Economic Impact of Farmers Markets
Funding provided by the
District Local Technical Assistance program

Prepared for
City of Somerville
Joseph Curtatone, Mayor

December 31, 2014

Prepared by
Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, Massachusetts 02111
Tel (617) 451-2770
www.mapc.org
Acknowledgements

METROPOLITAN AREA PLANNING COUNCIL

Officers
- President: Lynn Duncan, City of Salem
- Vice President: Keith Bergmann, Town of Littleton
- Secretary: Shirronda Almeida, Gubernatorial Appointment
- Treasurer: Taber Keally, Town of Milton
- Executive Director: Marc D. Draisen

MAPC staff members involved in this project include:
- Public Health Planner: Lola Omolodun
- Food System Planner: Heidi Stucker

MUNICIPAL LEADERSHIP GROUP
- Shape Up Somerville Coordinator: David Hudson, Somerville
- Mass in Motion Coordinators: Erica Statin-Hernandez, Valerie Spain, Everett, José Wendel, Cambridge, Judy Fallows, Waltham, Kara Showers, Melrose-Wakefield, Syrah McGovern, Medford
# Table of Contents

EXECUTIVE SUMMARY ................................................................................................................................. 4  
BACKGROUND ........................................................................................................................................... 5  
FOOD ECONOMY ........................................................................................................................................ 5  
LEVERAGING THE ECONOMIC BENEFITS OF FARMERS MARKETS .......................................................... 25
Executive Summary

The farmers market landscape in the study area, just north of Boston, is rich. There is great potential to build upon the successes and opportunities for municipal leaders and market managers to support strategies that encourage growth, diversification, and meeting the needs of yet underserved areas. The following report looks at variables in the food environment, consumer trends, and local agriculture to identify the assets and challenges of the 18 farmers markets operating in this region. Strategies are presented that capitalize on emerging models aiming to strengthen farmers markets and local food networks, and contribute to economic development efforts. The market managers and municipal leaders in these communities are encouraged to consider the analyses and strategy recommendations presented in this study, for implementation at their farmers markets and in their communities.
Background

Farmers Markets bring fresh, healthy local foods to communities, are centers for community interaction, and provide valuable channels for farmers and local food vendors to sell their products. In recent years, the number of farmers markets has exploded—both nationally and in Massachusetts. The number and concentration of farmers markets is typically greater in urban areas. With a larger potential customer base, more farmers markets can operate here; but as the number of farmers markets increase and customers have more market options, there is also an increased need for markets to operate effectively to ensure success. For closely-located farmers markets, there is also an opportunity for collaboration and resource-sharing.

The communities of Everett, Somerville, Cambridge, Medford, Melrose, Wakefield and Waltham operate in total 18 farmers markets, in a great diversity of urban and near-urban contexts. With funding through the Community Transformation Grant, the farmers market operators initially collaborated on effective approaches to increasing healthy food access, particularly for recipients of Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) benefits. Desiring to expand on these efforts the communities sought to understand how to increase the economic and social impact of their farmers markets.

To support these efforts, the Metropolitan Area Planning Council conducted the following analysis of the area food environment, review of best practices for farmers market operations, opportunities to leverage economic benefits, and examination of strategies for regional collaboration between the towns. The food economy analysis includes information on food retail establishments, community demographics, food spending and consumption, and county-wide local food sales. Farmers market strategies review presents strategies and considerations for municipal leaders and market managers in supporting and developing successful farmers markets. Market managers and municipal leaders play important roles in facilitating the successful development and operation of farmers markets, and as such, the analyses, strategies and recommendations presented in this report are intended to inform their planning and decision-making.

Food Economy

Introduction

Reflective of the national local food movement trends in recent decades, Massachusetts has seen growing consumer interest in locally produced food, as well as significant expansion in the number and types of venues where local food is sold. Nationally, Massachusetts leads in several ways, with the highest percentage of farms offering Community Supported Agriculture (CSA) programs, and 28 percent

---

1 Cambridge, Everett, Medford, Melrose, Somerville, Wakefield and Waltham are located north of Boston in Metropolitan Area Planning Council’s urban Inner Core and Maturing Suburbs regions (Reardon, 2008). Cambridge, Somerville, Medford and Everett are clustered immediately north of Boston; Melrose and Wakefield lie just north of this cluster; and Waltham lies due west.
of its farms selling their farm products directly to consumers – coming in 3rd nationally for direct-market sales per operation (USDA 2014).

Within the study region there is a strong local food economy, and a diversity of local food market types. In addition to having over a dozen seasonal farmers markets and a growing number of winter farmers markets, the participating communities also boast CSA programs, restaurants sourcing local ingredients, and online local food buying platforms (Local Harvest, Inc. 2014). The majority of these local food models bring farm products in from regions in Massachusetts and New England, serving the demands for these products by the populous urban and suburban towns and cities. Some retail venues serve customers willing to pay a premium for high-quality foods, and a gourmet experience; others additionally seek to serve low-income customers, incorporating subsidy programs to encourage purchasing local foods.

**Food Environment**

The following assessment characterizes the food environment by mapping several variables that are part of the local and conventional food economy. Maps of food retail businesses, transportation routes and limited food access areas help to build a sense of the community food assets and needs. Demographic characteristics, including food consumption and spending habits, contribute to a more thorough understanding of the customer and community needs and opportunities. And information on direct-marketing agricultural activity in surrounding Middlesex County highlights the area’s capacity to supply farmers markets.

**Food Retail**

Collectively, the research communities operate 18 farmers markets. The majority of these farmers markets are open during the regional growing season, from late spring through fall. Four of the 18 markets operate only during the winter months; two are Somerville markets, one is a Cambridge market, and one is a Wakefield/Melrose collaborative farmers market. Unique to conventional market models, one market operated by Somerville is a mobile farmers market and serves several locations year-round. With the exception of the mobile market, all markets operate one day a week for a period of 3 – 7 hours. Figure 1, shows that the farmers markets are concentrated in Cambridge and Somerville, with 12 of all farmers markets located in these cities; Everett, Medford, Melrose, Wakefield and Waltham each host 1-2 farmers markets.
Urban residents generally live and work in close proximity to amenities, and as such have a willingness to travel relatively short distances to reach these amenities (Donahue 2011). At urban farmers markets, where customers are often walking and also anticipating leaving the market with bags in tote, we assume that patrons will be willing to travel ½ mile at most to reach the market. Here, a ½ mile walking radius is drawn around the farmers market locations. These radii represent the farmers market service area, from which farmers markets can expect to draw a large percent of their customers. While customers may also reach the farmers markets through other modes of transportation, not accounted for by the ½ mile service area, this measurement does provide a valuable estimate of where customers are likely to travel from.

Where there is a greater concentration of farmers markets, as is the case in Cambridge, the farmers market service areas overlap, and may draw from the same customer base. The farmers markets in Somerville are each located roughly 1 mile apart; as such the service areas have minimal overlap, suggesting that the farmers markets largely serve different customers.

Farmers market proximity to other food retail outlets helps build an understanding of the surrounding food options. Figure 2 shows grocery and convenience store locations in relation to farmers market locations and service areas. Grocery stores are often full-service stores that offer a wide range of food and other goods, and are often referred to as a proxy for nutritious and affordable food (Ver Ploeg, et. al. 2009, Treuhaft and Karpyn 2010). Convenience stores are typically limited-service stores that offer majority shelf-stable, processed foods, typically snack foods that are high in fat and sugar; these stores typically have only a limited amount of nutritious food options (Treuhaft and Karpyn 2010).
Figure 2: Food Environment: Grocery and Convenience Store Proximity

The location of a farmers market in proximity to either of these types of stores can have varying implications for the success of a farmers market. While on one hand a grocery store might be seen in competition with farmers market, because healthy food is available at both, farmers markets could also benefit from its close location to a grocery store. In such areas, customers already used to travelling to a grocery store, may be more likely to shop at a nearby farmers market as well if they are already food shopping in the area. Location of a farmers market near a convenience store generally improves the food environment through increasing the amount of nutritious food in the area. Furthermore, convenience stores could be perceived as assets, if through partnerships farmers markets are able to vend farm produce through the stores.

Grocery and convenience stores are presented here to inform a better understanding of the food retail environment that farmers markets are part of. Understanding where these food stores are located can help with farmers market planning, generally. But a deeper analysis, that evaluates the range, type and quality of food offered, employment estimates, sales estimates, etc., in these food stores could help farmers market operators estimate the degree to which they can meet local foods needs, and identify partnership opportunities.

Transportation

In addition to other food retail outlets, transportation routes and services are an important part of the food environment. Where farmers markets are located near major roads and public transportation routes, customers have easier car and rail access to the markets and the markets can draw customers from a broader area. Figure 3 shows major roads, MBTA subway lines and stops, and MBTA commuter rail lines and stops. Bus routes and stops and bike lanes were deliberately excluded from this study.
because the information was too detailed; this information could be valuable to include in follow-up research focused on individual farmers markets.

**Figure 3: Food Environment: Transit and Major Roads**

The map shows that eleven of the farmers markets are located either at or within ½ mile of subway and commuter rail stations. Likely a strategy employed when first establishing a market, the markets that chose to locate near these stations are likely to attract passengers walking to and from the stations. Somerville, Everett and Medford farmers markets are notably further from transit stations. The extension of the MBTA’s Green Line will bring more stations nearer to markets in Somerville, improving public transportation access (Green Line Extension webpage 2014).

Farmers markets located near major roads may be more likely to attract customers travelling in their cars. Figure 3 shows that ten of the farmers markets are located within ½ mile of a major road. In urban areas where a significant number of customers are likely to walk or take public transportation, a farmers market’s location near a major road might be less important; challenges with parking in densely urban areas may also make drivers a less-targeted customer base. The farmers markets of Waltham, Wakefield, and Melrose are more suburban, with limited public transportation. In these communities residents are likely more accustomed to travelling by car, and as such may take local roads to reach markets. In these areas, however, where it is more challenging for carless individuals to reach a farmers market, market managers may consider how they might improve transportation access. An analysis of local bus routes in these communities could inform developing strategies for improving transportation access.
Access and Need

The municipalities have the common goal of increasing food access through farmers markets. Analysis by USDA’s Economic Research Services division (Ver Ploeg and Dutko 2013), that identifies limited food access areas can assist market managers in identifying vulnerable areas, estimating the impact of farmers markets, and strategizing improved service to these areas. Limited access is defined here as census tracts where a high number of people are low income and more than ½ mile from a supermarket in urban areas, and 10 miles from a supermarket in rural areas. Figure 4 shows the regional farmers markets and ½ mile radius with low-income and low-access census tracts, shown in red.

This analysis shows several areas in the region with limited food access and demonstrated need. A majority of Everett and a broad swath in Somerville and Medford are notably larger limited access areas. In Somerville, the year-round mobile market, managed by Shape-Up Somerville is located in this limited access area. The Everett Farmers Market, managed by the city of Everett is located in and serves limited access areas almost exclusively. While most other farmers markets are not located within limited food access areas, most of the farmers market service areas at least in part cover these more vulnerable areas. Melrose and Wakefield do not have identified low-income, low-access areas. Additional maps in the appendix show this information in greater detail.

---

2 Low income is defined as annual family income at or below 200 percent of the Federal poverty threshold for families. Supermarkets are defined as food stores that contain all major food departments and report annual sales of $2 million or more. Urban is defined as census tracts with greater than 2,500 people per census tract. Rural is defined as census tracts with fewer than 2,500 people. For detailed definitions see: http://www.ers.usda.gov/data-products/food-access-research-atlas/documentation.aspx#definitions

3 https://www.facebook.com/SomervilleMobileFarmersMarket/

4 https://everettfarmersmarket.wordpress.com/
Demographics

Closer examination of demographic characteristics of these towns, including population, income, race & ethnicity, and health provides valuable information about residents, and can inform farmers market strategies to better serve community needs.

Population

Figure 5 shows the community population and poverty totals, with the percentage of the population in poverty marked for each municipality. Somerville and Cambridge are the most populous with roughly 73,000 and 92,000 residents; while, Wakefield and Melrose have smaller populations of roughly 25,000 and 27,000 residents. Everett, Somerville, and Cambridge, experience the highest rates of poverty.

Income and Poverty

Income measurements can provide insight into the purchasing capacity of residents in the different communities. Populations with higher median incomes are likely to have greater flexibility in spending, whereas populations with lower median incomes are likely to have more restricted spending. On a municipal level, Everett has the lowest median household income at $49,702, followed by Somerville ($64,603), Cambridge ($72,225), Waltham ($72,332), Medford ($72,773, Wakefield ($85,810) and Melrose ($86,264).

Below, Figure 6 shows in greater detail the variation of median household income by census tract. From lighter to darker hues, the colors represent lower to higher median income ranges. The image shows farmers markets located in areas with a range of median household incomes. Some of the farmers markets are clearly within more low-income areas. For example, the Somerville’s mobile markets and the Everett Farmers Markets are located in tracts where the median household income is less than $46,000. Several of the adjacent census tracts have lower median household incomes as well. Other
farmers markets are clearly within more high-income areas. The farmers markets in Somerville’s Davis Square, Melrose and Wakefield are all located in tracts where the median household income is $72,000 or more. These farmers markets are also adjacent to more affluent census tracts. Several farmers markets are also located in areas with greater income diversity.

Figure 6: Median Household Income

Figure 7 below, shows income distribution by municipality. This confirms the patterns observed in the map above. ACS 2008-2012 estimates show Wakefield and Melrose have the highest percent (43.4 and 40.6%) of residents earning annual household incomes of $100,000 and more. These communities also have the smallest percentage of households with incomes less than $20,000 (respectively 10 and 11%). Conversely, Everett the smallest percentage of resident with incomes of $100,000 and more (17.5%), and the highest percent of residents with low incomes; 17.9% earn $20,000 or less, and 23.8% earn between $20-39,999. Other than Everett, in all study communities, the greatest proportion of residents earns $100,000 or more, when compared with all other income ranges (between 28.9% in Somerville, to 43.4% in Wakefield).
Figure 7: Income Distribution

Defined by ACS 2008-2012 estimates, the greatest concentrations of family poverty are in eastern parts of Somerville, much of Everett, southern parts of Cambridge, Medford, and Waltham. Worth noting, one census tract in Wakefield has notably higher rates of family poverty than all surrounding town census tracts.

Figure 8: Families in Poverty
Race and Ethnicity

Understanding the racial and ethnic makeup of the region can guide marketing strategies and food access initiatives of farmers markets. Toward the latter efforts, numerous studies (Treuhaft and Karpyn 2010, Dutko et. al. 2012, Ver Ploeg and Dutko 2013) observe the trend that minorities and immigrant urban communities are disproportionately communities with limited healthy food retail options. In this analysis, where minority communities are also identified as low-income and low-access communities, farmers markets can use data to support efforts to increasing healthy food options for these disadvantaged communities. Toward the former efforts, understanding the makeup of the minority communities can inform farmers markets outreach, and can help managers tailor the vendor offerings to the particular tastes and preferences of diverse customer bases.

According to US Census data, the six communities are becoming increasingly diverse. Figure 9 shows that in 2000 and 2010 Everett, Cambridge, Somerville, and Waltham had the largest percentage of minority residents. Over the last ten years, the percentage of minority residents in Everett has increased 21.5 percentage points, by far the greatest increase of all the communities. In 2000 24.8% of Everett’s residents were minorities, by 2010 the percentage increased to 46.4%. Waltham has seen the second largest percentage increase of minority populations, from 21.6% to 31.2%, a nearly 10 percentage point increase. Cambridge and Somerville have consistently highly diverse populations in both 2000 and 2010. Roughly 1/3 of residents in Cambridge and Somerville were minority both in 2000 and 2010; though both cities experience a much smaller increase of minority residents, only 3.6 and 2.5 percentage points. In 2010 Medford’s population was 23.8% minority, an 8.8 percentage point increase from 2000. Melrose and Wakefield have the smallest percentage minority residents, and remain mostly white. (89% and 93%, respectively), but the percentage of the non-white population did increase by 5 and 3.4 percentage points.

Figure 9: Minority Population Percentage, 2000 and 2010

---

*Minority residents include all non-white residents. The calculations are arrived at by subtracting the white population from the total population.*
Understanding the racial and ethnic makeup of communities can inform more effective marketing and outreach, and enable meeting customer needs better. Depending on the racial and ethnic composition of area residents, market managers may seek to offer a more diverse product mix that appeals to the tastes and preferences of its customers, or distribute marketing material in several languages. Figure 10 presents the composition of the minority populations in each community, as the US Census measures this race and ethnicity. In 2010, the largest portion of the minority populations in Everett, Waltham and Somerville are Hispanic. Cambridge’s largest minority population is Asian. In Medford, African Americans make up the largest portion of the minority population. While the minority population in Wakefield and Melrose is comparatively smaller than other communities, in both, Asians make up the largest percent of the minority population.

Figure 10: Race and Ethnicity

| Municipality | Hispanic | African American | Asian | Multi-Racial
|--------------|----------|-----------------|-------|--------------
| Everett      | 53.6%    | 62%             | 68.7% | 69.1%        |
| Cambridge    | 69.1%    | 76.2%           | 89.5% | 93%          |
| Waltham      | 62%      | 76.2%           | 93%   |              |
| Somerville   | 69.1%    | 89.5%           | 93%   |              |
| Medford      | 62%      | 76.2%           | 93%   |              |
| Melrose      | 69.1%    | 89.5%           | 93%   |              |
| Wakefield    | 62%      | 76.2%           | 93%   |              |

Source: Census 2010

Figure 11 shows the percentage of minority populations by census tracts, and the relative location of the farmers markets. Farmers markets appear to be located equally in areas with high and low percentage minority populations. Notably, census tracts that are low income and low access, as identified by USDA, ERS analysis appear to have higher percentages of minority populations than those census tracts that are not identified as such. This shows that in the Mass in Motion communities, minority and immigrant communities face additional obstacles in accessing a full range of food options compared with less racially diverse areas – a pervasive trend that is observed nationally.
Health

Studies have correlated an increase in healthy food options with increased consumption of these foods (Babey et. al 2008, Ver Ploeg et. al. 2009). While studies do not go so far as to correlate the increased presence of healthy food options with improved health, understanding rates of diet related diseases can provide information on the degree to which these conditions are a concern. Understanding the impact of diet-related conditions can help support advocacy for farmers markets and other fresh food retail outlets to improve the availability healthy food options.

Table 1 shows estimate rates of obesity and diabetes for the six communities. The data is derived from estimates for Community Health Network Areas\(^6\) (CHNA), state-designated regions by which local and regional health priorities are identified. Within Massachusetts there are 27 CHNA regions. The six communities lie within three of the CHNA regions. While measurements are available regionally and not on a municipal level, these estimates provide a sense of the prevalence of obesity and diabetes in the study communities.

---

These estimates show that compared with Massachusetts, the research communities have comparable or lower estimates of diabetes and obesity. These show between 6-6.7% of the population is estimated to have diabetes, and between 13.9% and 23.3% of the population is obese. The North Suburban Health Alliance CHNA, which includes Everett, Medford, Melrose and Wakefield has both the highest occurrence of diabetes and obesity.

## Supply

Detailed data on farmers market sales are not available, but direct-market sales data, available on state and county levels provide regional context for the farmers markets and insight into sales potential. Because the report’s participating farmers markets are all in Middlesex County, direct-market sales data focuses on this area. This report acknowledges that farmers market vendors also originate from areas outside of Middlesex County. The focus on Middlesex County data assumes that farmers market vendors are likely to originate from here, though this is clearly not the case for all vendors.

Direct-market sales are made directly from farmers to consumers via avenues like farmers markets, farm stands or CSA programs (USDA, NASS 2002; USDA, NASS 2012). Directly-marketed products typically include fruits, vegetables, eggs, meat and other basic agricultural products, but can also include non-food items, such as flowers, or processed items such as pies. Generally the majority of the products sold through direct channels must be vendor-grown or –produced (AgMRC 2014).

Massachusetts ranks highly, nationally for direct-marketing agricultural activity; and on several accounts, Middlesex County has greater than state-average direct marketing activity. Since 1997 Massachusetts and Middlesex County have seen an increase both in the number of farms selling via direct-marketing
channels and the revenue from these types of sales. Table 2 shows these figures for 2012, and the percent increases since 1997.

**Table 2: Direct-Market Farms and Sales**

<table>
<thead>
<tr>
<th>Area</th>
<th>Farms with Direct Sales, 2012</th>
<th>% Change from 1997-2012</th>
<th>Direct Sale Revenue, 2012</th>
<th>% Change from 1997-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlesex County</td>
<td>221</td>
<td>22.10%</td>
<td>$8,404,000</td>
<td>178.10%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>2206</td>
<td>49.10%</td>
<td>$47,909,000</td>
<td>134.30%</td>
</tr>
</tbody>
</table>

Source: USDA Census of Agriculture

Between 1997-2012 the number of farms with direct sales revenue increased in the state from 1,480 to 2,206 in Massachusetts, a nearly 50% increase; in Middlesex County the number of these farms increased from 181 to 221, a greater than 20% increase (USDA, NASS 2002; USDA, NASS 2012). Figure 12 shows data on Middlesex County farms and those with direct sales revenue.

**Figure 12: Total Farms with Direct Sales Revenue, Middlesex County**

While between 1997 – 2002, the total number of farms and those with direct markets sales declined in Middlesex County, since 2002 these numbers have increased, marking both increasing total agricultural activity, and increasing participation in selling directly to consumers through CSAs, farmers markets, farmstands, etc. Notably, when compared with Massachusetts a greater percentage of Middlesex County’s farms participated in direct-marketing from 1997-2012 (USDA, NASS, 2002; USDA, NASS 2012).

Middlesex County direct sales outpace Massachusetts; where state sales doubled between 1997-2012, Middlesex County sales have nearly tripled (USDA, NASS 2002; USDA, NASS 2012). According to
USDA Agriculture Census data, direct sales volume statewide increased from 1997-2012 from over $20 million to nearly $48 million, and in Middlesex County from over $3 million to over $8 million. Figure 13 shows the growth of direct-marketing sales in Middlesex County since 1997. While direct sales revenue did dip by over $500,000 in 2007 (an 8% decline from 2002), between 2007-2012 there was a nearly $2,000,000 increase in direct-marketing sales (a 29% increase).

Figures on average earnings per farm from direct-marketing sales show Middlesex County farms earning significantly more than farms statewide. Figure 14 shows these averages.

Between 1997-2012 Middlesex County farms earned 20-82% more through direct-marketing sales than Massachusetts farms generally. While Middlesex County averages remain higher than state averages, Figure 14 also shows that average direct-sales revenue per farm has declined since 2002.

**Demand**

The Bureau of Labor Statistics’ (BLS) Consumer Expenditures Survey collects data on spending habits on food consumed outside of the home and food consumed at home. Food consumed away from home, (“Food away from Home”) includes dining at restaurants, cafés, and fast food establishments; whereas food consumed at home (“Food at Home”) includes groceries purchased at grocery stores and other
venues for preparation and consumption at home. Because the focus of this research is on farmers markets that sell mostly raw, unprepared foods intended for home preparation, the following data shows trends in food purchasing and consumption at home. The estimates shown are for the northeastern U.S.

**Spending on Food, Totals**

In 2013 Americans spent less than 10 percent of their income on all food purchases: 5.6 percent went to purchasing food for home consumption; the remaining 4.3 percent went to food spending away from the home (USDA, ERS 2013). In 2013, northeastern U.S. households spent on average a total of $7,033 on all food, with $4,222 (or 60%) going to food consumed at home. Over the past decade, trends in food spending in the northeast have remained fairly consistent, with roughly 60% of food dollars going to food shopping for home consumption, and 40% going to dining out (BLS 2014).

**Spending on Food at Home**

Figure 15 shows 2013 estimates of grocery dollars being spent at various types of food outlets. Americans purchase a majority of food from supermarkets for preparation and consumption at home. Increasingly consumers are also shopping for food at supercenters and food clubs, like Costco and Target. Holding steady between 2003 and 2013, consumers are spending roughly 6% on food purchased directly from farmers, processors, and wholesalers (USDA, ERS 2014b). This figure includes direct purchases at farmers markets, and offers an indication of the share of food spending farmers markets might capture.

---


8 Supermarkets are defined here as stores with a full line of groceries, meats, and produce with at least $2 million in annual sales. [http://www.ers.usda.gov/topics/food-markets-prices/retailing-wholesaling/retail-trends.aspx](http://www.ers.usda.gov/topics/food-markets-prices/retailing-wholesaling/retail-trends.aspx)
Figure 15: Food at Home Spending by Type of Food Outlet, 2013

Following, Figure 16 shows spending on food for home consumption in four food categories – meats, poultry, fish, eggs; fruits, vegetables; cereal, bakery products; and dairy products - over a ten-year timeframe. In all categories, food spending has increased in this time period. According to 2013 annual estimates, northeast averages show households spending $943 on meats, poultry, fish and eggs, $819 on vegetables and fruits, $604 on cereal and bakery products, and $462 on dairy products (BLS 2013). Weekly, this breaks down to consumers spending on average $18.13 on meats, poultry, fish and eggs, $15.75 on vegetables and fruit, $11.62 on cereal and bakery products, and $8.88 on dairy products.

Figure 16: Annual Food Spending for Home Consumption, Northeast Estimates, with Percent Change 2003, 2013


Notably, spending on fruits and vegetables over the past ten years has increased the most (39.8%). While the changes to increased spending may include increasing costs for produce, increased consumption, or other factors, this trend could prove advantageous to farmers markets. With vegetables and fruit as the mainstay of most farmers market offerings, the increased spending on produce likely bodes well for farmers market sales, and may enable markets to capture some of this increased spending.

**Consumption Information**

The Centers for Disease Control and Prevention, administers the National Health and Nutrition Examination Survey (NHANES) program, to assess health and nutrition information in the United States, by collecting data on demographic, socioeconomic, dietary, and health-related characteristics. The following tables show on average the type and quantity of food consumed by individuals in the United States between 2007-2010. Note, that while BLS data are shown for the northeastern U.S., NHANES data present national estimates.

The following table shows average adult food consumption patterns. According to these measurements, on average roughly 74% of food is consumed at home, whereas 26.4% is consumed outside of the home. While the percentage of food consumed at home appears to be higher for the overall US than for the northeast, this data generally agrees that households are preparing more of their food from home than they are getting their food from outside dining establishments. Table 3 shows that in all food group categories, adults consumed more food at home than away from home.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Home</th>
<th>Away</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>0.95</td>
<td>0.1</td>
<td>cup</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1.08</td>
<td>0.51</td>
<td>cup</td>
</tr>
<tr>
<td>Dairy</td>
<td>1.26</td>
<td>0.38</td>
<td>cup</td>
</tr>
<tr>
<td>Grains</td>
<td>3.71</td>
<td>1.99</td>
<td>ounce</td>
</tr>
<tr>
<td>Protein foods</td>
<td>4.15</td>
<td>1.98</td>
<td>ounce</td>
</tr>
</tbody>
</table>

Source: NHANES, 2007-2010

Food consumption patterns are influenced as well by income level. Table 4 shows consumption estimates for high and low income households. According to NHANES, low-income individuals earn 185% of the Federal poverty threshold or less; high-income individuals earn more than 185% of the Federal poverty threshold. Generally, high and low income individuals eat an equivalent proportion of food at home and away from home. Notably, however, low-income individuals appear to eat less than high-income individuals. Compared with food consumption patterns of high-income individuals, low-

---

9 [http://www.cdc.gov/nchs/nhanes/about_nhanes.htm](http://www.cdc.gov/nchs/nhanes/about_nhanes.htm)

10 According to NHANES, Adults are those 20 years and older.
income individuals eat 5.9% fewer fruits, 21.4% fewer vegetables, 9.6% fewer dairy products, 14.3% fewer grain products, and 12.1% protein foods.

**Table 4: Average Daily Food Consumption by Source, Consumption Location and Income Level**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>0.89</td>
<td>0.12</td>
<td>0.96</td>
<td>0.11</td>
<td>cup</td>
</tr>
<tr>
<td>Vegetables</td>
<td>0.88</td>
<td>0.38</td>
<td>1.01</td>
<td>0.52</td>
<td>cup</td>
</tr>
<tr>
<td>Dairy</td>
<td>1.26</td>
<td>0.41</td>
<td>1.36</td>
<td>0.47</td>
<td>cup</td>
</tr>
<tr>
<td>Grains</td>
<td>3.90</td>
<td>1.82</td>
<td>4.43</td>
<td>2.11</td>
<td>ounce</td>
</tr>
<tr>
<td>Protein foods</td>
<td>3.67</td>
<td>1.62</td>
<td>3.94</td>
<td>1.99</td>
<td>ounce</td>
</tr>
</tbody>
</table>

Source: NHANES, 2007-2010

**Food Economy Summary**

The study area has an active farmers market culture, with the potential to grow. This analysis shows that the 18 farmers markets are in populous communities where there is substantial supply of and interest in locally produced goods. These markets are serving customers with an appetite for local food, assuring affordability for customers with limited incomes, and implementing other strategies that position markets for success. Direct-to-consumer marketing models are strong both in surrounding Middlesex County and Massachusetts, broadly; and in recent decades both the number of participating farms, and the revenue from direct sales has increased. The following figure shows all the variables of the food environment considered in this study, showing a more comprehensive view of the unique characteristics of each farmers market’s food environment.
Summary Highlights

The following direct-marketing agricultural and food consumption and spending highlights can help with estimating the capacity of agriculture to supply local foods to meet consumer demands.

- **Direct-marketing has gained in popularity.**
  Between 1997–2012 Massachusetts and Middlesex County farms have grown their participation in direct-marketing models, which includes farmers markets. Statewide, this translates into a 50% increase in farms selling directly to consumers, and a more than doubling of revenue from direct sales. Middlesex County has seen a 20% increase in farms selling directly to its customers, and an almost tripling of direct sales revenue. (USDA, NASS 2002 – 2012)

- **Consumer purchases directly from producers remain steady.**
  Between 2003-2013, roughly 6% of food spending in the U.S. was on food purchased either directly from farmers, processors or wholesalers. Supermarkets and warehouse clubs/supercenters capture the majority of food dollars, 63% and 16% respectively. (USDA, ERS 2014a)

- **Farmers markets have an opportunity to capture more of the food spending.**
  2013 Estimates of weekly food spending in the northeastern U.S. show consumers spending on average $18.13 on meats, poultry, fish, and eggs, $15.75 of vegetables and fruit, $11.62 on cereal and bakery products, and $8.88 on dairy products (BLS 2014).
The following demographic and food environment highlights show the various assets of the food environment being leveraged by farmers markets, a deliberate outreach of farmers markets to underserved areas, and a diversifying region.

- **Several farmers markets are likely to get significant foot traffic.**
  Eleven of the 18 farmers markets are located at or within a ½ mile of MBTA train stations; these markets are likely to attract commuting customers. Somerville, Medford and Everett have limited MBTA train service; when completed, the extension of the MBTA Green Line train will enable farmers markets in Medford and Somerville to attract train commuters.

- **Several farmers markets are serving limited food access areas.**
  But for Wakefield and Melrose, all communities have at least one census tract identified as low-income and low-access (Ver Ploeg and Dutko 2013). Somerville and Everett have the largest number and concentration of areas with this designation. Generally these areas also have a higher percentage of minority populations (ACS 2008-2012).

- **The region has an increasingly diverse customer base.**
  Between 2000-2010 all communities became more diverse. In Everett, Waltham and Somerville, the largest portion of the minority population is Hispanic. Cambridge’s largest minority population is Asian. In Medford, African Americans make up the largest portion of the minority population. Wakefield and Melrose are mostly white, but Asians make up the largest portion of the minority population.

As is characterized by this food economy analysis, the conditions, assets and challenges for each farmers market varies. These highlights show some of the general trends and characteristics of the region’s farmers markets. It is our hope that this analysis assists municipal leaders and farmers market managers in identifying the best strategies to strengthen their farmers markets and serve the needs and demands of the surrounding community.

### Leveraging the Economic Benefits of Farmers Markets

Municipalities seeking innovative ways to leverage the benefits of farmers markets to stimulate economic growth or expand their food economy can consider utilizing their markets strategically as a tool to spur or enhance economic growth activities. This section describes several ways municipalities can leverage their economic opportunities markets and better integrate them into their overall economic developing planning.

### Strategies

#### Supporting Farmers Market Expansion

A number of the communities across the region are recognizing the social and economic benefits of urban agriculture and have or are in the process implementing measures that will reduce the challenges
of establishing these types of initiatives within city or town borders. These markets can serve as conduit to support burgeoning urban farmers in local communities as well as other forms of urban agriculture (community gardens, beekeeping, food hubs development, animal husbandry, etc). One innovative idea is the establishment of food hubs. Generally, food hubs are facilities that manage the aggregation, processing, distribution, storage, and marketing of locally grown foods. These hubs come in many forms from permanent facilities with onsite management teams to mobile markets that receive produce from multiple farmers and distribute these foods to organizations such as schools and other businesses.

Farmers markets seeking to reach even more consumers may consider evolving into small scale food hubs where the markets serve as drop off sites for local farmers and facilitate marketing and distribution to reach larger institutional consumers like schools, businesses, and restaurants. Municipalities can support these efforts to expand the food economy by supporting efforts to encourage restaurants, other food retailers such as convenience stores, schools, and private businesses to purchase foods supplied from farm vendors at the local markets. Efforts could include tax incentives or discounts on licensing fees for purchasing a percentage of food from the local market or small business grants to aid in adding the necessary infrastructure to scale up operations. The farm vendors are the main anchors for a successful market. Farmers markets tend to be an important source of income for small to medium sized farms. As the US Department of Agriculture reports, “Direct-sales markets provide many small and medium sized farmers their only access to consumers. Smaller farmers have been closed out of mass markets by their inability to invest in systems to get products ‘market ready’. Many medium sized farmers use farmers’ markets to supplement their income and increase cash flow (Bullock 2000).” Most farmers need to earn a minimum of $600 dollars per market day so will utilize markets where they know they will generate sufficient revenues (Kinney et. al. 2010). By supporting access to other sources of revenue, municipalities can help advance their local food economy and increase the economic benefits from their farmers markets. The food retail environment analysis demonstrates markets have the room to grow and the capacity to reach more residents. As communities in the region consider ways to further strengthen their local food economies, markets are well positioned to be at the forefront of these efforts.

**Linking Economic Development and Markets**

Municipalities can also focus on establishing or strengthening the link between the markets and economic or community development and planning departments to ensure market considerations are integrated into development planning and in economic restructuring activities. One area that economic development can be particularly useful is in supporting the establishment of new markets. There are many tools available to organizations and individuals interested in starting a farmers market. These tools typically include business development planning advice and checklists that markets should undergo before establishing a market in their community. However, at times individuals and organizations seeking to establish new markets may not have the resources available to undertake the comprehensive business planning needed to support successful development of a market. New markets are then started haphazardly, may struggle to get going and ultimately close. Furthermore, they also run the risk of opening more markets than can be supported by the community (a general rule of thumb states it takes about 800 people to support each market (Farmers Market Federation of New York)) or these markets begin to pull customers and vendors away from existing markets. Economic analyses and business
planning assistance can be available to markets to assist in the development of new markets. This assistance can help the organizations or individuals seeking to start a farmers market to be more deliberate and strategic in their efforts and in communities with multiple markets, can help these markets develop a niche. This planning can also help municipalities better incorporate market activities into their overall economic development activities.

Municipalities can also ensure markets are eligible for small business grants for market infrastructure improvement or consider establishing a healthy food access mini-grant program for markets and other urban agricultural projects. Business technical assistance resources such as marketing could also be available to both farm and non-farm vendors at the market. This assistance may help to entice farm vendors to the market within a local community as they know they can get resources to help strengthen their business activities. Markets can be utilized to leverage and expand the food economy in the community.

Municipalities can consider utilizing local municipal “wellness” taxes for fast food outlets or other non-healthy retailers that could be used to subsidize double coupon matching programs at the local markets to support equitable access and help markets appeal to a wider consumer base.

Somerville provides one strong example of how farmers markets can be integrated into broader economic development efforts. The City has linked Farmers Markets to their overall economic development through the establishment of Union Square Main Streets (USMS). USMS was established as an economic revitalization program to foster partnerships among the city, businesses and neighborhood residents and oversees the redevelopment of the district. USMS also manages a number of farmers markets within the area. In 2010, USMS conducted an economic impact analysis noting a direct economic impact of $1.5 million to the city from the farmers markets. Leveraging this economic impact, they have worked to successfully integrate the markets into overall economic development planning activities. Other municipalities wishing to further leverage the economic benefits of farmers markets can consider utilizing the Somerville model.

Supporting Small Business Opportunities

Farmers markets are, in one sense, like other small businesses; they support the sale of goods to consumers, provide jobs for local residents, and help to support the local economy. Municipalities can consider developing innovative programs to support small businesses such as a new vendor at the market program for residents who are interested in starting a small business. As noted previously, markets can provide inexpensive “storefronts” for smalls businesses. Subsidizing fee space at the market and provide additional technical assistance to these businesses can provide economic opportunities for local residents and expand the local economy.

Supportive Land Use Policies

To thrive, markets need land use policies that support expansion and development. Municipalities can consider developing special use zoning permit for temporary use like farmer markets if they do not have already. Markets that are seeking to expand may eventually want to establish permanent facilities that
could house market activities year round. Municipalities can consider developing zoning for healthy food or market districts that would designate certain sites as market districts enabling these sites to develop permanent facilities. The food environment analysis demonstrated within the region, that there may be certain areas that could be suitable for additional markets. As all market sizes may not work in all areas, having the flexibility to implement different market models can support markets in meeting demand. Municipalities can consider developing zoning codes with distinct definitions for market models. For example, San Jose (California) developed a distinct definition of a Small Certified Farmers market that is allowed by right (no need for a zoning permit) in most areas of the city. Municipalities that are seeking to add additional locations or establish smaller models for markets within the region could benefit from these new codes.

Understanding and Supporting Factors for Success

It is critical for municipalities to thoroughly understand what factors are needed to have a successful farmers market, as building on economic opportunities are contingent on market success. Though the farmers markets within the study region are currently successful, as new markets are established or established markets seeking to expand market failure can be serious challenge. While market success can be difficult to predict and sustain, there are characteristics that successful markets have that help them thrive. Municipalities can partner closely with their markets to find ways to help strengthen these factors such as implementing supportive land use policies, supporting efforts to attract vendors, and assisting with marketing and promotion. To identify these factors for success, an exhaustive review of the literature was conducted and market managers within the region were surveyed on best practices at their market. The review and surveys revealed seven key factors for success and detailed discussions of these factors are included below.

Factors of Success

Location and Land Use

Location is one of the primary factors for success as markets that are visible, easily accessible will attract customers. Location includes not only the siting of the market but also the layout. Markets in excellent locations tend be in high traffic areas, are walkable and are easily accessible by public transport but also have adequate parking. These markets tend to be in close proximity to other businesses and have or are close to public amenities such as restrooms. In terms of layout, the markets have sufficient space to organize vendors in such a way that they are all visible and accessible to customers. The layout also sets an atmosphere that is inviting, uses signage to promote products and vendors, encourages interaction, and makes customers want to stay longer at the market.

Vendor

Farm vendors are another critical success factor. Successful farmers markets tend to have farm vendors that sell high quality products, price appropriately, great customer service skills and are knowledgeable, and the ability to display and promote their products effectively. Successful markets also tend to seek
diverse vendors that offer consumers an array of products. Markets need to have the capacity and infrastructure to attract and retain vendors and like many small businesses, could benefit for additional municipal support.

**Appropriate Market Model**

Not all market models are appropriate for every community or even certain neighborhoods. Models can range from large destination markets with numerous farm and non-farm vendors that simulate a one stop shopping experience to small markets with just a few select vendors. Large destination markets may work well in some areas but be very challenging to pull off in others. Successful markets have a thorough understanding of their community or neighborhoods and recognize what type of market or markets could realistically be supported. These markets tend to adapt their size and operations to meet the needs of their communities.

**Market Management**

Proper market management is essential for a successful market. Stephenson and Lev study of market failure cited management related to why markets fail specifically volunteer or low paid management, high manager turnover, and years of manager experience (Stephenson et al 2008). In the initial stages of development for some markets, tend to use volunteers to provide management and coordination. While volunteers often work tirelessly to manage the needs of the market, their availability may be unpredictable or volunteer managers may lack the requisite management experience. Well run farmers markets tend to require and have professional managers who have the skills needed to help the market achieve its mission, support the vendors, and ensure customers have a positive shopping experience. In addition to experienced, skilled management, successful markets also have strong boards that complement the manager, craft a mission and vision for the market, and provide overall leadership and direction.

**Partnerships**

Successful markets typically have strong professional relationships with non-profits, community groups, faith groups, businesses, and other organizations in the community. These partners help to integrate the market into the community building stability. These partners understand that markets are a great way to bring together diverse neighborhoods. These markets recognize that partners bring unique skills that can help support the market in various ways such as fundraising partners, sponsors, and assisting with marketing and promotion efforts.

**Marketing and Promotion**

Marketing and Promotion is another critical piece for success as that is the primary way to attract customers to the farmers market. Successful markets approach marketing and promotion strategically rather than haphazardly developing comprehensive and well thought out plans. Efforts typically will include using targeted marketing, leveraging support from different partnerships, and using diverse
outlets such as flyers, social media to promote the market. These markets also strive to be culturally diverse and will translate materials and use ethnic media for promotion. As word of mouth can be another important promotional tool, these markets create a positive impression either through community events, demos, etc. As the demand for local, fresh foods has grown, farmers markets have greatly increased in number to take advantage of this growing demand. However, overall growth of the industry has not necessarily translated into success for all markets. Market growth has the potential to pull customers from long established markets spreading the consumers over too many markets causing a decrease in vendor sales at individual markets. Successful markets have countered this challenge by developing a niche and are able to articulate what sets them apart from other nearby markets.

**Equitable Access**

Farmers markets are a great way for local farmers to sell fresh fruits, vegetables and other items directly to the community. They can be a helpful tool for increasing access to local produce, particularly in urban environments where getting fresh food can be difficult for many residents. As important assets for healthy eating in the community, it is crucial to ensure their goods are available to all residents regardless of income. Successful farmers markets have established ways for lower income residents to be able to utilize the farmers market including accepting WIC and SNAP, matching programs for SNAP and WIC, utilizing mobile markets, offering affordable prices, and partnering with community organizations to engage lower income residents.
Bibliography


