabeth | Murphy | Nashville Grown | Executive Director |

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| | | | |
|----------|-------------------|--|---|
| Karen | Overton | Wedge Oak Farm | Farmer & Owner |
| Lauren | Palmer | Bloomsbury Farm | Farmer & Co-owner |
| John | Patrick | Middle Tennessee Growers Assoc.; Froggy Hollow Farm | Farmer & Owner |
| William | Paul | Metro Public Health | Director |
| James | Peisker | Porter Road Butcher; PRB Meat Company | Owner |
| Jeff | Poppen | Long Hungry Creek Farm | Farmer & Owner |
| Alan | Powell | Nashville Grown | Operations Manager |
| Renee | Pratt | Social Services | Executive Director |
| Zach | Richardson | Nashville Chew Crew | Farmer & Owner |
| Kristina | Rossi | Long Hungry Creek Farm | Operations Manager |
| Sandy | Scheele | Murfreesboro Schools | Supervisor of School Nutrition |
| Tallu | Schuyler Quinn | Nashville Food Project | Executive Director |
| Loran | Shallenberger | Bells Bend Grassfed | Owner/Farmer |
| Tom | Sharp | Metro Public Health | Director of Policy and Intergovernmental Affairs |
| Tyler | Skelton | Bells Bend Farm | Manager |
| Leslie | Speller Henderson | Tennessee State University | Interim Program Leader |
| Will | Tarleton | Six Boots Farm | Farmer & Owner |
| Spencer | Taylor | Metro Nashville Public Schools | Executive Director, Nutrition Services |
| Michael | Venters | Nashville General Hospital | Director, Food and Nutrition Services |
| Anne | Walker Harrison | Foodshed Nashville | Consultant |
| Tandy | Wilson | City House | Chef |
| Laura | Wilson | Citizen Kitchen | Director & Chef |
| Julius | Witherspoon | Social Services | Planning Analyst |
| Eric | Wooldridge | Bells Bend Farm | Farmer & Owner |
| Matt | Worley | Cul2vate | Farming Trainer |

What is a Food System?

As our consulting team interviewed Nashville food-system leaders, we learned that many residents are unfamiliar with the term “food system.” We define this to be the totality of resources, actors, relationships, and networks that grow, process, and convey food from farms within 150 miles of the city to consumers in that region. This includes clean air and clean water, as well as healthy and fertile soil, knowledge, physical infrastructure, energy, policy makers and technical experts that help make such a system run efficiently.

Since a food system involves such a complex set of relationships, it is difficult to accurately portray a given food system. Any representation is necessarily a simplification, and as such may distort the understanding of essential system dynamics. One simple way our team conceptualizes a “food system” is by showing the interdependence of various actors in food trade. We note first of all that food system activities are cyclical in nature, with the actions occurring in sequence and the organic wastes from one operation helping to build fertility that farmers can use to grow more food in later cycles:

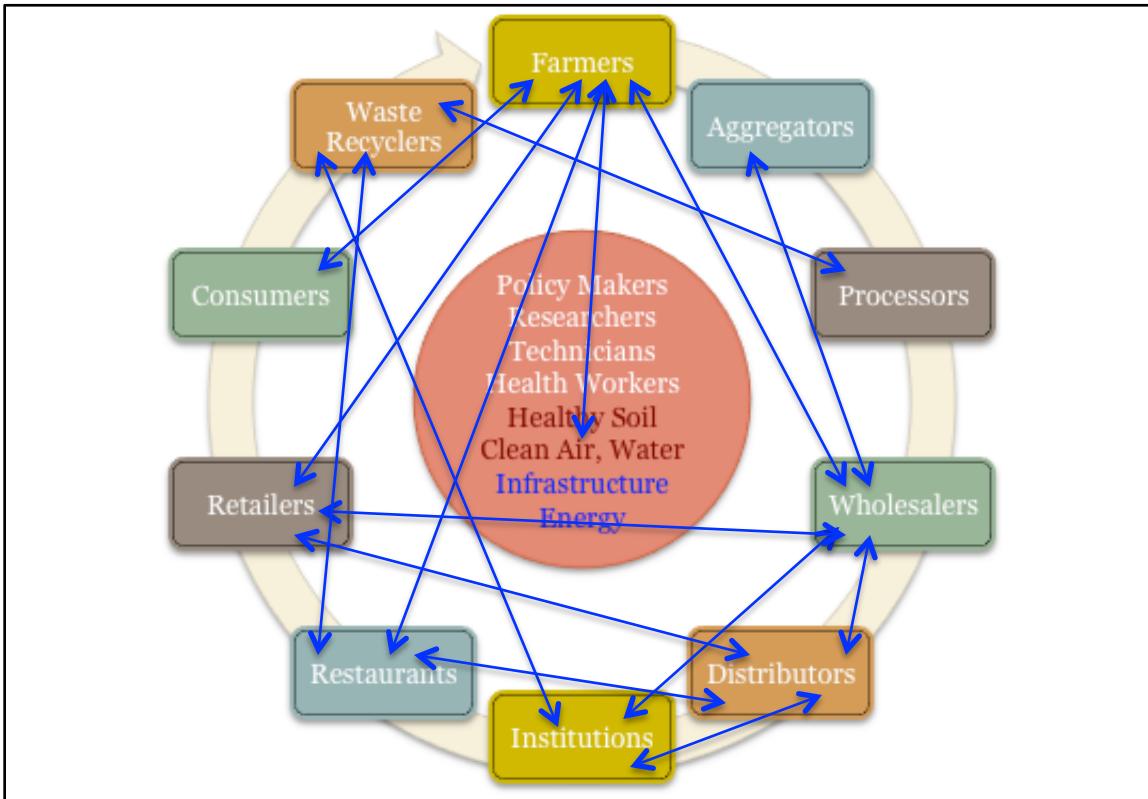
Diagram 1: One Depiction of a Food System



Source: Ken Meter and Megan Phillips Goldenberg (2016). Developed for USDA Agricultural Marketing Service Economic Impacts Toolkit.

Yet as mentioned above, this is a simplification of the actual relationships that are embedded in any food system. In daily operation, food system practitioners interact with each other in far more complex ways, as Diagram 2 below shows:

Diagram 2: Interactions Among Actors in a Food System



Source: Ken Meter and Megan Phillips Goldenberg (2017).

Of course, the above diagram is also an oversimplification of the actual connections that are forged among actors in each food system. As one obvious example, this image does not clearly show the unique contexts or concerns that confront low-income residents. Yet the diagram does show the complexity of interactions that take place. This very complexity means that Metro Nashville food leaders must be careful to include all stakeholders wherever possible, to engage them in thoughtful consideration of alternatives, and to take relatively small steps to build a solid foundation that accounts for how a system will push back against efforts to change it.

The complexity of community food networks also sets the stage for economic development, because strengthening economic multipliers (essentially the number of times a dollar earned in the Nashville region cycles through the metro economy before leaving) depends intimately on the formation and regeneration of social and commercial networks such as these. Simply put, the stronger the social and commercial bonds that cohere in a given community, the greater the economic multiplier will be, since a local product cannot be traded locally unless the buyer and the seller are in contact with each other.

Further, our consulting team would like to make one further distinction that will prove invaluable to Metro Nashville's efforts to strengthen local food trade. While we certainly encourage local farms to connect with local buyers within the 150-mile radius, we note that the term "local food" can be problematic when setting a vision for the Nashville food system. We note first of all that many buyers in the metro region buy from suppliers that are located at some distance, even when more local options are available, because they seek higher quality products, or a more trusted conversation. Many meat

buyers, for example, purchase processing services from butcher shops that reliably deliver custom cuts to the specifications of the buyer and handle the animals with care. Many chefs purchase produce from farms 100 miles away rather than from a nearby farm whose practices they do not consider sustainable enough. Consumers are increasingly asking for organic food, even if it is grown at some distance from Nashville.

We have also seen a tendency for intermediaries to use the phrase “local food” in ways that create favorable impressions among consumers, but do not actually ensure that food trade is based in strong community networks. For example, some restaurants feature “local” food that was sourced from Georgia, Mississippi, or Texas. One wholesaler considers “local” food to be food sourced from within 1,500 miles. One enterprising wholesaler speaks of “sourcing local food” from any location in the U.S. to any other location in the U.S. “within 24 hours,” using air transport.

Most importantly, however, the competitive advantage that “local food” has in a marketplace that efficiently ships fresh food items on a daily basis from Mexico, Chile, and China to U.S. supermarkets, often selling for a lower retail price than nearby farmers require, is the strength of consumer loyalty that farmers have built with buyers. In many cases, farmers striving for sales near their own farms are asking consumers to pay a slightly higher price for food items that are likely to be fresher and from a known source. When cheaper options are available, however, only consumers who place a priority on investing in relationships with local growers (or local processors) are likely to pay the higher prices farmers need. This means that those producers who have built bonds of community loyalty with buyers are those who will hold the competitive edge.

Seeing this dynamic play out in food system after food system across the U.S. has led our consulting team to conclude (for all of the reasons outlined above) that opting to build a “local food system” can be a trap. Rather, we emphasize the need to structure the Nashville vision as one that builds a stronger “community-based food system.”

We define community-based food systems (CBFS) as “networks of farms and food businesses that do business in order to build community health, wealth, connection, and capacity, as well as to sustain themselves financially.”

One prime example of a CBFS is Fifth Season Co-op in Southwest Wisconsin, a group of organic farmers who invited a hospital CEO to sit on their board, who then invited the CEO of a national food distribution firm to sit on the board, and who also invited the co-op workers to join the board. The cluster of businesses manages the supply of products that is grown within the network each year, and sets minimum and maximum prices for each product sold. Value-added products are produced for the hospital and schools to purchase. Fifth Season is profiled in Appendix X.

On a more limited scale, community-based food system activity has been pursued in the Nashville region for decades. Some examples of activities that have occurred, or could occur, include:

- A farmer who donates time to cultivate a one-acre parcel of land inside city limits to raise food to donate to low-income residents.
- A food bank or school that uses forward contracts with farmers to buy “seconds” so farmers have an additional source of income.

- A university or hospital that trains inner-city youth how to grow, prepare, and eat healthier food options.
- A family farm that sells direct to household customers through a farm stand, farmers' market, or CSA (Community Supported Agriculture) subscription.
- A family farm that sells directly to an independently owned grocery whose owner lives in the Nashville region.
- Farmers' co-ops, retail grocery co-ops, or multi-stakeholder co-ops that respond to the needs of member farmers and consumers.
- A grocer that discloses the value of the foods it purchases from each nearby family farm or processor.
- A restaurant that publicizes the value of the foods it purchases from each nearby family farm or processor, and that tells customers which farm raised the foods listed on the menu.
- A wholesaler that preserves the identity of each farm in food shipments so the customer knows the source of each food item, not simply assurance this is a "local" food item.

The more these activities build an intentional spirit of collaboration among Nashville food leaders, and lasting social and commercial networks, the more community-based foods activity thrives.

With these basic definitions spelled out, we move on to summarize the results of our research.

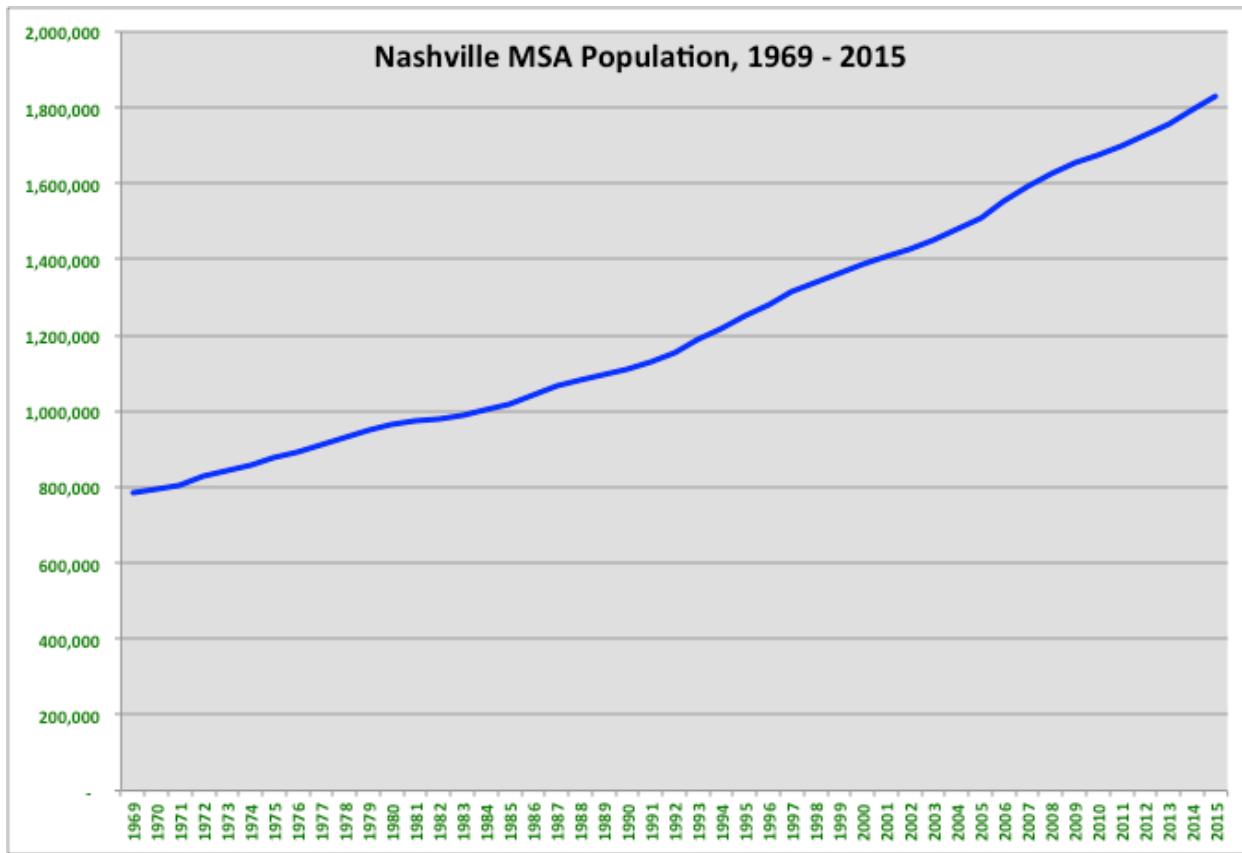
Highlights of Economic Research & Census of Agriculture Data

Data compiled from public data sets covering the Nashville Metropolitan Statistical Area (MSA), including Cannon, Cheatham, Davidson, Dickson, Hickman, Macon, Maury, Robertson, Rutherford, Smith, Sumner, Trousdale, Williamson, & Wilson Counties of Tennessee

The 1,830,345 residents of the Nashville metro area receive \$93 billion of income annually (Bureau of Economic Analysis, 2015). As Chart 2 shows, personal income increased 432% from 1969 to 2015, adjusting for inflation — an average of 9% growth each year.

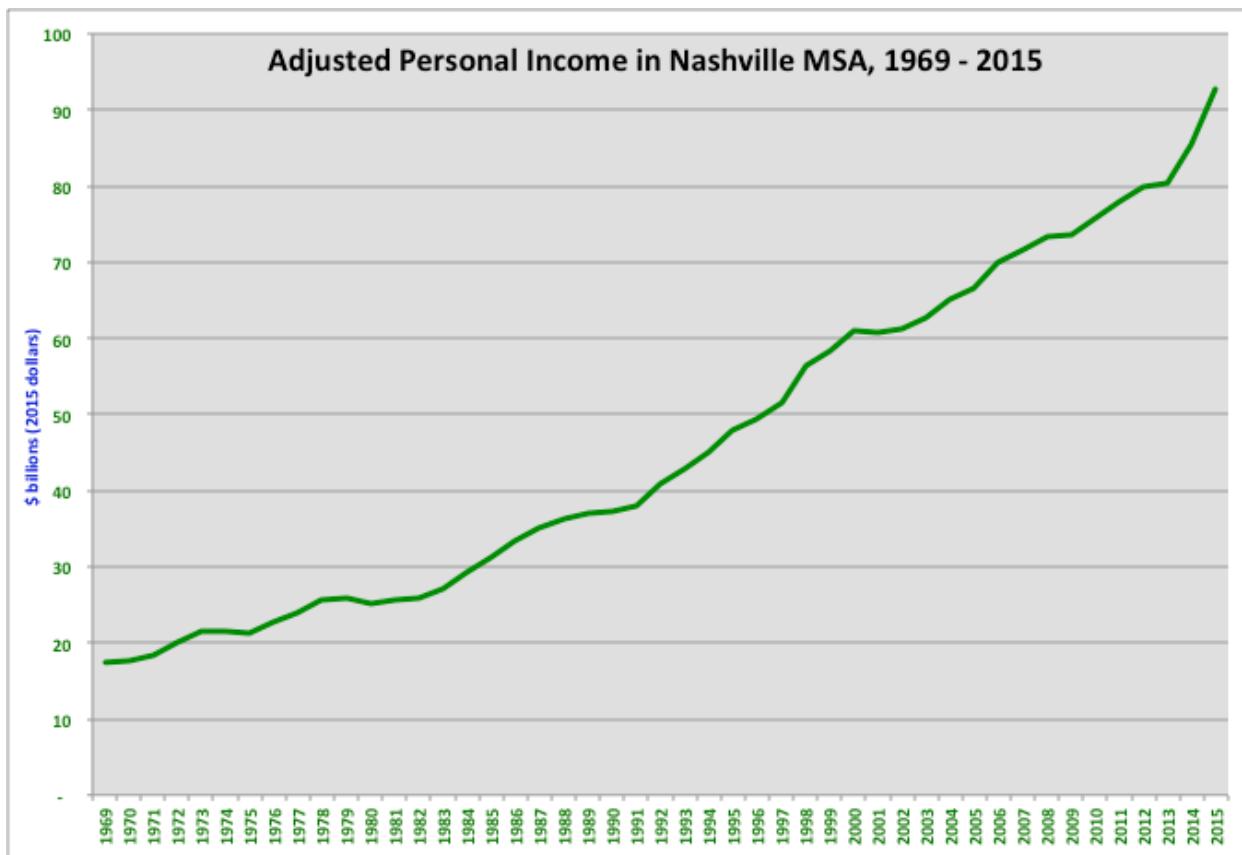
Although the population increased by 133% since 1969 (Bureau of Economic Analysis, 2015) (See Chart 1), there has been limited public planning to assure a secure and stable food supply.

Chart 1: Population in the Nashville MSA, 1969 – 2015



Source: Bureau of Economic Analysis

Chart 2: Adjusted Personal Income in the Nashville MSA, 1969 - 2015



Source: Bureau of Economic Analysis

As shown in Chart 3 below (all data from Bureau of Economic Analysis), the largest source of personal income is employment in health care, with \$16 billion earned. This is also the fastest rising source of income, having grown 167% in only 15 years — more than 10% per year.

Ranking second is transfer payments (from government programs such as pensions), which account for \$13 billion of personal income [see below]. Transfer payments are also rising rapidly, growing 85% since 2001.

Income earned from transfer payments includes:

- \$4.8 billion of retirement and disability insurance benefits;
- \$5.2 billion of medical benefits;
- \$1.3 billion of income maintenance benefits;
- \$77 million of unemployment insurance; and
- \$489 million of veterans' benefits.

Capital income (from interest, rent or dividends) ranks as the third largest personal income source, at \$12 billion. Professional and technical service workers earn another \$7.5 billion. Both have increased since 2001.

Government workers earn \$7.4 billion, making this the fifth largest source of personal income.

Government income includes:

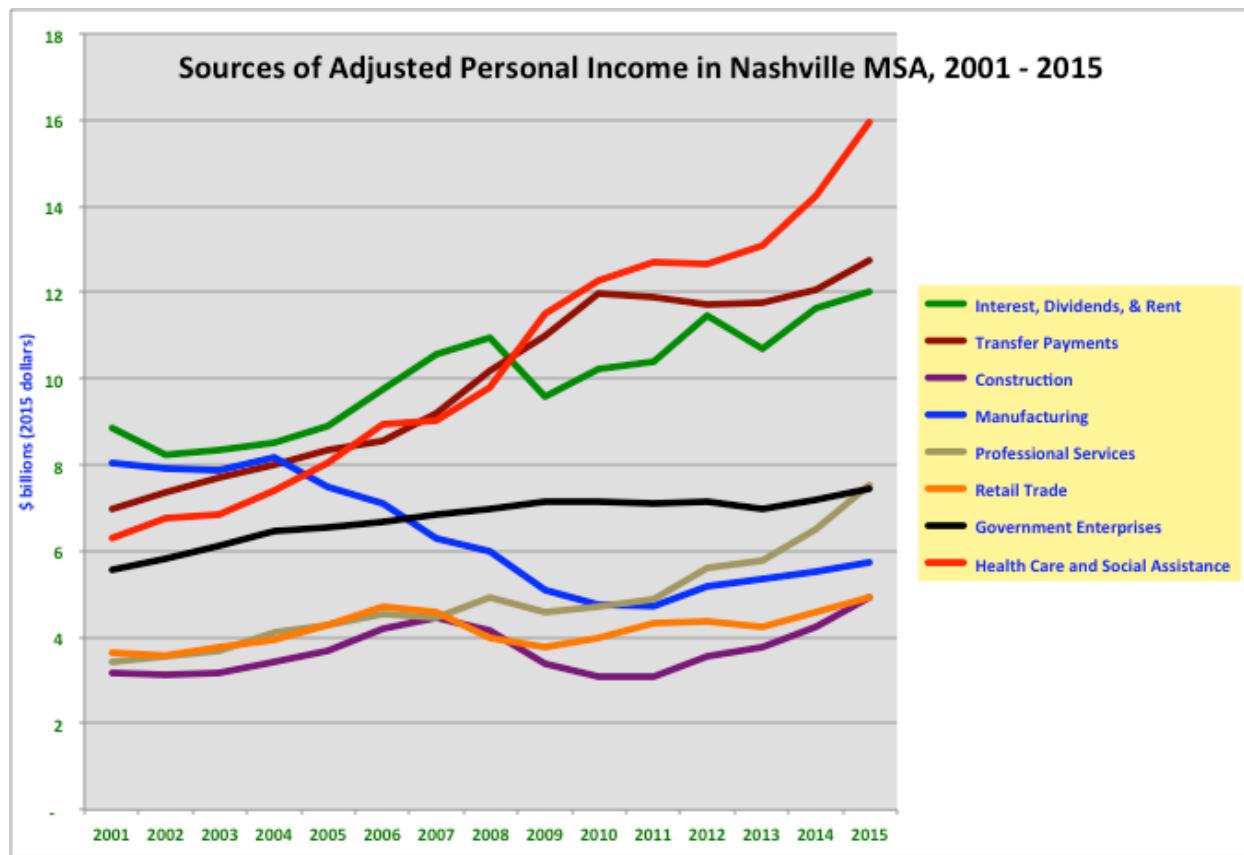
- \$1.4 billion of income earned by federal workers;
- \$5.8 billion earned by state and local government workers; and
- \$208 million earned by military personnel.

Note that income from public sources (combining government worker income with transfer payments) accounts for 26% of all personal income in the region.

However, the former core of the Nashville metro economy, manufacturing jobs produced only \$5.7 billion of personal income, \$2 billion less than in 2001 (in 2015 dollars). Fortunately, manufacturing income has made somewhat of a comeback since falling below \$5 billion in 2011.

Construction workers and retail workers each earn \$4.9 billion. Retail employees earned just slightly less, at \$4.7 billion. Both sources of income have risen slowly in real terms over the past 15 years.

Chart 3: Sources of Adjusted Personal Income in the Nashville MSA, 1969 - 2015



Source: Bureau of Economic Analysis

Employment in Food-Related Industries

While it is not possible to compile a complete record of food related employment in the Nashville MSA since data is not categorized for this purpose, there are enough categories reported in the Federal Census to provide a lower bound for food-related employment. Missing from these data (Table 1, below; Federal Census County Business Patterns) are farmers, farm workers, warehouse or trucking workers who handle exclusively food. All the same, the food sector in the metro area consists of at least 4,300 firms hiring more than 102,000 people who earned at least \$2.1 billion in 2012. The data below have not been adjusted for inflation.

Table 1: Employment in Food-Related Industries in Nashville MSA, 2012

| NAICS Code | Industry | Number of Establishments | Employees | Payroll \$1,000s |
|---------------|-----------------------------|-----------------------------|----------------|---------------------|
| 115 | Support of Agriculture | 22 | 64 | 3,400 |
| 311 | Food manufacturing | 93 | 8,182 | 346,096 |
| 4244 | Grocery & Related Wholesale | 109 | 3,887 | 191,367 |
| 4245 | Farm Product Raw Material | 17 | 218 | 10,490 |
| 4248 | Beer, Wine, & Alcohol | 17 | 976 | 74,517 |
| 42491 | Farm Supplies, Wholesale | 21 | 436 | 20,956 |
| 445 | Food & Beverage Stores | 661 | 15,202 | 341,201 |
| 49312 | Refrigerated Warehousing | 8 | 375 | (D) |
| 722 | Food Services & Drinking | 3,389 | 73,490 | 1,202,082 |
| Total | | 4,337 | 102,830 | 2,190,109 |

Source: Federal Census; County Business Patterns (2012)

Note: (D) means data was suppressed to protect confidentiality

Low-Income Residents of the Nashville MSA Region:

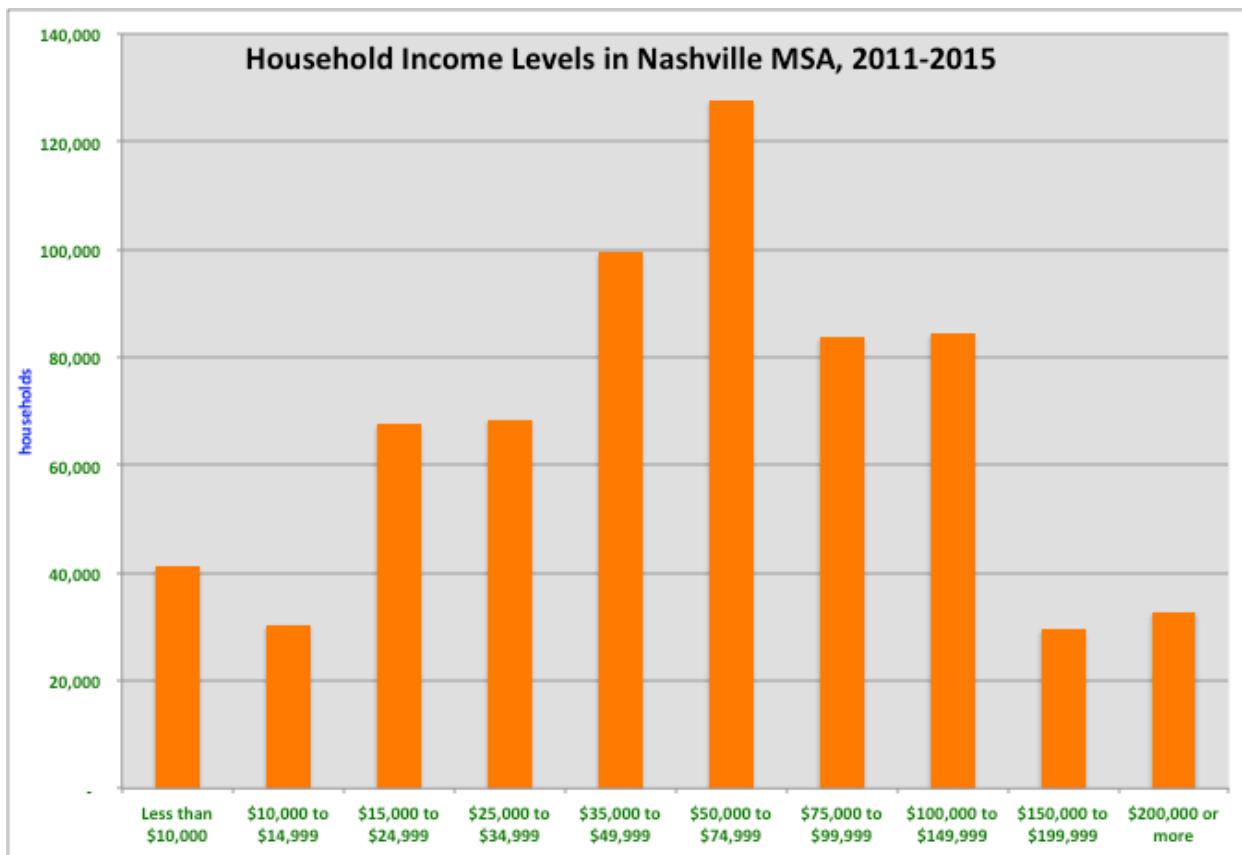
Over 506,000 residents of the 14 counties (29% of the population) earn less than 185% of federal poverty guidelines (Federal Census of 2011-2015). Distribution of these low-income residents is shown on Map 3 below, with the two darker red areas showing regions where at least 60% of the population lives below this threshold. At this level of income, children qualify for free or reduced-price lunch at school.

These lower-income residents spend an estimated \$1 billion each year buying food (estimate by Meter using data from the Bureau of Labor Statistics Consumer Expenditure Survey, and the Federal Census), including \$229 million of SNAP benefits (formerly known as food stamps) (26-year average, 1989-2015 from the Bureau of Economic Analysis; the 2014 total was \$384 million, down from a peak of \$477 million in 2012), and additional WIC coupons.

2,374 of the region's 13,301 farmers (Census of Agriculture, 2012) receive an annual combined total of \$19 million in subsidies (27-year average, 1989-2015; Bureau of Economic Analysis), mostly to raise crops such as corn, tobacco, or soybeans that are sold as commodities, not to feed local residents. Note from Chart 6, below, that while farm subsidies are relatively insignificant to the metro region, SNAP coupons far outweigh net farm income.

6% percent of the region's households (more than 106,000 residents) earn less than \$10,000 per year (Federal Census of 2011-2015), as shown on Chart 4.

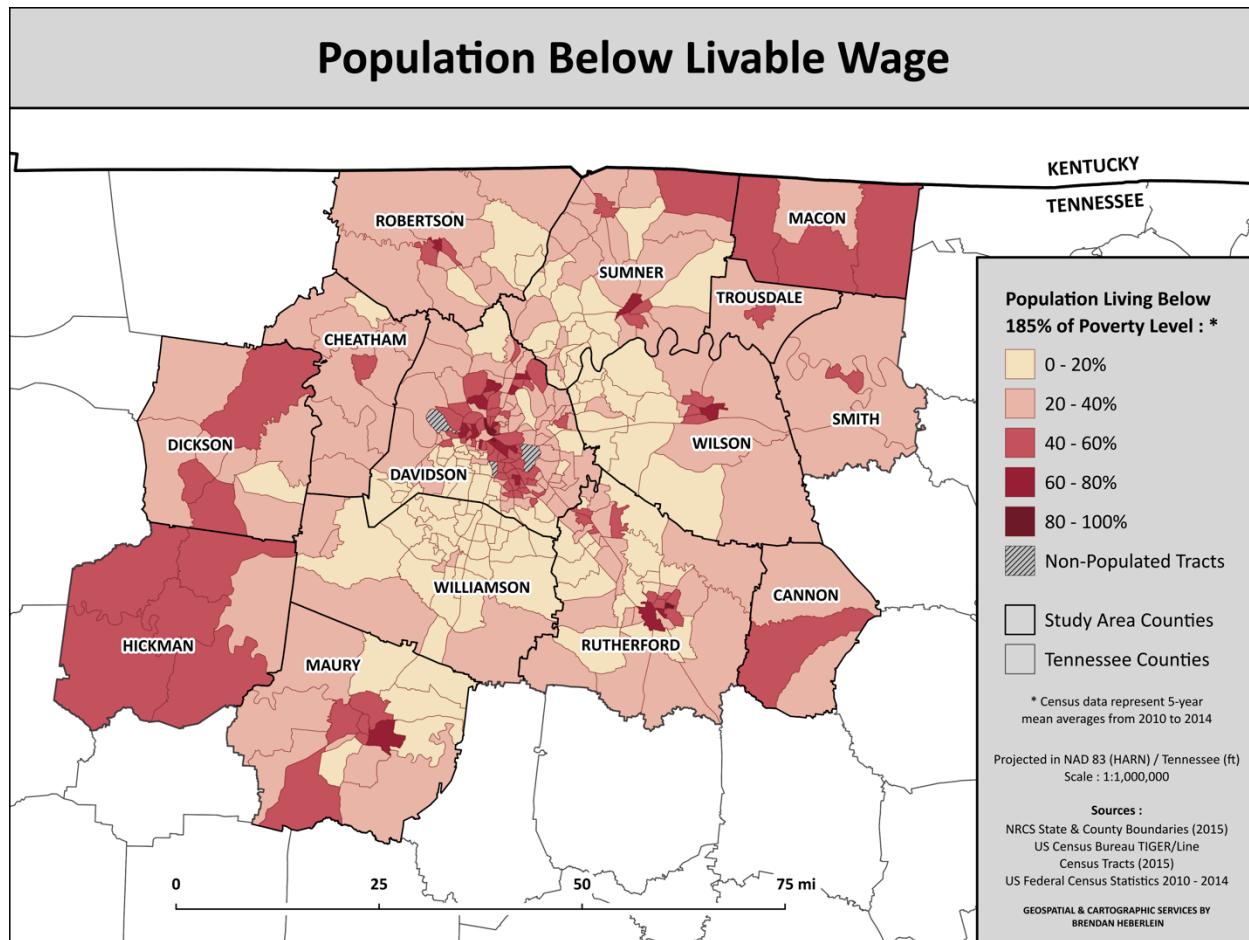
Chart 4: Household Income Levels in Nashville MSA, 2011-2015



Source: Federal Census, 2011-2015

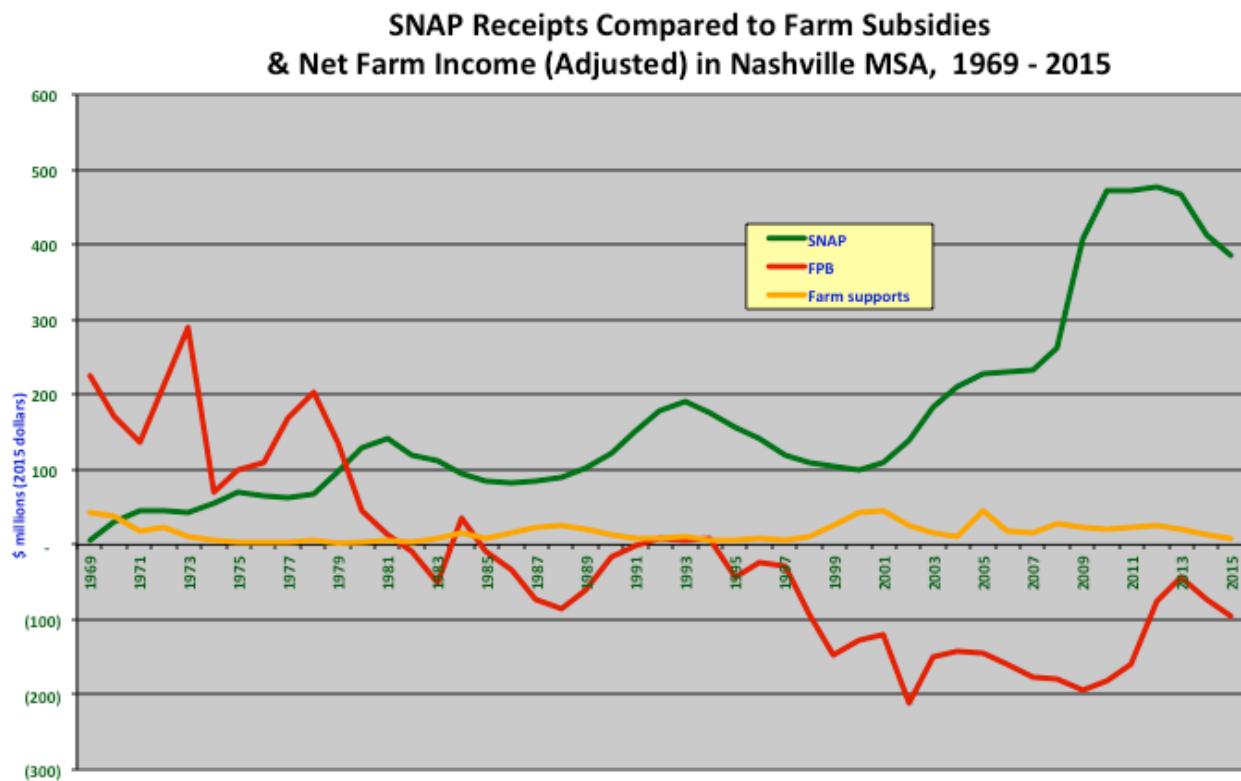
The prevalence of poverty in Nashville affects the ability of residents to pay for health insurance, with 11% of adults aged 18-64 in the Nashville MSA carrying no health care coverage in 2015 (Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance Survey, 2015). For these residents, especially, it will be critical to ensure that the best possible food is made available.

Map 3: Nashville MSA Residents Below a Livable Wage, 2011 – 2015



Source: Federal Census 2011-2015

Chart 6: SNAP Receipts Compared to Farm Subsidies and Net Farm Income (Adjusted), Nashville MSA, 1969 – 2015



Source: Bureau of Economic Analysis

Food-related Health Conditions:

The economic consequences of eating a less than optimal diet, combined with limited exercise, are immense, totaling nearly \$2 billion per year.

The most recent surveys performed by the Department of Health show that 30% of adults and 35% of children in Nashville are overweight or obese. CDC data show even higher levels, with 65% of the Nashville metro area residents recorded as overweight (34%) or obese (31%) in 2015 (Centers for Disease Control and Prevention).

45% of the Nashville MSA residents reported in 2015 that they eat less than one serving of fruit per day. 20% eat less than one serving of vegetables (Centers for Disease Control and Prevention). This is a key indicator of health, since proper fruit and vegetable consumption has been connected to better health outcomes. Many providers recommend consumption of at least five servings of fruit and vegetables each day, while others suggest even higher rates.

Only 43% of Nashville MSA adults reported in 2015 that they participated in 150 minutes or more of aerobic physical activity per week (Centers for Disease Control and Prevention).

9% of Nashville MSA residents have been diagnosed with diabetes as of 2015 (Centers for Disease Control and Prevention). Medical costs for treating diabetes and related conditions in the state are estimated at \$5.1 billion annually (American Diabetes Association). Since the Nashville MSA holds 28% of the state's population, with a strong urban population, perhaps one-third of these costs (\$1.7 billion) are shouldered by Nashville MSA residents.

Farms in the Nashville MSA

Data in this Section is Drawn from the U.S. Census of Agriculture (2012)
Census of Agriculture data for 2012 were released February 4, 2013

The Census of Agriculture defines a “farm” as “an operation that produces, or would normally produce and sell, \$1,000 or more of agricultural products per year.”

There were 13,301 farms in the Nashville MSA in 2012, but the number of farms is declining at a rate of 3% per year. This is a troubling trend when both population and personal income are rising rapidly. This indicates the severe disconnect of the region’s farms from the regional food economy.

Most metro region farms are small, with 40% having less than 50 acres. This mirrors trends in Tennessee as a whole, and indeed the average farm size is 140 acres, with a market value of \$592,000. Both are close to state averages.

Despite its connection to one of the state’s largest population centers, and containing one of every farms in the state, the region only has 17% of the state’s farmland, and produces only 12% of Tennessee’s farm products.

This is largely because Nashville MSA farmers focus on distant markets, largely producing commodities for national or even global markets, rather than producing food for nearby residents. Cattle and calves are by far the most important product, with \$136 million in sales in 2012. Soybeans rank second, with \$74 million in sales. Despite the tobacco buyout program, farmers find tobacco to be a rewarding cash crop, so it ranks third in the region, with \$40 million in sales. Corn ranks fourth at \$32 million. This is shown in Table 2, below.

Table 2: Top Farm Products in Nashville MSA (2012)

| | \$ millions |
|----------------------|-------------|
| Cattle & Calves | 135.5 |
| Soybeans | 73.8 |
| Tobacco | *40.2 |
| Corn | *31.1 |
| Milk & Dairy | *18.0 |
| Wheat | *17.4 |
| Nursery & Greenhouse | *15.7 |
| Poultry & Eggs | *11.4 |
| Other Crops | *9.6 |
| Vegetables & Melons | *2.7 |
| Sheep & Goats | 2.2 |
| Hogs & Pigs | *0.8 |
| Fruits & Nuts | *0.8 |

Source: Census of Agriculture, 2012. Note () that these values underreport actual sales for all products except sheep and goats, since data were suppressed for several counties by USDA in an effort to protect confidentiality.*

Yet local markets for such products are much larger than these sales would indicate. The market for household consumers purchasing meat is \$641 million, nearly five times the sales of beef. Local consumers purchase \$268 million of milk and dairy products, yet Nashville MSA farms sell only \$18 million of these products. Vegetables and fruits show even larger gaps, with consumers purchasing \$502 million, while the region's farmers sell only \$3.5 million.

Five percent of Nashville MSA farmers have taken steps to connect with local consumers, selling a total of \$3.8 million of food products directly to household consumers. This amounts to 0.8% of farm product sales, and 0.08% of the region's consumer market. While these community sales are still small, they represent a critical emerging sector that promises to build greater wealth in the Nashville region by creating robust community food trade, less dependent upon global markets.

Also troubling is the fact that the Nashville region's farmers are deeply dependent on external sources for farm inputs. In the first place, farmers spend about \$97 million more each year in production expenses than they earn by selling their products (Bureau of Economic Analysis, see below). Capital costs, including depreciation and interest payments, total 20% of all production costs. Many of the farm inputs farmers need are sourced outside the metro region. A conservative estimate is that \$250 million is spent each year buying production expenses sourced outside the Nashville region (estimate by Meter based on Census of Agriculture data).

To gain a richer sense of the conditions farmers face in the Nashville area, we look at longer-term trends in agriculture, as expressed in personal income data from the Bureau of Economic Analysis.

BEA data show that farmers in the 14-county metropolitan area face considerable uncertainty even as they focus their efforts on raising products for distant markets. As Chart 7 shows, sales of farm products (orange line) have more than tripled since 1969, to \$490 million in 2015. Yet production expenses (maroon line) have risen even faster, quintupling to \$585 million.

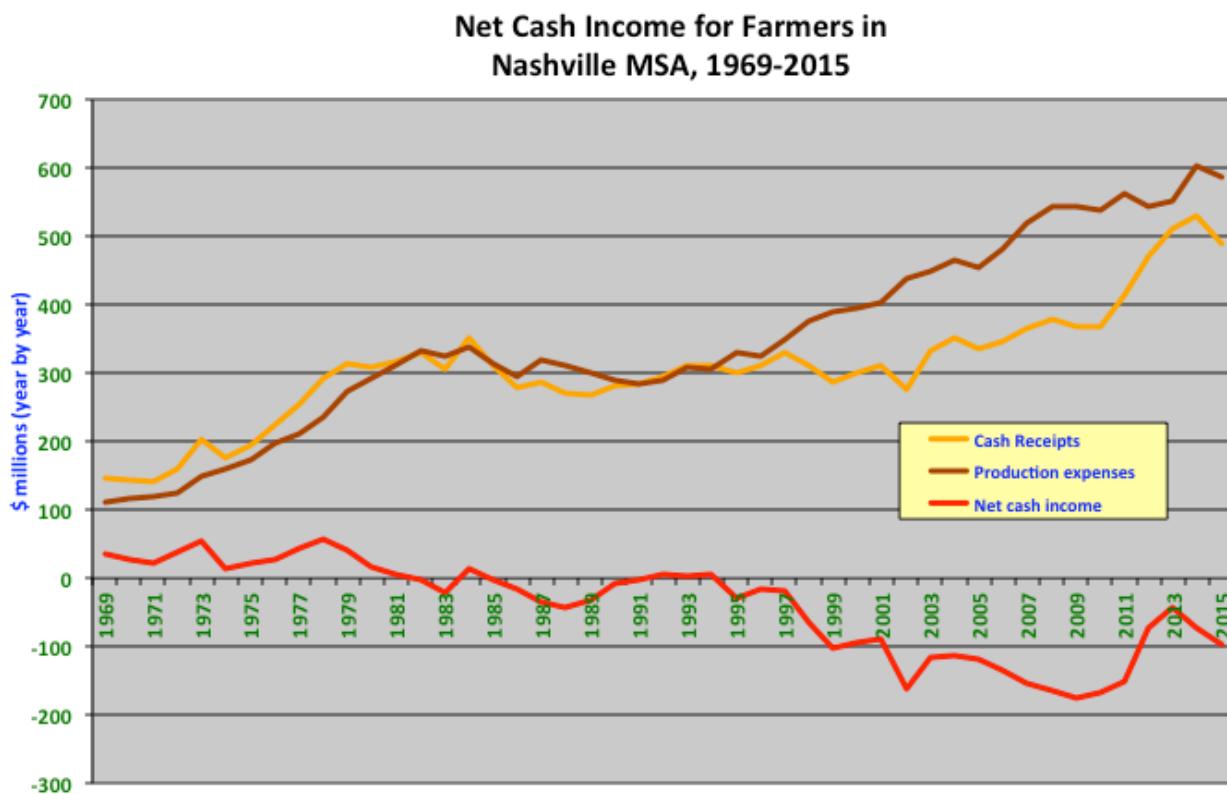
Even more discouraging, expenses began to outpace cash receipts in 1985, and stayed below cash receipts for only three years (1992-1994) since then, when returns were positive but limited to \$6-8 million per year. High grain prices offered Nashville farmers a bit of a respite in 2011-2013, yet net cash income continued to be negative. By 2015, farmers' net loss was \$96 million, or 20% of sales.

Farmers who raise corn, the fourth-largest farm product by sales, lost \$93 per acre planting corn in 2014, USDA data show. Net losses were expected to continue for six more years.¹

¹ USDA ERS: Corn production costs and returns per planted acre, excluding Government payments, 2013-2014. Compiled by ERS from Agricultural Resource Management Survey data.

Chart 7: Net Cash Income for Farmers in Nashville MSA, 1969-2015

Note that these farm income charts reflect mostly conditions for commodity farmers, not farmers selling food to local consumers.

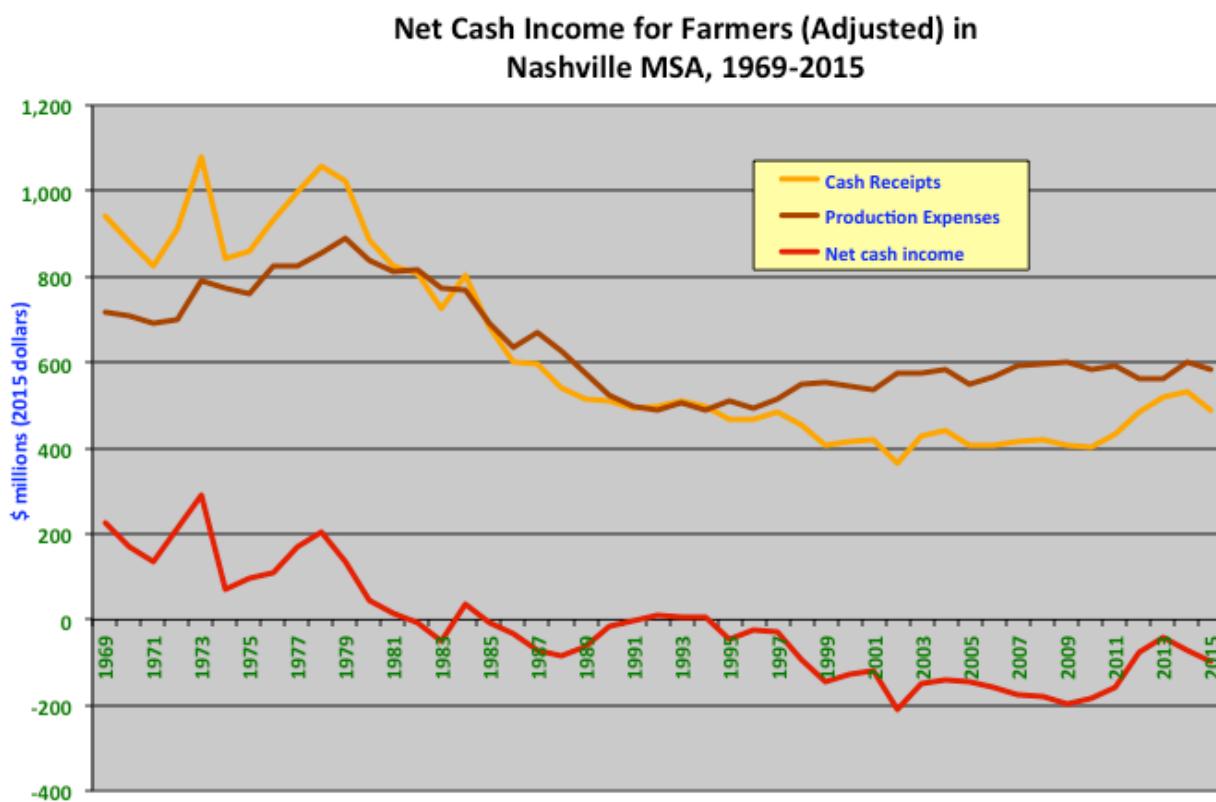


Source: Bureau of Economic Analysis

These data, however, look more austere once adjusted for inflation, as shown on Chart 8 below. In 2015 dollars, the value of cash receipts has actually fallen nearly 50% since 1969. During the same period, production expenses fell only 18% in real terms, but have been rising slowly since 1992. By 2015, net cash income for farmers had declined \$322 million since 1969, a decline of 142%. The current net loss of \$97 million amounts to an average loss of \$7,316 for each Nashville region farm. Net cash income has been low, or negative, each year since 1980. Declines in production costs suggest that the number of farms has also decreased since 1969 as commercial development replaced farmland.

Chart 8: Adjusted Net Cash Income for Farmers in Nashville MSA, 1969-2015

Note that these farm income charts reflect mostly conditions for commodity farmers, not farmers selling food to local consumers.

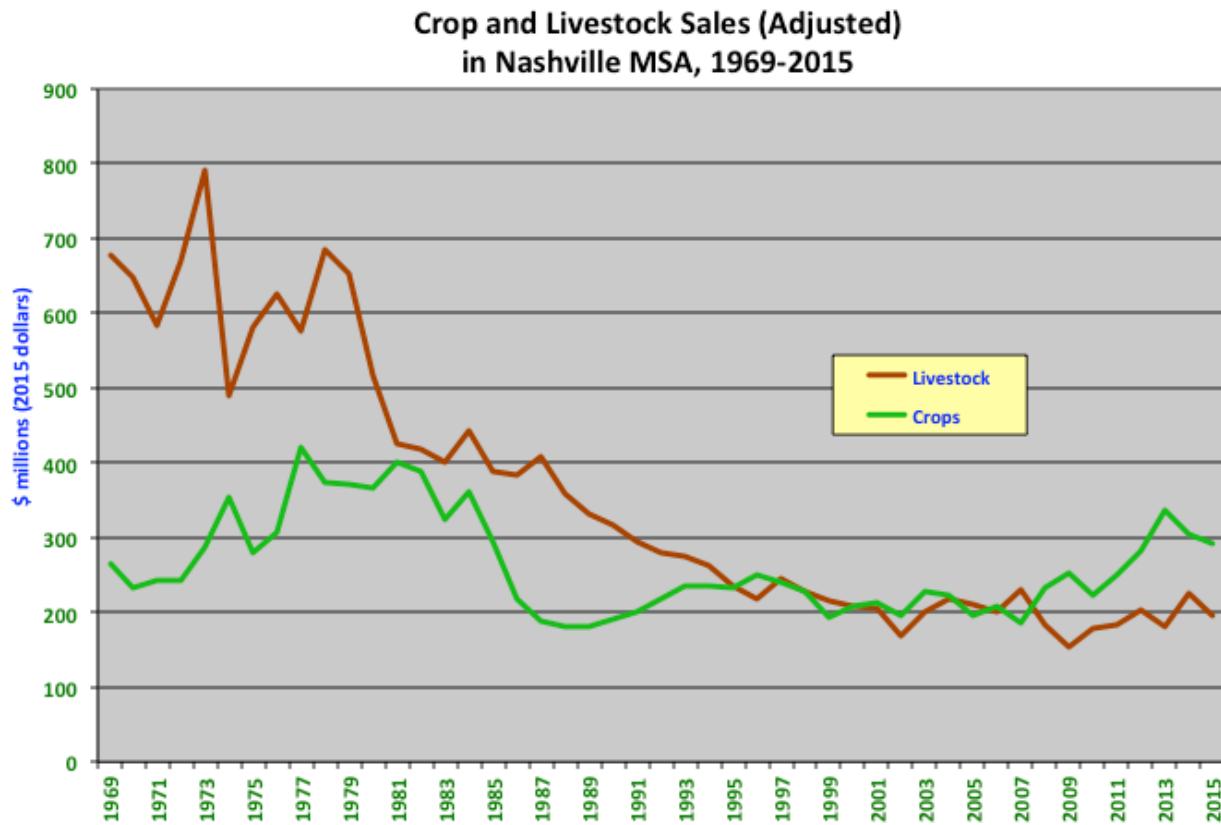


Source: Bureau of Economic Analysis

The following chart breaks down the orange line from the previous chart, showing cash receipts from crops and livestock. This chart shows that crop income is essentially unchanged from 1969, while income from selling livestock and milk has plummeted. This suggests that efforts to rebuild the Nashville food economy will want to include close attention to livestock production.

Chart 9: Adjusted Crop & Livestock Sales by Farmers in Nashville MSA, 1969-2015

Note that these farm income charts reflect mostly conditions for commodity farmers, not farmers selling food to local consumers.



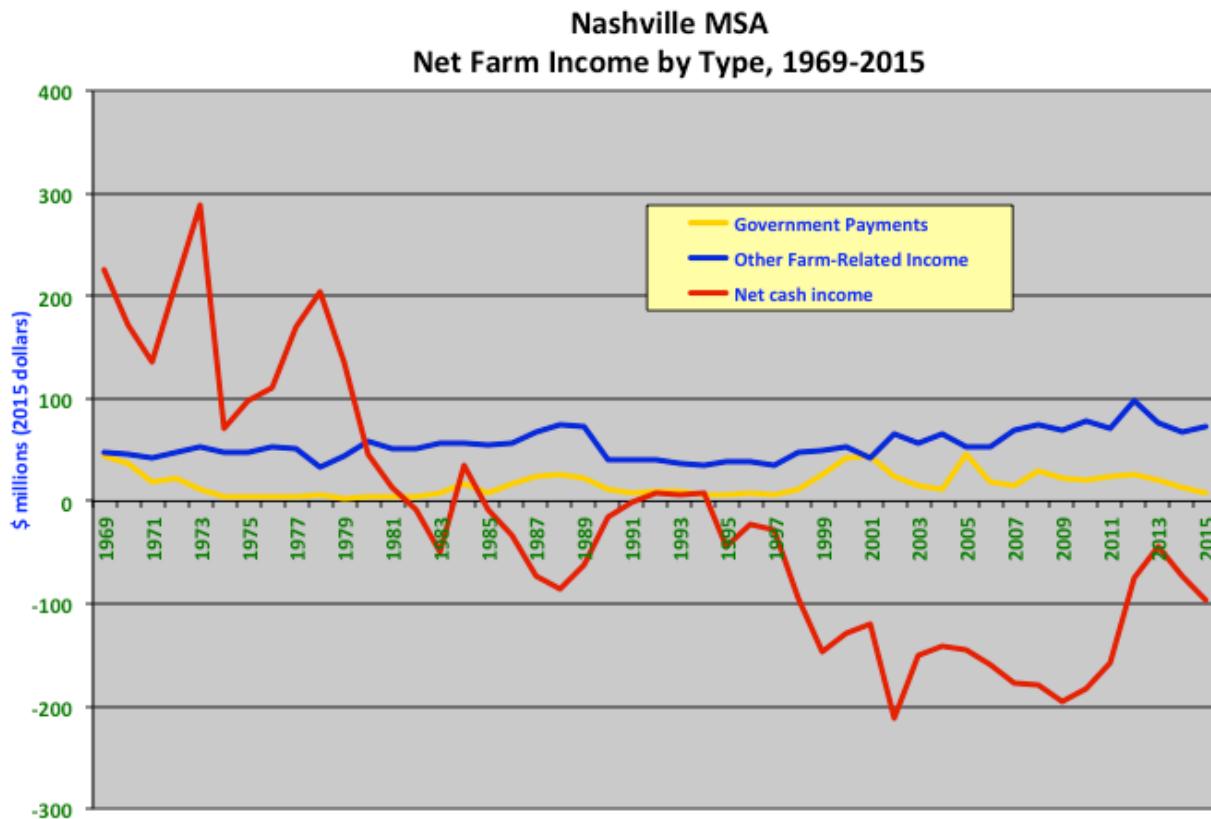
Source: Bureau of Economic Analysis

There are essentially three sources of net farm income for Nashville farmers: raising crops and livestock, renting out land, or collecting government subsidies. The next chart, Chart 10, shows all three of these net income sources. The blue line below shows that the most reliable source of income for farm families is renting out land (“farm-related income,” which also includes performing custom chores for a neighboring farm). As noted above, government programs are relatively small, though still make up the second-most reliable form of net income. What does not pay for itself is farming. This means most farm families rely upon one or more members working off the farm to earn money less tied to the economic cycles that plague farmers, and also to ensure the family has health benefits.

Further, this means that the most economically rewarding strategy an individual landowner can take is to rent or lease their farmland to someone else — who will absorb the risks of actually farming. Yet for the farm sector as a whole, the net loss of farming surpasses the net gains from renting land and collecting government payments.

Chart 10: Sources of Net Income for Farmers in Nashville MSA, 1969-2015

Note that these farm income charts reflect mostly conditions for commodity farmers, not farmers selling food to local consumers.

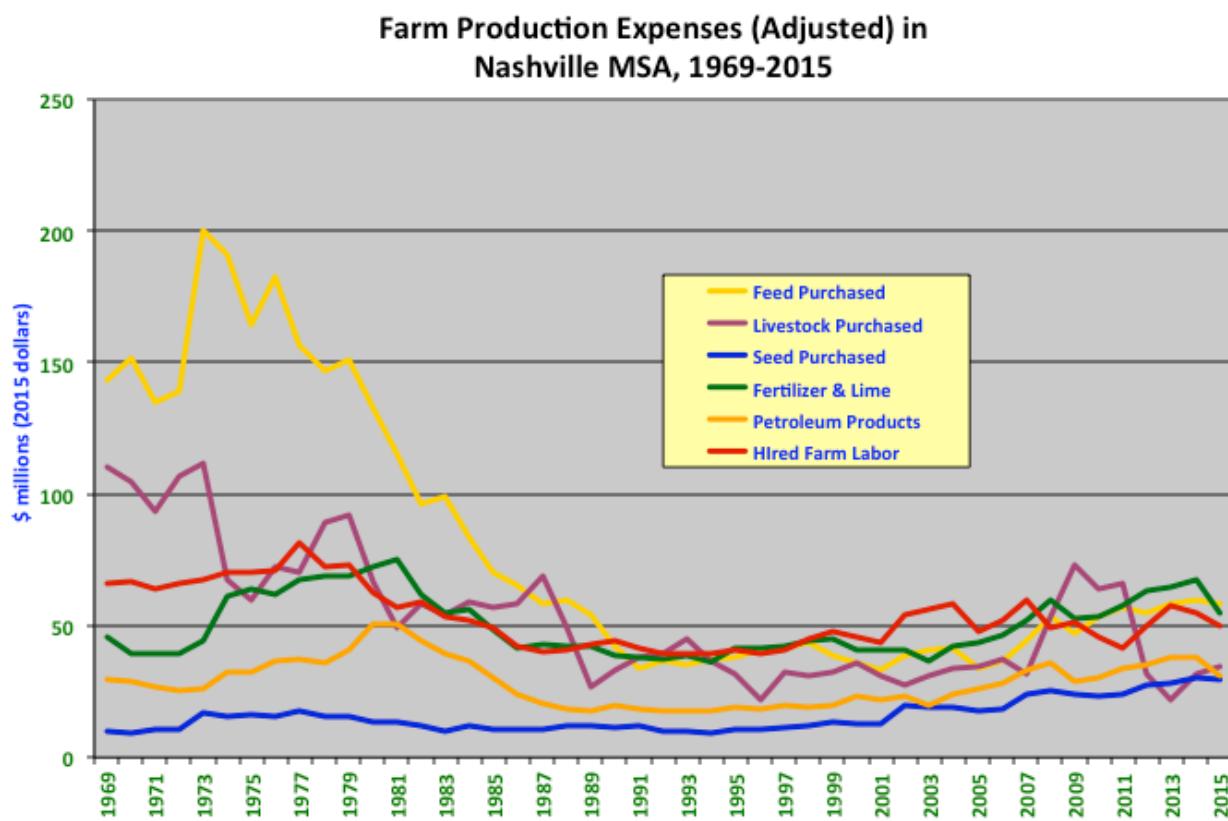


Source: Bureau of Economic Analysis

Finally, Chart 11 shows production expenses (the maroon line on Charts 7 and 8) broken down into component parts. This data confirms what sales data above revealed: feed costs and livestock costs declined as farms abandoned milk and meat production in the 1970s.

Chart 11: Production Expenses for Farmers in Nashville MSA, 1969-2015

Note that these farm income charts reflect mostly conditions for commodity farmers, not farmers selling food to local consumers.



Source: Bureau of Economic Analysis

Yet this chart also hints at another disturbing trend. As farmers have become increasingly dependent upon chemical fertilizers, seeds, and oil products that are manufactured outside of the Nashville region, considerable money is spent purchasing inputs from distant sources. Using Census of Agriculture data, we conservatively estimate that \$250 million of these farm inputs are sourced outside of the Nashville Metro region. This means farmers send considerable operating money out of the region while farming at a significant loss.

Balance of Cash Receipts and Production Costs (BEA):

The 13,301 Nashville MSA farmers sell \$455 million of food products per year (1989-2015 average), spending \$552 million to raise them, for an average loss of \$97 million each year (Bureau of Economic Analysis). This amounts to an average net loss of \$7,316 per farm. *Note that these sales figures compiled by the BEA may differ from cash receipts recorded by the USDA Census of Agriculture (above).*

Overall, farmers spent \$2.6 billion more to produce crops and livestock over the years 1989 to 2015 than they earned from selling these products (Bureau of Economic Analysis). Moreover, production costs exceeded cash receipts for 24 years of that 27-year period. Moreover, 71% of the region's farms reported that they lost money in 2012 (Census of Agriculture), and Metro Nashville farmers earned \$322 million less by selling farm products in 2015 than they earned in 1969 (in 2015 dollars; Bureau of Economic Analysis).

Farmers earn \$57 million per year of farm-related income — primarily custom work, and rental income (27-year average for 1989-2015). This means that for many landowners it is more rewarding to rent out land to others to farm, rather than assume the financial risks of farming. Federal farm support payments are also a more important source of net income than commodity production, averaging \$19 million per year for the region for the same years (Bureau of Economic Analysis).

The Region's Consumers:

See also information covering low-income food consumption and food-related health conditions, page 25 above, and county-by-county summaries of food consumption in Appendix II.

Nashville metro area consumers spend \$4.8 billion buying food each year, including \$2.7 billion for home use. Most of this food is produced outside the region, so Nashville metro consumers spend about \$4.5 billion per year buying food sourced far away.

Table 3: Nashville MSA: markets for food eaten at home (2015):

Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 641 |
| Fruits & vegetables | 502 |
| Cereals and bakery products | 354 |
| Dairy products | 268 |
| “Other,” incl. sweets, fats, & oils | 968 |

Only \$3.8 million of food products (0.8% of farm cash receipts and 0.08% of the region's consumer market) are sold by farmers directly to consumers. This means there is considerable potential market for farmers who wish to sell to household consumers. If Metro Nashville residents purchased \$5 of food each week directly from farmers in the region, this would generate \$476 million of new farm income annually.

Nashville MSA Farm and Food Economy Summary:

Farmers lose \$97 million each year producing food commodities, gain \$19 million from federal subsidies, and spend (conservatively estimated) \$250 million buying inputs sourced outside of the region. Even when farmers make money, these input purchases result in substantial losses to the region as a whole. Overall, farm production creates an outflow of \$330 million from the region.

Meanwhile, consumers spend \$4.5 billion buying food from outside. Thus, total loss to the region is \$4.8 billion of potential wealth *each year*. This loss amounts to more than ten times the value of all food products now raised in the region.

Given these losses, Nashville is very fortunate to have a core of growers who have been working for 40 years to produce food for household consumers and local wholesale markets, along with processors and chefs who make use of these farm products. This emerging farm and food sector offers the brightest possible hope for reversing these losses. In an effort to learn more about farmers who grow for community markets, our team surveyed farmers who engage in local food trade.

Highlights of Farmer Survey

To determine the role of various markets in the local specialty crop industry, assess wholesale readiness among growers, and better evaluate barriers to production expansion, an internet-based survey was developed and executed. A survey invitation was disseminated to the Nashville Farmers Market Association listserv, the Middle TN Growers listserv, the Pick TN database, the Tennessee Association of Farmers Markets, through Facebook and other partner social media platforms, and announced at various meetings. Several follow up reminders were also sent. Fourteen responses were collected between January 19 and February 22, 2017. The low response rate is attributed to survey fatigue and confusion, since the consulting team later discovered that a similar survey regarding food waste was also being disseminated through the same channels.

This sample is not representative of all specialty crop growers in the region, since it was not a randomized sample and the response rate was very low. Thus the findings outlined below apply only to those who responded to the survey. Obviously, those people who are interested in local foods are the most likely to engage with the survey. These biases should be taken into account when interpreting the survey data.

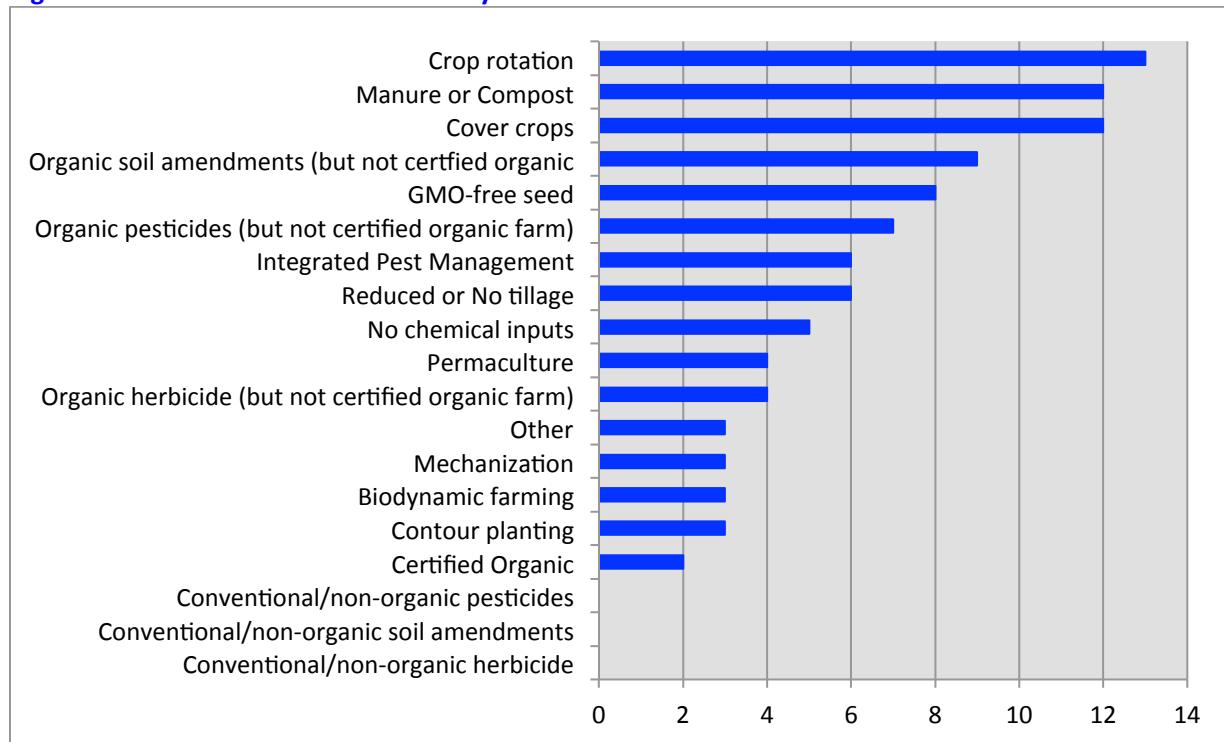
General Information About Survey Respondents

The average survey respondent was the owner and operator of a farm that had been in business for 9 years and has 18 acres in specialty crop production. However, on average, this only represents 27% of the total farm size, which averaged to 128 acres. The actual spread of the survey respondents is quite great, ranging from businesses in operation less than a year to businesses in operation for 45 years. Similarly, the smallest responding farm size was 0.5 acres while the largest is 480 acres. Overall, this survey represents 1,792 farm acres, 251 of which are in specialty crop production.

Production

Respondents raise a variety of crops, mainly vegetables, meats, herbs, and fruits. None of the respondents raise eggs, dairy, or specialty grains. Most producers rely on more “sustainable” farming practices such as crop rotation, manure and compost, and organic inputs, though only 2 (14%) respondents are organic certified. None of the respondents use conventional inputs.

Figure 1: Production Practices of Surveyed Farmers



Marketing and Sales

These products are largely sold through direct-to-consumer channels (namely CSAs and farmers markets). Surprisingly, one respondent is relying entirely on restaurant sales to move product while none of the respondents are relying entirely on farmers markets. Very little institutional sales or other forms of wholesale are being pursued. Despite the lack of current institutional and wholesale sales, most farmers expressed interest in pursuing wholesale channels (8/14, 57%).

| Aggregated Marketing Channels | Average (%) |
|-------------------------------|-------------|
| Direct to Consumer | 75.6 |
| Direct to Retailer | 16.9 |
| Other | 6.2 |
| Direct to Institution | 1.6 |

Food Safety and Wholesale Readiness

Only one respondent is GAP Certified, an essential part of institutional and wholesale sales. Most respondents (10/14, 71%) indicated no participation in any sort of food safety program or certification process, including having a written food safety policy. Similarly, 43% of respondents indicated that they either don't carry product liability insurance at all, or they're not sure. Another 29% of respondents only carry \$1 million in product liability insurance, which typically isn't enough to meet the minimal requirements of larger institutions and distributors.

Expanding Operations

The majority of respondents (72%) wish to expand their farm operations in some way, though their motivations for expanding (Figure 2) and their desired mechanism for expanding (Figure 3) are different.

Figure 2: Motivation for Expanding Farm Operation

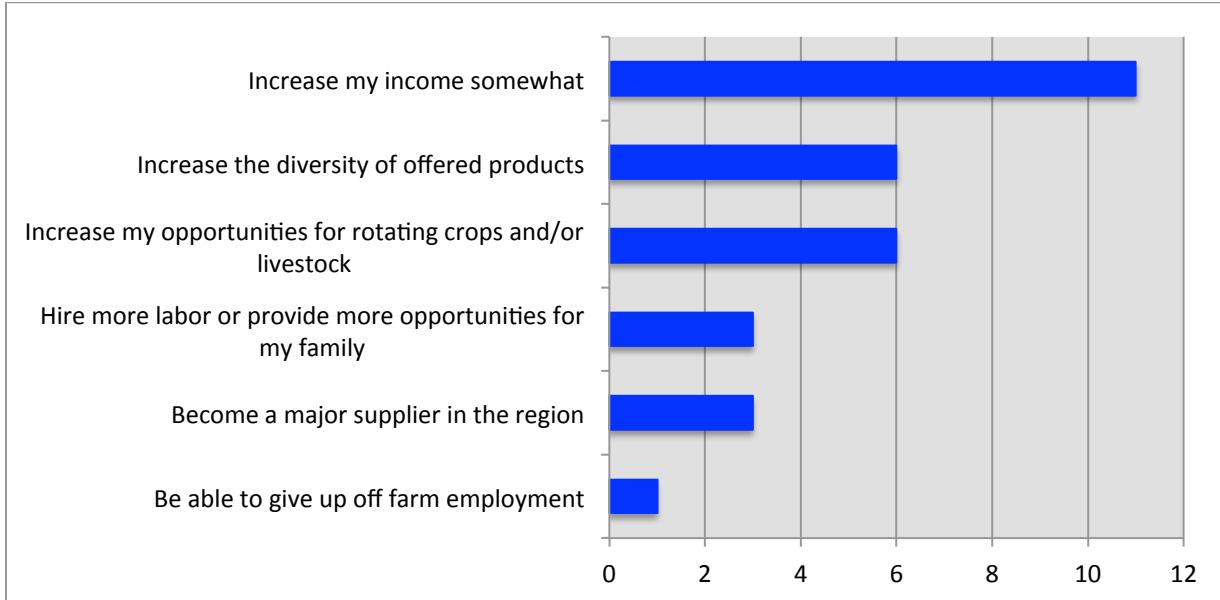
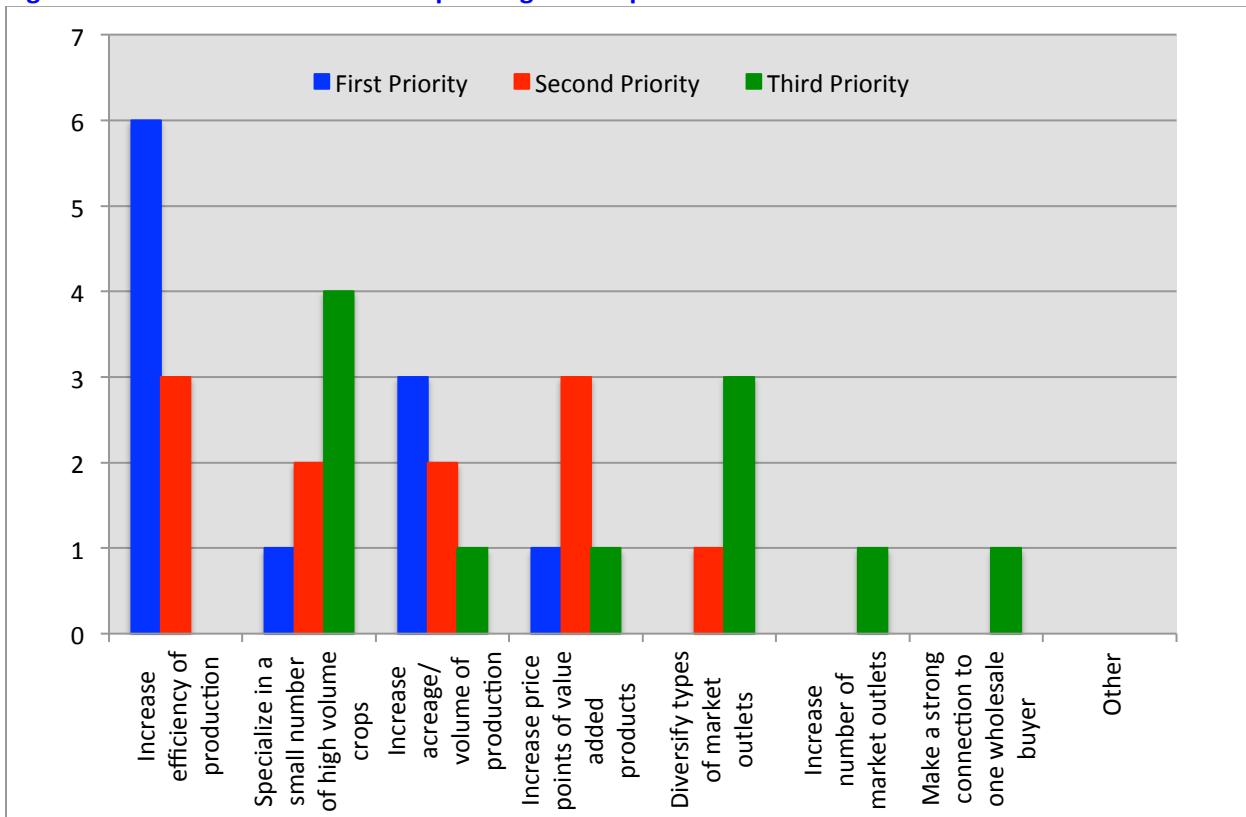


Figure 3: Desired Mechanism for Expanding Farm Operation



Barriers to Expansion

Though there are many market barriers to expanding production and they affect different farm operations differently. Three primary barriers emerged:

- Lack of skilled or motivated labor
- Buyers are unwilling to pay a sustainable market price
- Farms don't have the required food safety certifications

Despite the small sample size, operations responding to the survey were relatively diverse. Yet they largely have the same interests and motivations for expanding production (to increase the efficiency and volume of production) and the same barriers to expansion (a lack of labor and required certifications).

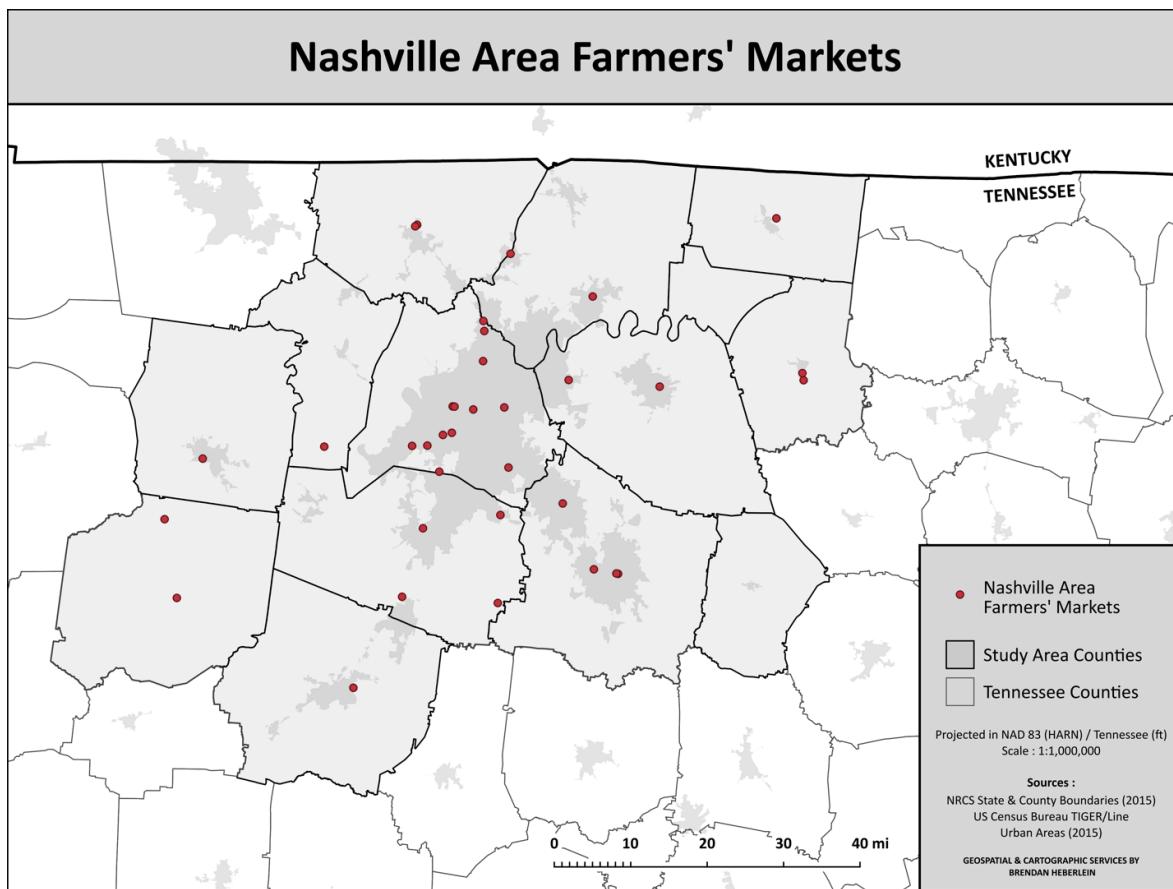
SWOT Analysis and Highlights of Interviews

Key Strengths of the Nashville Metro Region

Farmers

- The City of Nashville is blessed with 108,000 acres of arable land within city limits, and dozens of working farms. Most cities have very little open space such as this with clean, fertile soil.
- The broader Nashville region has 13,301 farmers.
- Farmers in Nashville generally have access to rainfall or irrigation, although both drought and flooding have plagued farms in recent years.
- The Metro Park Board has set aside 450 acres of land at several sites across the city for commercial food production.
- The Nashville Farmers' Market is a solid destination point that attracts customers through year-round farmers market sales on Saturdays and Wednesdays, a daily food court, and special events. It recently changed its policies to become a producer-only market.
- The Franklin Farmers Market has become one of the most lucrative markets for farmers since it opened in 2002. Franklin Farmers Market operates year-round on Saturdays and is also a producer-only market.
- The Nashville region has a total of 35 USDA-registered farmers markets.
- Farmers within the 150-mile radius have created effective educational experiences for themselves, including:
 - Informal sharing of farm experiences, farm planning, and soil building
 - Annual conferences (Tennessee Local Food Summit; Mid-Tennessee Growers Association; PickTN; Women's farming conference; commodity organizations; Farm Bureau Federation; TSU's Urban Agriculture conference; and more)
 - Significant farmer training programs (TSU's farm incubator; TSU's agricultural course work; Cul2vate, mutual self-help training among Bell's Bend farmers; informal farmer-to-farmer training; grazers' groups; and more)
 - Hiring paid consultants to help farm planning, soil building, fertility enhancement, and more.

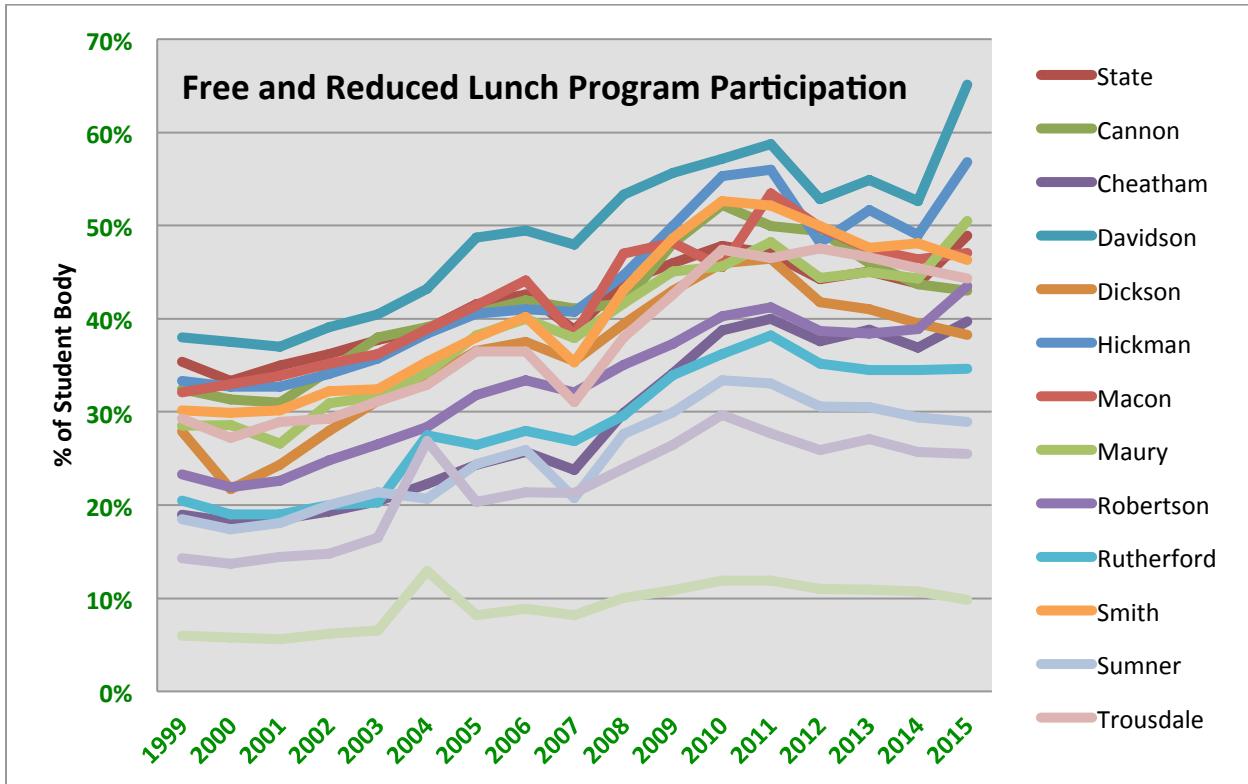
Map 4: Nashville Area Farmers' Markets



Source: USDA Agricultural Marketing Service

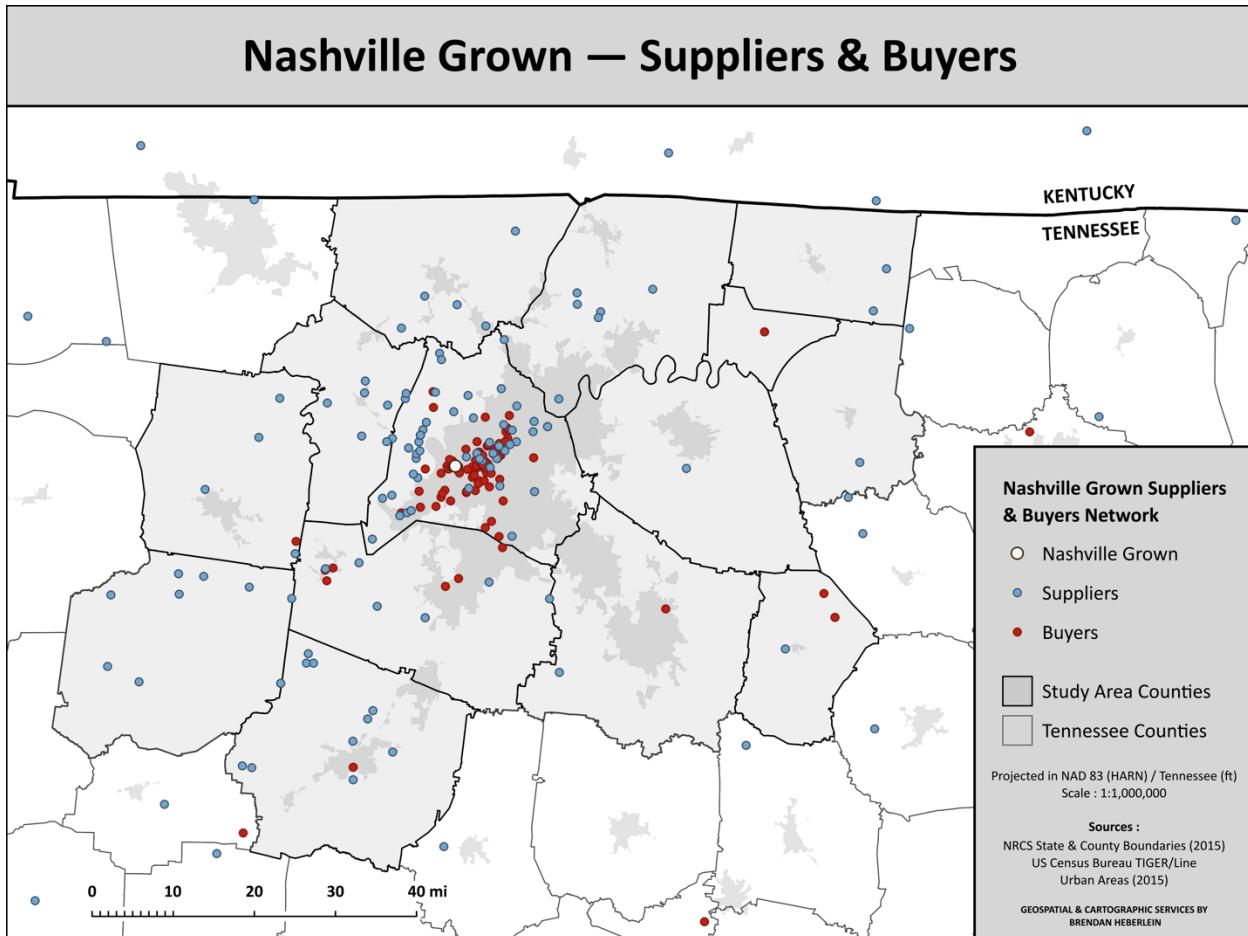
- Farmers offer considerable mutual assistance to each other (work exchanges; comparing notes on marketing strategies; sharing equipment; sharing distribution; and more).
- Many farmers of means have built washing, packing, and cold storage facilities on their farms. In many cases, neighboring farms share some of this space.
- Most farms raising food for Nashville consumers have established supportive commercial and social networks around their farm business (through CSAs; by cultivating loyalty from consumers at farmers markets; by collaborating with a wholesaler like Nashville Grown; through crowd-sourced funding; and more).
- Landowners, farmers, and investors have leased, loaned, or donated land (or loaned money) to beginning farmers.
- Metro Nashville Public Schools operates 47 school gardens.
- Murfreesboro City School District has a robust farm-to-school program including 10 school gardens and 7 greenhouses.

Figure 4: Free and Reduced Lunch Program Participation in Nashville Area Schools



Aggregators

- Nashville Grown works with about 200 farms and about 200 buyers, mostly restaurants, and reports rapid growth in demand, with \$20,000 of sales in January, 2017 alone.
- Nashville Grown has hired an Executive Director, Elizabeth Murphy, who seems to be poised to expand the operational reach of the firm.
- Farmers report having positive experiences with Nashville Grown, but note that the firm's capacity is limited.
- Since Nashville Grown is located at the same building as Citizen Kitchens, considerable synergy has been achieved. As one example, value-added processors working in Citizen Kitchens can purchase from Nashville Grown by walking into the cooler and simply noting on an inventory sheet what they used to Nashville Grown. This creates considerable operating efficiency.



- McCartney Produce is independently owned and operated out of Paris, TN, within 150 miles of the Nashville Farmers' Market, but outside the 14 -county MSA region. MNPS orders regional fresh fruits and vegetables through McCartney, their prime produce vendor. McCartney defines "local produce" more broadly than others in this study, including Arkansas, Tennessee, Mississippi, Illinois, and Indiana in their offerings, yet they do include the name of the originating farm in their materials.

Processors

- Citizen Kitchens has created an incubator where 28 food businesses share commercial kitchen space to produce value-added products. A complete list is found in Appendix IV. This incubator allows businesses to launch with as little as \$500 in startup costs, so it significantly lowers the barriers to entry.
- The food businesses that ply their trade at Citizen Kitchens sold \$1.5 million of food and services in 2016, and employed 45 Nashvillians. They also distributed more than \$300,000 of local farm products.
- Citizen Kitchens has identified an investor and plans to expand to a new facility in East Nashville.
- Green Door Gourmet is building a commercial kitchen at the farm.
- Second Harvest Food Bank processes tomatoes and green beans into food items that can be sold or donated to low-income residents.
- Other food vendors propose building produce-processing facilities in Nashville.

- Porter Road Meats (Princeton, Kentucky) processes meats from three key farms serving the Nashville market (KLD Farms; Tennessee Grass-Fed Beef; and Bells Bend Grassfed).
- The same firm runs Porter Road Butchers in East Nashville.
- Porter Road Meats says it has surplus capacity and wants to ramp up processing to serve institutional markets.
- Taylor Farms holds considerable capacity to process produce at a fairly large commercial scale, shredding 125,000 pounds of cabbage a day at its Nashville facility.

Wholesalers & Distributors

- Wholesalers and distributors operating in the Nashville market include McCartney Produce, Taylor Farms, Creation Gardens, MidSouth Produce, Williams Produce, A&B Distribution, Southern Natural Foods, Aramark, Fresh Pointe (Sysco), J.D. Fish Guy, Chris & Kelley, and more.
- Our interviews indicated that these wholesalers are waiting for Nashville area farmers to ramp up production, meet food safety standards, and purchase liability insurance before they will be considered vendors.

Institutions

- Metro public agencies, including schools, the general hospital, social service programs and the jail, purchase \$20 million to \$30 million worth of food each year.
- Metro Nashville Public Schools alone purchased \$17-20 million of food in 2015-2016.
- MNPS's Nutrition Services Department serves more than 8.4 million lunches and 4 million breakfasts during the school year.
- From May 2016 through January 2017, MNPS purchased 1,072 quarts of strawberries for \$3,752 (\$3.50/qt) from Green Door Farms in Nashville, and 21 cases of Braeburn apples worth \$447 (\$21.28 per case) from Oren Wooden's Orchard in Bledsoe County, Tennessee.
- During the same time period, Metro Nashville Public Schools also purchased 78,160 pounds of ground beef (with 52,560 pounds purchased from wholesalers, and 25,600 pounds of USDA commodity beef).
- A local distributor, McCartney Produce, supplied Metro Nashville Public Schools with the following quantities of fresh produce, procured regionally (Tennessee, Mississippi, Arkansas, Indiana, Illinois) from May 2016 through January 2017:
 - 2,810 pounds of #1 Green Peppers for \$2,152 (\$0.76/lb)
 - 200 pounds of 5 x 6 Tomatoes for \$174 (\$0.87/lb)
 - 775 pounds of 6 x 7 Tomatoes for \$478 (\$0.62/lb)
 - 3,710 pounds of Tomatoes, varied sizes, for \$2,816 (\$0.76/lb)
 - 4,080 pounds of Bulk Sweet Potatoes for \$1,533 (\$0.38/lb)
- Total fresh food purchases from McCartney Produce amounted to 703 cases for \$7,153.
- In 2012, MNPS received the School Dieticians Association Best Practice Award from the United States Department of Agriculture for "Translating the Menu to Achieve Healthier Food Choices."
- In 2013, MNPS received a Second Place award in the Produce Culinary competition held by the Tennessee State Department of Nutrition at its state conference.
- In 2014, MNPS received a Best Practice Award from the United States Department of Agriculture for Promoting a Healthy School Environment.
- Tennessee Department of Agriculture helps facilitate local food purchasing by schools through farm-to-school coordinator Rachel Head.
- A USDA Farm-to-School Ag Census survey of Tennessee school districts showed that 9 of 17 middle Tennessee school districts have purchased foods "locally," though definitions of "local"

vary from school to school. Local food expenditures are estimated at \$3.5 million. However neither MNPS nor Murfreesboro City responded to the USDA survey.

- A more recent (2016) survey sent out by the Tennessee Department of Education's farm-to-school coordinator shows that 14 schools in the 14-county area have purchased foods they consider local, and all say they would purchase more in the future. Two schools have cooked using food grown on school grounds (Results of the survey were released to consultants prior to its public release. Not all schools in the metro area responded).
- Two school districts, Murfreesboro and Antioch, have reportedly expressed interest in sourcing more food from neighboring farms. Currently Murfreesboro City and MNPS source local foods mostly through their distributors. MNPS has procured some produce directly from nearby farms.
- Metropolitan Nashville Public School District is Tennessee's second largest school district, with 158 schools and 84,863 students.
- Offering a comprehensive farm-to-cafeteria program in the schools, including curricula materials centered on food, local food purchasing, and gardening training is an effective way to reach low-income residents since three of every four students attending MNPS are considered low-income.
- Murfreesboro City School District sought to increase student access to fresh produce through a farm-to-school program. This has led to including geographic preference language in their produce bids, school gardens and greenhouses, and farm field trips for all third grades. Their district goals include more on school grounds crop production and to work directly with farmers.
- Nashville General Hospital is currently rebuilding their kitchen facilities and menus to accommodate more scratch cooking and locally sourced, fresh produce.

Restaurants

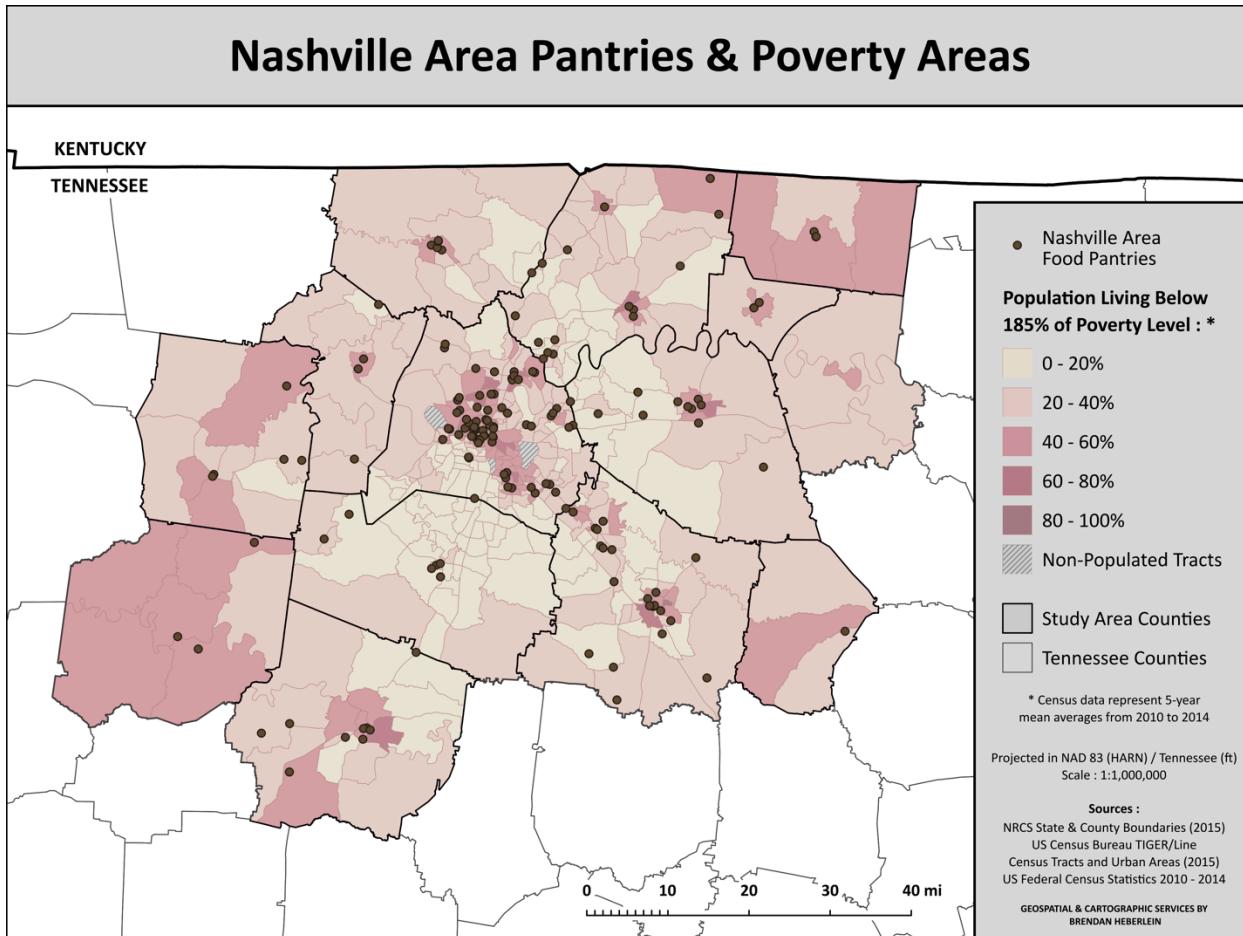
- Hundreds of new restaurants have opened up in Nashville over the past few years, with many calling themselves "farm-to-table" restaurants.
- Several world-class chefs have opened restaurants in Nashville.
- Nashville is widely recognized as a good food town.
- Several restaurants, such as Margot's, Marche, Sloco, City House, Rolf & Daughters, Bastion, and others have developed close connections with a small number of growers who are regularly featured on menus.

Retailers

- Whole Foods Market in Green Hills purchases selected items from Nashville area farms.
- 20 members have joined the Nashville Co-op, a proposed cooperative grocery store that envisions opening a storefront in the West End.
- The Turnip Truck is focused on buying responsibly farmed, local, and sustainable produce, meat, and seafood whenever possible. The firm won the 2016 Retailer Of The Year For Innovation.
- Tony's Foodland has expressed strong interest in sourcing food from nearby farms.
- Although we were not able to speak with them directly, our team was told that the Produce Place and Hendersonville Produce Market also carry food from local farms.

Consumers

- Consumers in Davidson County purchase an estimated \$1.7 billion of food each year.
- Consumers in the Nashville MSA purchase an estimated \$4.8 billion of food each year.



Waste Recyclers

- Nashville has one commercial-scale firm, the Compost Company, composting organic matter (primarily leaves).
- A smaller firm, Compost Nashville, also makes compost on a smaller scale, and collaborates with the Compost Company.

Low-income Communities

- Recent immigrants often hold considerable skill in gardening or farming, but may have no place to exercise these skills in an ongoing manner.
- Low-income neighborhoods often have considerable open land.
- Several organizations offer gardening or farming training to low-income residents:
 - Nashville Food Project
 - Trevecca Nazarene College
 - Cul2vate
 - Tennessee State University
 - Second Harvest Food Bank of Mid-Tennessee

While we did not have an opportunity to experience any of these trainings in low-income communities, all were recommended by Nashville food leaders. By focusing on building capacities with low-income residents, each holds potential for expanding food access. Further, awareness built by raising food

appears likely to carry over into better patterns of buying, preparing, and eating food, so these training initiatives appear to be the essential investment in creating a culture of health and self-determination.

The Nashville Food Project produces regular summaries of its impacts. In 2016, NFP raised 6,500 pounds of produce on its production gardens, which are approximately 0.25 acre in combined size. On separate market gardens, 9 low-income growers earned a combined \$7,000 of supplemental income on about half of an acre of land.

NFP also recovered 120,434 pounds of food, holding a value of \$361,302. Teams of volunteers prepared these food items as meals that were delivered and served to disadvantaged residents at 25 sites (See Appendix IV for a complete list — Source: Nashville Food Project).

Several organizations offer training in food preparation and healthy eating to lower-income residents:

- Nashville Food Project
- Second Harvest Food Bank of Mid-Tennessee
- Tennessee State University

Other Important Assets

- Researchers at Tennessee State University, Vanderbilt, and University of Tennessee perform research and conduct trainings that are useful for Nashville area growers.

Key Weaknesses

Significant Economic Leakage

Nashville consumers spend approximately \$4.5 billion each year purchasing food that was sourced outside of the Metro area. Moreover, food-related illnesses appear to cost Nashville residents about \$1.7 billion per year. Farmers have spent \$97 million more raising crops and livestock each year since 1989 than they have earned selling these products (adjusted for inflation). Moreover, farmers spend a conservatively estimated \$250 million each year for production expenses that are sourced outside the region.

Adding these costs together, the region leaks more than \$6.5 billion each year. Investing in infrastructure that will keep these dollars in the region is a critical investment for Metro Nashville to make.

Lack of Coordination Among Local Food Leaders

Most all of our interviewees lamented the fact that a relatively tight-knit group of food leaders in Nashville know each other well, see each other fairly often at events, and like each other's overall direction, yet seldom coordinate as effectively as would be needed to sustain an efficient community food system over the long-term. This results in miscommunication, potential conflicts, and duplication of effort. Our analysis is that it is crucial for Nashville food leaders to break down the silos that keep them from coordinating efforts. Metro Nashville is well placed to take the lead in fostering collaboration.

Saturation in Farmers Markets

With 35 USDA-registered farmers' markets in the Nashville MSA, there are ample opportunities for Nashville consumers to meet producers first hand and to buy food directly from them. Yet several farmers cautioned that the market is over-supplied, a phenomenon being observed across the county. Too many farmers spend long hours for little return at smaller farmers markets scattered across the region. Only 46% of survey respondents indicated that the farmers' markets were a primary or

secondary source of income for their farm business, while others indicated that the markets are largely a marketing (15%) or social endeavor (8%), or play no significant role (31%). While emerging farmers depend on the visibility that these farmers markets provide, without demanding a large initial investment, more established farmers often feel they would rather solicit CSA members, or build stable wholesale accounts. This is considered an indicator of a maturing local food system. Nashville should be very cautious about adding any new farmers' markets at this time unless farmers are clearly interested, and a solid customer base is present.

"Farm-to-Table" is Overstated

As Chef Jeremy Barlow pointed out in a 2016 interview, "We've gotten [to] this point where every restaurant that opens claims they're farm-to-table regardless of whether they're doing it or not."² Most every farmer we interviewed made similar comments. One farmer complained that a restaurant had featured their farm, including hanging a farm photo on the wall, yet had not purchased any food items for three years. Others noted that their farm was mentioned on the menu, but only a small number of items were being purchased.

Locally Raised Food is Seldom Accessible to Low-income Residents

The high-quality foods that Nashville area farmers sell to more prosperous consumers are seldom affordable to low-income residents, typically because low-income people have limited spending power. Several dedicated organizations have found effective ways to make these foods available to those with limited means. Often this involves donations of purchased produce, or reuse of surplus or second-quality produce (fresh with high nutritional content but not physically appealing for commercial markets). Yet no matter how important these efforts are, it will be critical to produce more food in low-income community settings so that low-income residents gain familiarity with fresh foods, learn how to grow and prepare them, and build solid eating habits.

Key Opportunities

The greatest opportunities identified over the course of this study are contained in the work plan presented below. We have selected priorities based on advancing community food systems work in three key arenas, as identified in the Metro Nashville strategies that led to this study:

- Grow more food in low-income communities and engage youth in food planning.
- Foster institutional purchasing of food raised by community growers.
- Ensure that community food system activity is effectively coordinated.

Each of these priorities was selected because the work involved in meeting these goals is likely to shift the Nashville food system toward a more equitable and efficient path. Each shifts key "system levers" by building health, wealth, connection, and capacity among the region's residents. This is more thoroughly discussed below.

Key Threats

Often the most critical threats to effective action reflect a given region's particular strengths — which can turn into threats in unforeseen ways if not properly harnessed and directed. This appears to be true in Nashville. Our interviews suggested the following threats to building a more cohesive community food system:

² Deese, Hollie (2016). "Chef Barlow taking fresh look at farm-to-table movement." The Ledger, June 17. Viewed February 21, 2017 at <http://www.tnledger.com/editorial/Article.aspx?id=89904>

1. Nashville has a dogged spirit of independence and creativity. While this is clearly one of Nashville's most unique strengths, it is also a threat to collaboration because so many people follow their individual intuition without effectively coordinating with others. Yet it is clear that food leaders are taking action based on their own personal or organizational self-interest in the absence of a commonly held strategy for the long term. For this reason, better coordination is essential. As the local food system matures, necessary investments will be larger and will require deeper partnerships in order to operate efficiently and effectively. Yet many food leaders are deeply skeptical of coordination for this very reason, as well.

2. Many of the key food system leaders have the means to act on their own, without including others. Once again, while it is an essential strength that investment capital is available in the Nashville community, and several food initiatives can launch on their own, this can at times mean that little coordination happens with sister efforts holding overlapping goals. Once again, this makes coordination all the more critical. At the same time, this fact also limits people's interest in coordinating. We believe this threat can be addressed best if Metro Nashville builds the capacity to make strategic investments, or offer strategic incentives, to ensure that a long-term vision is met.

3. The prevailing food system is resisting efforts to build community-based food systems. The prevalence of "farm-to-table" restaurants that do not reliably purchase food from Nashville farms is indicative of broader trends in which the prevailing commercial actors offer *the appearance* of community-based food but not the reality. Many grocers and distributors, when learning that consumer demand for locally produced food is high, merely expand their definition of "local" to cover a wider geography, essentially determining that they will call "local" any food that is relatively easy for them to source. There is a further risk that aggregation businesses and food hubs will end up merely providing commoditized food to broader distribution networks, and lose the sense that consumers can connect with an actual farm that is actually close to them. Food system leaders in Nashville need to be aware of all of these potential hazards and act strategically to avoid them. We suggest that casting this work in terms of "community food" rather than "local food" will help keep the overall aims more clear and attainable.

With these assets, weaknesses, opportunities, and threats in mind, then, we turn to our specific recommendations.

Proposed Work Plan for Metro Nashville

Metro Nashville Priorities

Tom Sharp of the Metro Public Health Department outlined the following three priorities for the implantation plan following this food system assessment, in order to address priorities set by Mayor Barry's office:

- Align procurement to enhance efficiency of government
- Promote equitable economic development and access to healthier food in areas underserved by traditional market behaviors
- Increase employment, including meaningful youth employment

Align procurement to enhance efficiency of government

During the 2014 Ideas to Reality effort, the Food and Nutritional Services (FANS) group estimated that if all city agencies, including the school district, collaborated on purchasing food, Metro's buying power could be maximized and more favorable pricing attained. The group estimated this would result in savings of approximately \$250,000 per year.

These savings could be dedicated to coordination of community foods activity in future years. However, aligning the purchasing contracts to achieve maximum savings cannot be realized for some time—possibly two or three years—requiring an up-front investment to begin coordinating the purchases, as well as building collaboration among city agencies and Nashville food system leaders.

Promote equitable economic development

Since the growth of “farm-to-table” restaurants in Nashville has largely been centered upon gourmet cooking for the more prosperous residents of the metro area, it has done little to address the food needs of low-income residents. The Mayor prioritizes public investments that will promote equity and create economic opportunity for low-income residents, including many farmers.

Foster youth employment

Priority is also placed upon initiatives that will create jobs for youth, especially during the summer months. This should be challenging and rewarding work, not merely manual labor jobs.

Our plan seeks to foster a culture of self-determination in Nashville with regard to food. Our proposed work plan is focused on accomplishing several key purposes.

1. Investing in programs and infrastructure that over time will reverse the losses that Nashville endures on an ongoing basis. These losses accumulate through spending \$4.3 billion each year purchasing food sourced outside of the metro area, and paying roughly \$1.7 billion, Nashville's share of the \$5.1 billion Tennessee spends to cover the medical costs of diabetes. Overall losses are actually far greater — these are merely the losses that are easiest to measure.
2. Making targeted investments that foster broader system shifts over the long term.
3. Connecting low-income residents to farmers, chefs, and health and nutrition experts in processes that build capacity in low-income communities. This will advance the Mayor's goal of increasing equity.

4. Building health, wealth, connection, and capacity in the broader Nashville community, fostering effective social and commercial networks that will establish a solid foundation for economic development.

Primary recommendations to serve these purposes are outlined below.

Primary Recommendations

Raise the Visibility of Community Foods in Metro Nashville

- Community foods should become a central theme in the Mayor's ongoing communications with the public.
- Further, the Mayor should launch a significant marketing and branding campaign to raise the visibility of community foods in Nashville. This might involve launching a Nashville brand, with a window-decal program that helps raise the visibility of restaurants, farms, and other food businesses that engage in community foods trade.
- Support and publicize ongoing low-income food initiatives (Nashville Food Project, Trevecca, Second Harvest, Cul2vate, and more).
- Elevate success stories, such as the Murfreesboro City Schools Farm-to-School program, and other "local food heroes."

Coordinate Community Foods Activity

- Hire Community Foods Coordinator (CFC) in Mayor's office.
- The Community Foods Coordinator (CFC) will assemble a strong and cross sector Advisory Board.
- Form a Community of Collaboration including an annual February conference focused on how to strengthen the community food system.
- Create public incentives that promote building collaborative food networks and supportive physical infrastructure.
 - Raise \$5 million funds for infrastructure investments.
 - Facilitate the coordination of produce-processing facility investments and services.
 - Invest in on-farm infrastructure such as washing/packing sheds and cold storage .
- Incentivize restaurants to publicize purchases from community farms.

Ensure Equity in Food Access

- Support Soil Building & Neighborhood Food Planning by Youth.
- Expand subsidized CSA shares for low-income residents.

Streamline & Localize Institutional Food Purchasing

- Conduct a farm-to-institution supply and demand study to identify easy opportunities and long-term goals.
- Convene Metro Nashville food purchasing agents, to coordinate food purchases across all agencies and the school district, reducing food purchasing costs.
- Expand forward contracting by Metro Nashville Public Schools.
- Subsidize food purchases from farms that have invested in food community (produce, ground beef).
- Convene hospital food service directors to explore community purchasing.
- Invest in farmer education in preparation for scaling up and becoming wholesale ready.

Raise the Visibility of Community Foods in the Nashville Region

Community foods should become a central theme in the Mayor's ongoing communications with the public. Nashville is a Food City as well as the Music City. With this initiative, it is placing itself among national leaders in addressing the food needs of low-income residents. The Mayor should take every opportunity to highlight the Nashville brand, with its push for equity (not just luxury foods), as she makes public announcements.

Further, the Mayor should launch a significant marketing and branding campaign to raise the visibility of community foods in Nashville. This might involve launching a Nashville branded label, with a window-decal program that helps raise the visibility of restaurants, farms, and other food businesses that engage in community foods trade.

This recommendation is provisional at this time, since it appears that Nashville may not yet have the budget resources to allow launching a full-fledged campaign, at least within the PIP process. As resources allow, framing an overall public relations drive to instill equity and community foods into the City's identity will prove important to the success of all other elements of this work plan.

One way that Metro Nashville could encourage community foods trade, for example, would be to offer a window decal or other Nashville region branding emblem to farms, food businesses, and agencies that agree to participate in community based food trade, and document their purchases of locally raised foods so the city can track local purchasing. If such a campaign effectively mobilized attention and participation in community foods initiatives, then Nashville would have a potent way of encouraging more and more partners to join the initiative.

Support and publicize ongoing low-income food initiatives (Nashville Food Project, Trevecca, Second Harvest, Cul2vate, and more)

The Mayor's office and the Community Foods Coordinator should make concerted efforts to increase the visibility of existing low-income food production initiatives to the broader Nashville community by featuring their work in city outreach efforts, special events, and publications. The CFC should also engage each of these efforts in coordinating their activities.

Such outreach efforts would place Nashville's efforts to ensure equity in food access as central to the metro area's identity.

Coordinate Community Foods Activity

Hire Community Foods Coordinator (CFC) in Mayor's office

The heart of our proposal, and number one recommendation, is that the Mayor's office should hire a Community Foods Coordinator to manage and coordinate a maturing food system. To fund this position in the short term, City funds will be required. These expenditures are justified given the strong interest in food among Nashville residents, the city's reputation as a "food city," the existing and likely deepening disparities in food access, and the urgency of coordination among community food initiatives that are unnecessarily competing with each other.

Over the long term, as cost savings are realized by collaborative purchasing among city agencies (discussed more thoroughly below), the FANS group anticipated that these cost savings will be sufficient

to fund this position and the operations of community foods initiatives. This means our proposal meets the Mayor's specification that new initiatives be revenue neutral to the greatest extent possible.

We propose that the Community Foods Coordinator be vested with considerable authority to act on behalf of the Mayor and be responsible for coordinating many systems level initiatives, so we have budgeted for a fairly high salary commensurate with holding high respect from Nashville stakeholders, and reflecting special expertise that this coordinator should hold. Furthermore, this position should be created as a permanent investment in the well-being of the Nashville community and economy, thus experienced and dedicated candidates must be attracted in the first place and retained over the long-term.

Probably the most difficult skills to find in such a coordinator would be (a) close knowledge of farmers in Nashville, and (b) intimate understanding of working in low-income settings. Less difficult to find, yet still crucial to the position, will be (c) extensive knowledge of community food systems work, and (d) an ability to negotiate effectively with a diverse range of stakeholders, including farmers, low-income residents, investors, civic leaders, foundations, academics, food service staff, and more. Further, this staff person must (e) hold significant experience in collaborative community economic and business development.

We note that this position should not be considered (or titled) a "Local Foods Coordinator," for the reasons stated above in our discussion of our focus on community-based food systems. This staff person must be dedicated to building capacities among community residents, not merely to negotiating deals. She or he must understand the necessity of building community loyalties and strong commercial and social networks among Nashville stakeholders as a central part of the effort. This person must understand that the only competitive advantage Nashville farms and food businesses will have in community food trade is through the trust and mutual respect they build among Nashville region stakeholders.

As mentioned above, several of our interviewees lamented the fact that community foods initiatives are currently deeply siloed. This Community Foods Coordinator must have the presence, and clout, to effectively break down these siloes, and foster a steady and determined spirit of collaboration.

We note than in many other cities, the "local foods coordination" is offered to a fairly low-level employee who is charged with building trust among local participants. We do not feel this model is appropriate to Nashville, primarily because the city has so many players already active in community foods work, who have established strong presence but who are not always effectively working collaboratively. Hiring a relatively inexperienced connector will not be enough to forge solid collaborations.

Instead, we liken this position to a similar one in the City and County of Denver Colorado- Manager of Food Systems Development. This position is embedded in the Economic Development Office, is funded through general funds, has access to various economic development monies and policies tools, and is responsible for developing and executing long-term food systems planning and investments. This job description and others are outlined in Appendix IX.

Further, as we note below, we do not believe that this Community Foods Coordinator will be effective in building collaborations unless they have access to incentive packages and investment capital that can be used to sweeten potential deals. This might require the Community Foods Coordinator to raise several

million dollars from outside sources; sufficient that Nashville could invest effectively to focus collaborations. This will be discussed further below.

The Community Foods Coordinator (CFC) will assemble a strong and cross sector Advisory Board

To help balance the power of a strong CFC, and to ensure that diverse stakeholder interests are represented in the Mayor's community foods work, the Community Foods Coordinator will identify an Advisory Board representing farmers, low-income advocates, food buyers, chefs, recyclers, other food businesses that are engaged in community food trade, and city agencies and nonprofits that are especially versed in issues of farming and equity.

This Advisory Board should offer guidance to the Community Foods Coordinator in setting overall policies and priorities under the PIP process. This group essentially will take over, and advance, the role that once was played by the Nashville Food Council.

Form a Community of Collaboration including an annual February conference focused on how to strengthen the community food system

Nashville food leaders have taken effective action to produce food on local farms, and to connect with each other in a variety of settings. While our understanding of the gatherings Nashville food leaders is incomplete, we listed above several important gatherings that take place throughout the year that help local food leaders understand each other's work, network with each other, and form potential collaborations.

Yet despite the fact that Nashville has a finite set of people engaged in promoting local foods activity, our interviews made it abundantly clear that, even though everyone knows each other, most initiatives head their own separate ways, and do not yet effectively coordinate their efforts towards a common set of purposes.

We recommend that Metro Nashville form a conscious Community of Collaboration that will be convened and led by the Community Foods Coordinator. This collaboration would focus its efforts on strengthening the Nashville region's local foods network, forging more effective collaboration toward building a community-based food system that is equitable and efficient.

This would involve an annual conference that holds a different focus than existing farmer and food leader gatherings: bringing people together to more effectively build an equitable food system. This conference would only serve as the most visible manifestation of year-round, concerted activity that would be focused in low-income communities, farms, and public food services throughout the metro region. This Community of Collaboration will focus pragmatically on building more effective collaborations that produce more food in the metro region and ensure it is equitably distributed to metro residents.

This collaboration would be backed up by the Coordinator's ability to incentivize collaboration — for example, by considering new investment proposals only when clear collaborations have been formed by local partners. This is a common mechanism in other regions of the country, particularly in areas with many foundations. The effect is that competition is reduced while collaboration is increased; thus new efficiencies are achieved.

Our team has been impressed with the efforts of the Regional Food Systems Working Group (RFSWG) formed by the Leopold Center at Iowa State University, particularly during the years 2004 – 2011. This initiative combined regular meetings of a community of collaboration (one annual conference plus quarterly meetings) with a small grants program to promote innovation and collaboration among participants. Regular reporting of the results of these small initiatives fostered a strong spirit of mutual trust and accountability among participants, and led rather spontaneously to effective collaborations. The power of such a network to inspire self-organized activity that is well coordinated is quite impressive.

Yet the Iowa project was statewide, and required a budget that would be beyond the means of Nashville. Models such as this should be adapted to Nashville's needs. We would recommend that applicants for the Community Foods Coordinator position outline their proposed strategy during the hiring process, and that the person with the most effective proposal be considered seriously for the position.

Create public incentives that promote building collaborative food networks and supportive physical infrastructure

The Community Foods Coordinator role will be relatively ineffective unless it is backed up by significant resources and considerable power in Metro government. Without this, any efforts to coordinate will be relatively meager since private parties with substantial resources will pursue their own agendas independently. Indeed, this has been the tenor of local foods activity for Nashville for well over a decade, with an obvious lack of coordination. Toward this end, we suggest three specific action steps:

- 1. Raise \$5 million funds for infrastructure investments.** Drawing upon Metro Nashville economic development funds, donations from private and community foundations, or other sources, the Community Foods Coordinator should raise a significant amount of money and incentive offers that can be directed to promote more effectively coordinated community foods activity. Two examples of how these funds should be allocated are outlined immediately below.
- 2. Facilitate the coordination of produce-processing facility investments and services.** Currently, as mentioned above, there are four separate initiatives that aim to process fruits and vegetables raised on local farms for use in area schools or to sell through commercial channels. As far as we could determine through our interviews, these efforts are not coordinating closely. Indeed, two have not been made public. This means that Nashville risks having four new facilities built at considerable expense that duplicate efforts. Nashville could encourage several scattered processing sites, but if this is done, these sites should have complementary capacities (with each having specialized equipment, or specialty processes of its own) rather than each purchasing identical equipment. Since each effort is being pursued with private capital, the Nashville government needs effective incentives to create *strategic* investments. These could be property tax breaks, or direct investments in new or remodeled facilities, made only after the Community Foods Coordinator has ensured that these initiatives will not compete with each other, but will rather complement each other and build a stronger network of collaboration.
- 3. Invest in on-farm infrastructure.** Several growers who are still relatively new at launching their business noted that they could reach wider markets and better meet food safety standards if they were able to build on-farm (or nearby) washing, packing, and cold storage areas for their products. Such hyperlocal infrastructure is certainly a critical part of the Nashville food network

of the future. City funds could be directed to helping small farms build appropriate infrastructure, or to promote the growth of a collaborative marketing effort through construction of such infrastructure shared by several farms, with the understanding that a certain percentage of the food handled through each facility would be directed to low-income consumers. Indeed some interviews identified the lack of access to this necessary infrastructure as a barrier to business expansion.

Incentivize restaurants to publicize purchases from community farms

While restaurants do not always purchase a large amount of food from Nashville farms, their role in the Nashville food community is critical because restaurants do so much to publicize local farms — often naming specific farms on their menu, or inviting farmers to participate in special events.

Yet our interviews showed that the reality of “farm-to-table” is far less than the appearance. Part of the Mayor’s effort to raise the visibility of community foods systems should be to create effective incentives for chefs and restaurants that are willing to share with the Community Foods Coordinator a regular accounting of the amount of food each purchases from farms within the 150-mile radius.

Some restaurants may choose to print “table tents” that go on each table, or a poster for the wall of their establishment, that lists specific amounts of money that have been spent purchasing food from specific farms. Other restaurateurs may prefer to report more quietly.

In exchange for tracking these purchases in a transparent manner, the Community Foods Coordinator will want to offer specific incentives — perhaps a property tax reduction, a matching grant, or public relations campaigns — that reward such restaurants.

It should be remembered that whatever Metro Nashville accomplishes in building effective collaboration among community foods practitioners, or in publicizing local food trade, will set a tone for the entire 150-mile region.

As additional financial resources are raised, or as collaboration networks become more effective, additional activities may be tackled by the Community Foods Coordinator as time allows. These would include, for example:

- Coordinate community food groups to join efforts in enrolling members for the emerging Nashville Co-op.
- Develop a detailed plan to protect farm land in Metro Nashville, including refined agriculture zoning.
- Develop plan to lease public owned lands back to farmers for productive use by expanding upon the efforts of Metro Parks and applying these policies to other city-owned lands that may be designated, even temporarily, for commercial food production. This in turn could save Metro Nashville on land maintenance fees and instead generate revenues through land leasing payments. Boulder County in Colorado leases considerable tracts of lands to area farmers through “share cropping” arrangements, where the county open space program receives a portion of farm sales generated off of those properties.
- Implement comprehensive composting of organic wastes. Metro Nashville is the site of a pilot project launched by the Natural Resource Conservation Service, which has surveyed local farms and recyclers and is in the process of making recommendations for enhancing the re-use and

recycling of “surplus” food and organic wastes. Further, Metro Nashville may wish to implement separate collection of organic wastes for diversion to composting operations. In several metropolitan areas across the country, large institutions (hospitals, colleges, schools, government complexes, etc.) have realized additional cost savings by utilizing large scale composting services instead of relying so heavily on solid waste hauling and disposal.

Ensure Equity in Food Access

Fund Food Production & Neighborhood Food Planning by Youth

Our suggestion for what will do most to “move the levers” in the food system for low-income communities will be to engage Nashville youth in (a) building soil fertility; (b) growing food; (c) devising plans for improving food access in their own neighborhoods; and (d) learning how to better prepare and eat healthy food.

Nashville already has a proven track record in launching similar initiatives. Nashville Food Project has worked in dozens of neighborhoods to build soil fertility, train people in gardening, managing community gardens, improve cooking skills, and build capacity in healthy eating. Trevecca Nazarene University has taught gardening in neighborhoods close to the campus farm. Second Harvest Food Bank of Mid-Tennessee offers training in meal preparation and gardening to low-income residents. Cul2vate is training low-income youth to grow food in greenhouses.

One notable initiative to build soil fertility in an urban setting was performed by Jeff Poppen, a pioneering vegetable farmer from Red Boiling Springs, who worked with Second Harvest Food Bank to develop a one-acre garden plot in a low-income community. Poppen told us he had applied 40 loads of manure and compost to that one-acre plot, and had donated about 40 hours of his time to work with neighborhood youth on the project. Using tractors he borrowed from farms located close to the plot (off of River Road west of the Cumberland River), Poppen said the team harvested 15,000 pounds of produce from that one-acre plot that was donated to local food pantries.

Poppen added that the primary focus of the project was not food production, but to engage low-income youth in learning how to build soil fertility and grow food. Long-term impacts of such initiatives cannot yet be documented, but it is hoped that by vesting low-income youth with both fertile land and gardening skills, some of the youth will use these resources to expand the amount of soil that is built, and the amount of food that is produced.

Further, Metro Public Health has indicated that an essential component of this community foods plan will be to ensure that youth employment is central to the initiative.

Accordingly, we propose that the key step for engaging low-income communities in the Nashville food plan will be to engage lower-income youth in summer employment programs that tap their creativity as well as their muscle power. We propose a four-part program, in which youth will be invited to write plans for increasing access to food in their immediate neighborhoods; be engaged in building soil fertility on a plot of land near their homes; and learn about gardening and food preparation in the course of the project. Further, these youth will be trained to serve as ambassadors who will carry what they have learned back to their neighborhoods and implement their plans.

Already, Metro Parks is viewing youth employment as part of their emerging initiative to convert 450 acres of park land to productive farmland. Already, groups like Nashville Food Project and Trevecca Nazarene University's food project are engaged in lining up youth employment slots for participating in food production activities.

Investment by Metro Nashville in this program will entail (a) funds for planning a train-the-trainer package that will engage youth in an energizing and positive way; (b) funds to hire farmers to serve as consultants to soil building efforts and as advisors to local foods initiatives. It is anticipated that existing allocations of funds for youth employment will cover the costs of hiring youth.

We propose that 5 sites be developed in 2017, and preparations made for another 10 sites to be developed in 2018. Sites would be selected by the Community Foods Coordinator in partnership with Metro Parks and participating nonprofits or educational institutions that have established working connections with low-income neighborhoods in Nashville. In the long term, each site would be made available for commercial food production dedicated to neighborhood residents.

Expand subsidized CSA shares for low-income residents

The Bells Bend Conservation Corridor has allocated \$5,000 of funding to subsidize the purchase of CSA shares from Bells Bend farms, with the food shares to be dedicated to low-income residents through the Second Harvest Food Bank. The city should match these funds in 2017, and allocate money to match similar donations in at least 4 additional community-based initiatives in low-income neighborhoods of Nashville. The Community Foods Coordinator will engage community partners to foster each of these additional projects.

Streamline & Localize Institutional Food Purchasing

Conduct a farm-to-institution supply and demand study

The first outcome of the food purchasing agents' convening will be to compile comprehensive data on prevailing food purchasing by city agencies. All specific food items that could be purchased from local farms or food processors will be listed in a database that allows the CFC to identify the most strategic ways to reduce food purchasing costs, as well as the best opportunities for introducing more locally raised foods into city and school food services.

Convene Metro Nashville food purchasing agents to coordinate food purchases across the School District and all other agencies, with the aim of reducing food purchasing costs.

The Community Foods Coordinator will convene all city food purchasing agents to set in motion a coordinated effort to reduce food purchasing costs by eliminating duplication of effort. Metro Public Health initiated such discussions in previous years, but with the new Coordinator in place, the conditions will be set that allow this process to turn from concept to action. Importantly, ensuring that the Metro Nashville schools purchase Nashville Grown foods will be an effective way of ensuring more equitable access to food, since three-fourths of Nashville students are low-income.

The FANS group estimated that as much as \$250,000 annually might be saved through coordinated purchasing. As one example, individual food services purchase milk from several sources at several different prices. By purchasing in a coordinated manner, these sales will be consolidated into a single contract, allowing Metro Nashville to pay the lowest possible price for each item it purchases.

The Metro Nashville Public School District is the largest single entity purchasing food under the city umbrella, but several other agencies also purchase food, and will be included in the community purchasing initiative.

MNPS appears to hold a variety of purchasing contracts with various food distributors. As these contracts come up for renewal, local preferences should be written into each contract, and purchasing across agencies coordinated. The Community Foods Coordinator will work in close collaboration with Spencer Taylor, food service director for MNPS, to implement this coordination. Taylor has generously provided our consulting team considerable information covering present food purchasing policies and amounts of food purchased from the most important sources. Taylor expressed strong interest in moving forward on community food purchasing, but adds that he will need assistance in learning more about local farms and procurement practices.

Expand forward contracting by Nashville Public Schools

One of the most critical steps to take for city agencies sourcing food locally will be to forward-contract with specific farms. Forward contracting is allowed by USDA, and enables the city to identify farms that can provide part of what the agency or school needs, to make an agreement with each farm to purchase a certain quantity should the harvest be sufficient, and to ensure that the price paid is adequate for the farmer. In the case of crop failure (for example due to drought or hail) the agency would simply forgive the farmer and purchase these products from commercial distributors for that year, but return to the farmer the following year.

Forward contracting allows each food service to play a solid role in actually building community food trade, by helping specific farms ramp up production with lower market risk to serve city food needs, and by investing in commercial networks that will serve school needs for decades to come.

Yet taking this path also requires considerably more time than merely ordering food from a distributor that is delivered to the kitchens to their order. Thus, the Nashville Community Foods Coordinator will assist the MNPS and other city agencies to make contact with farms, to set up bidding procedures, to help adapt forward contract to school purchasing policies, and ensure that progress is made. This insures that new systems and habits are development and maintained for more permanent results.

Subsidize food purchases from farms that have invested in food community (produce, ground beef)

In some cases, city food services can save money by purchasing from local farms. One school district, the Burlington Public Schools, saved money by purchasing the dark meat of chickens from a nearby farm at lower prices than the school had been paying from their established food distributor. Further, the farmer earned more money because these dark meat pieces had little alternative commercial value.

Other schools have held costs steady by replacing animal proteins with vegetable proteins. For example, a school may spend more by ordering grassfed, ground beef from a local farm, but reduce the number of times they purchase beef, offering less expensive proteins such as black beans or scrambled eggs, to keep overall costs steady while still meeting nutrition standards. Many schools have placed greater reliance on buying frozen root vegetables (sweet potatoes, potatoes, or carrots, for example) from local farms, often at fairly low prices.

As Nashville develops better processing options for fruits and vegetables grown in the region, city agencies may find they are spending less for processed food items (perhaps frozen broccoli, or frozen strawberries) because distributors make considerable profit by processing for schools. Such savings are speculative at this point, and would be very specific to individual farm products that may be raised in Nashville in the future, and to specific processing equipment investments.

Despite the potential for savings, it is to be expected that in the early years, as city agencies learn how to better source local foods from emerging farmers who need to command fairly high prices to establish their farms, they may need to have additional funds so they can promise to purchase from nearby farms at a price that will be attractive to the farmer. Thus, we have allocated money in our budget to allow city agencies to purchase foods that might be more expensive until a small farm reaches sufficient scale to sell at a lower price.

Convene hospital food service directors to explore community purchasing

Just as city agencies will be convened in order to encourage them to purchase collaboratively and make stronger connections to local farms, Nashville area hospitals should be convened by the Community Foods Coordinator for similar purposes. The force of the Mayor's office should be placed behind an urgent appeal to local hospitals to work with local farms to increase community food purchasing. Many hospitals are moving toward offering healthier food options — including in some cases organic foods — to their employees. Selected hospitals nationally, including Eskenazi Hospital in Indianapolis, are prescribing fresh fruits and vegetables for low-income patients with food-related health conditions. The Community Foods Coordinator should foster these and similar initiatives.

Once again, initiatives such as these place hospitals in the position of working to build a community-based food system in the Nashville region, rather than simply waiting for more local options to appear on the food distributor's list of offerings. Once Nashville General Hospital has a track record of reducing expenditures and realizing better coordination through the new city purchasing initiative outlined above, it should be in an excellent position to take considerable leadership in the discussion among area hospitals about how each can help strengthen community food trade. Indeed, the recent hiring of Michael Venters and the new vision for the Nashville General Hospital food program could serve as a model for area institutions.

Proposed Budget & ROI

Raise the Visibility of Community Foods in the Nashville Region:

Projected Income:

- No specific numbers can be attached to any estimates of projected income from taking this step.
- Yet it is clear that raising the visibility of community foods will bring new business to Nashville restaurants, grocers, and schools.
- In particular, making sure that food is purchased from farms in the metro area will bring millions of dollars of new income to those farms. As one indication of potential economic impacts, if each metro area resident purchased \$5 of food each week directly from farmers in the region, this would generate \$476 million of farm income annually. This would far outweigh the current losses of nearly \$100 million each year the region's farmers endure by selling to unpredictable global markets. Thus, a very inexpensive publicity campaign to invite residents to buy \$5 of food each week could have marked impacts.
- With Nashville planning the addition of 12,000 hotel beds to its existing 27,000,³ the city may enjoy as much as \$146 million of new food spending over the next decade.
- If 10% of this were dedicated to farms in the metro area, farmers would earn \$15 million of new income just from new hotel development. This cautious estimate is based on each room, once completed, being occupied two of every three nights during the year, with one person in each room spending \$50 per day to purchase food.
- School districts in other parts of the U.S. have reported that when they began to purchase foods from local farms, waste was reduced, student behavior improved, and net income increased because so many more students were eating at school. Whether this will be true in Nashville is still to be learned.

Projected Expenses:

No additional budget requested at this time; this will be integrated into existing outreach activities.

Return on Investment:

- With no new public investment required, merely redirecting a small percentage of Metro Nashville's publicity and outreach campaigns to highlight metro area farms, urban food production, chefs who rely upon nearby farms, and the importance of farms to Nashville's identity as a Food City could potentially bring tens or hundreds of millions of dollars of income to farms.
- In turn, farms would pay taxes to each of the 14 metro counties and rely less on social services. Farmers currently pay \$22 million each year in property taxes alone, along with unknown amounts of sales and income taxes.

³ (Rau, N. (2016). "Nashville's historic tourism streak comes to an end." Tennessean, Dec. 16. Viewed March 14, 2017 at <http://www.tennessean.com/story/money/2016/12/16/nashvilles-historic-tourism-streak-comes-end/95144874/>),

Hire Nashville Community Food Coordinator

Projected Income:

- It is anticipated that after three years of reducing food costs for city agencies and the school system, \$200,000 to \$250,000 will be saved, helping to pay for community foods coordination.
- Increased revenue from expanded community food trade will benefit Metro Nashville tax receipts, although amounts are difficult to predict at this stage.
- Currently, we estimate that Metro Nashville residents spend \$4.5 billion each year purchasing food sourced outside of the region, and if each resident of the 14-county area spent \$5 each week purchasing food directly from farmers in Metro Nashville, these farmers would earn \$476 million per year.
- Increased property tax collections as new food-related businesses are developed is also likely.
- In the long term, eating better food is likely to reduce health care costs for Nashville area residents, who currently spend about \$1.7 billion each year paying for the medical costs of diabetes and related conditions.
- Heart disease, cancers, and other food-related conditions can also be reduced as Nashville residents learn to eat better foods, but the costs of this are more difficult to project and accumulate over long periods of time.

Proposed Expenses:

Coordinate Community Foods Activity: \$110,000

Community Foods Coordinator Salary:

\$75,000 - \$85,000 [\$105,000- \$120,000 with benefits]

This position should be guaranteed for at least three years

Operations and Research Budget:

\$100,000 (may be raised from foundations and other sources)

Research farmland protection options; other issues as required

Investment Fund (to be raised from foundations and other sources)

\$5,000,000

This might also include property tax relief, infrastructure investments, or other incentives that would normally fall under the economic development or other existing budgets

Return on Investment:

- While difficult to quantify, increased coordination of food investments in the Nashville area could easily pay for itself by reducing duplication of effort.
- As just one example, four separate entities are currently exploring making investments to expand their capacity to process fresh vegetables. Millions will be invested. Greater coordination could potentially reduce infrastructure investments by several hundred thousands of dollars, enough to cover the cost of the coordinator position.
- Moreover, by creating local efficiencies in food trade, a greater proportion of the \$4.5 billion per year the region currently spends outside of the metro area each year to purchase food will remain in the region.

Promote Equity in Food Access: \$75,000

Projected Income:

- Metro Nashville is in an excellent position to attract tens of thousands of dollars of federal money to use for hiring youth for summer jobs to become engaged in planning food systems and growing food in their neighborhoods.

Projected Expenses:

Neighborhood Food Growing and Food Planning Initiative

Five plots of at least one acre each

Farmers who consult on soil building: \$5,000 per site

Stipends for youth: (Opportunity Now funds)

Neighborhood Coordination: (Opportunity Now funds)

Materials & Supplies: \$10,000 per site

Costs for each site will vary based on current soil quality, distance from manure and compost sources, presence of wildlife, and other variables. *Potential costs include:*

- Manure and Compost
- Transportation and unloading of manure and compost
- Spreading, plowing and harrowing
- Fencing
- Hand tools

Return on Investment:

- These will be high-quality summer jobs that combine creative and intellectual activity with physical labor and practical skill development.
- Over the long term, a certain percentage of these youth will become community leaders.
- Some may earn part of their livelihood by selling produce they grow.
- Farmers who consult with youth workers will gain income.
- By coordinating neighborhood activity, social service organizations will advance their own capacity to engage youth in summer employment programs.
- Resulting food production will be important economically. One farmer that aided a neighborhood food project reported production of 15,000 pounds per acre. Another food project states that they have been able to raise 6,250 pounds of food on 0.25 acre, or 25,000 pounds per acre.
- If each pound of produce were valued at \$1 per pound, the value of produce raised would offset all costs of running each neighborhood project, while simultaneously reducing health care costs and social service costs by millions over the long term.
- This would tend to reduce the billions of dollars the metro area currently spends each year to cover the medical costs of food-related illness.

Streamline & Localize Institutional Food Purchasing: \$85,000

Projected Income:

- School districts in other parts of the U.S. report that by offering fresher, community-raised foods as part of school meals, overall food service income has actually increased because more students choose to participate in school nutrition programs.
- No specific income for Metro Nashville Public Schools can be projected at this time.

Projected Expenses:

Coordinate with Metro Nashville Public Schools [included in Coordinator's Salary, above]

Fund for purchasing food from local farms \$50,000

[match payments made by MNPS]

Institutional Supply & Demand Study \$35,000

Return on Investment

- Metro area farmers will gain income by selling food to institutional buyers, with the greatest impact going to farms who sell directly to each food service, and a smaller amount directed to farmers who sell through an intermediary.
- Increased farm income will translate into a more stable farm population, protection of rural and urban landscapes, greater property, sales, and income tax payments by farmers and intermediaries, and will build stronger commercial trade between urban and rural communities in the metro area.

Total 2017 Budget Request: \$270,000

Overall Return on Investment

- It is estimated that after an initial investment requiring several years of funding, greater coordination will reduce food service budget items in Metro Nashville and will result in new income and cost savings to the greater Nashville region that will more than make up for the initial investment.

Appendix I: Details from 2012 Census of Agriculture

Nashville Metropolitan Statistical Area (MSA) Highlights (Census of Agriculture 2012):

Land:

- The 14-county area had 13,301 farms in 2012. This was a 16% decrease in farms since 2007, a loss of 3% per year.
- The Nashville MSA has 20% of Tennessee's farms.
- 195 (1.4%) of these are 1,000 acres or more.
- 5,307 (40%) farms are less than 50 acres.
- The most prevalent farm size is 50-179 acres, with a total of 5,284 farms (40% of Nashville region farms).
- Average farm size is 140 acres, slightly less than the Tennessee average of 160 acres.
- The Nashville MSA has 1,867,656 acres of land in farms.
- This amounts to 17% of the state's farmland.
- 39% of the region's farmland is cropland, and 19% is used to raise forage crops.
- 8,407 farms have 624,219 acres of harvested cropland.
- 455 farms have a total of 6,104 acres of irrigated land.
- Average value of land and buildings per farm is \$592,000. This is just above the state average of \$569,000.

Sales:

(Note that there may be discrepancies between Census of Agriculture data and Bureau of Economic Analysis data, below)

- \$427 million of crops and livestock sold (2012), 12% of what state farmers sell. Note that all data in this section is an undercount because no sales data were reported for Davidson County as USDA sought to protect the confidentiality of these 360 farms. The Bureau of Economic Analysis reported that Davidson County farms sold \$9.1 million of crops and livestock in 2012.
- This is a 36% increase in sales over 2007 sales of \$314 million, fueled by a bubble in grain prices that has since burst.
- \$251 million of crops were sold (59% of sales).
- \$176 million of livestock and products were sold (41% of sales).
- 9,461 (71%) of the region's farms sold less than \$10,000 of products in 2007. Their aggregate sales of \$22 million amounted to 5% of the region's farm product sales.
- 612 farms (5%) sold more than \$100,000 of products, an aggregate total of \$314 million, or 74% of the region's farm product sales.
- 2,374 farms received \$7.9 million of federal subsidies in 2012. [Note that Agriculture Census data differ from Bureau of Economic Analysis data; see below.]
- 71% (9,422) of Nashville MSA's farms reported net losses in 2012 even after subsidies are taken into account. This is slightly more than the Tennessee average of 67%.

Table 4: Top farm Products in Nashville Metro Area (2012)

| | \$ millions |
|----------------------|-------------|
| Cattle & Calves | 135.5 |
| Soybeans | 73.8 |
| Tobacco | *40.2 |
| Corn | *31.1 |
| Milk & Dairy | *18.0 |
| Wheat | *17.4 |
| Nursery & Greenhouse | *15.7 |
| Poultry & Eggs | *11.4 |
| Other Crops | *9.6 |
| Vegetables & melons | *2.7 |
| Sheep & Goats | 2.2 |
| Hogs & Pigs | *0.8 |
| Fruits & Nuts | *0.8 |

Source: Census of Agriculture, 2012. Note () that these values total underreport actual sales for all products except sheep and goats, since data were suppressed from several counties by USDA in an effort to protect confidentiality.*

Note that at \$3.8 million, direct sales to household customers exceed total vegetable and fruit sales by the region's farmers.

Production Expenses (Note that there may be discrepancies between Census of Agriculture data and Bureau of Economic Analysis data, below):

- Total farm production expenses were \$426 million, for an increase of 20% over 2007 levels. This is an increase of 4% per year.
- Expense items are listed below in rank order. Note that capital costs (depreciation and interest) totaled \$83 million, or 20% of production costs.
- Many of the farm inputs farmers need are sourced outside the region. A conservative estimate is that \$250 million is spent each year buying production expenses sourced outside the metro region.

Table 5: Production Expenses for Nashville MSA Farms

| | \$ millions |
|--|-------------|
| Feed Purchased | 70 |
| Depreciation Expenses | 54 |
| Fertilizer Lime, & Soil Conditioners | 48 |
| Hired Farm Labor | 41 |
| Gasoline, Fuels, & Oils | 33 |
| Supplies, Repairs, and Maintenance | 33 |
| Livestock and Poultry Purchased | 31 |
| Interest Expenses | 29 |
| Seeds, Plants, Vines, & Trees | 26 |
| Other Production Expenses | 22 |
| Property Taxes Paid | 22 |
| Cash Rent for Land, Buildings, Grazing | 21 |
| Chemicals Purchased | 19 |
| Contract Farm Labor | 14 |
| Utilities | 11 |
| Custom Work & Custom Hauling | 6 |
| Rent & Lease of Machinery | 2 |

Source: *Census of Agriculture, 2012*

Grains, Dry Edible Beans, Oil Crops, and others:

Note that all data in this section is an undercount because no sales data were reported for Davidson County as USDA sought to protect the confidentiality of these 360 farms.

- 532 Nashville MSA farms raised \$31 million (5.3 million bushels) of corn on 95,085 acres in 2012.
- This was an average price of \$5.85 per bushel.
- 496 farms raised \$74 million (5.5 million bushels) of soybeans on 123,191 acres in 2012.
- This was an average sale price of \$13.45 per bushel.
- 250 of the region's farmers sold 2.7 million bushels of winter wheat on 51,762 acres for \$17 million.
- *Note that wheat data includes a report of no sales for Davidson County farmers, while data covering Trousdale County was suppressed as USDA sought to protect the confidentiality of these wheat farms.*
- This was an average sale price of \$6.29 per bushel.

Cattle & Dairy:

- 7,548 farms held an inventory of 346,812 cattle and calves. *This total DOES include Davidson County farms.*
- 175,042 cattle worth at least \$135 million were sold from 6,488 farms in 2012. *These sales totals do NOT include Davidson County farms due to confidentiality concerns.*
- 58 farms reported selling milk or dairy products. *This total DOES include Davidson County farms.*

- Milk and dairy sales totaled at least \$18 million. *These sales totals do NOT include Davidson County farms due to confidentiality concerns.*
- 7,591 farms produced 729,231 dry tons of forage crops (hay, etc.) on 365,164 acres of cropland. *This total DOES include Davidson County farms.*
- Of these forage farms, 2,686 farms sold \$9.6 million of forage. *These sales totals do NOT include Davidson County farms due to confidentiality concerns.*

Other livestock & animal products:

- 126 farms sold at least 8,478 hogs and pigs for a total value of at least \$816,000. *These totals do NOT include Davidson, Hickson, or Trousdale County farms due to confidentiality concerns.*
- 232 farms hold an inventory of 7,059 hogs and pigs. *This total DOES include Davidson County farms.*
- 842 farms sold a total of at least \$4.9 million of horses. *These sales totals do not include Dickson County farms due to confidentiality concerns.*
- 752 farms sold at least \$11 million of poultry and eggs in 2012. *These sales totals do not include Robertson or Smith County farms due to confidentiality concerns.*
- 1,345 farms raise laying hens, and held an inventory of at least 44,317 hens. *This inventory total does not include Macon County farms due to confidentiality concerns.*
- Nashville MSA has 87 broiler chicken producers, holding a total inventory of at least 2.7 million birds. *These inventory totals do not include Cannon, Robertson, Smith, or Sumner County farms due to confidentiality concerns.*

Nursery, Landscape and Ornamental Crops:

- 195 farms sold at least \$16 million of ornamental and nursery crops in 2012. *These sales totals do not include Davidson, Robertson, Smith, or Wilson County farms due to confidentiality concerns.*

Vegetables & Melons (some farmers state that Census of Agriculture data does not fully represent vegetable production):

- 204 farms produced vegetables, melons, and potatoes on 890 acres of land, with sales totaling at least \$2.7 million. *These sales totals do not include Cannon, Dickson, or Trousdale County farms due to confidentiality concerns.*
- 71 farms raised 36 acres of potatoes.
- *Data for sweet potato sales were largely suppressed by USDA in an effort to protect confidentiality.*

Fruits (some farmers state that Census of Agriculture data does not fully represent fruit production):

- The region has 138 fruit farms with 471 acres of orchard. *This acreage total does NOT include Davidson County farms due to confidentiality concerns.*
- 123 farms sold at least \$769,000 of fruits, nuts, and berries in 2012. *These sales totals do not include Davidson, Dickson, Macon, Rutherford, or Trousdale County farms due to confidentiality concerns.*

Direct Sales:

- 683 farms sold \$3.8 million of food directly to household consumers in 2012. This was a 6% decrease in the number of farms selling direct (724 in 2007), and a 64% increase in direct sales, over \$2.3 million in 2007.
- Direct sales account for 0.8% of the region's farm sales, nearly three times the national average of 0.3%.
- 42 farms market through community supported agriculture (CSA) programs, according to TDA and Pick-TN. *TDA staff report that this is likely to be an undercount, since CSA listings are voluntary.*

County Highlights

Cannon County highlights (Census of Agriculture, 2012):

- 717 farms, 18% fewer than in 2007.
- Cannon County has 96,262 acres of land in farms.
- Farmers sold \$21.1 million of products in 2012.
- \$10.4 million (49.2%) of these sales were crops.
- \$10.7 million (50.7%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 301 farms (41.9%) in this category.
- The next most prevalent is 10 to 49 acres, with 234 (32.6%) farms.
- 6 farms (0.008%) are 1,000 acres or more.
- 263 farms (36.6%) are less than 50 acres.
- 521 farms (72.6%) sold less than \$10,000 of farm products.
- 41 farms (6%) sold more than \$100,000 of farm products.
- Cannon County's two largest areas of sales are cattle and calves with \$9.7 million in sales; and grains, oilseeds, dry beans, and peas with \$9.3 million in sales.
- The county ranks 9th out of 94 counties in the state for inventory of goats, with 2,277 head.
- 34 farms sold \$112,000 of food directly to household consumers. This is a 15-farm decrease, and a 29.5% decrease in direct sales from 2007 sales of \$145,000.
- Direct sales were 0.05% of farm product sales, less than the national average of 0.3%.

Cheatham County highlights (Census of Agriculture, 2012):

- 415 farms, 25% fewer than in 2007.
- Cheatham County has 52,404 acres of land in farms.
- Farmers sold \$11.3 million of products in 2012.
- \$8.3 million (73.4%) of these sales were crops.
- \$2.9 million (25.6%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 177 farms (42.6%) in this category.
- The next most prevalent is 10 to 49 acres, with 137 (33%) farms.
- 4 farms (.009%) are 1,000 acres or more.
- 161 farms (38.8%) are less than 50 acres.
- 290 farms (69.9%) sold less than \$10,000 of farm products.
- 26 farms (6.2%) sold more than \$100,000 of farm products.
- Cheatham County ranks 4th out of 56 Tennessee counties having tobacco sales, with \$4.9 million.
- The county ranks 9th out of 56 counties in the state for tobacco acreage, with 709 acres.
- 38 farms sold \$211,000 of food directly to household consumers. This is a 2-farm increase, and a 104% increase in direct sales over 2007 sales of \$103,000.
- Direct sales were 1.9% of farm product sales, well above the national average of 0.3%.

Davidson County highlights (Census of Agriculture, 2012):

- 360 farms, 30% fewer than the 515 farms in 2007.
- Davidson County has 34,823 acres of land in farms.
- *Davidson County crop and livestock sales data for 2012 were suppressed by USDA in an effort to protect confidentiality.*
- According to Bureau of Economic Analysis (BEA), Davidson County farmers sold \$9.2 million of products in 2012.
- BEA data state that \$9 million (98%) of these sales were crops.
- BEA data state that \$213,000 (2%) of these sales were livestock.
- The most prevalent farm size is 10 to 49 acres, with 150 farms (41.6%) in this category.
- The next most prevalent is 50 to 179 acres, with 126 (35%) farms.
- Davidson County has no farms of 1,000 acres or more.
- 177 farms (49.1%) are less than 50 acres.
- 302 farms (83.8%) sold less than \$10,000 of farm products.
- 4 farms (1.1%) sold more than \$100,000 of farm products.
- Davidson County ranks 12th out of 95 counties in the state for inventory of bee colonies, with 282.
- The county ranks 6th out of 52 counties in the state having an inventory of cut Christmas trees, *but inventory figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 6th out of 93 counties having sales of nursery, greenhouse, floriculture, and sod products, *but inventory figures were suppressed by the USDA in an effort to protect confidentiality.*
- 32 farms sold \$127,000 of food directly to household consumers. This is a 14-farm increase, and a 130% increase in direct sales over 2007 sales of \$55,000.

Dickson County highlights (Census of Agriculture, 2012):

- 1,143 farms, 12% fewer than in 2007.
- Dickson County has 148,512 acres of land in farms.
- Farmers sold \$13.9 million of products in 2012.
- \$5.5 million (39.5%) of these sales were crops.
- \$8.3 million (59.7%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 469 farms (41%) in this category.
- The next most prevalent is 10 to 49 acres, with 381 (33.3%) farms.
- 10 farms (0.8%) are 1,000 acres or more.
- 420 farms (36.7%) are less than 50 acres.
- 837 farms (76.4%) sold less than \$10,000 of farm products.
- 19 farms (1.6%) sold more than \$100,000 of farm products.
- The county ranks 2nd out of 95 counties in the state for sales of other crops and hay, with \$1.3 million in sales.

- Dickson County ranks 11th out of 56 counties in the state having sales of tobacco, with \$3 million.
- 69 farms sold \$231,000 of food directly to household consumers. This is a 15-farm increase, and a 175% increase in direct sales over 2007 sales of \$84,000.
- Direct sales were 1.7% of farm product sales, well above the national average of 0.3%.

Hickman County highlights (Census of Agriculture, 2012):

- 639 farms, 2% fewer than in 2007.
- Hickman County has 120,875 acres of land in farms.
- Farmers sold \$12.9 million of products in 2012.
- \$6.5 million (50.3%) of these sales were crops.
- \$6.4 million (49.7%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 262 farms (41%) in this category.
- The next most prevalent is 10 to 49 acres, with 160 (25%) farms.
- 12 farms (1.8%) are 1,000 acres or more.
- 175 farms (27.3%) are less than 50 acres.
- 434 farms (67.9%) sold less than \$10,000 of farm products.
- 17 farms (2.6%) sold more than \$100,000 of farm products.
- The county ranks 11th out of 88 counties in the state for sales of hogs and pigs, *but inventory figures were suppressed by the USDA in an effort to protect confidentiality.*
- 35 farms sold \$110,000 of food directly to household consumers. This is a 1-farm increase, and a 17.3% decrease in direct sales from 2007 sales of \$133,000.
- Direct sales were 0.8% of farm product sales, greater than the national average of 0.3%.

Macon County highlights (Census of Agriculture, 2012):

- 879 farms, 18% fewer than in 2007.
- Macon County has 121,860 acres of land in farms.
- Farmers sold \$44.7 million of products in 2012.
- \$26.7 million (59.7%) of these sales were crops.
- \$17.98 million (40.2%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 412 farms (46.9%) in this category.
- The next most prevalent is 10 to 49 acres, with 265 (30.1%) farms.
- 12 farms (1.36%) are 1,000 acres or more.
- 297 farms (33.8%) are less than 50 acres.
- 589 farms (67%) sold less than \$10,000 of farm products.
- 65 farms (7.4%) sold more than \$100,000 of farm products.
- Macon County ranks 9th out of 93 for inventory of hogs and pigs, with 3,072 head.
- The county ranks 10th out of 88 counties in the state for sales of hogs and pigs, with \$413,000 in sales.

- The county ranks 1st out of 56 counties in the state and 8th in the nation in acreage of tobacco, with 7,263 acres.
- Macon County ranks 2nd out of 56 counties in the state for sales of tobacco, with \$22.8 million.
- 33 farms sold \$67,000 of food directly to household consumers. This is an 8-farm increase, and a 19.6% increase in direct sales over 2007 sales of \$56,000.
- Direct sales were 0.1% of farm product sales, less than the national average of 0.3%.

Maury County highlights (Census of Agriculture, 2012):

- 1,513 farms, 11% fewer than in 2007.
- Maury County has 242,464 acres of land in farms.
- Farmers sold \$43.3 million of products in 2012.
- \$15.9 million (36.7%) of these sales were crops.
- \$27.4 million (63.2%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 574 farms (37.9%) in this category.
- The next most prevalent is 10 to 49 acres, with 524 (34.6%) farms.
- 37 farms (2.4%) are 1,000 acres or more.
- 596 farms (39.4%) are less than 50 acres.
- 1,067 farms (70.5%) sold less than \$10,000 of farm products.
- 60 farms (3.9%) sold more than \$100,000 of farm products.
- The county ranks 5th out of 95 counties in the state for inventory and sales of cattle and calves, with 52,108 head.
- Maury County ranks 5th out of 95 counties in the state for sales of cattle and calves, with \$19.9 million.
- Maury County ranks 6th out of 95 counties in the state for sales of other crops and hay, with \$1 million in sales.
- The county ranks 7th out of 71 counties in the state for sales of milk from cows with \$6.2 million.
- The county ranks 5th out of 94 counties in the state for sales of sheep, goats, wool, mohair, and milk with \$284,000.
- The county ranks 4th out of 94 counties in the state in sales of horses, ponies, mules, and donkeys, with \$783,000.
- The county ranks 4th out of 95 counties in the state in acres of forage-land with 47,180 acres.
- The county ranks 5th out of 95 counties in the state for inventory of cattle and calves, with 52,108 head.
- The county ranks 7th in the state for inventory of goats and inventory of horses and ponies, with 2,800 and 2,645 head respectively.
- The county ranks 10th out of 39 counties in the state for inventory of quails, *but figures were suppressed by the USDA in an effort to protect confidentiality.*
- 57 farms sold \$180,000 of food directly to household consumers. This was the same number of farms, and a 6.3% decrease in direct sales from 2007 sales of \$192,000.
- Direct sales were 0.4% of farm product sales, slightly more than the national average of 0.3%.

Robertson County highlights (Census of Agriculture, 2012):

- 1,180 farms, 16% fewer than in 2007.
- Robertson County has 209,107 acres of land in farms.
- Farmers sold \$134.9 million of products in 2012.
- \$113 million (84.3%) of these sales were crops.
- \$21.9 million (16.2%) of these sales were livestock.
- The most prevalent farm size is 10 to 49 acres, with 465 farms (39.4%) in this category.
- The next most prevalent is 50 to 179 acres, with 413 (35%) farms.
- 41 farms (3.4%) are 1,000 acres or more.
- 550 farms (46.6%) are less than 50 acres.
- 733 farms (62.1%) sold less than \$10,000 of farm products.
- 159 farms (13.4%) sold more than \$100,000 of farm products.
- Robertson County ranks 1st in 56 Tennessee counties for sales of tobacco, *but sales figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 7th out of 95 counties in the state for sales of grains, oilseeds, dry beans, and peas, with \$63.1 million.
- The county ranks 4th out of 93 counties in the state for sales of nursery, greenhouse, floriculture and sod products, but *sales figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 8th out of 71 counties in the state for sales of milk from cows, with \$15.1 million.
- Robertson County ranks 8th out of 87 counties in the state for acres of soybeans, with 48,575 acres.
- The county ranks 7th out of 95 counties in the state for acres in corn, with 39,639 acres.
- The county ranks 2nd out of 81 counties in the state for wheat acreage with 32,401 acres.
- 57 farms sold \$212,000 of food directly to household consumers. This is a 7-farm decrease, and a 32.5% increase in direct sales over 2007 sales of \$160,000.
- Direct sales were 0.16% of farm product sales, less than the national average of 0.3%.

Rutherford County highlights (Census of Agriculture, 2012):

- 1,327 farms, 13% fewer than in 2007.
- Rutherford County has 176,213 acres of land in farms.
- Farmers sold \$28.4 million of products in 2012.
- \$15.4 million (54.2%) of these sales were crops.
- \$13 million (45.8%) of these sales were livestock.
- The most prevalent farm size is 10 to 49 acres, with 497 farms (37.5%) in this category.
- The next most prevalent is 50 to 179 acres, with 457 (34.4%) farms.
- 21 farms (1.6%) are 1,000 acres or more.
- 624 farms (47%) are less than 50 acres.
- 976 farms (73.5%) sold less than \$10,000 of farm products.

- 41 farms (3.1%) sold more than \$100,000 of farm products.
- Rutherford County ranks 7th of 44 counties in the state having sales of cut Christmas trees, *but figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 3rd in the state for sales of other crops and hay, with \$1.1 million in sales.
- Rutherford County ranks 7th out of 94 counties in the state for sales of sheep, goats, wool, mohair, and milk, with \$265,000.
- The county also ranks 7th in sales of horses, ponies, mules, and donkeys, with \$697,000.
- The county ranks 9th out of 95 counties in the state for forge land acres, with 36,136 acres.
- Rutherford County ranks 2nd out of 94 counties in the state for inventory of goats, with 3,631 head.
- The county ranks 5th out of 95 counties in the state for inventory of horses and ponies, with 2,723 head.
- 94 farms sold \$492,000 of food directly to household consumers. This is a 2-farm decrease, and a 165.9% increase in direct sales over 2007 sales of \$185,000.
- Direct sales were 1.7% of farm product sales, well above the national average of 0.3%.

Smith County highlights (Census of Agriculture, 2012):

- 850 farms, 13% fewer than in 2007.
- Smith County has 36,842 acres of land in farms.
- Farmers sold \$18.9 million of products in 2012.
- \$7.6 million (40.2%) of these sales were crops.
- \$11.3 million (60.8%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 442 farms (52%) in this category.
- The next most prevalent is 10 to 49 acres, with 176 (20.7%) farms.
- 8 farms (0.94%) are 1,000 acres or more.
- 207 farms (24.4%) are less than 50 acres.
- 576 farms (67.8%) sold less than \$10,000 of farm products.
- 28 farms (3.3%) sold more than \$100,000 of farm products.
- Smith County ranks 10th of 56 counties in the state for sales of tobacco, with \$3 million in sales.
- The county ranks 6th out of 94 counties in the state for inventory of goats, with 2,807 head.
- 25 farms sold \$109,000 of food directly to household consumers. This is an 8-farm decrease, and a 91.2% increase in direct sales over 2007 sales of \$57,000.
- Direct sales were 0.6% of farm product sales, double the national average of 0.3%.

Sumner County highlights (Census of Agriculture, 2012):

- 1,355 farms, 19% fewer than in 2007.
- Sumner County has 167,175 acres of land in farms.
- Farmers sold \$47.2 million of products in 2012.
- \$24.4 million (51.7%) of these sales were crops.

- \$22.8 million (48.3%) of these sales were livestock.
- The most prevalent farm size is 10 to 49 acres, with 584 farms (43%) in this category.
- The next most prevalent is 50 to 179 acres, with 464 (34%) farms.
- 20 farms (1.5%) are 1,000 acres or more.
- 659 farms (48.6%) are less than 50 acres.
- 948 farms (72.6%) sold less than \$10,000 of farm products.
- 73 farms (5.4%) sold more than \$100,000 of farm products.
- Sumner County ranks 8th of 56 counties in the state for sales of tobacco, with \$3.3 million in annual sales.
- The county ranks 7th out of 93 counties in the state for sales of nursery, greenhouse, floriculture, and sod, with \$7.7 million in sales.
- Sumner County ranks 6th out of 95 counties in the state for sales of cattle and calves, with \$19.5 million.
- The county ranks 8th out of 92 for inventory of pullets, *but inventory figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 9th out of 95 counties in the state for inventory of cattle and calves, with 38,064 head.
- Sumner County ranks 10th out of 94 counties in the state for inventory of goats, with 2,217 head.
- 58 farms sold \$151,000 of food directly to household consumers. This is a 19-farm decrease, and a 30.4% decrease in direct sales from 2007 sales of \$217,000.
- Direct sales were 0.3% of farm product sales, the same as the national average of 0.3%.

Trousdale County highlights (Census of Agriculture, 2012):

- 290 farms, 14% fewer than in 2007.
- Trousdale County has 41,262 acres of land in farms.
- Farmers sold \$8.2 million of products in 2012.
- \$3 million (35.6%) of these sales were crops.
- \$5.2 million (63.4%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 128 farms (44.1%) in this category.
- The next most prevalent is 10 to 49 acres, with 85 (29.3%) farms.
- 3 farms (1.03%) are 1,000 acres or more.
- 95 farms (32.7%) are less than 50 acres.
- 170 farms (58.6%) sold less than \$10,000 of farm products.
- 13 farms (4.5%) sold more than \$100,000 of farm products.
- Trousdale County ranks 2nd out of 16 for acres of sorghum, *but figures were suppressed by the USDA in an effort to protect confidentiality.*
- 10 farms sold \$28,000 of food directly to household consumers. This is a 3-farm increase, and a 71.1% decrease in direct sales from 2007 sales of \$98,000.
- Direct sales were 0.3% of farm product sales, the same as the national average of 0.3%.

Williamson County highlights (Census of Agriculture, 2012):

- 1,160 farms, 20% fewer than in 2007.
- Williamson County has 138,782 acres of land in farms.
- Farmers sold \$23.8 million of products in 2012.
- \$10.9 million (45.8%) of these sales were crops.
- \$12.7 million (53.4%) of these sales were livestock.
- The most prevalent farm size is 10 to 49 acres, with 465 farms (40%) in this category.
- The next most prevalent is 50 to 179 acres, with 407 (35.1%) farms.
- 11 farms (0.94%) are 1,000 acres or more.
- 539 farms (46.5%) are less than 50 acres.
- 873 farms (75.2%) sold less than \$10,000 of farm products.
- 44 farms (3.8%) sold more than \$100,000 of farm products.
- Williamson county ranks 2nd out of 94 counties in the state for sales of sheep, goats, wool, mohair, and milk, with \$392,000.
- The county ranks 2nd out of 94 counties in the state for sales of horses and ponies, with \$1.1 million.
- The county ranks 1st out of 95 counties in the state for sales of other animals and other animal products, with sales of \$688,000.
- Williamson County ranks 3rd out of 95 counties in the state for inventory horses and ponies, with 2,919 head.
- 66 farms sold \$1.3 million of food directly to household consumers. This is a 19-farm decrease, and a 160% increase in direct sales over 2007 sales of \$508,000.
- Direct sales were 5.5% of farm product sales, far above the national average of 0.3%.

Wilson County highlights (Census of Agriculture, 2012):

- 1,473 farms, 16% greater than in 2007.
- Wilson County has 188,222 acres of land in farms.
- Farmers sold \$18.3 million of products in 2012.
- \$3 million (16.5%) of these sales were crops.
- \$15.3 million (83.6%) of these sales were livestock.
- The most prevalent farm size is 50 to 179 acres, with 656 farms (44.5%) in this category.
- The next most prevalent is 10 to 49 acres, with 469 (31.8%) farms.
- 10 farms (0.68%) are 1,000 acres or more.
- 551 farms (37.4%) are less than 50 acres.
- 1,067 farms (72.4%) sold less than \$10,000 of farm products.
- 22 farms (1.5%) sold more than \$100,000 of farm products.
- Wilson County ranks 6th out of 44 counties in the state for sales of cut Christmas trees and short rotation wood crops, *but figures were suppressed by the USDA in an effort to protect confidentiality.*

- The county ranks 7th out of 95 counties in the state for sales other crops and hay, with \$1 million in sales.
- The county ranks 4th out of 94 counties in the state for sales of sheep, goats, wool, mohair, and milk, with \$290,000.
- The county ranks 3rd out of 94 counties in the state for sale of horses, ponies, mules, and donkeys, with \$760,000 in sales.
- Wilson County ranks 9th out of 95 counties in the state for sales of other animals and animal products, with \$163,000.
- The county ranks 5th out of 95 counties in the state for acres of forage land, with 44,396 acres.
- The county ranks 1st out of 94 counties in the state for inventory of goats, with 3,837 head.
- The county ranks 6th out of 39 counties in the state for quail, *but figures were suppressed by the USDA in an effort to protect confidentiality.*
- The county ranks 2nd out of 95 counties in the state for inventory of horses and ponies with 2,964 head.
- 75 farms sold \$426,000 of food directly to household consumers. This is a 14-farm decrease, and a 38.3% increase in direct sales over 2007 sales of \$308,000.
- Direct sales were 2.3% of farm product sales, well above the national average of 0.3%.

Appendix II: Food Consumption Estimates for The Region, Counties, and Tennessee

Nashville MSA: markets for food eaten at home (2015):

Nashville metro area residents purchase \$4.8 billion of food each year, including \$2.7 billion to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 641 |
| Fruits & vegetables | 502 |
| Cereals and bakery products | 354 |
| Dairy products | 268 |
| “Other,” incl. sweets, fats, & oils | 968 |

If each Nashville metro area resident purchased \$5 of food each week directly from farmers in the region, this would generate \$476 million of farm income annually.

Cannon County: markets for food eaten at home (2015):

Cannon County residents purchase \$36 million of food each year, including \$21 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 5 |
| Fruits & vegetables | 4 |
| Cereals and bakery products | 3 |
| Dairy products | 2 |
| “Other,” incl. sweets, fats, & oils | 7 |

Cheatham County: markets for food eaten at home (2015):

Cheatham County residents purchase \$103 million of food each year, including \$59 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 14 |
| Fruits & vegetables | 11 |
| Cereals and bakery products | 8 |
| Dairy products | 6 |
| “Other,” incl. sweets, fats, & oils | 21 |

Davidson County: markets for food eaten at home (2015):

Davidson County residents purchase \$1.7 billion of food each year, including \$1 billion to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 238 |
| Fruits & vegetables | 186 |
| Cereals and bakery products | 131 |
| Dairy products | 99 |
| “Other,” incl. sweets, fats, & oils | 359 |

Dickson County: markets for food eaten at home (2015):

Dickson County residents purchase \$134 million of food each year, including \$77 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 18 |
| Fruits & vegetables | 14 |
| Cereals and bakery products | 10 |
| Dairy products | 8 |
| “Other,” incl. sweets, fats, & oils | 27 |

Hickman County: markets for food eaten at home (2015):

Hickman County residents purchase \$63 million of food each year, including \$36 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 9 |
| Fruits & vegetables | 7 |
| Cereals and bakery products | 5 |
| Dairy products | 4 |
| “Other,” incl. sweets, fats, & oils | 13 |

Macon County: markets for food eaten at home (2015):

Macon County residents purchase \$60 million of food each year, including \$35 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 8 |
| Fruits & vegetables | 6 |
| Cereals and bakery products | 4 |
| Dairy products | 3 |
| “Other,” incl. sweets, fats, & oils | 12 |

Maury County: markets for food eaten at home (2015):

Maury County residents purchase \$228 million of food each year, including \$131 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 31 |
| Fruits & vegetables | 24 |
| Cereals and bakery products | 17 |
| Dairy products | 13 |
| “Other,” incl. sweets, fats, & oils | 46 |

Robertson County: markets for food eaten at home (2015):

Robertson County residents purchase \$178 million of food each year, including \$102 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 24 |
| Fruits & vegetables | 19 |
| Cereals and bakery products | 13 |
| Dairy products | 10 |
| “Other,” incl. sweets, fats, & oils | 36 |

Rutherford County: markets for food eaten at home (2015):

Rutherford County residents purchase \$776 million of food each year, including \$446 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 105 |
| Fruits & vegetables | 82 |
| Cereals and bakery products | 58 |
| Dairy products | 44 |
| “Other,” incl. sweets, fats, & oils | 158 |

Smith County: markets for food eaten at home (2015):

Smith County residents purchase \$50 million of food each year, including \$29 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 7 |
| Fruits & vegetables | 5 |
| Cereals and bakery products | 4 |
| Dairy products | 3 |
| “Other,” incl. sweets, fats, & oils | 10 |

Sumner County: markets for food eaten at home (2015):

Sumner County residents purchase \$457 million of food each year, including \$263 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 62 |
| Fruits & vegetables | 48 |
| Cereals and bakery products | 34 |
| Dairy products | 26 |
| “Other,” incl. sweets, fats, & oils | 93 |

Trousdale County: markets for food eaten at home (2015):

Trousdale County residents purchase \$21 million of food each year, including \$12 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 3 |
| Fruits & vegetables | 2 |
| Cereals and bakery products | 2 |
| Dairy products | 1 |
| “Other,” incl. sweets, fats, & oils | 4 |

Williamson County: markets for food eaten at home (2015):

Williamson County residents purchase \$550 million of food each year, including \$316 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 74 |
| Fruits & vegetables | 58 |
| Cereals and bakery products | 41 |
| Dairy products | 31 |
| “Other,” incl. sweets, fats, & oils | 112 |

Wilson County: markets for food eaten at home (2015):

Wilson County residents purchase \$335 million of food each year, including \$192 million to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 45 |
| Fruits & vegetables | 35 |
| Cereals and bakery products | 25 |
| Dairy products | 19 |
| “Other,” incl. sweets, fats, & oils | 68 |

State of Tennessee: markets for food eaten at home (2015):

Tennessee residents purchase \$17 billion of food each year, including \$9.9 billion to eat at home. Home purchases break down in the following way:

| | <i>millions</i> |
|-------------------------------------|-----------------|
| Meats, poultry, fish, and eggs | \$ 2,310 |
| Fruits & vegetables | 1,811 |
| Cereals and bakery products | 1,278 |
| Dairy products | 966 |
| “Other,” incl. sweets, fats, & oils | 3,490 |

Appendix III: How Much Food is Needed to Feed All Nashville MSA Residents?

| | | Per Capita Availability Pounds, 2015 | Total Pounds |
|------------|-------------------|--|--------------|
| Vegetables | Artichokes | 1.4 | 2,562,483 |
| | Asparagus | 1.65 | 3,020,069 |
| | Beans, Lima | 0.0018 | 3,295 |
| | Beans, Snap | 1.47 | 2,690,607 |
| | Broccoli | 6.64 | 12,153,491 |
| | Brussels Sprouts | 0.46 | 841,959 |
| | Cabbage | 6.68 | 12,226,705 |
| | Carrots | 8.47 | 15,503,022 |
| | Cauliflower | 1.29 | 2,361,145 |
| | Celery | 5.53 | 10,121,808 |
| | Cucumbers | 7.4 | 13,544,553 |
| | Eggplant | 0.85 | 1,555,793 |
| | Escarole & Endive | 0.17 | 311,159 |
| | Garlic | 1.93 | 3,532,566 |
| | Green Peas (2014) | 2.3 | 4,209,794 |
| | Greens, Collard | 1.54 | 2,818,731 |
| | Greens, Mustard | 0.39 | 713,835 |
| | Greens, Turnip | 0.39 | 713,835 |
| | Kale | 0.51 | 933,476 |
| | Lettuce: Head | 14.46 | 26,466,789 |
| | Lettuce: Leaf & | | |
| | Romaine | 10.78 | 19,731,119 |
| | Mushrooms | 2.98 | 5,454,428 |
| | Okra | 0.4 | 732,138 |
| | Onions | 18.3 | 33,495,314 |
| | Peppers, Bell | 10.69 | 19,566,388 |
| | Potatoes | 33.5 | 61,316,558 |
| | Pumpkins | 5.32 | 9,737,435 |
| | Radishes | 0.48 | 878,566 |
| | Spinach | 1.67 | 3,056,676 |
| | Squash | 4.59 | 8,401,284 |
| | Sweet Corn | 7.63 | 13,965,532 |
| | Sweet Potatoes | 7.51 | 13,745,891 |
| | Tomatoes | 20.5 | 37,522,073 |

| | | Per Capita Availability Pounds, 2015 | Total Pounds |
|-------------------------|-----------------------|---|---------------------|
| Fruit | Grapefruit | 2.43 | 4,447,738 |
| | Lemons | 3.42 | 6,259,780 |
| | Limes | 3.06 | 5,600,856 |
| | Oranges & Temples | 9.35 | 17,113,726 |
| | Tangerines & Tangelos | 5.04 | 9,224,939 |
| | Apples | 18.94 | 34,666,734 |
| | Apricots | 0.12 | 219,641 |
| | Avocados | 6.52 | 11,933,849 |
| | Bananas | 27.9 | 51,066,626 |
| | Blackberries | 0.08 | 146,428 |
| | Blueberries | 1.54 | 2,818,731 |
| | Cantaloupe | 6.99 | 12,794,112 |
| | Cherries | 1.19 | 2,178,111 |
| | Cranberries | 0.07 | 128,124 |
| | Dates | 0.5 | 915,173 |
| | Figs | 0.21 | 384,372 |
| | Grapes | 7.72 | 14,130,263 |
| | Honeydew | 1.65 | 3,020,069 |
| | Kiwi | 0.51 | 933,476 |
| | Mangoes | 2.5 | 4,575,863 |
| | Olives | 0.88 | 1,610,704 |
| | Papayas | 1.14 | 2,086,593 |
| | Peaches & Nectarines | 3.26 | 5,966,925 |
| | Pears | 2.87 | 5,253,090 |
| | Pineapple | 7.18 | 13,141,877 |
| | Prunes & Plums | 0.58 | 1,061,600 |
| | Raspberries | 0.49 | 896,869 |
| | Strawberries | 7.95 | 14,551,243 |
| | Watermelon | 13.47 | 24,654,747 |
| Grains | Barley | 0.73 | 1,336,152 |
| | Durum Flour (2010) | 12 | 21,964,140 |
| | Oats | 4.5 | 8,236,553 |
| | Rice (2010) | 20.4 | 37,339,038 |
| | Rye | 0.5 | 915,173 |
| | Wheat Flour | 134.7 | 246,547,472 |
| Dairy & Milk | Fluid Milk & Cream | 173.7 | 317,930,927 |
| | Dry Milk Products | 3.6 | 6,589,242 |
| | Cheese | 30.7 | 56,191,592 |
| | Cottage Cheese | 2.1 | 3,843,725 |
| | Condensed & | | |
| | Evaporated Milk | 0.9 | 1,647,311 |
| | Frozen Dairy Products | 21.9 | 40,084,556 |
| Eggs | Eggs | 34.9 | 63,879,041 |

| | Food item | Per Capita Availability Pounds, 2015 | Total Pounds |
|--------------|---------------------------------|---|---------------------|
| Meats | Beef | 76.9 | 140,753,531 |
| | Veal | 0.3 | 549,104 |
| | Pork | 59.1 | 108,173,390 |
| | Lamb | 1.1 | 2,013,380 |
| | Chickens total | 97.5 | 178,458,638 |
| Fish | Fresh/Frozen Fish and Shellfish | 10.8 | 19,767,726 |
| | Canned Fish and Shellfish | 3.3 | 6,040,139 |
| | Cured Fish and Shellfish | 0.3 | 549,104 |
| | | | - |
| Nuts | Almonds | 1.7 | 3,111,587 |
| | Hazelnuts (filberts) | 24.8 | 45,392,556 |
| | Peanuts | 7 | 12,812,415 |
| | Pecans (filberts) | 0.5 | 915,173 |
| | Pistachio Nuts | 0.2 | 366,069 |
| | Coconuts | 0.9 | 1,647,311 |
| | Walnuts | 0.4 | 732,138 |
| | Other Tree Nuts | 1.2 | 2,196,414 |

Source: USDA Food Availability Data, 2015 (except where otherwise noted).

Appendix IV: Meal Sites Served by Nashville Food Project

Bethlehem Center

100 snacks weekly to a family resource center offering after-school and summer programs.

Begin Anew

45 meals weekly for a group that empowers women to break cycles of poverty by offering education & mentoring.

The Contributor

30 weekly meals for vendor trainings, for a street newspaper that empowers homeless men & women.

Famith Family Medical Center

12 meals bimonthly for an organization that provides full service medical care to the working uninsured and underinsured patients.

The Family Center

25 meals weekly for a nonprofit that prevents child abuse and neglect by empowering parents.

Fisk Courts

Monthly fresh market at an affordable-housing option run by UHS for formerly homeless individuals.

Friends Life Community

30 lunches twice weekly for a nonprofit serving adults with developmental and intellectual disabilities.

Front Porch Ministry

75 weekly meals for a safe neighborhood retreat for kids & moms in McFerrin Park.

Gentlemen and Not Gangsters

30 meals weekly for a youth mentoring group partnered with Metro Juvenile Courts.

Green Street Sanctuary

20 weekly meals for camp residents at a transitional space for individuals experiencing homelessness to camp.

John Glenn & Peggy Ann

60 meals weekly at residential centers providing affordable housing for low-income seniors.

LEAF Community Nights

80+ meals weekly for a collaborative community night for non-English language background families.

Nashville Cares

30 meals bi-weekly, for this group that provides resources & support to people diagnosed with, or at risk of contracting HIV.

Nations Ministry Center

60 snacks weekly for a program that supports refugees in rebuilding lives through education & job training.

Oasis Center

20 meals weekly at a community-based youth center that focuses on education & workforce development.

Open Table Nashville

25 meals and warming-shelter support for a nonprofit that addresses issues of homelessness.

Operation Stand Down

100 meals weekly at a service center for veterans & their families.

Pathways Women's Business Center

15 meals weekly for a project that provides business training, counseling and peer-to-peer learning.

Preston-Taylor Ministries

140 snacks weekly at a family resource center offering after-school & summer programs.

Project Return

25 meals weekly for a nonprofit that equips former offenders to gain employment & start a new life.

Salvation Army

150 snacks weekly at a family resource center offering programs on nutrition and active lifestyle for kids.

South Nashville Family Resource Center

45 snacks weekly for a family resource center offering after-school & summer programs.

St. Luke's Community House

250+ meals & snacks daily at a family resource center offering preschool & senior mobile meals programs.

Trinity Community Ministry

50 meals for community outreach offering a family-style meal to foster neighbors connecting.

Vine Hill Towers

60 meals at a public housing project for seniors, with one floor run by Matthew 25.

Appendix V: Citizen Kitchens Partners

Bao Down
Beav's BBQ
Brightside Bakery
Burch Milks
Chef Keith Batts
Crimson Witch
Delta Cheese Straws
Dinner Belle
Frisson Soft Serve
Gambling Stick
KOKOS
MEEL
Nashalo Farms
Nashville Grown
Pied Piper Creamery
Shotgun Willie's
Nashville Cattle Company
Sifted
Spring Sports Nutrition
Sweet Chips
Tacos Maria
The Bloomy Rind
Trailer Perk
Two Goats
Village Bakery and Provisions
Whisked and Ready
Wise Butter
Wolfe Gourmet Cakes

Appendix VI: Institutional Purchasing Opportunities

Based on a combination of local data and national averages, this data bite estimates the number of meals served daily and annually for Nashville area institutions. Then it projects the annual food budget, including specific estimates for produce expenditures. Whenever possible, local level data was collected directly through first hand interviews (primary data — shaded green) or from publicly available resources such as websites, annual reports, and databases (secondary data — shaded blue).

When specific data was not available for the listed entity through the above-mentioned resources, calculations and estimations were made based on the collected data and national averages (orange). For example, the estimated number of meals a school may serve on a daily basis is based on that specific school's student and staff counts but calculated based on national school lunch participation rates.

Thus, nearly all of the numbers included in these tables are just estimates and do not necessarily reflect the reality at each institution. For example, hospitals with really robust and appealing food service programs may have significant staff patronage in addition to patient services. Conversely, prisons tend to experience low staff patronage, if any at all. The purpose of these data sets is to estimate the magnitude of the various institutional food markets, and to propose what may be possible through widespread farm-to-institution procurement.

Any cell highlighted in green contains data collected from the specific institution; orange cells contain data collected about the specific institution from other sources, and red cells are estimates that include national averages.

| |
|--|
| Primary Data |
| Secondary Data |
| Calculations Based on Primary, Secondary, Data and National Averages |

See following pages for data

Public School Purchasing

| School District Name | # of Employees | # of Students | Estimated # of Meals Served Daily | Estimated # of Meals Served Annually | Estimated Total Annual Food Budget | Current Local/FTS Spending | Estimated Annual Produce Budget |
|----------------------|----------------|----------------|-----------------------------------|--------------------------------------|------------------------------------|----------------------------|---------------------------------|
| Cannon County | 307 | 2,087 | 1,407 | 253,244 | \$400,000 | \$2,000 | \$60,000 |
| Cheatham County | 6,447 | 6,447 | 6,189 | 1,114,042 | \$1,336,850 | | \$200,527 |
| Dickson County | 10,578 | 8,493 | 8,779 | 1,580,180 | \$1,896,216 | \$500 | \$284,432 |
| Franklin SSD | 659 | 3,741 | 2,667 | 480,017 | \$1,822,140 | \$175,000 | \$273,321 |
| Hickman County | 494 | 3,611 | 2,531 | 455,663 | \$546,795 | | \$82,019 |
| Lebanon SSD | 526 | 3,799 | 2,665 | 479,725 | \$575,670 | | \$86,351 |
| Macon County | 533 | 3,848 | 2,700 | 485,924 | \$583,109 | | \$87,466 |
| Maury County | 1,617 | 12,259 | 8,576 | 1,543,687 | \$2,218,570 | \$45,000 | \$332,786 |
| Metro Nashville | 10,013 | 115,131 | 78,990 | 14,218,265 | \$13,365,169 | \$11,352 | \$4,000,000 |
| Murfreesboro City | 1,294 | 7,800 | 5,536 | 2,200,000 | \$4,000,000 | | \$600,000 |
| Robertson County | 1,528 | 11,636 | 8,138 | 1,464,869 | \$1,000,000 | \$40,000 | \$150,000 |
| Rutherford County | 3,629 | 41,893 | 28,738 | 5,172,854 | \$10,000,000 | \$3,000,000 | \$1,500,000 |
| Smith County | 484 | 3,172 | 2,239 | 402,970 | \$82,000 | \$20,000 | \$12,300 |
| Sumner County | 3,816 | 28,903 | 20,221 | 3,639,740 | \$5,000,000 | \$150,000 | \$750,000 |
| Trousdale County | 177 | 1,225 | 862 | 155,088 | \$186,106 | | \$27,916 |
| Williamson County | 4,245 | 35,578 | 24,755 | 4,455,896 | \$5,347,076 | | \$802,061 |
| Wilson County | 2,087 | 17,079 | 11,898 | 2,141,683 | \$1,500,000 | \$10,000 | \$225,000 |
| Total | 48,434 | 306,702 | 216,891 | 40,243,848 | \$49,859,701 | \$3,453,852 | \$9,474,180 |

| |
|--|
| Primary Data |
| Secondary Data |
| Calculations Based on Primary, Secondary, Data and National Averages |

Higher Education Purchasing

| Institution | # of Faculty | # of Students | Operator of Food Service Program | Estimated # of Meals Served Daily | Estimated # of Meals Served Annually | Estimated Total Annual Food Budget | Estimated Annual Produce Budget |
|-----------------------------------|--------------|---------------|----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|---------------------------------|
| Vanderbilt | 4,195 | 12,587 | Self-Operated | 8,727 | 1,570,795 | \$5,800,000 | \$870,000 |
| Belmont | 779 | 7,723 | Sodexo | 4,421 | 795,787 | \$3,183,149 | \$477,472 |
| Lipscomb | 343 | 4,632 | Sodexo | 2,587 | 465,660 | \$1,862,640 | \$279,396 |
| Tennessee State University | 544 | 8,753 | Aramark | 4,834 | 870,199 | \$3,480,797 | \$522,120 |
| Tennessee Tech University | 550 | 10,321 | Chartwells | 5,653 | 1,017,526 | \$4,070,102 | \$610,515 |
| Austin Peay State University | 300 | 10,344 | Compass | 5,535 | 996,278 | \$3,985,114 | \$597,767 |
| University of the South | 170 | 1,710 | Self-Operated | 978 | 175,968 | \$703,872 | \$105,581 |
| Cumberland University | 111 | 1,550 | Compass | 864 | 155,443 | \$621,771 | \$93,266 |
| Middle Tennessee State University | 1,263 | 22,729 | Aramark | 12,476 | 2,245,625 | \$8,982,501 | \$1,347,375 |
| Total | 8,254 | 80,349 | | 46,074 | 8,293,282 | \$32,689,946 | \$4,903,492 |

| |
|--|
| Primary Data |
| Secondary Data |
| Calculations Based on Primary, Secondary, Data and National Averages |

Prison Purchasing

| Institution | # of Employees | # of Prisoners | Operator of Food Service Program | Estimated # of Meals Served Daily | Estimated # of Meals Served Annually | Estimated Total Annual Food Budget |
|--|----------------|----------------|----------------------------------|-----------------------------------|--------------------------------------|------------------------------------|
| Lois M. DeBerry Special Needs Facility | 432 | 672 | Aramark | 2,016 | 735,840 | \$1,177,344 |
| Riverbend Maximum Security Institution | 336 | 776 | Aramark | 2,328 | 849,720 | \$1,359,552 |
| Turney Center Industrial Complex | 416 | 1,561 | Aramark | 4,683 | 1,709,295 | \$2,734,872 |
| Tennessee Prison for Women | 212 | 720 | Aramark | 2,160 | 788,400 | \$1,261,440 |
| Total | 1,396 | 3,729 | | 11,187 | 4,083,255 | \$6,533,208 |

| |
|--|
| Primary Data |
| Secondary Data |
| Calculations Based on Primary, Secondary, Data and National Averages |

Hospital Purchasing

| Institution | City | County | # of Patient Beds | Estimated # of Meals Served Daily | Estimated # of Meals Served Annually | Estimated Annual Food Budget | Estimated Annual Produce Budget |
|--|----------------|------------|-------------------|-----------------------------------|--------------------------------------|------------------------------|---------------------------------|
| TriStar Centennial Medical Center | Nashville | Davidson | 657 | 1,971 | 719,415 | \$1,151,064 | \$172,660 |
| TriStar Centennial Medical Center at Ashland City | Ashland City | Cheatham | 12 | 36 | 13,140 | \$21,024 | \$3,154 |
| Tennova Gateway Medical Center | Clarksville | Montgomery | 270 | 810 | 295,650 | \$473,040 | \$70,956 |
| TriStar Hendersonville Medical Center | Hendersonville | Sumner | 148 | 444 | 162,060 | \$259,296 | \$38,894 |
| Hickman Community Hospital (Saint Thomas Hickman Hospital) | Centerville | Hickman | 65 | 195 | 71,175 | \$113,880 | \$17,082 |
| TriStar Horizon Medical Center | Dickson | Dickson | 157 | 471 | 171,915 | \$275,064 | \$41,260 |
| Maury Regional Medical Center | Columbia | Maury | 255 | 765 | 279,225 | \$446,760 | \$67,014 |
| Middle Tennessee Medical Center | Murfreesboro | Rutherford | 286 | 858 | 313,170 | \$501,072 | \$75,161 |
| Nashville General Hospital | Nashville | Davidson | 116 | 719 | 262,476 | \$600,000 | \$90,000 |
| Saint Thomas Hospital (west) | Nashville | Davidson | 541 | 1,623 | 592,395 | \$947,832 | \$142,175 |
| Saint Thomas Midtown | Nashville | Davidson | 683 | 2,049 | 747,885 | \$1,196,616 | \$179,492 |
| Saint Thomas Rutherford | Murfreesboro | Rutherford | 286 | 858 | 313,170 | \$501,072 | \$75,161 |
| TriStar Skyline Medical Center | Nashville | Davidson | 295 | 885 | 323,025 | \$516,840 | \$77,526 |
| TriStar Skyline Medical Center - Madison Campus | Nashville | Davidson | - | - | - | \$- | \$- |
| TriStar Southern Hills Medical Center | Nashville | Davidson | 87 | 261 | 95,265 | \$152,424 | \$22,864 |
| TriStar Stonecrest Medical Center | Smyrna | Rutherford | 109 | 327 | 119,355 | \$190,968 | \$28,645 |
| TriStar Summit Medical Center | Hermitage | Davidson | 200 | 600 | 219,000 | \$350,400 | \$52,560 |
| Tennova University Medical Center | Lebanon | Wilson | 245 | 735 | 268,275 | \$429,240 | \$64,386 |
| Vanderbilt Children's Hospital | Nashville | Davidson | 267 | 801 | 292,365 | \$467,784 | \$70,168 |
| Vanderbilt Medical Center | Nashville | Davidson | 1,019 | 3,057 | 1,115,805 | \$1,785,288 | \$267,793 |
| Williamson Medical Center | Franklin | Williamson | 185 | 555 | 202,575 | \$324,120 | \$48,618 |
| NorthCrest Medical Center | Springfield | Robertson | 80 | 240 | 87,600 | \$140,160 | \$21,024 |
| Total | | | 5,963 | 18,250 | 6,664,941 | \$10,843,944 | \$1,626,592 |

| |
|--|
| Primary Data |
| Secondary Data |
| Calculations Based on Primary, Secondary, Data and National Averages |

Appendix VII: Metro Nashville Public Schools Contracts & Data

| Locally Sourced Produced Purchased from May 2016 - Jan 2017 | Pounds | Value |
|--|---------------|-----------------|
| Strawberries from Green Door Gourmet | 1,608 | \$3,752 |
| Braeburn Apples from IWC | 460 | \$447 |
| Green Peppers from McCartney | 2,801 | \$2,152 |
| Tomatoes from McCartney | 4,678 | \$3,468 |
| Sweet Potatoes from McCartney | 4,080 | \$1,533 |
| Total | 13,627 | \$11,352 |

Appendix VIII: Results of Farmer Survey

Highlights of our farmer survey are included in the narrative above. This Appendix provides a more complete view of the survey, the procedures we followed, and more detailed results.

It is important to note that with only 14 respondents, survey results cannot be considered representative of any broader sample of Nashville region farms. These results apply only to the farms that responded to the survey, and do not indicate general conditions or trends.

Cover Letter

We are surveying regional farmers to gauge your interest in supplying local institutions with the foods you grow. Our survey is part of a Metro Nashville food system assessment, funded by the Tennessee Department of Health and Human Services. Using the answers you provide, we will make recommendations that could provide you with new sales outlets. You can learn more about the project at: <http://www.crcworks.org/nashville.html>

Your participation is completely voluntary. You can choose to skip any question that you prefer not to answer. You can choose to stop or withdraw from participating in this survey at any time. There will be no negative consequences if you choose to stop.

Your responses will be confidential and anonymous, unless you choose to give identifying information. Your answers will be shared only with the research team, Megan Phillips Goldenberg of New Growth Associates and Ken Meter of Crossroads Resource Center.

This survey will take 10-15 minutes. Thank you in advance for taking the time to provide us your insights.

General Information

1) What is your primary role on the farm?

| Possible Answers | Count |
|--------------------|-------|
| Owner and Operator | 13 |
| Production Manager | 1 |
| Total | 14 |

2) How long has this farm business been in operation? Please answer in years.

| Descriptors | |
|-------------|-----|
| Average | 8.7 |
| Max | 45 |
| Min | 1 |
| Total | 122 |

3) How many acres do you have in specialty crop (fruits, vegetables, herbs) production?

| Acres in Specialty Crop | |
|--|-------|
| Average | 17.9 |
| Max | 150 |
| Min | 0 |
| Total | 250.5 |
| Share of Farm in Specialty Crop Production (%) | |
| Average | 27.3 |
| Max | 100 |
| Min | 0 |

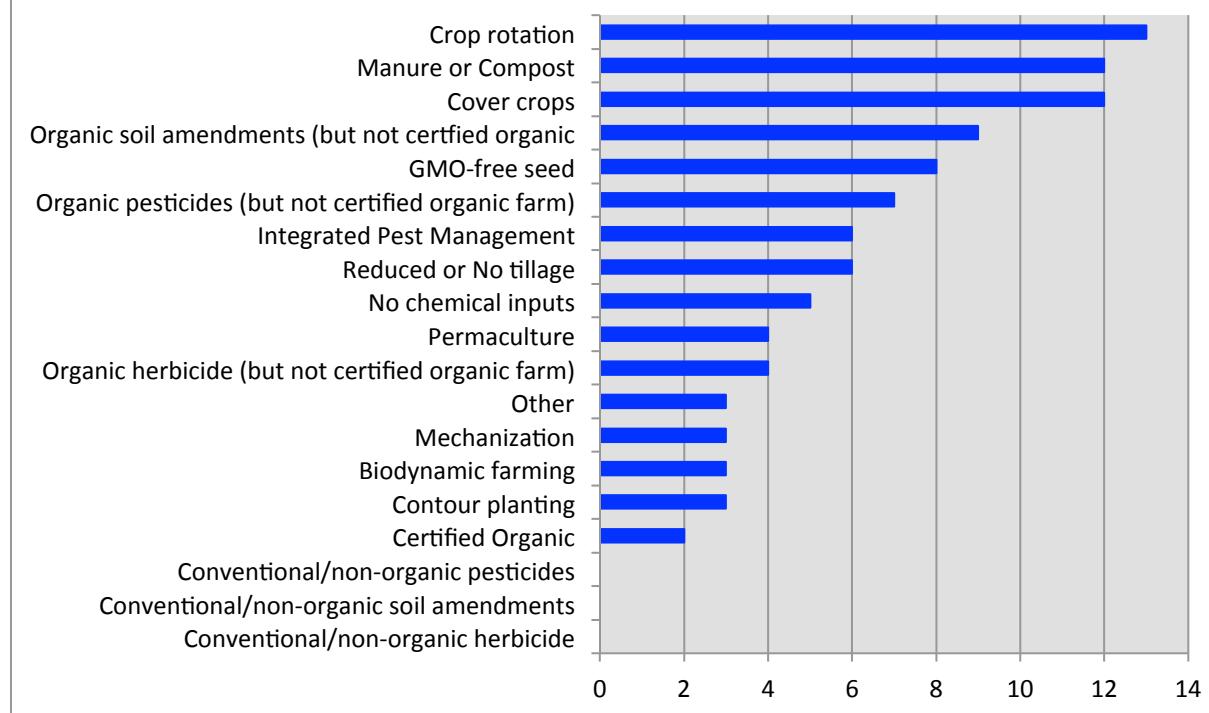
4) What is the total size of your farm, including acres that you own/rent/lease/share?

| Total Farm Size | |
|-----------------|------|
| Average | 128 |
| Max | 480 |
| Min | 0.5 |
| Total | 1792 |

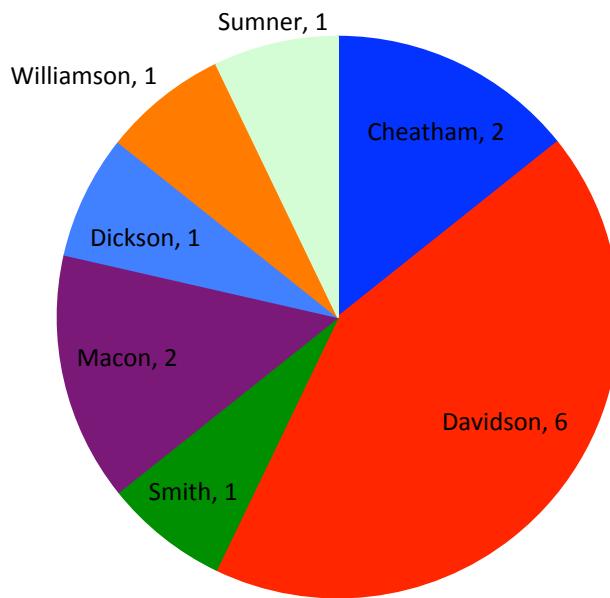
5) What is your relationship to the majority of your farmland?

| | |
|--------------------------|-----------|
| I own it | 11 |
| I rent or lease it | 2 |
| I work for the landowner | 1 |
| Total | 14 |

6) Which practices do you utilize on your farm for plants and crops (check all that apply)



7) In which county is your farm located?



- 8) Estimate what percentage of your total 2016 production (based on sales) were in each of the categories below:**

| | Average (%) | Max (%) | Min (%) |
|--------------------------------------|-------------|---------|---------|
| Vegetables | 56.8 | 100.0 | 0.0 |
| Meat | 16.3 | 100.0 | 0.0 |
| Herbs | 13.1 | 100.0 | 0.0 |
| Other | 20.0 | 100.0 | 0.0 |
| Fruit | 0.9 | 5.0 | 0.0 |
| Field Crops | 0.6 | 7.0 | 0.0 |
| Eggs | 0.0 | 0.0 | 0.0 |
| Milk and Other Dairy Products | 0.0 | 0.0 | 0.0 |
| Specialty Grain | 0.0 | 0.0 | 0.0 |

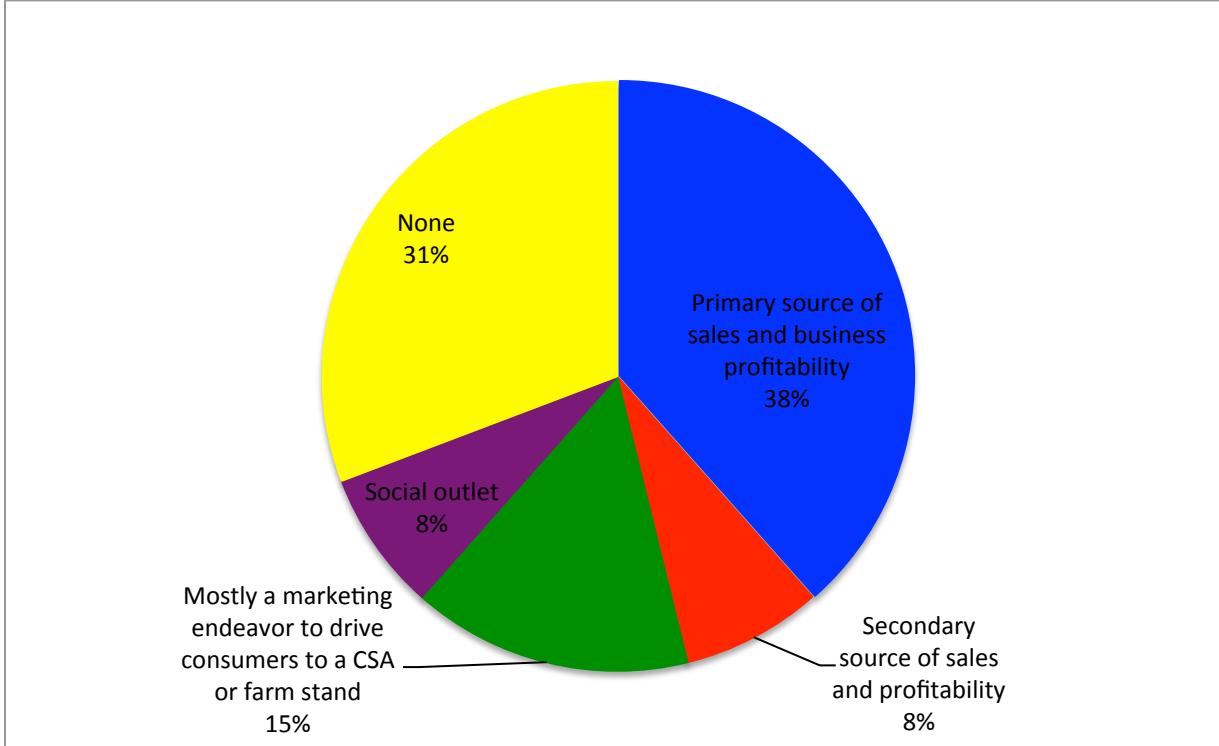
- 9) For each market channel listed below, what percentage of your products do you sell through each channel, annually?**

| | Average (%) | Max (%) | Min (%) |
|---|-------------|---------|---------|
| Community Supported Agriculture (CSA) | 28.9 | 100.0 | 0.0 |
| Farmers Market | 20.8 | 95.0 | 0.0 |
| Restaurants/caterers | 13.8 | 100.0 | 0.0 |
| Farm Stand | 4.5 | 50.0 | 0.0 |
| Other Direct Sales to Household Consumers | 13.6 | 75.0 | 0.0 |
| Broker/Distributor/Wholesaler/Aggregator | 1.4 | 10.0 | 0.0 |
| Large Grocery Retail (Kroger, ALDI, Whole Foods, etc.) | 0.0 | 0.0 | 0.0 |
| U Pick | 0.0 | 0.0 | 0.0 |
| Donation Direct to Food Bank(s) | 0.3 | 3.0 | 0.0 |
| Independent Grocery (co-ops, The Turnip Truck, etc.) | 0.2 | 2.0 | 0.0 |
| Other Direct Sales to Retail Outlet | 0.4 | 5.0 | 0.0 |
| Sales Direct to Food Bank(s) | 0.4 | 3.0 | 0.0 |
| Repacker | 0.0 | 0.0 | 0.0 |
| Direct to Institutions (hospitals, schools, colleges, prisons, etc.) | 0.0 | 0.0 | 0.0 |
| Growers' Cooperative | 0.0 | 0.0 | 0.0 |
| Other Farm Operations | 0.0 | 0.0 | 0.0 |
| Processor, Mill, Packer | 0.0 | 0.0 | 0.0 |
| Other | 0.0 | 0.0 | 0.0 |

| Aggregated Marketing Channels | Average (%) |
|-------------------------------|-------------|
| Direct to Consumer | 75.6 |
| Direct to Retailer | 16.9 |
| Other | 6.2 |
| Direct to Institution | 1.6 |

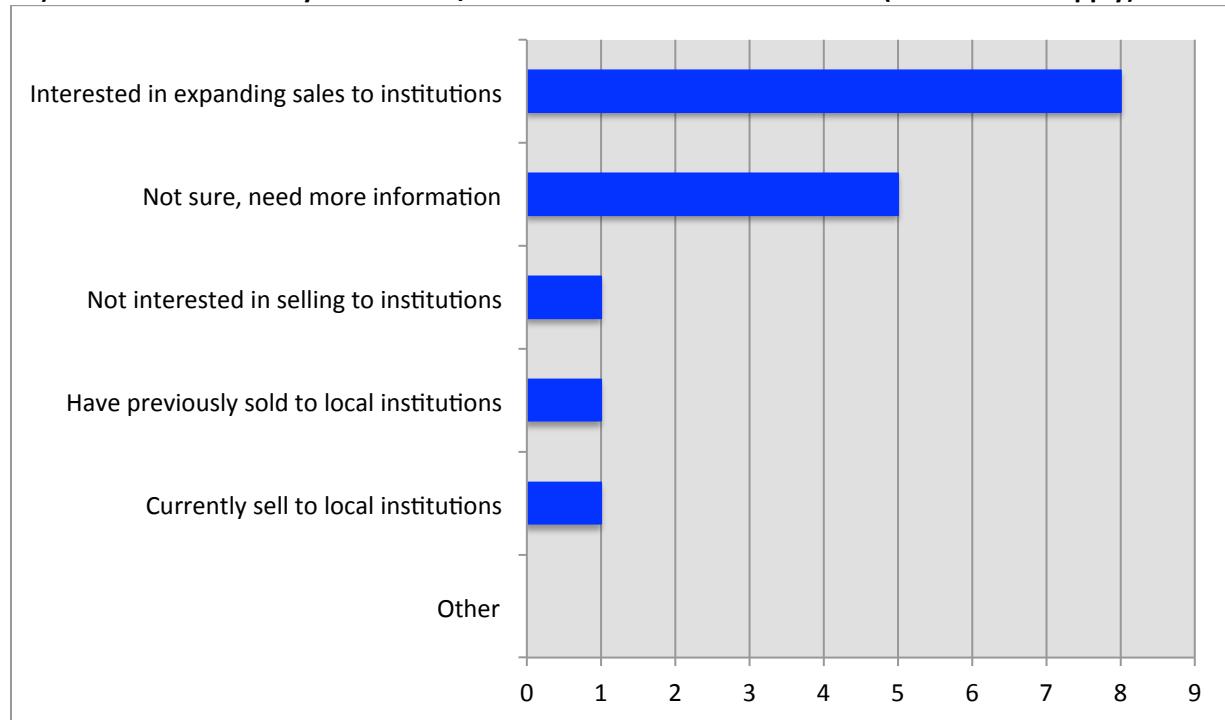
Farmers Market Participation

10) What is the primary role farmers market sales play in your business plan?

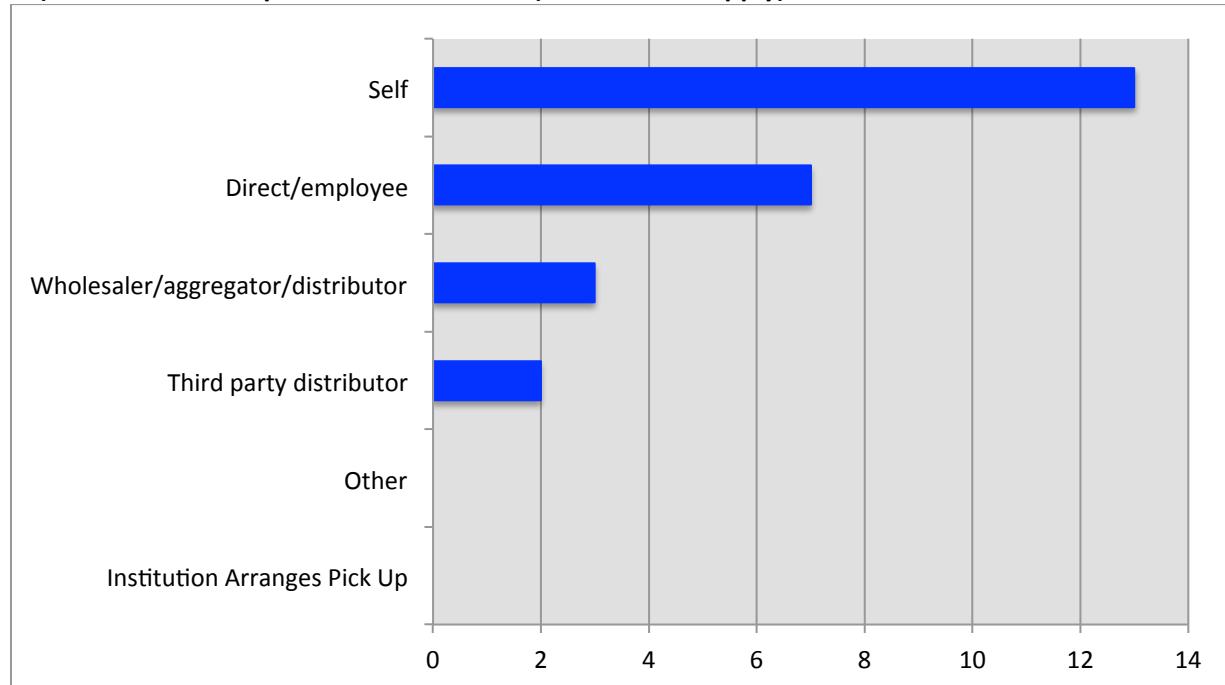


Institutional and Wholesale Sales

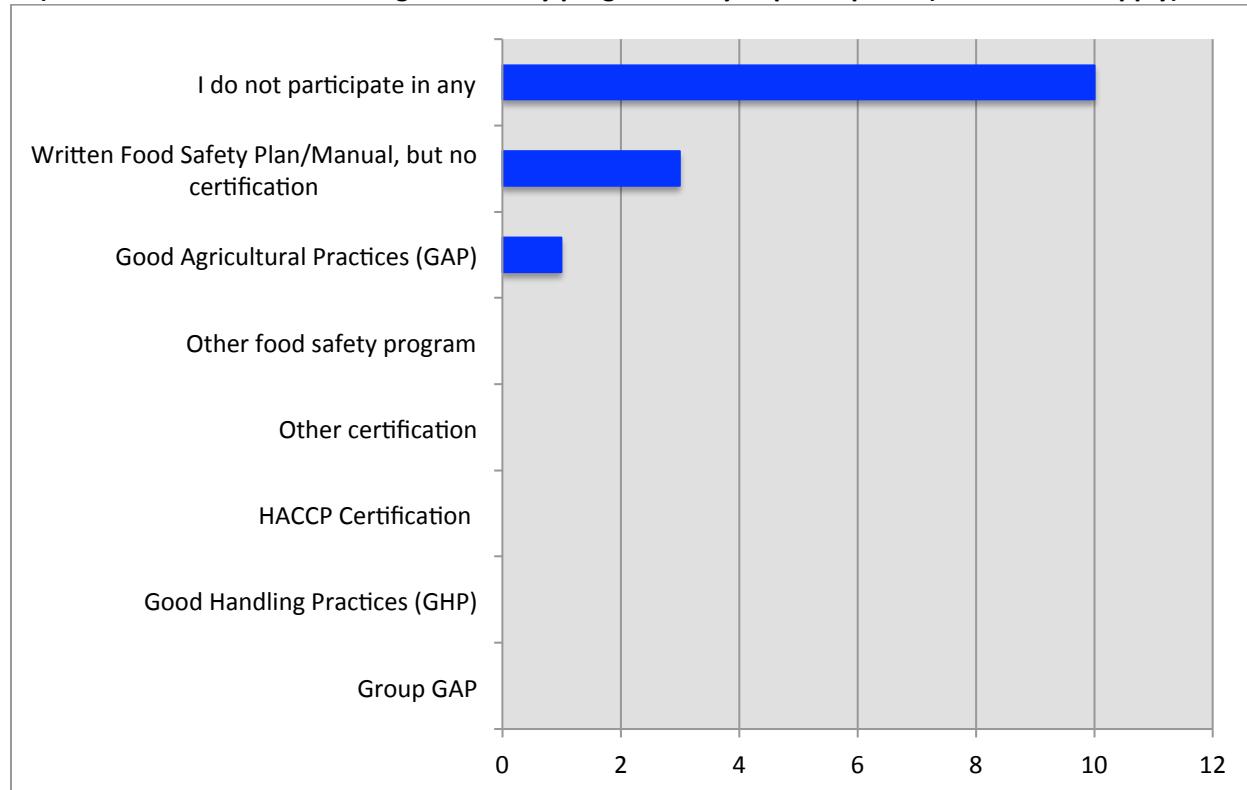
11) Please describe your interest/involvement in institutional sales (check all that apply).



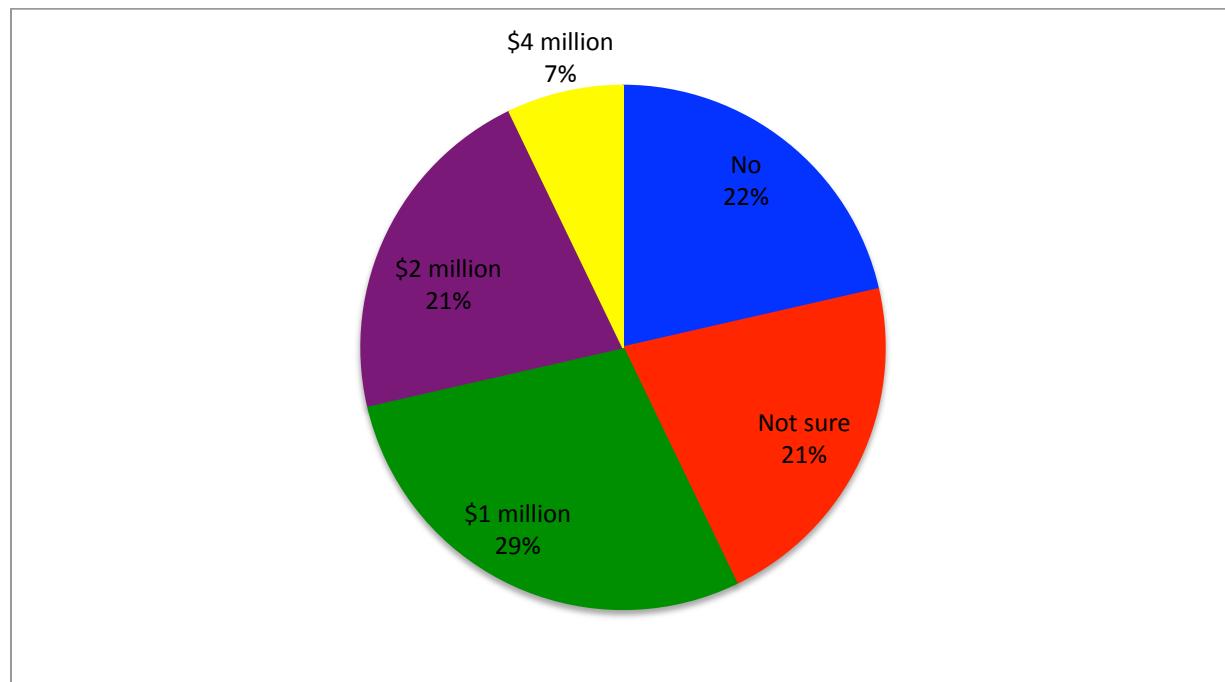
12) How are the products distributed? (check all that apply)



13) In which of the following food safety programs do you participate? (check all that apply):

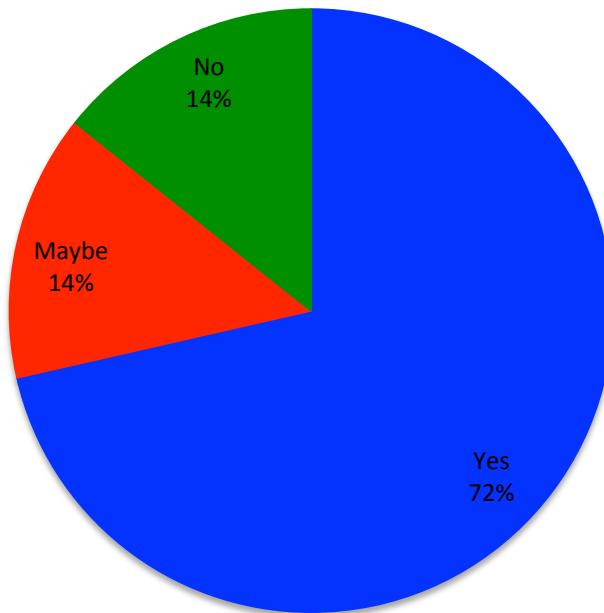


14) Do you carry product liability insurance?

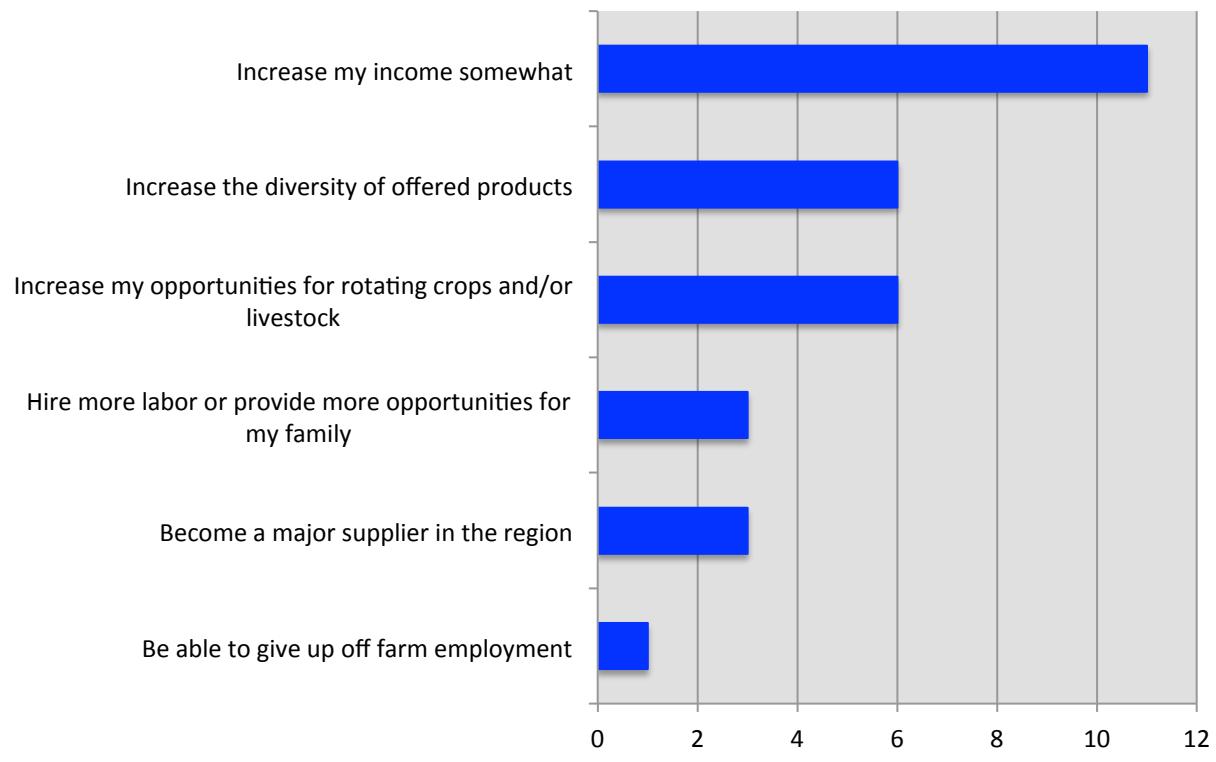


Expanding Farm Businesses

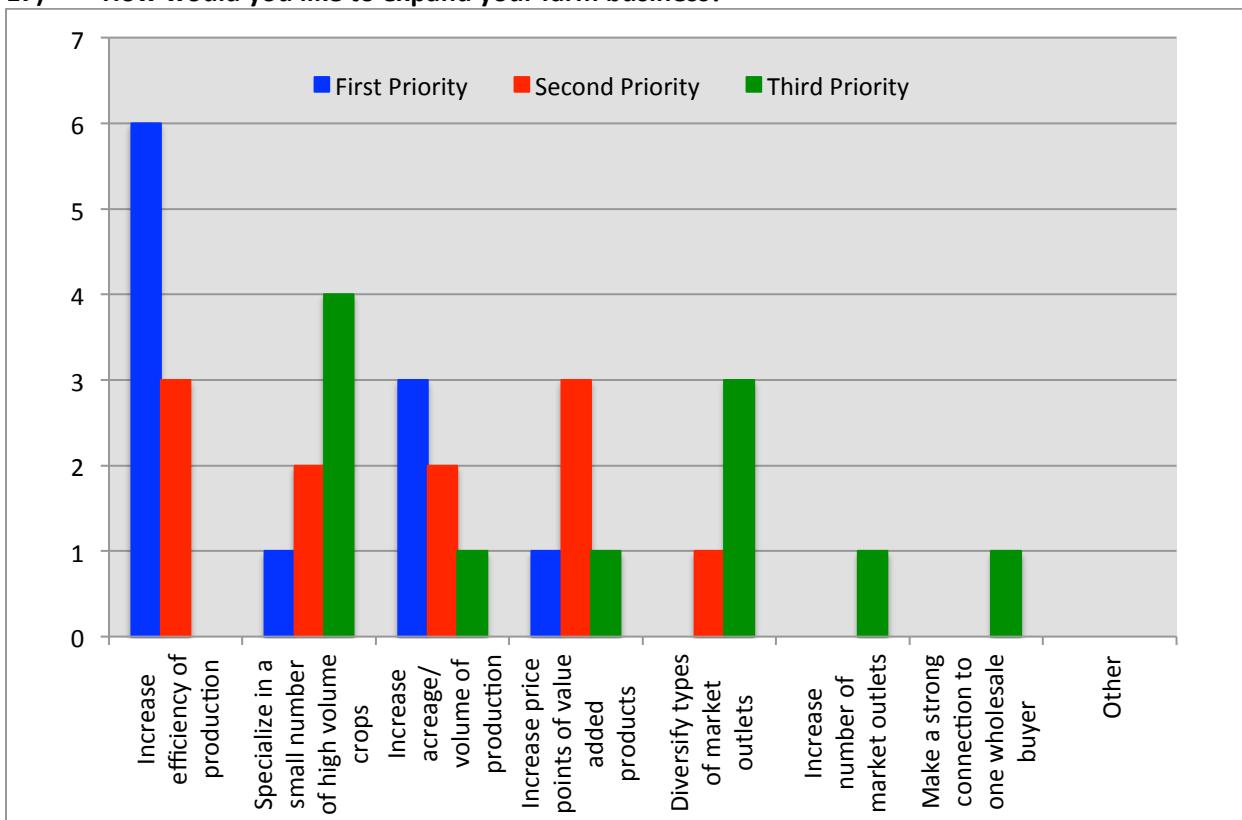
15) Are you interested in expanding your farm business?



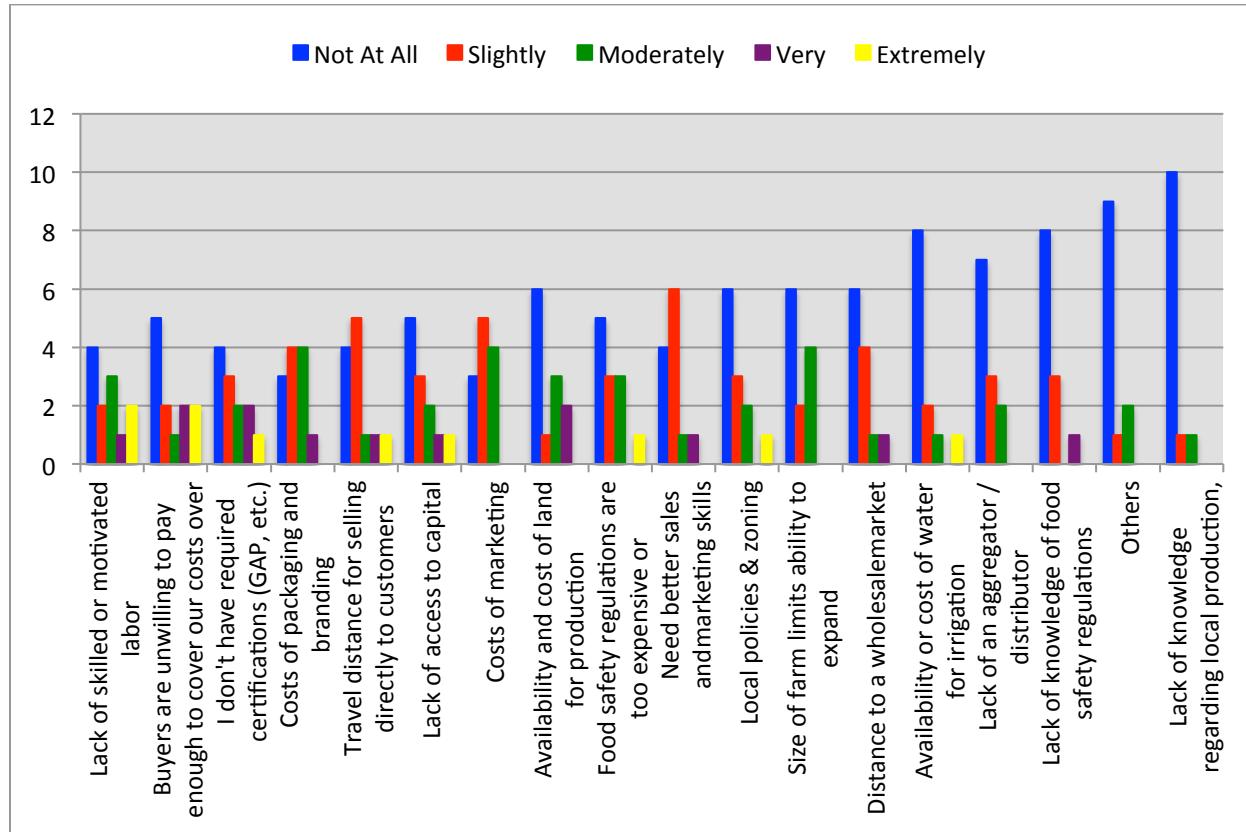
16) What would be your main purpose for expanding your farm operation? Check all that apply.



17) How would you like to expand your farm business?



18) To what degree do the following barriers create challenges to the expansion of your farm business?



19) What additional challenges have you encountered in expanding your farm business? How did/are you dealing with these challenges?

- Regulatory agencies that do not communicate between themselves, inter departmentally as well as state versus local. Tax burden is also a hindrance for doing anything more than commodity farming.
- Labor costs are high.
- Finding the right products for the best market sales
- Wanting to keep it local but facing the uphill work of educating the local populace about the value and use of seasonal local food. also, the realities of aging and caring for family make it necessary to use our energy in such a way that we can make a living without using every ounce of our living energy.
- Developing Local Farmers Markets in Rural/Surrounding areas. It is very difficult to get all producers to work together to develop new markets.
- Marketing all produce
- Labor. We are working on hiring workers.

20) Do you have any final thoughts, comments, or suggestions regarding expanding your farm business?

- Selling to an institution would be helpful.
- I am willing to provide input or assistance in anyway to help this food plan and it's implementation come to fruition
- Additional help, such as mentor program, could help.
- Developing a progressive business plan

Appendix IX: Food Systems Coordinator Positions in Other Regions

Extension Based Local Foods Coordinator

Michigan State University Extension in collaboration with Washtenaw County Office of Economic Development created the position of a Local Foods Coordinator – a full-time employee of MSU Extension charged to help local farmers and food businesses make more transactions in order to boost economic development within the county. This person's specific duties and responsibilities include building relationships with the various entities of the local food system, holding educational events to bring institutional buyers and sellers together, and to raise the public's awareness of locally produced food in direct-sales markets. This person also provides food safety resources to producers and processors, works with producers to develop the necessary business acumen for meeting the retail food sectors' needs, and seeks out opportunities for expanding distribution outlets and processing capacity for local fruits and vegetables.

Hosting education events for local farms is a critical part of the coordinator's responsibilities. Developing workshops and trainings that address topics such as wholesale readiness - grading, food safety, pricing – as well as financial information such as understanding cost-benefit analysis, loan options, and access to capital are also addressed. Educating farmers and processors on current food safety standards and helping farmers interested in selling to institutional markets obtain GAP/GHP and GroupGAP certification is a major responsibility.

In addition to education, this person also networks on behalf of the Washtenaw County farmers to help “match-make” with local restaurants, retailers, and institutional and wholesale purchasers. A long-term goal of aggregating local product to help minimize the logistical struggle of institutional sales is also a part of this local coordinators plan of work.

Salary: \$30,000, renewed annually

Educational Requirement: Bachelor's degree and two years of experience in program management and delivery in area of focus; proficient computer operation skills (e.g. Microsoft Word, Excel, PowerPoint, etc.); and effective oral and written communication skills. Combination of education and specific, relevant experience may be considered in lieu of degree. Additional experience in area of expertise may be desired.

Programmatic Budget: \$5,000 annually

Funding Source: County Office of Economic Development

Local Foods Coordinator

The Local Foods Coordinator provides strong outreach, organizing, and communication skills, supports the advancement of the local food & farming economy in northern Michigan. The Local Foods Coordinator works with the local food and farming program director and an advisory committee to identify and advance key local food and farming initiatives in the Northern Farms Foodshed. It supports a burgeoning farm to school movement through engagement with local farmers, school administrators, teachers, parents and other stakeholders; oversees the expansion of the local FoodCorps program,

including supporting additional schools in their efforts to source local food for their school lunch programs, integrating farm to school activities with curriculum, and supporting school gardens; supports regional food pantries in their efforts to offer more healthful, local food to all members of our community; and, serves as a community liaison by working collaboratively with other individuals and organizations advancing the local food and farming economy throughout the Northern Farms Foodshed.

Salary:

Qualifications: A bachelor's degree or higher level of educational attainment. Plus demonstrated experience with and/or deep knowledge of local food and farming systems, strategies, and economics; ability to write persuasive opinion pieces, marketing materials, and reports; organizing skills that motivate, guide, and engage citizens, businesspeople, and officials around local food and farming issues; capacity to raise donor and grant funds; and, excellent relationship building, outreach, and self-organizing skills.

Programmatic Budget:

Funding Source:

Food Systems Program Manager

The Food Systems Program Manager works with staff, interns, volunteers, and partner organizations to facilitate the development of food system improvement projects in northwest Lansing that result in increased knowledge about nutrition education and the availability and consumption of healthy foods for all residents. Projects include: garden-based nutrition education and maintenance of children's gardens in four elementary schools; parent engagement and adult nutrition education; working with partner organizations on increasing local farm-to-school projects and building healthier school environments; coordination of taste samplings and various venues; and assistance with coordination of the seasonal Westside Farmers Market/Mobile Farmers Market, and other special events.

Salary: \$33,500

Qualifications: An appropriate bachelor's degree from an accredited institution; Previous experience in community economic development or community organizing; Experience with Supplemental Nutritional Assistance Program (SNAP) Education; Demonstrated experience with agriculture, community food systems development, food security, nutrition education, and gardening; Demonstrated experience with community engagement, including meeting facilitation, mobilizing and coordinating volunteers, working with a diverse group of people, and managing multiple projects; Demonstrated ability to take initiative and to do professional work both independently and as part of a team; Exceptional organizational practices, strong computer skills, well-honed multi-tasking abilities, fine attention to detail, and outstanding written and oral communication skills; Must have reliable transportation to get to and from various work sites

Programmatic Budget:

Funding Source:

Food System Policy Director

The Food System Policy Director is accountable for improving challenges and inequities within the complex range of food system issues with an initial focus on food access and food insecurity. The Director reports to the Community Services Administrator and serves as a liaison between the City and the New Haven Food Policy Council (NHFPC) and its Working Groups. The director works collaboratively across City departments and sectors to share information, integrate food policy work into the departments and organization across the City, carry out the mission of the NHFPC, expand and document impact and support the implementation of the Food Action Plan. The New Haven Food Action Plan includes the following measurable goals:

- Improve emergency food supplies and systems through coordination with CT Food Bank and local emergency food providers to create efficiencies and customer-focused systems.
- Increase access to healthy food through information sharing about food assistance, expanding summer food, school supper and other “gap time” feeding programs for youth, increasing community based cooking/food education, and retail strategies.
- Support the development of a City Farm and Garden Resource Center to expand urban agriculture in New Haven to positively impact community development, healthy food access and health outcomes.

Salary: \$65,500, renewed annually

Educational Requirement: Completion of a Master’s Degree and at least three years of related work experience required; or, a Bachelor’s Degree and a minimum of six years of significant related work experience. Specifically, candidates must demonstrate a majority of the following skills, experience and expertise, including but not limited to: Experience in more than one of the following fields: public health, nutrition, racial and economic disparities, agriculture, food system work, community and economic development, collective impact, policy, or community organizing. Experience in community organizing and/or community development, with experience building and sustaining relationships and coalitions. Proven track record in raising funds and working collaboratively across sectors, functions and populations. Experience in program, policy and procedure development. Experience in Results Based Accountability or other tools to measure, improve and track success of work. Supervisory experience and strong management skills. Experience with volunteer councils/boards. Exceptional written and oral communication skills. Skills in Microsoft Office Suite and familiarity with social media required. Website and design experience a plus. Skills in grant writing, grant administration and fundraising. Ability to establish and maintain effective working relationships with government officials, legislators and representatives of public and private organizations.

Programmatic Budget:

Funding Source: 70% foundational; 30% city

Food Cluster Executive Director

Starting as a grassroots movement in food systems development, the Northern Colorado Food Cluster quickly grew into a city support non-profit with the mission to create a healthy community through a resilient, local food system and to support and promote local food production, distribution, and consumption. The Food Cluster’s work impacts the newly emerging local food sector, with additional impacts on local food production and public health advocacy. Local partners are involved in the steering committee, including the City of Fort Collins (Gardens on Spring Creek, the Sustainability Services Area, and Planning Services departments), The Food Bank for Larimer County, University of Colorado Health’s CanDo Program, Spring Kite Farm LLC, Trebuchet Group, and Colorado State University.

The Executive Director and only paid staff member is an experienced community organizer and enthusiastic and energetic leader, a skilled, effective communicator with a proven track-record of building diverse coalitions focused on community economic development and vibrant food systems, as well as articulating and operationalizing a coherent and strategic organizational vision. The Executive Director's primary function is coalition building within the food systems sector, including the following responsibilities:

- Engage and strengthen existing network of local food system actors and partners, including public, private and academic entities.
- Build new partnerships and work to identify new stakeholders that can facilitate economic development that support improved food systems (e.g., infrastructure investments, farm and ranch input suppliers, new/innovative/entrepreneurial retailers).
- Facilitate regular and transparent communication with various community partners and stakeholders to coordinate and implement high impact projects.

Salary: \$50,001 - \$75,000, renewed annually

Educational Requirement: Master's degree (substitutable for a B.S./B.A. if years of experience is 10 years or more); Three years of professional experience organizing the administrative aspects of an organization or program which includes managing operational budgets, strategic planning and creating structured work plans, collaborating and communicating with partners, and demonstrated leadership skills; Proven track record of successful fundraising, including grant writing, and obtaining financial resources from multiple sources; Previous experience with developing community-based or business partnerships; Experience using Microsoft Word, Powerpoint, Excel, Twitter, Facebook, and Quickbooks; Background in some field of food systems/agriculture/economic development.

Programmatic Budget: \$150,000 annually

Funding Source: \$30,000 allocation from city budget, membership fees, grants, fundraising

Manager of Food Systems Development

The Manager of Food Systems Development is responsible for promoting urban agriculture and fostering the growth of local food economies. This position is charged with formulating plans, policies and tools to encourage the expansion of local food systems, implementing strategies and initiatives that develop food systems and increase Denver's capacity to produce, process, and procure food locally and to maximize economic development opportunities associated with food systems. This manager utilizes a food system perspective to:

- Coordinate initiatives to expand local capacity to produce, process and distribute food, with a short-term emphasis on developing food hubs to support the local food industry, using the institutional purchasing power of the City and County of Denver and other institutional partners to create a growing and reliable market for Colorado food producers and processors, and expanding affordable food access throughout Denver, especially in Denver's underserved areas.
- Formulate and implement economic development strategies that foster the growth of local food economies.
- Lead strategic planning and relationship building across various agencies (internal to the City) and sectors, stakeholder groups in the region (external to the City).

- Continue to build and maintain an inventory of food system assets (producers, growers, ranchers, distributors, retailers, researchers, health promoters, educators, hunger and equity advocates).
- Create a shared vision for a locally-focused food system, and work to communicate this with Denver residents and interested stakeholders.
- Create objectives aligned with Denver's economic development, sustainability and health goals and develop measurable ways of tracking the advancement of the food system alignment and achievement of outcomes.

Salary: \$50,369.00 - \$80,590.00 Annually

Qualifications: Must have a minimum of two years experience in one or more elements of the food system (i.e. production, processing, distribution, marketing, and sale of food, and disposition of food waste). Plus the following abilities:

- Brings credibility and leadership
- Ability to build meaningful multi-sector partnerships and relationships in support of strategic goals
- Provide strategic and credible advice about food system issues to the Mayor and City Agency Directors
- Knowledge of local, regional and/or national food system policies, and understand how these are related
- Municipal and grant budget management experience
- Successful experience in fundraising and attracting outside resources to supplement City revenues
- Strong communication and presentation skills
- Ability to create structured work plans with tangible metrics and work toward the success of those goals
- Be systems-oriented; able to see the big picture and how the parts of that system work together to foster greater success of a coordinated system
- Ability to research related information and analyze for incorporation into collaborative strategic planning and action.

Programmatic Budget:

Funding Source: City and County Budget

Appendix X: Exemplary Projects from Other Regions of the U.S.

Regional Food Systems Working Group (RFSWG) of Iowa

Beginning in about 2004, the Leopold Center for Sustainable Agriculture at Iowa State University mounted a model coordination effort for local foods that helped spawn a dozen regional working groups across the state.⁴ This effort was adequately funded and comprehensively documented until 2011, when opposition from commodity groups weakened its presence.

Importantly, the Leopold Center can take advantage of a tax established by the Iowa legislature through the 1987 Iowa Groundwater Protection Act. This legislation taxes farm chemicals, with the proceeds directed half to the Leopold Center for Sustainable Agriculture, and half to commodity research dedicated to reducing agricultural impacts on groundwater.⁵

RFSWG established a community of collaboration that fostered communication among diverse stakeholders — including farmers, buyers, processors, wholesalers, distributors, grocers, institutions, academic scholars, extension agents, students, and many others. By connecting food leaders in an honest and trusting way, this network sparked considerable self-organized collaboration, honest and deep discussions that helped refine practice, and also lent great visibility to regional foods efforts across the state.

The RFSWG model was based on these principal strategies: (1) convene the statewide network once each year in an annual meeting that highlighted both research results, action campaigns, and individual networking; (2) Serve local foods to each gathering as a way of familiarizing food leaders with local producers and products; (3) Convene these stakeholders on a relatively equal basis so that no one felt excluded by reasons of hierarchy and collaborations were fruitful; (4) Offer small (\$5,000-\$20,000) research grants through a simple application process so that grassroots collaborations could easily tap funding to try innovative approaches. In exchange for the funding, recipients were required to report their findings (again in a simplified format) to the entire group; (5) Quarterly annual meetings were held that focused on specific topics; (6) One of the main purposes of the process was to build a solid network of food leaders who were intimately aware of each other's efforts and sought collaborative ways to work; (7) Evaluation was performed on an ongoing basis as a way of strengthening the work in real time, not merely judging outcomes at the end of the process.

Since Crossroads Resource Center was intimately involved in RFSWG from 2004 to 2010, and the initiative documented its work thoroughly, it should be relatively easy for Nashville food leaders to learn about the structure and results of this model, and to adapt it to the metro area.

⁴ <https://sites.google.com/site/iowarfswg/home>

⁵ https://www.leopold.iastate.edu/files/page/files/LeoLetter_WINTER_2016.pdf

Fifth Season Co-operative (Viroqua, Wisconsin)

Fifth Season Co-op is perhaps the nation's most comprehensive example of a community creating a food system that will be rewarding for all parties concerned. The co-op was launched in Viroqua, a town of 4,000 in Southwestern Wisconsin, about 40 miles south of La Crosse. The land in this region is unglaciated, just as the land surrounding Nashville is, featuring both flat expanses of open land, forested ravines, and scattered hillside.

The co-op was launched in 2009 by growers who sought larger markets for their produce. These growers had started their farms as long as 40 years before, purchasing land when it was relatively inexpensive, and building soil fertility gradually over time through intensive use of manure and crop rotations. They had persisted despite limited demand for their products, until buyers turned their attention to sourcing produce as close as possible.

The broader community of Viroqua had also established a cooperative grocery store in 1995 that expanded twice as business grew. The grocery co-op now occupies a Frank Lloyd Wright-style building they built in a prominent location in town, and boasts more than 3,400 members, garnering more than \$7 million in sales.⁶ Its formation was aided by the presence of a cheese producer's co-op, the recent growth of the \$1-billion cooperative of co-ops, Organic Valley, as well as a regional heritage of collaboration that goes back to the 19th Century.

When the farmers first began discussing the formation of a cooperative, they quickly realized that they would have little power to set prices in highly competitive produce markets if they acted alone. As they consulted cooperative development experts, they were introduced to the concept of a multi-stakeholder co-op that would engage food buyers and other parties in the management of the co-op. A common form of cooperation in Europe, this had seldom been implemented in the U.S.

Accordingly, the growers approached the CEO of Gunderson Lutheran Hospital, a private hospital based in LaCrosse, asking him to purchase the produce the farmers raise, but more importantly, to join the board of the co-op. The executive readily agreed (one testament to the strength of the cooperative culture in Southwest Wisconsin) and further offered to invite his friend, the CEO of a national food distribution firm, to join the co-op board as well. The farmers agreed, adding that they wanted the workers of the co-op to also have a seat on the co-op board.

The initial group of co-op leaders worked patiently for more than two years to establish the policies and procedures of the co-op before actually opening doors to their operation. In this planning process, they were aided in critical ways by the Vernon County Economic Development Association, which not only convened the co-op members at their office, but also offered space in an abandoned 100,000 square foot factory that VEDA had purchased and renovated using federal funds.

Since incorporating in 2010, Fifth Season Co-op has grown slowly but steadily. Profits have never been high, but the partners have hewn closely to the collaborative vision. Local schools were invited to join the co-op; the schools ultimately decided they could not join since public purchasing procedures would create a conflict of interest (the schools would essentially be negotiating with themselves if they purchased from a co-op where they sat on the board) yet the schools readily agreed to purchase foods from the co-op.

⁶ <http://www.viroquafood.coop/vfcs-history>

Each fall, the hospital and schools determine how much of each specific food they will purchase from the co-op, increasing their orders in concert with growers' capacity to expand production. The co-op boards set minimum and maximum prices for each product, set at a level at which, in the words of one co-op leader, "no one will make a killing, but no one will go broke." Essentially, the co-op has simultaneously established both a supply management system and a pricing system that works for all partners — and each of the partners has solid reasons to adhere to these policies since they have helped establish the policies. Moreover, the presence of the co-op encouraged a nearby group of Amish farmers to refine their production practices and sell to the co-op.

Given the fact that root crops are relatively inexpensive and easy to grow in the region, and encouraged by the fact that VEDA could offer them processing space, the farmers developed a vegetable medley specifically designed for the needs of the schools. Setting aside root crops during harvest when prices are at their lowest, and storing them until the farming season subsides, the co-op peels, dices, parboils, and freezes this root crop medley into lots that are scaled to the needs of school kitchens. Schools can purchase the product, store it in their freezer, and tear the bag open and then cook the vegetables on steam tables before serving to students. Lightly seasoned with garlic and butter, it is a quality product that is relatively inexpensive to produce and serve, and cycles income to farmers.

Now the co-op offers a wide variety of locally produced foods produced by nearby vendors, including grass-fed beef, yogurt, honey, jams, frozen vegetables, maple sugar, fermented foods, locally pressed sunflower oil, and locally roasted coffee.

Northeast Indiana Food Network

A different approach to economic development was launched by the Northeast Indiana Regional Partnership, based in Fort Wayne. With the assistance of a USDA grant, this regional development organization invited 11 county-level economic development organizations to join in forming a Local Food Network. One key insight that led the Partnership to take this step was that the region had both a concentration of farms and a concentration of food processing firms. Believing in the importance of forming effective collaboration among these businesses, the Partnership sought to formalize an efficient producer network. Crossroads Resource Center joined the consulting team, led by Manheim and Associates, and performed a farm and food economic assessment that concluded (a) Several successful farmers had already formed vibrant networks of support around their individual farm operations; (b) The economic development community had largely overlooked these networks due to the priority they had placed upon attracting factories to the region; (c) While these farmers had built successful businesses, none of these farms had reached many consumers in Fort Wayne itself; (d) In particular, low-income areas of the city had not been reached; Finally, the developers themselves recognized that they had done little to address the economic development needs of low-income residents.

This initiative is still in its formative stages, but the food bank in Fort Wayne has made a \$5-million investment in building its own capacity to process fruits and vegetables at a commercial scale, and a local food leader has been hired to coordinate the work of diverse parties in the region. Now the region is consciously pursuing an effort to build greater collaboration that would include low-income residents.⁷

⁷ For further information, see the plan for the Northeast Indiana Local Food Network at <http://www.crcworks.org/innetworks16.pdf>

Shreveport Inner-City Food Networks

In the city of Shreveport, Louisiana, several partners have formed a collaboration to foster food production, healthy eating, and community capacity among low-income residents.

What is perhaps most impressive about this initiative is that high-level officials at several universities are active in the collaboration. More importantly, each official works in city neighborhoods, engaging directly with low-income residents.

The collaboration is aligned with We Grow Together, a coalition that has addressed hunger in low-income neighborhoods of the city. The Slow Food chapter of Northwest Louisiana and LSU Extension are key partners in the effort. Their goal is to build a network of interrelated facilities and social connections that will foster a culture that promotes health. This means that diverse strategies are being pursued at the same time, hoping to work synergistically in building capacity among community members. Tackling a combination of approaches in one neighborhood, they aim to make more concerted impacts.

Institutional partners include Dennis Wissing, Associate Dean for Academic Affairs at the Louisiana State University School of Allied Health Professions; Janice Sneed, Vice Chancellor of Southern University at Shreveport; Lucinda Murray the Occupational Therapy Program Director at the Louisiana State University School of Allied Health Professions; Mary Hawkins, an Assistant Professor at the Department of Kinesiology and Health Science at Louisiana State University in Shreveport; and Emmanuel Clottey, an Assistant Professor in the same department; and many others.

Sneed has worked with officials in the City of Shreveport to launch planning for a grocery store and farmers market in the MLK Neighborhood, which is close to the Southern University campus. When fully built, Sneed envisions that the facility will have a commercial kitchen and business incubator where residents can learn food preparation skills, test out a potential commercial product, and learn how to better fashion an emerging business.

Murray works with student volunteers who cleared land near the church to create a community garden with 10 plots where residents of the church's Hope House could grow food. She reported that interest in growing food is high, because the neighborhood has no grocery stores.

Hawkins hosts community health fairs in low-income communities where people can obtain information about living healthier lifestyles, and devoting more time to walking and biking.

In addition to his responsibilities as dean, Wissing maintains a community practice by managing a free pharmacy clinic run by the MLK Health Center. While patients wait for prescriptions to be filled at no cost, they are encouraged to select free, fresh food to take home. This food has been delivered by a nonprofit distributor, Shreveport Green. Wissing says his indicator of the strong interest the community holds in the clinic is that 96% of its customers have returned for further care. This amounts to the largest return on investment that any project he has undertaken in Shreveport he has experienced, he added.

Clottey teaches an introductory course in public health with the theme, "Food is Medicine." He adds that "75% of health is eating healthy food, having clean water and air, and getting enough sleep." Through community assessments, his team has identified homes where children live who require special attention. The college students work directly with these households to help them locate sources of healthy foods, and turn to corner stores to encourage the proprietors to carry more healthy food

options. Clottey added that where he grew up as a farmer in Africa, food is interwoven into the culture. Neighbors tell each other stories that take root in local culture and carry forward traditions. These tales encourage positive behaviors that would not otherwise be embraced by the culture. “Food has a history there. Part of eating is story telling.”⁸

Anathoth Community Garden (North Carolina)

Keith Meador, director of the Vanderbilt Center for Biomedical Ethics and Society, has worked with academic colleagues throughout the South to identify some of the most promising models of urban food production. Meador has been deeply impressed with Anathoth Community Garden in Cedar Grove, North Carolina, and considers it an important precedent for Nashville to draw upon. The community is located in rural Orange County, between Durham and Greensboro.

The garden was developed by residents who sought way for the community to heal after a bait and tackle store owner, Bill King, was murdered at his store in 2005. In the aftermath, a nearby church, Cedar grove United Methodist Church, held a prayer vigil at the site. During the vigil, an African-American landowner, Scenobia Taylor, was led to donate 5 acres of her family’s land near the site of the tragedy. Taylor hoped that the garden would bring people together in a spirit of reconciliation. The pastor of the predominately white church, Rev. Grace Hackney, also hoped that the community could reconcile with the land it depended upon by growing food in a sustainable manner.

As community members gained experience in working together, they devised a Community Supported Agriculture program, selling subscription shares to neighbors, and inviting those with means to subsidize food shares for those who could not afford to join on their own. Nine years after the garden was launched, Anathoth procured a 33-acre farm site five miles from the original site. This farm allowed them to expand the CSA program and train interns to grow at a larger scale.

Anathoth’s vegetable garden is inspired by the teachings of Alan Chadwick and Eliot Coleman. Their intensive approaches involve intensive soil preparation, crop rotation, cover cropping, and composting. The garden also manages a passive solar hoophouse, allowing growers to extend the growing seasons.

At the back of the garden, Anathoth members planted a “food forest” with over 50 trees and shrubs – from apples, peaches and plums to jujubes, paw paws and elderberries. Their planting approach was adapted from Dave Jacke’s concepts, planting trees and plants in forest-like patterns that create synergy among the plants while producing useful food, fiber, and medicinals for humans.⁹

South Carolina Food Nodes

In Nashville, several of the produce farmers we interviewed emphatically pointed out that in order to maximize the value of the products they grow, and to properly prepare these foods for market, they would need to build additional washing, packing, and storage facilities on their farms. Yet few felt they could afford to take this step while launching a farm operation with limited capital.

⁸ For more information covering food initiatives in Shreveport and surrounding areas, see <http://www.crcworks.org/arklatex16.pdf>

⁹ <http://anathothgarden.org/>

Our consulting team believes the farmers' analysis is correct. These facilities are urgently required, and few farmers have the means to build them on their own. Moreover, such packing infrastructure is crucial to build at training farms, incubator farms, or urban farms — wherever a group of producers might be able to share these spaces, collaborating to bring their foods to market.

On-farm infrastructure is a critical set of facilities that would build new efficiencies for community food trade in the Nashville region. Furthermore, without on-farm packing opportunities, wholesaling efforts such as Nashville Grown and eventual collaborations to build so-called "food hubs" will be vulnerable.

When our team was commissioned by the State of South Carolina to develop an investment plan for local food production in 2013, we drew a map of the state showing a coordinated network of food facilities we called the "food web" of South Carolina. To build such a set of social and commercial networks, we offered a \$9.85-million investment plan to state officials.

As one example of suitable on-farm infrastructure, we asked a team of architects to draw a schematic plan for a washing and packing facility that could serve a group of farms. While less expensive models are also available, this schematic could be built for about \$350,000, and would serve 5 farms.¹⁰

Adams County and City of Brighton, Colorado

In early 2016, Crossroads Resource Center served as part of a design team that collaborated with both the city of Brighton, Colorado, and its surrounding county, Adams County. A small group of residents had been working for several years to protect farmland in this Denver suburb, which still holds a strongly rural character but is deeply affected by natural gas exploration, airport expansion, and housing subdivisions. The residents reasoned that if the city and county did not take significant steps to protect the remaining farmland, the very identity of the community would be threatened, and all hopes of maintaining farms would be lost.

Yet the process was somewhat paralyzed because several landowners, despite the fact they had moved to Brighton because of its rural character (many still run farm operations), also wanted to be able to sell their land to developers as housing and commercial projects sought land.

The essential insight that propelled action in this situation was when our team learned that even the large, established vegetable farms in the community, though shipping semi-loads of produce to Denver and far beyond, felt they could not afford to purchase land in the community, since it cost as much as \$30,000 per acre plus another \$30,000 for water rights. Thus, our marketing study concluded that the only parties that could conceivably purchase land for agricultural use would be the city and the county. If these two local governments did not act, the only buyers would be developers.

The two units of government acted collaboratively to establish a program of purchasing land to protect it for agricultural use. Their intent was to make these lands available to farmers at lease rates that reflected the value of what could be grown on the land — not its development value. Once this step was taken, and a parcel purchased, one of the landowners who had opposed development opted to place

¹⁰ For more information regarding the "food web" we proposed for South Carolina, see <http://www.crcworks.org/scfood.pdf>

their land into conservation easement, taking private action to protect the land as open space for agricultural uses.¹¹

¹¹ <http://www.crcworks.org/coadamsPublicDraft160219.pdf>

Appendix XI: Credentials of Consulting Team

Kenneth A. Meter, MPA is one of the most experienced food system analysts in the U.S., integrating market analysis, business development, systems thinking, and social concerns. Meter holds 45 years of experience in inner-city and rural community capacity building. His local economic analyses have promoted local food networks in 125 regions in 39 states and Manitoba. He developed a \$9.85-million plan for local food investment for the state of South Carolina, and has completed similar studies for Alaska, Mississippi, Indiana, Ohio, and Minnesota. Currently he is writing a statewide food plan for Hawaii focused on low-income access. He has developed strategic regional food plans for regions near Shreveport, Lafayette, Monroe, Fort Wayne, Denver, and rural North Dakota, Virginia, Maine, and Washington State. Meter consulted with the USDA Agricultural Marketing Service and Colorado State University to help write a 2016 Toolkit for measuring economic impacts of local food development.

Meter has been invited to give more than 500 presentations across the U.S. since 2001. Typically, these appearances have unveiled new economic findings he uncovered while researching the local farm and food economy in each locale. In 2013, 2014, 2015, and 2016, Meter served as a keynote speaker at the Nashville Food Summit, for which he compiled economic data covering the Nashville region's farm and food economy. These appearances have also built exceptional trust among local farmers and local foods leaders. For a complete list of Meter's presentations, see <http://www.crcworks.org/presentations.pdf>

Meter holds a Master's Degree in Public Administration from the Harvard Kennedy School, a Master of Arts in History from Boston University, and a BA in Chemistry from Swarthmore College. He has taught microeconomics at the Harvard Kennedy School, the Economic History of U.S. Agriculture at the University of Minnesota, and Food, Land and Economic Justice at Metropolitan State University. He completed a summer course in cooperative economic development at the University of Bologna (Italy). Meter was one of the first to recognize, in 1974, the economic importance of local food systems.

Meter serves as president of **Crossroads Resource Center**, a nonprofit research and consulting group in Minneapolis, which he joined in 1973. In this capacity, he led 85 residents of the city of Minneapolis in a public process to develop a 50-year vision for a sustainable city, including 30 measures of success. These measures were incorporated into the city budget process, winning national recognition for the city. Meter has also consulted with USDA, EPA, several state governments, and Stanford University.

Subcontractor: Megan Phillips Goldenberg, MS, principal at **New Growth Associates (a woman-owned small firm)**, brings seasoned experience producing feasibility studies, economic analysis, and policy recommendations in Colorado, South Carolina, Alaska, Mississippi, Maine, Hawaii, and Michigan, with extensive background in project management, survey development, economic impact analysis, academic research, quantitative methods, interviews, and food-based business and organization consulting. Megan is most interested in the intersections of public policy, food systems, and community development. She endeavors to work in a community building capacity in order to create and maintain a sense of place through better science and informed decision-making.

Goldenberg holds a Master's degree in Agricultural and Natural Resource Economics from Colorado State University. Her coursework emphasized Public Policy and Community Economic Development. Through her graduate research, Goldenberg worked with Be Local Northern Colorado, the Northern Colorado Regional Food System Assessment, Boulder County's Building Farmers Market Track program, and the Building Farmers in the West Beginning Farmer and Rancher Development Program.

Goldenberg then worked for WPM Consulting in Boulder, Colorado as a Food Systems and Policy Associate. With WPM Consulting, she assisted with the development and initial execution of the Colorado Food Systems Advisory Council (with networking support for local food coalitions, state-wide) and provided research support for three county and three regional food system assessments (including metro Denver and rural Colorado) while facilitating community projects focused on increasing healthy eating and active living through sound policy and planning. In her spare time, Goldenberg co-founded and co-directed The Growing Project, a 501(c)(3) nonprofit that promotes the value of a strong, diverse, and just local food system to all residents of Northern Colorado through direct agricultural experiences, education, and advocacy.

Her firm, [**New Growth Associates**](#), was founded in 2010. New Growth Associates is a woman-owned company that brings together a small group of professionals in order to support evidence-based decision making for community and economic development projects, as well as to provide professional project management expertise and business consulting services. With particular interests in creating and supporting economic development opportunities for family farmers and increasing equitable healthy food access across communities, New Growth Associates is dedicated to providing sound analysis and professional project management to support informed decision making at all tiers of the food system in order to ensure long-term success. From enterprise analysis at the farm level to strategic policy planning and investment development at the state level, New Growth Associates leverages the expertise needed to grow your initiatives. New Growth Associates collaborates frequently with Crossroads Resource Center.