

Farmers Markets as a Healthy Food Access Strategy:

Assessing Baltimore's Farmers Markets & Proposing Recommendations to
Increase Access

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Introduction

In Baltimore, many neighborhoods experience inadequate availability of and access to healthy foods. This problem is associated with decreased consumption of healthy foods and increased negative health outcomes. Research also documents neighborhood disparities within the city that exacerbate challenges to food security, particularly among low-income individuals. As a result of this recognition, Baltimore is making a concerted effort to improve its food environment – to increase access, stability, and availability of healthy foods and nutritious diets. One way in which Baltimore is tackling these challenges is through promoting and expanding farmers markets as access points to healthy, affordable food.

As part of these efforts, in Spring 2011, Baltimore will release its first formal assessment on the state of its farmers markets. Holly Freishtat, Baltimore City Food Policy Director, led the work, and I served as an intern to carry out the data collection and draft the final report. The assessment provides an analysis of Baltimore's 14 farmers markets and the ways in which they provide healthy food access to the city's residents. Similarly to localities nationwide, farmers markets are growing in number throughout Baltimore, and many market administrators and city officials see them as one strategy to improve healthy food access and simultaneously promote sustainable, local practices. With this and other strategies that encapsulate a food systems approach to increasing food security and improving health outcomes, Baltimore is poised to become a leader in sustainable local food systems with specific attention to promoting policies and programs that minimize disparities.

Conducting a farmers market assessment was the first step for Baltimore to understand the current happenings and determine barriers and gaps for future policy and programmatic interventions. This report provides an overview of the impact of healthy foods on health-

outcomes, a summary of key findings from the assessment, a discussion to build on the findings to contextualize farmers markets in the greater food environment, and finally recommendations to advance farmers markets as a one strategy to increasing healthy food availability. Through this discussion, it will become clear that while farmers markets do not provide a magic bullet solution for increasing healthy food access and affordability, farmers markets provide many benefits as one intervention in a greater food systems approach that seeks to improve food access.

Closing the Gap with Farmers Markets:

Improving Affordability and Availability of Healthy Diets

According to the Maryland Department of Health and Mental Hygiene, farmers markets are defined as “a place where a person offers or sells one or more of the following products to the public: raw agricultural products such as fruits, vegetables, and grains supplied directly from a farm” as well as other products processed according to specific guidelines.¹ Given this definition, there is a clear linkage between farmers markets’ business purpose and their ability to provide Americans with food for a healthy diet. According to the USDA, a healthy daily diet includes at least five servings of fruits and vegetables per day as well as variety of lean protein and whole grains.² Despite these recommendations, the average U. S. resident over-consumes total calories, saturated fat, sodium, and sugars, and does not eat enough fruits and vegetables, low-fat dairy, and whole grains.³ Low-income households are even less likely to meet these healthy daily diet recommendations.⁴ In part, this may be due to the relative price of healthy

¹John, G. (2011, February). Maryland Farmers’ Market Conference: Food Safety Regulations. Power point presented at Maryland Farmers Market Conference, Cockeysville, MD.

²U.S. Department of Agriculture & U.S. Department of Health and Human Services. (2010, December). *Dietary Guidelines for Americans 2010*. Retrieved April 21, 2011 from <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf>

³U.S. Department of Agriculture & U.S. Department of Health and Human Services. (2010, December). *Dietary Guidelines for Americans 2010*. Retrieved April 21, 2011 from <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf>

⁴ U.S. Department of Agriculture. (2008, December). *Diet quality of low-income*

foods compared to unhealthy foods. Food prices of fresh fruits and vegetables rose 40% between 1985 and 2000, while prices of fats and soft drinks decreased by about 15% and 25%, respectively, during the same time period.⁵ While many factors influence food purchases, price is a key determinant. Research demonstrates that price is more critical to low-income than high-income consumers and to non-white than white consumers.⁶ Healthy foods like produce are generally more expensive than high-fat, high-sugar foods. Thus, it should be no surprise that there is a significant correlation between “increased income and increased produce consumption.”⁷ This evidence suggests that interventions aiming to assist low-income families obtain a healthy diet must address affordability. Current government policies, some of which will be discussed, provide benefits to low-income households to supplement food-related income to support healthful consumption.

Improving affordability without improving availability of healthy foods does not enable low-income families to achieve the USDA’s recommendations for a healthy, well-balanced diet. Studies report that low-income households experience less access to healthy foods than high-income households.⁸ Low healthy food availability is associated with poor-quality diet.⁹ In turn, as many researchers discuss, poor diet is associated with high rates of chronic diseases including

and higher income Americans in 2003-04 as measured by the Healthy Eating Index-2005. (Nutrition Insight 42). Retrieved April 21, 2011, from <http://www.cnpp.usda.gov/Publications/NutritionInsights/Insight42.pdf>

⁵ Schoonover, H., & Muller, M. (2006, March). *Food without thought: How U.S. farm policy contributes to obesity*. Minneapolis, MN: The Institute for Agriculture and Trade Policy. Retrieved April 21, 2011, from <http://www.iatp.org/iatp/publications.cfm?refID=80627>

⁶ Glanz, K., Basil, M., Maibach, E., Goldberg, J., & Snyder, D. (1998). Why Americans eat what they do: Taste, nutrition, cost, convenience, and weight control concerns as influences on food consumption. *Journal of the American Dietetic Association*, 98(10), 1118-1126.

⁷ Fisher, A. (1999). *Hot peppers and parking lot peaches: Evaluating farmers’ markets in low income communities*. Page 3. Venice, CA: Community Food Security Coalition. Retrieved February 16, 2011, from <http://www.foodsecurity.org/HotPeppersPeaches.pdf>

⁸ Dale, D. (2009). Comparison of the availability of healthy foods in low income and high income neighborhoods in Philadelphia. *Ethnicity & Disease*, 19: 82-83.

⁹ Franco, M., Diez-Roux, A. V., Nettleton, J. A., Lazo, M., Brancati, F., Caballero, B., et al. (2009). Availability of healthy foods and dietary patterns: The multi-ethnic study of atherosclerosis. *American Journal of Clinical Nutrition*, 89:897-904.

obesity, diabetes, hypertension, and cardiovascular disease in low-income urban settings.^{10,11} In addition to the differential affordability of unhealthy and healthy foods, differential availability of healthy foods contributes to the increased rates of diet-related chronic diseases and obesity rates that low-income communities experience.¹² Reversing this trend is important, not only to decrease personal and nationwide health care costs, but also to allow children and adults to live fully and contribute to society.¹³ The assistance of federal nutrition benefit programs enables farmers markets in cities nationwide to increase both affordability and availability of fresh, healthy food to address some, though not all, barriers to obtaining a healthy diet.

Safety Net Programs and Farmers Markets

One way that the U. S. government provides a safety net to minimize food insecurity and increase affordability to nutritious foods is through federal nutrition assistance benefit programs. There are many government benefit programs, but the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Supplemental Nutrition Assistance Program (SNAP) are two that are most relevant to farmers markets. These programs exist to enable low-income families to receive benefits that increase their household's purchasing power.

Special Supplemental Nutrition Program for Women, Infants, and Children

WIC is available to pregnant women, infants under one year, and children under five years old, who are below 185% of the Federal Poverty Level (FPL) and nutritionally at-risk.¹⁴ In

¹⁰ French, S. A., Story, M., & Jeffery, R. W. (2001). Environmental influences on eating and physical activity. *Annual Review of Public Health, 22*, 309-335.

¹¹ Morland, K., Diez Roux, A. V., & Wing, S. (2006). Supermarkets, other food stores, and obesity: The atherosclerosis risk in communities study. *American Journal of Preventive Medicine, 30*(4), 333-339.

¹² Story, M., Hamm, M. W., & Wallinga, D. (2009). Food systems and public health: Linkages to achieve healthier diets and healthier communities. *Journal of Hunger & Environmental Nutrition, 4*(3&4), 219-224.

¹³ Ibid.

¹⁴ United States Department of Agriculture. *Nutrition Program Facts: WIC*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/wic/WIC-Fact-Sheet.pdf>

Fiscal Year (FY) 2010, WIC served about 9.1 million people monthly¹⁵ and the average monthly WIC benefit per person was \$41.45.¹⁶ To supplement WIC participants' purchasing power to increase consumption of produce, Congress passed the WIC Farmers Market Nutrition Program (WIC FMNP) in 1992.¹⁷ Federal guidelines stipulate that the program must provide participants with a minimum of \$10 and maximum of \$30 per recipient each year; in Maryland, the 2011 seasonal amount provided is \$20.¹⁸ Nationally, 2.2 million WIC recipients participated in the FMNP.¹⁹

Similarly, the Senior Farmers Market Nutrition Program (SFMNP) targets low-income seniors and in Maryland, provided \$30 per season for participants to spend at farmers markets in FY 2009.²⁰ To accept WIC FMNP and SFMNP at farmers markets in Baltimore, both farmers markets and farmers must submit applications to the Maryland Department of Agriculture (MDA). Nationwide, more than 50% of farmers markets accept the WIC FMNP and SFMNP benefits,²¹ with a 64% acceptance rate among Baltimore's markets.²² This program operates on a paper-based system, and the paper coupons are treated like cash, which makes it seamless for farmers markets to accept. In addition to increasing purchases of farmers market produce among low-income families, these programs also provide a reliable stream of income to local farmers.

Supplemental Nutrition Assistance Program

¹⁵ United States Department of Agriculture. *Special Supplemental Nutrition Program for Women, Infants and Children (WIC)*. Retrieved April 28, 2011, from http://www.fns.usda.gov/pd/37WIC_Monthly.htm

¹⁶ United States Department of Agriculture. *WIC program: Average monthly benefit per person*. Retrieved April 28, 2011, from [http://www.fns.usda.gov/pd/25wifyavgfd\\$.htm](http://www.fns.usda.gov/pd/25wifyavgfd$.htm)

¹⁷ United States Department of Agriculture. *WIC Farmers' Market Nutrition Program*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/wic/WIC-FMNP-Fact-Sheet.pdf>

¹⁸ Maryland Department of Agriculture. *Farmers' Market Nutrition Program*. Retrieved April 28, 2011, from http://www.mda.state.md.us/pdf/farmers_market_nutrition_program_info.pdf

¹⁹ United States Department of Agriculture. *WIC Farmers' Market Nutrition Program*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/wic/WIC-FMNP-Fact-Sheet.pdf>

²⁰ United States Department of Agriculture. *Senior Farmers Market Nutrition Program*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/wic/seniorFMNP/SFMNPFY2009Profile.htm>

²¹ United States Department of Agriculture. *WIC Program: WIC Farmers Market Nutrition Program*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/wic/fmnp/fmnpfaqs.htm#8>

²² Unpublished Baltimore City Farmers Market Assessment data. Winter 2010.

SNAP is another federal program that plays a large role in providing food assistance nationwide and a growing role at farmers markets. Households with income below 133% FPL that meet citizenship and other requirements are eligible for SNAP. Approximately 44 million people depend on SNAP each month with over 600,000 participants in Maryland alone.²³ The average monthly SNAP benefit per person was \$133.79 in FY 2010.²⁴ The USDA derives the monthly allocation of SNAP benefits from the Thrifty Food Plan (TFP), the most basic of the four USDA food plans that represent ways to achieve healthful, nutritious diets with limited resources.²⁵ The TFP is based on a formula from the 1960s that is calculated on the assumption that households spend 30% of their income on food.²⁶ Based on this formula, some economists at the USDA suggest that SNAP participants who receive the maximum allotted benefit amount each month probably have the ability to afford diets that meet healthy guidelines, though SNAP recipients with lower benefit-levels may not.²⁷ According to some USDA economists, that is because, for many low-income families, spending one-third of monthly income on food is no longer affordable with other competing demands including the rising cost of transportation, housing, child care, and other basic necessities.²⁸ Providing SNAP and WIC participants with adequate benefit-levels to afford a healthy diet is an ongoing tension within the food assistance programs. Increasingly, farmers markets enter the conversation as a place to redeem food assistance monies to achieve healthy diets.

²³United States Department of Agriculture. *Supplemental Nutrition Assistance Program: Number of Persons Participating*. Retrieved April 28, 2011, from <http://www.fns.usda.gov/pd/29snapcurrpp.htm>

²⁴United States Department of Agriculture. *Supplemental Nutrition Assistance Program: Average monthly benefit per person*. Retrieved May 4, 2011, from [http://www.fns.usda.gov/pd/18SNAPavg\\$PPP.htm](http://www.fns.usda.gov/pd/18SNAPavg$PPP.htm)

²⁵Carlson, A., Lino, M., Juan, W-Y., Handson, K., & Basiotis, P.P (2007). *Thrifty Food Plan, 2006*. (CNPP-19). United States Department of Agriculture, Center for Nutrition Policy and Promotion.

²⁶ Golan, E., Stewart, H., Kuchler, F., & Dong, D. (2008). Can low-income American afford a healthy diet? *Amber Waves*. Retrieved May 4, 2011, from <http://www.ers.usda.gov/AmberWaves/November08/Features/AffordHealthyDiet.htm>

²⁷ Ibid.

²⁸ Ibid.

Prior to 2004 when SNAP transitioned from a paper-based system to an electronic one, farmers markets easily accepted paper forms of SNAP. However, the electronic transition limited SNAP participants' abilities to make purchases at farmers markets since most markets did not adopt the infrastructure to accept the electronic benefits.²⁹ As a result, while the number of farmers markets has grown from 1,755 markets in 1994 to over 6,000 in 2010,³⁰ there has been a decrease in SNAP spending at markets from a high of over \$9 million in 1993 to a low of under \$2 million in 2007.³¹ These reduced redemption rates have received increased attention in recent years in order to remedy what is viewed as a missed opportunity. As in Baltimore, farmers markets nationwide are increasingly adopting infrastructure to accept federal nutrition assistance benefits that enable farmers markets to provide access to low-income shoppers. While there is no SNAP farmers market program equivalent of WIC FMNP, individual markets, with the assistance of private funding, are developing methods to implement SNAP acceptance and provide incentive funding to low-income shoppers to increase purchasing power. As of June 2010, the proportion of farmers markets nationwide that accepted SNAP was about 19%,³² with acceptance at 21% of Baltimore's markets.³³ With additional funding, that proportion is

²⁹ Briggs, S., Fisher, A., Lott, M., Miller, S., & Tessman, N. (2010). *Real food, real choice: Connecting SNAP recipients with farmers markets*. Venice, CA: Community Food Security Coalition & Cockeysville, MD: Farmers Market Coalition.

³⁰ United States Department of Agriculture-American Marketing Service-Marketing Services Division. *Farmers market growth: 1994-2010. Number of Operating Farmers Markets*. Retrieved March 16, 2011, from <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&ct=frmrdirnkt>

³¹ United States Department of Agriculture. (2010). *Supplemental Nutrition Assistance Program: Feasibility of Implementing Electronic Benefit Transfer Systems in Farmers' Markets*. Report to Congress. Retrieved March 20, 2011, from <http://www.fns.usda.gov/snap/ebt/pdfs/Kohl--Feasibility.pdf>

³² United States Department of Agriculture. (2010). *USDA Releases Guide to Expand SNAP Benefit Electronic Benefit Technology at Farmers Markets*. (Release No. 0346.10). Retrieved April 28, 2011, from <http://www.fns.usda.gov/cga/pressreleases/2010/0346.htm>

³³ Kaiser, C. (2011). *Farmers' market EBT pilot project: Baltimore City*. Power point presented at Maryland Hunger Solutions, Baltimore, MD.

expected to rise.³⁴ While these programs are a start, there are other areas that require increased attention to enable recipients to access and afford healthy diets.³⁵ The paper will use Baltimore as a case city to highlight farmers markets' role in a complex urban food environment.

Overview of Baltimore City's Food Environment

Baltimore is a city that embodies many complexities of the American food system, replete with high levels of low-income households, low availability of healthy foods in many areas, and poor health outcomes. According to the Social Compact Drilldown 2008, Baltimore has 1.78 square feet of food retail per person compared to an industry standard for well-served areas of 3 square feet per person.³⁶ According to the Center for a Livable Future, 23% of the city is considered a food desert, defined as Census block groups that are more than a ¼ mile from a major supermarket with 40% of households' incomes below \$25,000 (roughly 125% FPL).³⁷ Of the city's 710 block groups, 161 are considered food deserts, though this percentage would increase dramatically if income-inclusion levels were raised to 185% FPL, the poverty level used for WIC eligibility.³⁸ It is relevant to note that the term food desert, despite the uptick in its use, is a controversial term. Guthman (2008) describes how this term ascribes market failures to a community and ignores structural inequalities.³⁹ Guthman also takes offense at the way that the term is attributed to communities without capturing the role that community-driven initiatives

³⁴United States Department of Agriculture. (2010). *Supplemental Nutrition Assistance Program: Feasibility of Implementing Electronic Benefit Transfer Systems in Farmers' Markets*. Report to Congress. Retrieved March 20, 2011, from <http://www.fns.usda.gov/snap/ebt/pdfs/Kohl--Feasibility.pdf>

³⁵ RESULTS (n.d.). Retrieved April 23, 2011, from <http://results.techriver.net/website/article.asp?id=358>

³⁶Social Compact, Inc. (2008). *Baltimore Neighborhood Market DrillDown: Catalyzing business investment in inner-city neighborhoods*. Retrieved April 23, 2011, from http://bniajfi.org/uploaded_files/0000/0462/baltimore-drilldown-full-report.pdf

³⁷ Personal communication with Amanda Behrens, Center for a Livable Future. February 2011.

³⁸ Personal communication with Amanda Behrens, Center for a Livable Future. April 22, 2011

³⁹ Guthman, J. (2008). Bringing good food to others: Investigating the subjects. *Cultural Geographies*, 15: 431-447.

play in the solution.^{40,41} This paper will continue to use the term, “food desert,” as it is the current, predominant research term, but it is important to be aware of its criticisms.

Baltimore Diet-Related Health Disparities

Neighborhood disparities in healthy food availability by race and income levels are rife. According to a 2008 study by Franco et al, racial disparities are evident in the distribution of healthy food availability in predominantly black versus predominantly white neighborhoods. Comparing neighborhoods with the lowest healthy food availability, 4% of these neighborhoods were predominantly white while 43% of them were predominantly black. Another contrast is the distribution of high healthy food availability present in 68% of white neighborhoods but only in 19% of black neighborhoods.⁴² In a study mapping the Baltimore food environment, only 11% of predominantly black neighborhoods had supermarkets compared to 33% of predominantly white neighborhoods. Disparities are also prevalent between income groups.⁴³

Nationwide, SNAP assisted about 13% of people in the United States to access food each month in 2010.⁴⁴ In Baltimore City, where nearly 20% of residents live below the FPL, 27% of residents participate in SNAP.^{45,46} According to Franco et al, 46% of low-income neighborhoods (median household income of \$26,200) compared to 13% of high income neighborhoods had low neighborhood healthy food availability.⁴⁷ Tight monthly budgets make it especially challenging

⁴⁰ Ibid.

⁴¹ Redmond, L. (2011, April 19). RE: Food Deserts Seder Plate. Message posted to COMFOOD electronic mailing list.

⁴² Franco, M., Diez-Roux, A. V., Glass, T. A., Caballero, B., Brancati, F. L. (2008). Neighborhood characteristics and availability of healthy foods in Baltimore. *American Journal of Preventive Medicine*, 35(6), 561-567.

⁴³ Ibid.

⁴⁴ Food Research and Action Center. (2011). *SNAP access in urban America: A city-by-city snapshot*. Retrieved April 21, 2011, from http://frac.org/wp-content/uploads/2011/01/urbansnapreport_jan2011.pdf

⁴⁵ U.S. Census Bureau. (2010). *State & County QuickFacts: Baltimore City, Maryland*. Retrieved March 15, 2011, from <http://quickfacts.census.gov/qfd/states/24/24510.html>

⁴⁶ Kaiser, C. (2011). *Farmers' market EBT pilot project: Baltimore City*. Power point presented at Maryland Hunger Solutions, Baltimore, MD.

⁴⁷ Franco, M., Diez-Roux, A. V., Glass, T. A., Caballero, B., Brancati, F. L. (2008). Neighborhood characteristics and availability of healthy foods in Baltimore. *American Journal of Preventive Medicine*, 35(6), 561-567.

for many Baltimore residents to purchase fresh produce, especially when unhealthy options are easier to access and afford.

Impacts of Baltimore's Food Environment

The city's food environment shapes the daily intake of its residents and contributes to high rates of diet-related diseases. While not directly related to one specific environmental change in the city, the rate of fruit and vegetable consumption decreased by 25% in Baltimore from 1997 to 2007 according to the Baltimore City Health Department.⁴⁸ During the same years, there was a 50% increase in the prevalence of adult obesity.⁴⁹ According to the Baltimore City Department of Health, more than two-thirds of Baltimore adults are overweight or obese.⁵⁰ Baltimore high school students were 40% more likely to be obese compared to Maryland high school students on the whole.⁵¹ Stroke and cardiovascular disease, two diet-related diseases, are leading causes of mortality in Baltimore City.⁵² Franco et al suggest that these health outcomes may be in part attributable to fewer supermarkets in predominantly black and low income communities as well as differences between store quality in those different neighborhoods.⁵³ There are many other factors that also contribute to these outcomes.

It is important to note that the evidence linking healthy food consumption to obesity and some other health outcomes is mixed. Hu and Willet found strong evidence linking higher plant-based food (nuts, fruits, vegetables, and whole grains) consumption with lowered rates of stroke

⁴⁸ Baltimore City Health Department. (2008, July). *Fact sheet: Overweight and obesity in Baltimore City, 1997-2007*. Retrieved February 9, 2011, from http://www.baltimorehealth.org/info/2008_07_22.ObesityFactSheet.pdf

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Baltimore City Food Policy Task Force. (2009, December). *Final report and recommendations*. Retrieved January 26, 2011, from <http://cleanergreenerbaltimore.org/uploads/files/Baltimore%20City%20Food%20Policy%20Task%20Force%20Report.pdf>

⁵³ Franco, M., Diez-Roux, A. V., Glass, T. A., Caballero, B., Brancati, F. L. (2008). Neighborhood characteristics and availability of healthy foods in Baltimore. *American Journal of Preventive Medicine*, 35(6), 561-567.

and cardiovascular disease.⁵⁴ The evidence linking increased consumption of plant-based foods to lower rates of obesity is less clear. As researchers Mattes and He et al discuss, there is no magic bullet for affecting obesity rates. Total energy consumption, whether contributed from healthy or unhealthy foods, ultimately impacts obesity rates.^{55,56} Effective interventions must account for this mixed evidence, while also balancing the need to address inadequate healthy food access in Baltimore and affect availability and affordability of healthy foods.

Baltimore's Action Plan

To tackle these challenges, Baltimore is taking a food systems approach. The complexities of government policies, physical environment, and individual behaviors make it necessary to understand these bidirectional relationships and dynamics within the food system, which encapsulates all processes and components that take food from the farm to the table. Based on guidelines set forth by Ken Dahlberg, McCullum et al defines a food system as “a set of interrelated functions that includes food production, processing, and distribution; food access and utilization by individuals, communities, and populations; and food recycling, composting, and disposal.”⁵⁷ This approach addresses agriculture and farm policies and public health diet-related diseases; it also focuses on developing a sustainable food system, community food justice, and public health improvements. Tackling challenges through a food systems lens fits with the community food security framework, as defined by the United Nations, to promote

⁵⁴ Hu, F. B., & Willett, W. C. (2002). Optimal diets for prevention of coronary heart disease. *Journal of the American Medical Association*, 288, 2569-2578.

⁵⁵ Whitacre, P. T., Tsai, P., & Mulligan, J. (Eds.) (2009). The public health effects of food deserts: Workshop summary. Institute of Medicine & National Research Council of the National Academies. Washington, DC: The National Academies Press. Retrieved May 2, 2011, from http://www.nap.edu/openbook.php?record_id=12623&page=76

⁵⁶ He, K., Hu, F. B., Colditz, G. A., Manson, J. E., Willett, W. C., & Liu, S. (2004). Changes in intake of fruits and vegetables in relation to risk of obesity and weight gain among middle-aged women. *International Journal of Obesity*, 28, 1569-1574.

⁵⁷ McCullum, C., Desjardins, E., Kraak, V.I., Ladipo, P., & Costello, H. (2005). Evidence-based strategies to build community food security. *Journal of the American Dietetic Association*, 105(2), 278-283.

equity of access, stability, and availability.⁵⁸ Changing dietary practices requires thorough analysis of the food system from these perspectives.

Based on the findings of numerous reports and a growing understanding of the extent to which limited food access contributes to the health outcomes of Baltimoreans, Mayor Sheila Dixon convened a task force in November 2008 to develop recommendations to increase access to and consumption of healthy foods citywide.⁵⁹ The task force brought together leaders from the Baltimore Department of Planning, Baltimore City Health Department, community organizations, supermarket executives and food retail associations, local politicians, and academics from University of Maryland and Johns Hopkins Bloomberg School of Public. Between February and October 2009, the task force held three open meetings to solicit input from the community. In December 2009, the task force released a report with ten strategies for increasing consumption of healthy foods in Baltimore. One of the ten recommendations is “to promote and expand farmers markets.”⁶⁰ This strategy encompassed increasing access to fresh produce for low-income residents by understanding the current farmers market landscape, equipping farmers markets with Electronic Benefit Transfer (EBT) machines to accept SNAP, determining strategic locations for new markets, and increasing redemption rates among WIC recipients. In addition to increasing produce access, farmers markets also support local farmers and farm viability.⁶¹

⁵⁸ United Nations Food and Agriculture Organization as cited in Hamm, M. W., & Bellows, A. C. (2003). Community food security: Background and future directions. *Journal of Nutrition Education and Behavior*, 35(1), 37-43.

⁵⁹ Baltimore City Food Policy Task Force. (2009, December). *Final report and recommendations*. Retrieved January 26, 2011, from <http://cleanergreenerbaltimore.org/uploads/files/Baltimore%20City%20Food%20Policy%20Task%20Force%20Report.pdf>

⁶⁰ Ibid.

⁶¹ Ibid.

Simultaneously, Baltimore put forth a Sustainability Plan to provide a set of comprehensive guidelines to allow Baltimore to “[meet] the current environmental, social, and economic needs of [the] community without compromising the ability of future generations to meet these needs.”⁶² Greening Goal #2 is to establish Baltimore as a leader in local, sustainable food-systems.⁶³ Promoting farmers markets works at the intersection of the task force’s and sustainability plan’s missions as a way to bridge and improve public health, environmental stewardship, and quality of life for Baltimore residents.⁶⁴

In order to implement these recommendations, the city hired a Food Policy Director, Holly Freishtat. This is a cross-sectional position housed in the Office of Sustainability to bring stakeholders together. Having a food policy champion provides essential leadership for moving the city in a healthier future direction. Ms. Freishtat’s leadership allows the city to drive forward promotion and expansion of farmers markets to increase healthy food access, while remaining cognizant of the food system at large and the many components that also feed the system.

In order to determine how to utilize existing farmers markets, understand the challenges in Baltimore, and minimize policy barriers for growth and promotion of markets, Ms. Freishtat led an effort to complete Baltimore’s first farmers market assessment. As an intern for Ms. Freishtat carrying out many of the assessment data collection responsibilities and drafting the assessment report, I had the opportunity to gain valuable insights into this process. The following is a select summary of the assessment’s findings, which will be available in their entirety when the Office of Sustainability issues its full report in Spring 2011. This assessment summary is

⁶² No author. (2009, April). *The Baltimore Sustainability Plan*. Retrieved March 21, 2011, from http://www.dooconsulting.net/pdf/ref_bar/about/051509_BCS-001SustainabilityReport.pdf

⁶³ Ibid.

⁶⁴ Baltimore City Food Policy Task Force. (2009, December). *Final report and recommendations*. Page 7. Retrieved January 26, 2011, from <http://cleanergreenerbaltimore.org/uploads/files/Baltimore%20City%20Food%20Policy%20Task%20Force%20Report.pdf>

important to the capstone as it provide a local context for how farmers markets operate in the city and a basis for what opportunities farmers markets provide to promote healthy food access. The assessment serves as a first step towards building a foundation from which “to promote and expand farmers markets.” In considering issues of access and affordability, understanding the way in which farmers markets currently contribute to the food environment is critical. Additionally, as Baltimore is striving to become a model for other cities promoting sustainable food systems, providing a framework for how the city is evaluating its food environment and what the lessons it learned in the process are enables other cities to formulate their own assessments. Finally, the assessment’s findings provide a basis for discussing the contribution farmers markets make to the larger food system.

The assessment’s three main objectives as Ms. Freishtat stated in July 2010 were to determine:

- Are underserved communities being served?
- Do underserved communities have equal access to farmers markets?
- Are vendors at farmers markets located in or near food deserts profitable?⁶⁵

To generate information to answer these objectives, we conducted conversations with employees of the Baltimore City Health Department, Baltimore Zoning Administration, Maryland Department of Agriculture, Baltimore Department of Planning, and Maryland Department of Health and Mental Hygiene as well as community organizations and farmers market managers. We also relied on information from numerous websites and reports. Attempting to answer these questions enables Baltimore to think strategically about its next steps for promoting and expanding farmers markets in the city.

⁶⁵Freishtat, H. (2010, July). *Farmers market assessment 2010*. Powerpoint, July 20, 2010.

In part, what we determined, as will be discussed throughout the following sections, is that mapping and analyzing farmers markets' impact is an evolving process. Many of the questions we set out to answer require more research and information than was available at the time of the assessment. As this was not a formal research study, we encountered the realities that arise from engaging in public health practice. To collect the data, we moved quickly and without extensive prior knowledge of what data market managers and other officials would have available to contribute. We also collected data primarily during the farmers market off-season, which forced market managers to rely more on recall than on-season data collection may have. These examples offer important lessons on data collection in real world rather than controlled research settings. The following sections provide a selected summary of the assessment findings, discuss lessons learned in the assessment process, and deliver recommendations, based on both Baltimore's assessment and broader literature, necessary to impact future growth of farmers markets in the city.

Selected Summary of Baltimore's Farmers Markets Assessment

Baltimore is home to 14 farmers markets located throughout the city (See Appendix 1). Prior to 2008, only six farmers markets operated in Baltimore. Since 2008, that number has more than doubled, mirroring trends of farmers market growth across the country.⁶⁶ The city operates only one market, JFX Market, which indicates that the new markets, to date, have been community-initiated. In considering how to promote and expand farmers markets in the future, community support is an important component and Baltimore is fortunate to have a tradition of this in some neighborhoods.

⁶⁶ United States Department of Agriculture-American Marketing Service-Marketing Services Division. *Farmers market growth: 1994-2010. Number of Operating Farmers Markets*. Retrieved March 16, 2011, from <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&act=frmrdirnkt>

Analyzing Objective 1: Are underserved communities being served?

Table 1 provides a listing of all of Baltimore's markets and their years of establishment, with color-coding to indicate those markets in or bordering food deserts.

Table 1: Baltimore Farmers Markets and Years of Establishment

Markets highlighted in blue are those in or bordering food deserts.

FARMERS MARKET	YEAR ESTABLISHED
32nd Street/Waverly	1980
Baltimore Farmers' Market (JFX)	1977
Baltimore Museum of Industry	2009
Highlandtown	1991
Howard Park	1995
John Hopkins Hospital	2009
Kaiser Permanente City Plaza Medical Center	2009
Mt. Washington Whole Foods	2008
Park Heights	1993
State Center Community	2009
Tuesday Market	2009
University Farmers Market	2009
Village of Cross Keys	2003
West Baltimore Maryland Area Regional Commuter (West MARC)	2010

As the table indicates, six of the 14 markets border or are located in food deserts, as defined above. Thus, while low-income shoppers may shop at any of the markets, fewer than half of all markets are situated in or border food desert neighborhoods. Looking more closely, we see that three of the markets located in food deserts are new (post-2007) markets (West MARC, University Market, and Johns Hopkins) while the other three are older markets. Based on the locations of three new markets, there appears to be a community-driven awareness to increasingly serve low-income neighborhoods with farmers markets. It is possible that this

reflects a growing awareness and attention to combating limited food access in these neighborhoods. Truly analyzing whether communities underserved by traditional supermarkets are being served by farmers markets, as Objective 1 set out to do, requires a more nuanced understanding of what level of service is adequate. Understanding people's abilities to travel to the markets, desire to shop at them, and other determinants of access influence whether food desert communities are truly being served.

Another component to consider in analyzing this objective relates to market operations. The new, food desert-located markets open for a similar number of months as the older Baltimore markets. They also each operate for four hours per week, the same as many of Baltimore's older markets. The main difference in comparing these new markets to the older ones is the fact that, with the exception of West MARC, they operate during the workday rather than on the weekend. This difference is not indicative of better or worse service for low-income shoppers but may factor into the extent to which members of underserved communities utilize these access points. Additional research is necessary to determine whether access to farmers markets on the weekday or weekend is more convenient for low-income shoppers.

Analyzing Objective 2: Do underserved communities have equal access to farmers markets?

Similarly to determining Objective 1, we realized that determining equal access requires a more nuanced evaluation than the initial assessment provided. Despite this, the assessment serves as an important starting point to examine some trends related to access including federal food assistance programs and other topics.

With regards to farmers market locations and access, six of the 161 block groups defined as food deserts have farmers markets in their vicinities, while the remaining eight markets are

spread throughout the city. This indicates that food desert neighborhoods have similar physical proximity to farmers markets as non-food desert neighborhoods, but there are many components that must coexist for access to really be equal. Gathering residents' perspectives would be useful for future evaluation.

Our assessment found that newer markets have fewer vendors on average in their first few years of operation. Older markets average 22 vendors compared to 11.75 vendors as averaged by the post-2007 markets.⁶⁷ While this does not necessarily indicate unequal access, increased size of the markets provides opportunities for increased diversity of products to provide optimal choice when shopping. On average, markets across all locations were open six months of the year with a range of four months to 12 months. The 32nd Street/Waverly Market, located in a food desert, is the only market that operates 12 months a year. As will be discussed later, seasonal operations limit continuity for shoppers. As city policies target promotion of farmers markets as a healthy food source for low-income consumers, it is necessary to understand trends in growth at farmers markets over time and to research ways to increase the number of vendors and hours at new markets to provide low-income neighborhoods with increasing access. Beyond these components, affordability of produce is a major component of equalizing access between low-income and non-low-income residents.

FMNP at the Farmers Market

As discussed, federal nutrition assistance programs provide opportunities for low-income shoppers to redeem benefits at participating and equipped farmers markets. Prior to the start of the farmers market assessment, the state did not allow farmers markets in their first year of operation to participate in FMNP. Due to this barrier, new markets, particularly those starting up in food desert areas, were not providing as great food access as possible. Due to the assessment,

⁶⁷ Unpublished Baltimore City Farmers Market Assessment data. Winter 2010.

Ms. Freishtat was able to work with Amy Crone, Nutrition Marketing Specialist at the Maryland Department of Agriculture, to change this policy for the 2011 season. Now, all markets and producers that meet the eligibility guidelines of offering fresh fruits and vegetables can become certified in their first year of operation. As of the 2010 season, nine farmers markets participated in both WIC FMNP and SFMNP. Since the FMNP benefits are only redeemable at farmers markets, it is important that as many markets as possible become certified to accept them. Increasing the number of FMNP-certified markets is an important step towards improving equal access to farmers markets as well as towards increasing FMNP redemption rates.

Table 2 depicts FMNP participation and redemption rates for 2010 in Baltimore City and Maryland. As the table shows, redemption rates among SFMNP participants in Baltimore were higher compared to the state in 2010. However, the redemption rates for WIC FMNP participants in Baltimore fell below the state rate.

Table 2: Farmers Market Nutrition Programs Participation and Redemption, 2010⁶⁸

FMNP Participation Rates 2010		
	Coupons	Percent of Total
MD SFMNP	81,825	100%
Baltimore City SFMNP	44,300	54%
MD WIC FMNP	234,996	100%
Baltimore City WIC FMNP	56,850	24%
FMNP Redemption Rates 2010		
	Coupons	Percent of Total
MD SFMNP	67,097	82%
Baltimore City SFMNP	38,984	88%
MD WIC FMNP	110,448	47%
Baltimore City WIC FMNP	22,172	39%

While Baltimore's FMNP redemption rates were above Maryland's overall rate, the Baltimore WIC FMNP rate fell below the Maryland, which was already below 50%. The rates of

⁶⁸Personal communication with Amy Crone, Maryland Department of Agriculture. March 1, 2011.

redemption, particularly among WIC FMNP participants, indicate an area of opportunity for the city to improve. Low redemption rates are lost opportunities for both shoppers and farmers. For the 2011 season, it is important that farmers markets and WIC clinics improve communication to their clients about the benefits of redemption, one of several necessary interventions to increase redemption rates. Simultaneously, markets must ensure that SFMNP redemption rates remain high.

SNAP at the Farmers Market

Until the 2010 market season, none of the Baltimore markets accepted SNAP, severely limiting many low-income shoppers' access to farmers markets. In advance of the 2010 season, Maryland Hunger Solutions received grants for an EBT pilot project at three of Baltimore's markets: 32nd Street/Waverly, Park Heights, and Highlandtown Farmers' Market. With funding from the Abell Foundation, the Harry and Jeannette Weinberg Foundation, Inc., and the Wholesome Wave Foundation, each market received \$6,000 to implement an EBT system and operate an incentive program. After implementing the EBT systems, the markets' EBT sales varied. In part, these variations are attributable to differing size of the markets, differing locations, and differing ease with which markets were able to implement the system.

Table 3: EBT Transactions during 2010⁶⁹

Market	Season	Total # EBT transactions	Total EBT Sales	Peak EBT Sales
Highlandtown	July 10 th – Oct. 9 th (14 weeks)	35	\$325	\$53 (July 17 th)
Park Heights	June 2 nd – Nov. 24 th (26 weeks)	92	\$1,099	\$185 (Nov. 17 th)
Waverly (Summer)	July 3 rd – Nov. 20 th (21 weeks)	541	\$11,622	\$1,688 (Nov. 20 th)

⁶⁹ Kaiser, C. (2011). *Farmers' market EBT pilot project: Baltimore City*. Power point presented at Maryland Hunger Solutions, Baltimore, MD.

At the conclusion of the 2010 market season, a total of 668 EBT transactions had occurred, bringing in sales of over \$13,000. Currently, the USDA reports that less than 1% of all SNAP redemption occurs at farmers markets nationwide.⁷⁰ The same is true for Maryland⁷¹ and can probably be said for Baltimore's markets. Going forward, it is important that these EBT-equipped markets begin tracking their total sales so that markets, researchers, city officials, and community members can analyze SNAP participants' contribution to overall sales.⁷² As publicity and knowledge of these markets' EBT acceptance grows, participation is expected to increase, but as the WIC FMNP redemption rates and EBT sales indicate, the Field of Dreams notion of "if you build, he will come" is not as straightforward when it comes to food access at farmers markets. Reasons and ways to improve upon this will be discussed in the upcoming sections.

Analyzing Objective 3: Are vendors at farmers markets located in or near food deserts profitable?

With regards to this third objective, we had difficulty gaining information on the sales data and foot traffic of Baltimore's farmers markets. With the exception of the three EBT-equipped markets whose SNAP data are collected (as required by the USDA), many market managers reported that they do not track sales data or foot traffic. For instance, BMI was able to provide an estimate of average foot traffic (400 shoppers/week). However, the market never asks vendors to report sales, and since it requires a flat stall fee rather than a weekly percentage of sales payment, BMI, like other markets, does not track that data.⁷³ This is definite limitation to the depth at which the assessment was able to determine the profitability of farmers markets

⁷⁰ Duncan, S. (2011, February). SNAP farmers' market program. Power point presented at Maryland Farmers' Market Conference, Cockeysville, MD.

⁷¹ Ibid.

⁷² Kaiser, C. (2011). *Farmers' market EBT pilot project: Baltimore City*. Power point presented at Maryland Hunger Solutions, Baltimore, MD.

⁷³ Personal communication with Jill Edmondson, BMI market manager. Winter 2010.

bordering or in food deserts. For future seasons, it will be necessary to work with market managers and farmers to gather this data to better track the profitability of Baltimore's markets and farmers' perceptions around their take-home pay from the markets. This is useful to determine what city policies may be able to build support for farmers markets in food deserts going forward.

Farmers Markets and the Food Environment

The findings from the assessment are valuable for thinking more deeply about the ways in which farmers markets fit into the Baltimore City food landscape, the broader context in which farmers markets are situated, and ways to improve farmers market service, access, and profitability moving forward. In promoting farmers markets, cities must consider how farmers markets contribute to furthering healthy food access, healthy food affordability, and even the role of healthy food demand. Thinking about the strengths and limitations of the findings and of farmers markets more generally helps to provide a basis for future steps Baltimore can take to make farmers markets increasingly play a key role in promoting healthy food access and consumption. The following discussion of the benefits and challenges of improving access to farmers markets contextualizes the summary of the Farmers Market Assessment and highlights the many factors that both contribute to and limit farmers markets as a food access solution.

Benefits of Improving Access to Farmers Markets

As the assessment summary highlights, the city's farmers markets can help increase access to healthy food in low-income communities with appropriate interventions to address the existing barriers. Overcoming these barriers enables residents to experience the many benefits of farmers markets beyond the benefit of healthy food access. While farmers markets do not

provide a magic bullet solution to the complex and multifaceted challenges facing the food system, farmers markets are one tool that offers many benefits.

Connecting Producers and Consumers

Walking into a Giant or Safeway, lined with rows of gleaming produce from all over the world, provides consumers with very little opportunity to reflect on who was responsible for growing the available pineapples, strawberries, or asparagus. Farmers markets enable farmers and consumers to build relationships, in which producers share their stories and consumers gain an understanding of where their food is coming from. Pat Bell, British Columbia's Minister of Agriculture and Lands stated, "One of the benefits of farmers markets that receives little attention is what they do to bridge what I call the urban agricultural divide. By speaking directly with the people who grow and produce the food products, the consumer establishes connectivity with the source, and that's something we need more of in a world where many youngsters think what they're eating comes from the supermarket."⁷⁴ This relationship is especially beneficial to small- and mid-scale family farmers who can react to their consumers' preferences and steer future product decisions based on consumer demands.⁷⁵ The USDA is promoting this connection through its "Know Your Farmer, Know Your Food" program.⁷⁶ This program emphasizes the importance of local consumption for the quality, nutritional, and social benefits this movement encourages.

⁷⁴ Connell, D. J., Taggart, T., Hillman, K., & Humphrey, A. (2006, November). *Economic and community impacts of farmers markets in British Columbia*. (Provincial Report). Prince George, British Columbia, Canada: University of Northern British Columbia and British Columbia Association of Farmers' Markets.

⁷⁵ New York Farmers Market. (n.d.). *The value of farmers' markets to New York's communities*. Retrieved May 4, 2011, from http://www.nyfarmersmarket.com/pdf_files/FarmersMarketsCommunityDev.pdf

⁷⁶ United States Department of Agriculture. *Know your farmer, know your food*. Retrieved March 22, 2011. From http://www.usda.gov/wps/portal/usda/knowyourfarmer?navtype=KYF&navid=KYF_MISSION

Spaces for Building Social Capital

In addition to serving as places to shop for seasonal, local produce, farmers markets also are places for community building. This is a particularly important aspect of farmers markets as urban planning considers community participation and engagement a central component of the urban problem solving strategy.⁷⁷ A British Columbia study found the median time spent at the farmers market among survey participants was 30 minutes. The researchers reported that half of that time was spent shopping, while the other half was spent talking with others.⁷⁸ Many market surveys find that many people shop at farmers markets for the market “experience.”⁷⁹ Markets provide a place for people of all ages, socioeconomic backgrounds, cultures, and ethnicities to interact. For example, Rochester, New York’s farmers market was voted “most diverse” place in western New York.⁸⁰ In Baltimore, a customer shopping at 32nd Street/Waverly Farmers Market noted that “Waverly Farmers’ Market is the only place where black and white neighbors shop together.”⁸¹ Due to these cross-cutting benefits, many community organizations and businesses promote their work to maximize opportunities for both their companies and consumers.⁸²

Direct stimulation of local economy

Unlike large, corporate chains that channel profits from corporate headquarters, farmers markets make a direct impact on the local economy in which they operate. At farmers markets, farmers set and receive the majority of the retail price of produce sold compared to only about

⁷⁷Winnie, M. (n.d.). Community food security: Prompting food security and building healthy food systems. Retrieved May 5, 2011, from <http://www.foodsecurity.org/PerspectivesOnCFS.pdf>

⁷⁸Connell, D. J., Taggart, T., Hillman, K., & Humphrey, A. (2006, November). *Economic and community impacts of farmers markets in British Columbia*. (Provincial Report). Prince George, British Columbia, Canada: University of Northern British Columbia and British Columbia Association of Farmers’ Markets.

⁷⁹New York Farmers Market. (n.d.). *The value of farmers’ markets to New York’s communities*. Retrieved May 4, 2011, from http://www.nyfarmersmarket.com/pdf_files/FarmersMarketsCommunityDev.pdf

⁸⁰Ibid.

⁸¹D. C. Hunger Solutions. (2007, August). Food Stamps accepted here: Attracting low-income consumers to farmers’ markets. Page 15. Retrieved March 23, 2011, from <http://www.dchunger.org/pdf/foodstampsacceptedhere.pdf>

⁸²Illinois Agritourism. (n.d.). *Community benefits of the modern farmers market*. Retrieved May 5, 2011, from http://m.extension.illinois.edu/agritourism/business_benefits.cfm

\$.19 and \$.20 of each dollar for vegetables and fruit, respectively, from a traditional grocery store.⁸³ In addition to providing income to farmers, farmers market traffic increases revenue at neighborhood businesses around the markets.

The marketumbrella.org, a farmers market coalition organization in New Orleans, created a tool to provide farmers markets with the ability to evaluate their impact on the local economy. The Sticky Economy Evaluation Device (SEED) utilizes a conservative multiplier effect of 1.8 to measure markets' regional effects. Using this device, marketumbrella.org determined that New Orleans's Crescent City Farmers Market provides \$1 million annually in direct and indirect benefits to market vendors, downtown businesses, and rural communities.⁸⁴ Using a similar method, British Columbia calculated that for the \$32.63 million in direct sales to farmers markets annually, the annual economic impact was \$65.3 million, using the multiplier of 2.0.⁸⁵ A survey in British Columbia reported a correlation in farmers market days and increased business sales at neighboring stores.⁸⁶

Measuring markets' impacts enables market managers to reflect on their importance and growth and also to establish the markets as important forces within the local community. Additionally, as many markets apply for grant funding to establish benefit programs at their markets, farmers markets can provide metrics to foundations to strengthen their applications and support their causes. As the assessment discussed, Baltimore has not yet conducted an economic analysis of its farmers markets, but given the growing importance of measurement, the city's markets can do this in the future.

⁸³ Stewart, H. (2006, August). *How low has the farm share of retail food prices really fallen?* USDA Economic Research Service. Retrieved April 23, 2011, from <http://ers.usda.gov/publications/err24/err24.pdf>

⁸⁴ marketumbrella.org. (1999). *Catalysts for growth: Farmers markets as stimulus for economic development.* Retrieved March 22, 2011, from http://www.marketumbrella.org/uploads/file/gpCataylsts_1999.pdf

⁸⁵ Connell, D. J., Taggart, T., Hillman, K., & Humphrey, A. (2006, November). *Economic and community impacts of farmers markets in British Columbia.* (Provincial Report). Prince George, British Columbia, Canada: University of Northern British Columbia and British Columbia Association of Farmers' Markets.

⁸⁶ Ibid.

Flexibility and Adaptability

While traditional food retail stores, particularly corporate chains, must follow strict protocol for building stores to meet company specifications, providing promotions that fulfill corporate requirements, and selling foods that typically travel through a global supply chain, farmers markets have more opportunities to innovate. In Boston, for instance, the Food Project, a community organization that teaches farming skills to youth and sells produce at EBT-equipped farmers markets, tailors its crop production to meet the food preferences of neighborhood residents.⁸⁷ In terms of start-up costs, farmers markets require less capital expense than “brick and mortar” retail stores.⁸⁸ Additionally, as discussed with the 2010 Baltimore EBT pilot project, farmers markets have the ability to adopt programs to attract low-income shoppers with the implementation of EBT machines coupled with incentive programs. With the support of the USDA, farmers markets also can participate in the WIC FMNP and SFMNP. These programs create a steady demand for produce among low-income shoppers and provide farmers with reliable income. Traditionally food retail outlets, even if they accept WIC and SNAP and offer sales, do not have the ability to tailor such innovative programming to specifically target local community members to the extent that the farmers market programs do. Farmers markets provide a unique opportunity to “address health disparities by developing equal access to healthy food in communities across America.”⁸⁹

⁸⁷ The Food Project. Retrieved March 12, 2011, from <http://thefoodproject.org/farmers-markets>.

⁸⁸ Briggs, S., Fisher, A., Lott, M., Miller, S., & Tessman, N. (2010). *Real food, real choice: Connecting SNAP recipients with farmers markets*. Venice, CA: Community Food Security Coalition & Cockeysville, MD: Farmers Market Coalition.

⁸⁹ Story, M., Hamm, M. W., & Wallinga, D. (2009). Food systems and public health: Linkages to achieve healthier diets and healthier communities. *Journal of Hunger & Environmental Nutrition*, 4(3 & 4), 219-224.

Challenges of Improving Access to Farmers Markets

While there are benefits to farmers markets for increasing healthy food access in low-income communities, Baltimore's farmers markets, as well as markets around the country, experience both operational and perceptual barriers to improving access. Data collection for the assessment highlighted some of these challenges, while literature provides a basis for other challenges encountered nationwide. Recognizing these challenges creates a basis for providing recommendations to strengthen farmers markets as a food access strategy in Baltimore.

Operational Limitations

Farmers markets are critiqued as having inconvenient, limited hours, limited months of operation, and limited selection.^{90,91} Due to their seasonality, many farmers markets do not provide consistent, year-round access to produce, especially in Baltimore where only one farmers market operates year-round. Maintaining a healthy diet is a year-round necessity and thus, providing access for half or two-thirds of the year, while beneficial in part, leaves gaps in consumers' shopping. While traditional supermarkets provide access points throughout the rest of the year, literature on healthy diets shows that establishing habits and routine is important to maintaining that diet.⁹² Additionally, while farmers markets provide a selection of produce and often dairy, baked goods, and meats, they do not provide a one-stop shopping experience. Consumers still need to frequent traditional food retail outlets for many dry goods and household supplies.

⁹⁰ Briggs, S., Fisher, A., Lott, M., Miller, S., & Tessman, N. (2010). *Real food, real choice: Connecting SNAP recipients with farmers markets*. Venice, CA: Community Food Security Coalition & Cockeysville, MD: Farmers Market Coalition.

⁹¹ D. C. Hunger Solutions. (2007, August). *Food Stamps accepted here: Attracting low-income consumers to farmers' markets*. Page 15. Retrieved March 23, 2011, from <http://www.dchunger.org/pdf/foodstampsacceptedhere.pdf>

⁹² Stokols, D. (1992). Establishing and maintaining healthy environments. *American Psychologist*, 47(1), 6-22.

Cost Perceptions

In addition to operational barriers, many consumer perceptions of farmers markets must be overcome to make farmers markets healthy food access points for low-income shoppers. The main perception that many studies discuss is about the cost of shopping at farmers markets. As Briggs et al discuss in *Real Food, Real Choice*, farmers markets have been perceived as niche shopping experiences to meet high-income consumers' preferences for local foods.⁹³ While there is limited research on the true cost differential between farmers markets and traditional supermarket prices, Pirog and McCann found that the price per pound of vegetables in the summer vegetable basket in Iowa was very similar between the local vegetables at farmers markets and the non-local at supermarkets.⁹⁴ Price comparisons are not available in Baltimore, though perceptions about cost may be enough to keep low-income shoppers at bay. As the *Hot Peppers and Parking Lot Peaches* report explains, "there exists a fundamental tension between farmers obtaining a fair price for their product and low-income consumer's ability to pay such a price."⁹⁵ Thus, markets must actively combat this perception, both by ensuring a diversity of price points and also offering incentives to increase the purchasing power of consumers.

Demand for Produce and Healthy Eating

Another barrier to highlight regarding farmers markets is demand for the foods sold. While supermarkets provide a diversity of products, many of which are premade and conveniently packaged, farmers markets provide foods that require knowledge of and time for

⁹³ Briggs, S., Fisher, A., Lott, M., Miller, S., & Tessman, N. (2010). *Real food, real choice: Connecting SNAP recipients with farmers markets*. Venice, CA: Community Food Security Coalition & Cockeysville, MD: Farmers Market Coalition.

⁹⁴ Pirog, R., & McCann, N. (2009, December). *Is local more expensive? A consumer price perspective on local and non-local foods purchased in Iowa*. Ames, Iowa: Leopold Center, Iowa State University. Retrieved March 20, 2011, from <http://www.leopold.iastate.edu/pubs/staff/prices/prices.pdf>

⁹⁵ Fisher, A. (1999, January). *Hot peppers and parking lot peaches: Evaluating farmers' markets in low income communities*. Page 37. Venice, CA: Community Food Security Coalition. Retrieved February 16, 2011, from <http://www.foodsecurity.org/HotPeppersPeaches.pdf>

healthy food preparation.^{96,97} While we did not collect data for the assessment on this information specifically, it is important to consider how these perceptions and barriers influence low-income shoppers' habits, even if markets have the capability to accept FMNP and SNAP. By their very nature, farmers markets must work to compete against today's convenience-centered society. Convenience, coupled with desire and acquired taste for high-fat, high-sugar foods, is a determinant tightly interwoven into the demand side of the supply-demand balance. In her study, Glanz et al found that taste is the most important factor when making food choices.⁹⁸ Federal nutrition assistance programs are one way to increase demand; educating shoppers about healthy food, offering taste-test demonstrations, and sharing flavorful, healthy recipes are also critical to the overall success of farmers markets as a way to combat demand for cheap, unhealthy food.

Acceptance of Federal Food Assistance Programs

Enabling acceptance of federal nutrition assistance benefits is one way to stretch limited purchasing power. As the assessment found, more farmers markets in Baltimore are accepting WIC FMNP, SFMNP, and SNAP, but like locales nationwide, there are hurdles that farmers markets must overcome to do so. Unlike traditional brick and mortar food retail outlets, farmers markets are not built with the phone lines and wireless infrastructure to set up an EBT machine. Thus, farmers markets must find funding to cover the cost of implementing the EBT system and also spend additional money on monthly maintenance, both in terms of machine and staffing costs.⁹⁹ Accepting WIC FMNP and SFMNP, while free of charge, requires an application to the

⁹⁶ Fisher, A. (1999, January). *Hot peppers and parking lot peaches: Evaluating farmers' markets in low income communities*. Venice, CA: Community Food Security Coalition. Retrieved February 16, 2011, from <http://www.foodsecurity.org/HotPeppersPeaches.pdf>

⁹⁷ Neff, R. A., Palmer, A. M., McKenzie, S. E., & Lawrence, R. S. (2009). Food systems and public health disparities. *Journal of Hunger & Environmental Nutrition*, 4, 282-314.

⁹⁸ Glanz, K., Basil, M., Maibach, E., Goldberg, J., Snyder, D. (1998). Why Americans eat what they do: Taste, nutrition, cost, convenience, and weight control concerns as influences on food consumption. *Journal of the American Dietetic Association*, 98(10), 1118-1126.

⁹⁹ Briggs, S., Fisher, A., Lott, M., Miller, S., & Tessman, N. (2010). *Real food, real choice: Connecting SNAP*

USDA from both the markets and farmers. Traditional retail stores must also commit to a contract to accept WIC, but in the case of WIC FMNP and SFMNP, farmers and farmers market managers, often volunteer or part-time positions, must assume additional responsibilities to implement this system compared to paid, full-time food retail management.¹⁰⁰

Challenges for Market Managers

Farmers market managers are tasked with many responsibilities beyond implementing the infrastructure to accept food assistance program. During conversations with market managers throughout the assessment, we learned about many of the challenges market managers face when operating a market in Baltimore.¹⁰¹ Highlighting these themes within the broader farmers market discussion is important to anticipate interventions that can ease these burdens in the future.

Securing Diverse Vendors: In Baltimore, there is no one way or resource for market managers to secure vendors. New market managers visit existing markets, conduct online searches, and utilize the MDA's resources to fill vendor slots. 32nd Street/Waverly has a board that votes on new vendor additions and maintain a running list of farmers interested in joining the market, but this is an unusual set-up for markets in the city. Many managers note that specific types of vendors, such as dairy vendors, are in short supply and often already booked at the most established markets.

Market size matters: At small markets, it is especially important for market managers to maintain diversity in the produce and foods their vendors sell. Managers at small markets noted that it is difficult for vendors when there are low levels of sales traffic because vendors can

recipients with farmers markets. Venice, CA: Community Food Security Coalition & Cockeysville, MD: Farmers Market Coalition.

¹⁰⁰ Ibid.

¹⁰¹ Personal communication with Baltimore farmers market managers. December 2010-March 2011.

easily observe which vendors receive more shoppers. Market managers try to avoid competition between sellers by ensuring that vendors offer a diversity of products.

Maintaining Sales: As discussed, most Baltimore market managers do not keep track of their vendors' sales. However, one manager noted that unless a vendor makes at least \$500-\$800/week, vendors may decide it is unprofitable to return to that market. This creates a burden for small or newly established markets.

Visible/Accessible Location: A location that is accessible by public transportation and noticeable from the street are two important components of choosing a market location. Market managers discussed how changing locations year to year is difficult for their customers. The Mt. Washington Whole Foods Market noted that a change in location from a main intersection to a back street had resulted in significantly reduced traffic during the 2010 season.

Additionally, studies document transportation challenges for low-income residents nationwide. A study of WIC FMNP recipients in Washington, DC found that a nearly 7% of those surveyed did not have transportation to get to the farmers market.¹⁰² An Oregon study of SNAP participants found that 21% of respondents cited physical access (both location and hours) as barriers to farmers market shopping.¹⁰³ It is important that managers work with the community and city to secure stable, accessible locations for the markets.

Adequate Parking: While it is necessary to have enough spots for customers' cars, markets must also have adequate space for farmers' trucks to make the unloading and loading process as smooth as possible. Johns Hopkins market noted that due to a policy change, farmers'

¹⁰² Racine, E. F., Vaughn, A. S., & Laditka, S. B. (2010). Farmers' market use among African-American women participating in the Special Supplemental Nutrition Program for Women, Infants, and Children. *Journal of the American Dietetic Association*, 110(3), 441-446.

¹⁰³ Grace, C., Grace, T., Becker, N., & Lyden, J. (2005). *Barriers to using urban farmers' market: An investigation of food stamp clients' perception*. Oregon Food Bank. Retrieved March 16, 2011, from <http://www.oregonfarmersmarkets.org/EBT/docs/BarrierstoUsingFarmersMarkets102206.pdf>.

trucks were unable to park close to the farmers market which made it challenging for the 2010 season's operation.

Support of a Farmers' Market Association: Unlike in other states, Maryland does not have a state farmers market association. Farmers market associations nationwide support the activities of market managers and provide a resource for best practices and support.¹⁰⁴ A farmers market association in Maryland would enable cross-communication between the market managers in Baltimore and other areas. It also would streamline some of the administrative burden market managers face through a central, not-for-profit organization. In the absence of a statewide association, there is a current effort within the city to create a Baltimore City farmers market coalition to provide support for Baltimore market managers.¹⁰⁵

Challenges of Establishing a Farmers Market

A final challenge in Baltimore, due in part to lacking a farmers market association, is that communities or individuals interested in starting a farmers market in Baltimore are left to reinvent the process. While the MDA website provides guidelines on market development, the guidelines do not delineate specifics for Baltimore City.¹⁰⁶ The assessment identified the need to create a resource guide for new farmers markets in Baltimore City to avert duplicative efforts and streamline processes and knowledge. Included in this guide will be information on the necessary steps of what permits and licenses are needed for market establishment at the local and state level; who the contacts are for relevant local and state departments; what the fees are associated with each step; information on how to accept federal nutrition assistance programs; and other relevant information. This resource will be available free of charge on the Office of

¹⁰⁴ Farmers Market Coalition. Retrieved May 4, 2011, from <http://farmersmarketcoalition.org/state-associations>

¹⁰⁵ Personal communication with Holly Freishtat, Baltimore City Food Policy Director. Winter 2010.

¹⁰⁶ Maryland Department of Agriculture. *Starting a new farmers' market in Maryland*. Retrieved May 4, 2011, from http://www.mda.state.md.us/pdf/starting_farmers_market.pdf

Sustainability website. Minimizing trial and error for market managers is extremely important as Baltimore promotes and expands farmers markets.

Overall, farmers markets represent a synergistic entry point for government programs to support a health-promoting food system but they are not without their challenges.^{107,108}

Understanding both the strengths and challenges enables farmers markets to maximize service, equality, and profits. The recommendations presented in the next section work to counter some of these limitations and strengthen naturally-occurring benefits.

Recommendations to Improve Access to Farmers Markets in Baltimore

The market assessment and reflection on strengths and challenges of farmers markets are first steps to promote and expand farmers markets as a way of increasing the health and well-being of Baltimore's residents. Based on the outcomes from the assessment and findings from the literature review on the realities of farmers markets, future steps are necessary to ensure farmers markets enable increased access to healthy foods. These recommendations, while specific in part to Baltimore, may prove useful to cities nationwide, as they consider moving ahead with farmers markets as a strategy for improving the food system. These recommendations include not only policy-level recommendations that will be described at length in the final city report (denoted by asterisks) but also programmatic and research recommendations, which I drew from both the assessment and broader lessons learned.

Recommendations for Additional Areas of Research

- Determine how many farmers markets are necessary to adequately serve the community.

¹⁰⁷ Connell, D. J., Taggart, T., Hillman, K., & Humphrey, A. (2006, November). *Economic and community impacts of farmers markets in British Columbia*. (Provincial Report). Page 13. Prince George, British Columbia, Canada: University of Northern British Columbia and British Columbia Association of Farmers' Markets.

¹⁰⁸ Story, M., Hamm, M. W., & Wallinga, D. (2009). Food systems and public health: Linkages to achieve healthier diets and healthier communities. *Journal of Hunger & Environmental Nutrition*, 4(3&4), 219-224.

- Determine locations around the city that can be strategically developed as new farmers market sites.
- Research price comparisons between local stores and farmers markets to determine seasonal price differentials. This can become a positive promotion strategy for all shoppers. They also can take into account the amount of savings SNAP shoppers would get from SNAP incentive monies.
- Research what amount of SNAP incentive money is most influential for increasing farmers market purchases and healthy food consumption among SNAP participants at markets providing incentive money.

National Level Recommendations

- Lobby for additional money for EBT investment in the 2012 Farm Bill.
- Create a federal SNAP incentive program for farmers markets in a similar vein to the WIC FMNP program that directs specific monies for produce to farmers markets.
- Promote healthy food consumption through integration into other federal nutrition assistance programs including the School Food Lunch Program to build awareness and demand of healthy foods beginning in childhood.

State Level Recommendations

- *Allow FMNP authorization of farmers markets in their first year of operation. (Update: The city's Farmers Market Assessment enabled this recommendation to be fast-tracked in advance of the 2011 season. For the 2011 season, new farmers markets can apply to be FMNP-authorized).
- *Support the establishment of a Maryland Farmers Market Association to support market managers in the city and statewide. One goal of the Association is to increase the

markets' administrative capacities, resulting in markets more readily able to accept SNAP benefits. Ms. Crone received funding from the USDA to conduct a survey of all of Maryland's farmers markets, which will provide the basis documenting statewide need for a market association.¹⁰⁹

- *Support the state's provision of grants to implement EBT systems at farmers' markets.

City Level Recommendations

- *Support Maryland Hunger Solutions' initiative to create a Baltimore City Farmers Market Manager Coalition. In addition to a statewide association, a local coalition will increase opportunities to share best practices and resources among local managers.
- Encourage opportunities for community partnerships between markets and community agencies. Successful examples of this from markets around the country suggest that community-based organizations, local hair salons and barber shops, and health clinics may be places that can distribute promotional materials about farmers markets.^{110,111} This also can take the form of demonstrations at the markets. Markets can host nutrition and cooking demonstrations, recipe swaps, and concerts.
- *Increase awareness campaigns, specifically utilizing opportunities for local agencies to coordinate large-scale marketing and outreach efforts. Local agencies, such as WIC and Department of Social Services, send mailings to their clients that incorporate information about accessible farmers markets. Additionally, forming promotion partnerships with the

¹⁰⁹ Personal communication with Amy Crone, Maryland Department of Agriculture. Winter 2010.

¹¹⁰ Victor, R. G., Ravenell, J. E., Freeman, A., Leonard, D., Bhat, D. G., Shafiq, M., et al. (2011). Effectiveness of a barber-based intervention for improving hypertension control in black men: The BARBER_1 Study: A cluster randomized trial. *Archives of Internal Medicine*, 171(4): 342-350.

¹¹¹ Washtenaw County Public Health. (2009). *Prescription for health report, 2009 report*. Retrieved May 4, 2011, from http://www.growinghope.net/sites/default/files/downloads/2009PrescriptionForHealthReport_0.pdf

Baltimore City Department of Transportation (DOT) is a way to use public transportation systems as campaign sites.

- Increase efficient public transportation to farmers markets to enable increased access among transportation-dependent shoppers.
- *Finalize and distribute a resource guide for establishing a farmers market to limit duplicative efforts of community members across the city working to set up new markets.

Farmers Market Level Recommendations

- *Encourage every market to become WIC FMNP and SFMNP authorized to enable increased access for FMNP participants.
- *Encourage market managers to promote FMNP authorization among their markets' farmers to reach 100% enrollment of all eligible farmers.
- *Support the implementation of EBT machines at markets that have the capacity to support SNAP acceptance.
- Develop partnerships with near-by WIC clinics to increase redemption rates of WIC FMNP.

Farmer-Specific Recommendations

- Encourage farmers to account for shoppers' cultural food preferences with their crop plantings.
- Encourage every eligible farmer to become WIC FMNP and SFMNP authorized.
- Identify farmers' needs for serving as vendors in food desert locations.

Sustainability Recommendations

- *Ensure farmers markets have slots available to support urban farmers as urban agriculture initiatives increase throughout the city (based out of another food policy task

force final recommendation). Develop a strategy over the next two to three years for incorporating city farmers at existing markets.

- Encourage each market to conduct the SEED assessment to gather the market's weekly revenue and other important markers. Interns from Baltimore-based universities could be trained to conduct this survey during the market season. This is important to capture profitability data of the farmers markets and understand the impact Baltimore's markets have on the local economy.

Conclusion

These recommendations provide specific directions for ways in which national, state, and local policy, research, and programmatic adjustments can strengthen farmers markets as a food systems intervention to increase healthy food access for low-income shoppers. The complexities of the food system discussed throughout the paper suggest that implementing these recommendations to improve farmers markets as a healthy food source will not single-handedly reverse the upward trend of diet-related chronic diseases that affect the health and well-being of Baltimore's children and families. Farmers markets are one of many interventions that require careful assessment, planning, consideration and coordination for improving the local food environment.

Undertaking the assessment was critical to laying a foundation for which to build upon the strengths of the city's markets and identify barriers to address. The assessment highlighted such strengths as community-initiated leadership and involvement; recognition of federal nutrition benefits as a way to increase access; and support from government officials to make improvements. Further, the assessment identified the nuances of conducting evaluations of farmers markets. This created opportunities for learning about the available data on the city's

markets in the process and recognizing limits to the specificity of this first assessment.

Recounting the lessons learned from both the assessment and literature review enables a fuller account of the assessment's findings and situates Baltimore's experience in a broader context.

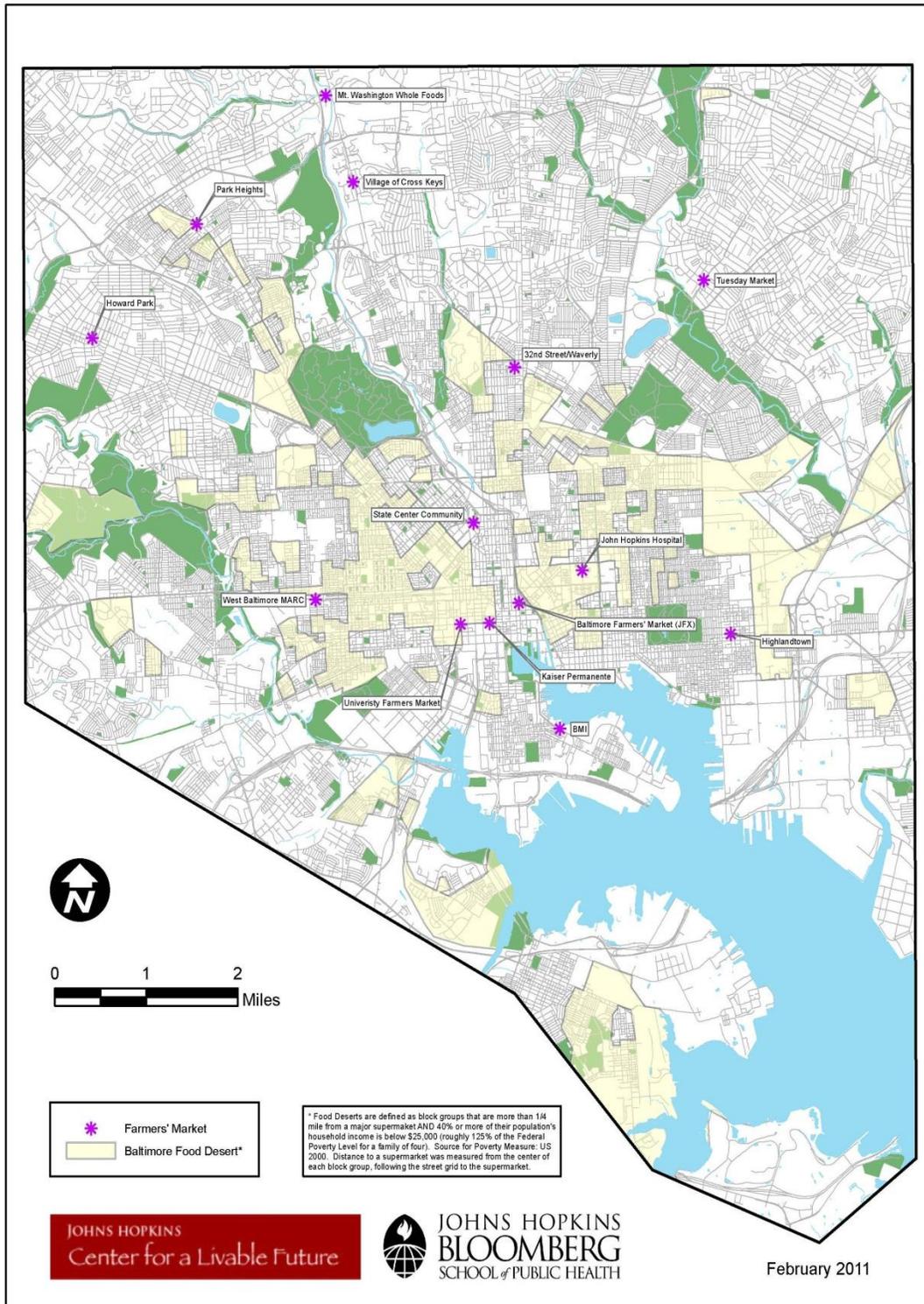
This provides a basis for moving forward with promoting and expanding farmers markets as a viable strategy to help increase healthy food access and create a healthier food environment.

If Baltimore undertakes implementation of these recommendations, farmers markets will be able to play an increasing role in improving the current food landscape. Farmers markets are one component in a sea of systems-wide interventions to increase healthy food access, increase healthy food consumption, and impact health and well-being. Farmers markets' benefits—both to consumers and producers—make them natural hubs to invest resources to provide community members with the ability to broaden their dietary choices, increase healthful consumption, and ultimately improve health outcomes.

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Appendix 1: Map of Baltimore City Farmers Markets



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