

Municipal Food Systems Planning Toolkit for MAPC Communities

December 2013

Joanna Hamilton, Liz Carver, Jasmine Tanguay
CLF Ventures, Inc.



Julie Conroy
Metropolitan Area Planning Council



[This page intentionally left blank.]

Acknowledgements

The work that provided the basis for this publication was supported by funding under an award with the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author and publisher are solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the Government. We also thank the Metro Boston Consortium for Sustainable Communities for making this work possible.

The research and development of the toolkit was advanced tremendously by a Spring 2012 Field Projects team comprised of students in the Urban and Environmental Policy and Planning Department of Tufts University. Special thanks go to that research team, Joanna Hamilton, Hannah Kohut, Jennifer Molina, and Meaghan Overton; their instructors, Penn Loh and Emily Earle; and their supervisors, Jasmine Tanguay and Aviva Rothman-Shore.

Our deepest thanks to the many food systems practitioners and experts we consulted during this research project, including:

Eva Agudelo, New Entry Sustainable Farming Project
Tina Cassidy, City of Beverly
Amanda Chisholm, MAPC
John DePriest, City of Chelsea
Danielle Evans, Town of Watertown
Jen Hashley, New Entry Sustainable Farming Project
Eric Hove, MAPC
Kristin Kassner, Town of Burlington
Barry Keppard, MAPC
Shawn Megill Legendre, Delaware Valley Regional Planning Coalition
Stephanie Mercandetti, Town of Walpole

Brad Mitchell, Massachusetts Farm Bureau
Brooke Nash, Massachusetts Department of Environmental Protection
Bonita Oehlke, Massachusetts Department of Agricultural Resources
Lola Omolodun, MAPC
Mark Racicot, MAPC
Estelle Rand, City of Beverly
Marcia Rasmussen, Town of Concord
Jennifer Rushlow, Conservation Law Foundation
Priscilla Ryder, City of Marlborough
Emily Torres, MAPC

Photography Credits

Images on the title page and the cover pages of the Introduction and Chapters 1, 2, 3, 5, and 6 are by the United States Department of Agriculture (<http://www.flickr.com/people/usdagov/>). Images on the cover pages of Chapters 4 and 7 are by Ron Francis, Natural Resources Conservation Service, United States Department of Agriculture (<http://photogallery.nrcs.usda.gov/res/sites/PhotoGallery/index.html>).

Suggested Citation

Hamilton, Joanna, Liz Carver, Jasmine Tanguay, and Julie Conroy. 2013. *Municipal Food Systems Planning Toolkit for MAPC Communities*. Boston, MA: CLF Ventures, Inc. and Metropolitan Area Planning Council.

[This page intentionally left blank.]

TABLE OF CONTENTS

INTRODUCTION.....	8
Food Systems Planning	9
Using the Toolkit	10
Toolkit Contents.....	11
ONE: Defining the Food System	14
What Is a Food System?	14
Why Should Municipalities Care About the Food System?	14
Our Food System in Context.....	15
Planning for Local and Regional Food Systems.....	16
TWO: Examining Massachusetts.....	22
I. Food System Sectors	22
II. Food Systems Planning in Massachusetts.....	27
THREE: Connecting Food Systems to Municipal Priorities	34
Municipal Priorities and Goals.....	34
Economic Development.....	35
Health.....	38
Environmental Sustainability	40
Equity	43
Education.....	45
FOUR: Getting Started.....	52
I. Creating Structures to Support Local Food Systems.....	52
II. Assessing Your Local Food System	57
FIVE: Collaboration and Community Engagement	64
Engaging Community Members and Building Community Support.....	64
Collaboration for Food Systems Planning	67
Addressing Community Concerns.....	68

SIX: Municipal Tools for Food Systems Planning.....	72
Introduction to Municipal Tools.....	72
I. Comprehensive Planning	73
II. Zoning for Local Food Production	75
III. Zoning for Local Food Sales	81
IV. Zoning for Healthy Food Environments.....	84
V. Municipal Legislation for Land Preservation.....	87
VI. Non-Regulatory Land Use Tools.....	91
VII. Health Codes and Licensing	95
VIII. Waste Management Policies and Programs	98
IX. Procurement Policies.....	99
X. Business Development Policies	100
SEVEN: Food Systems Project Guides.....	109
Community Kitchens	110
Healthy Corner Stores	112
Peri-Urban/Urban Agriculture.....	116
Soil Contamination & Safety	119
Food Hubs	122
Farmers’ Markets.....	124
Compost Programs	128
REFERENCES	133
GLOSSARY	150

[This page intentionally left blank.]

Introduction



INTRODUCTION

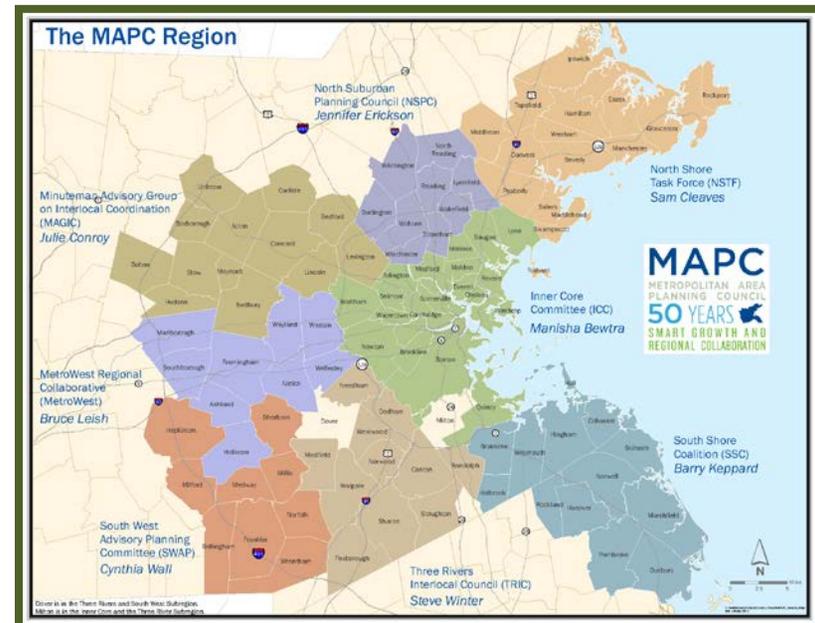
Local governments have long addressed the essential needs of their communities—land use, water and quality of housing—and hold a responsibility to protect the health, welfare, and safety of their residents. Over the last decade, municipalities have begun to recognize the intersections between food and quality of life in their communities, as well as the critical relationships they have with the farmers and ranchers who grow local, sustainable food for their communities.

In eastern Massachusetts, municipalities of all sizes and types are actively working to improve the quality, accessibility, and availability of food in their communities, as well as to enhance the economic viability of agricultural producers. However, they face challenges related to time and resources, especially when it comes to comprehensively planning for, and making improvements to, all sectors of their local food systems. These limitations often prevent municipalities from collaborating with other communities or sharing their successes and challenges with a broader audience.

This toolkit is intended to provide municipal officials and community leaders in the **Metropolitan Area Planning Council (MAPC)** region of eastern Massachusetts with the essential information they need to begin or expand efforts to improve their local food systems. The toolkit is structured to guide municipalities through the planning process, and includes tools and resources that can be used at any stage of the food systems planning.

This toolkit is the result of extensive background research; consultation with MAPC, the Massachusetts Department of Agricultural Resources (MDAR), the Massachusetts Department of Environmental Protection (MassDEP), and the Massachusetts Farm Bureau Federation (MFBF); and 20 one-on-one interviews with

municipal officials and food advocates in 15 municipalities in the Metro Boston region. While many interviewees were involved in food systems initiatives, the term “food system” did not resonate with municipal officials. Rather, municipal officials described their efforts in terms of **five municipal priorities**: economic development, health, conservation, equity, and education. This toolkit approaches food systems planning from a perspective that is centered on these priorities, so that local government officials and food system advocates can clearly connect the food system to their long-term municipal goals.



MAPC is the regional planning agency for the 101 cities and towns in Metro Boston; divided into four community typologies: Inner Core, Regional Urban Centers, Maturing Suburbs, and Developing Suburbs.

FOOD SYSTEMS PLANNING

What Is a Food System?

The term *food system* refers to all the activities and entities involved in producing, processing, transporting, storing, selling, consuming, and disposing of food. It includes all of the infrastructure and processes needed to feed a population, as well as the inputs and outputs generated along this chain. The food system is described in detail in [Chapter 1](#).

What Is Food Systems Planning?

According to the American Planning Association, “community food system planning is the collaborative planning process of developing and implementing local and regional land-use, economic development, public health, and environmental goals, programs and policies to:

- Preserve existing and support new opportunities for local and regional urban and rural agriculture;
- Promote sustainable agriculture and food production practices;
- Support local and regional food value chains and related infrastructure involved in the processing, packaging, and distribution of food;
- Facilitate community food security, or equitable physical and economic access to safe, nutritious, culturally appropriate, and sustainably grown food at all times across a community, especially among vulnerable populations;
- Support and promote good nutrition and health, and;
- Facilitate the reduction of solid food-related waste and develop a reuse, recovery, recycling, and disposal system for food waste and related packaging” (APA 2013, n.p.).

Short-Term and Long-Term Approaches to Food Systems Planning

Municipalities are often eager to dive into specific projects that can be completed in a short timeframe and will show results quickly. There are some benefits to this strategy—it can demonstrate municipal commitment to local food system development and generate interest and enthusiasm among a broader group of community members. However, it is important for municipalities to also go through the deliberate processes of assessment and engagement to ensure that the projects and activities they pursue are ones that will most benefit their community in the long run.

These two strategies are not mutually exclusive, and it may be effective for municipalities to pursue them simultaneously. In the early stages of long-range planning, municipalities could focus on identifying short-term goals and projects (such as some of those included in the toolkit’s project guides) that could be implemented quickly. These initial projects could be used as outreach and engagement tools for the broader planning process.

USING THE TOOLKIT

The toolkit's content is specific to food systems development, but its structure is designed to correspond with the general collaborative planning process depicted in **Figure 1** below (Margerum 2002; Innes and Booher 2010).

The toolkit is divided into seven chapters, which are described in detail below. **Chapters 1 and 2** are focused on food systems education, the first general and the second specific to Massachusetts. This content can be used to inform municipal officials and other stakeholders and to make the case for food systems development projects and their benefits to municipalities. Planners and other food systems advocates can look to **Chapter 3** to connect food systems issues directly to municipal priorities.¹

Chapter 4 guides readers through two major food systems planning processes: creating a **food system group** and conducting a **food system assessment**. As these processes depend on bringing together a wide array of constituents, **Chapter 5** provides guidance on community **engagement** and stakeholder analysis.

The results of a municipality's food systems assessment should be used to determine which **tools** (**Chapter 6**) the municipality ought to use for food systems development and which **projects** (**Chapter 7**) are best suited to meet their needs and goals. Finally, food systems planning is an iterative process; once projects and initiatives have been implemented, the municipality should monitor and evaluate progress by returning to the assessment

¹ Municipalities seeking guidance and facilitation for their planning and visioning processes, in which such priorities would be identified, should contact MAPC for resources and support: <http://www.mapc.org>, (617) 451-2770.

stage in **Chapter 4**.

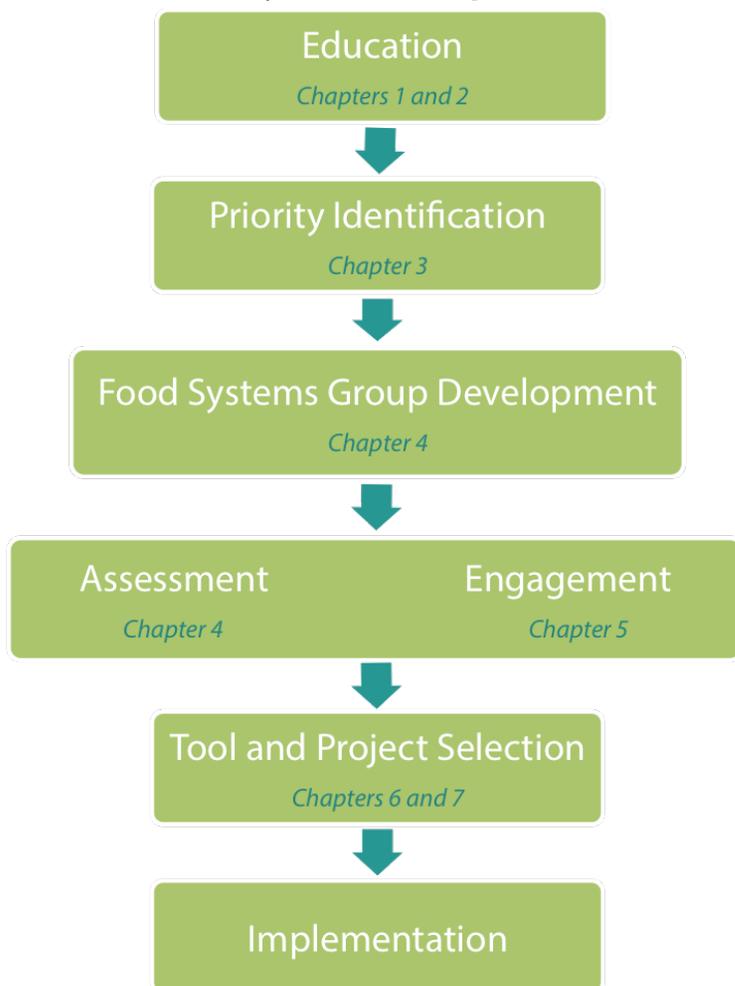
Municipal officials should use this toolkit as they work with agricultural producers, residents and other stakeholders to identify their food systems priorities, assess the current state of their local system, and implement projects that will improve the quality of life in their communities.

In addition to the toolkit, CLFV and MAPC have developed a **Network of Experts** to provide information and guidance to toolkit users on a variety of food systems planning topics. The names and contact information for these individuals and organizations are available on the MAPC website (www.mapc.org) on the same page as this toolkit.

Toolkit Elements

- Within the toolkit, hyperlinks are underlined in blue, the names of external documents and reports are in **light blue**, and references to other sections of the toolkit are in **teal**.
- Blue text boxes, tables and figures contain additional content; green text boxes refer to navigating and using the toolkit.
- "On the Ground" boxes, in purple, provide information about organizations and programs that are putting food systems planning into action in Massachusetts and across the country. Municipalities in eastern Massachusetts should look to these examples as templates for developing their own food systems policies and programs.

FIGURE 1. Collaborative Planning Process for Food Systems Development



TOOLKIT CONTENTS

CHAPTER 1: DEFINING THE FOOD SYSTEM explains the food system concept to help provide a common vocabulary for municipal food systems projects. This chapter outlines the development of the current U.S. food system, describing both its advantages and its shortcomings, and introduces the growing movement to develop more localized and sustainable food systems in the United States.

CHAPTER 2: EXAMINING MASSACHUSETTS provides a detailed description of food systems in Massachusetts, including statistics and information about agriculture, food production and consumption, food assistance programs, and waste in the food system.

CHAPTER 3: CONNECTING FOOD SYSTEMS TO MUNICIPAL PRIORITIES contains descriptions of the top municipal priorities identified in the interview analysis and explains how the food system is related to each priority. The municipal priorities covered in this section are: economic development, health, conservation, equity, and education. Links to relevant initiatives are provided throughout **Chapter 3**.

CHAPTER 4: GETTING STARTED is a guide to developing food systems groups and conducting food systems assessments. After identifying their priorities in **Chapter 3**, municipalities can use **Chapter 4** as a starting point for group formation and goal-setting. Although food systems groups take many forms, this section focuses specifically on two well-established structures: Food Policy Councils (FPCs) and Agricultural Commissions (AgComs).

CHAPTER 5: COLLABORATION AND COMMUNITY ENGAGEMENT is a guide to engaging and developing

partnerships with individuals and organizations in a community. This chapter provides best practices for community engagement, explains the importance of stakeholder analysis, and discusses some potential community concerns that may arise when municipalities initiate food systems projects.

CHAPTER 6: MUNICIPAL TOOLS is a guide to the municipal tools that can be used for food systems development. This section describes many examples of food systems planning, zoning, and legislation from across the United States. Tools covered include: comprehensive planning, zoning for food production, access, and retail; land preservation legislation, procurement policies, waste management policies, and business development strategies.

CHAPTER 7: PROJECT GUIDES contains a series of Project Guides for a variety of food systems initiatives. Together they address all the sectors of the food system and all of the municipal priorities described in **Chapter 3**. Each Project Guide provides information about how to get started and lists additional resources that may be useful for municipalities. Project Guide topics include: healthy corner store initiatives, farmers' markets, and compost programs, among others.

INTRODUCTION REFERENCES

APA (American Planning Association). 2013. "Food Systems." Accessed December 22.
<http://www.planning.org/nationalcenters/health/food.htm>.

Innes, J. E., and D. E. Booher. 2010. *Planning with complexity: An introduction to collaborative rationality for public policy*. Routledge: New York.

Margerum, Richard D. 2002. "Collaborative Planning: Building Consensus and Building a Distinct Model for Practice." *Journal of Planning Education and Research* 21: 237. Accessed April 28, 2012. doi:10.1177/0739456X02021003.

One: Defining the Food System



ONE: Defining the Food System

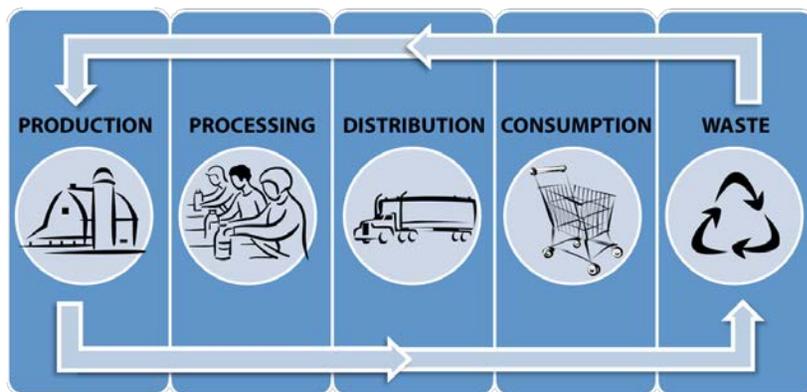
WHAT IS A FOOD SYSTEM?

Food passes through many hands on its path from production to consumption. While on this path, it has to be produced, processed, transported, stored, sold, consumed, and/or disposed. The term *food system* describes all of the activities involved in this process. It includes all of the infrastructure and processes needed to feed a population, as well as the inputs and outputs generated along this chain, shown in **Figure 2**.

The food system includes five major sectors:

- **Production:** Cultivation of edible plants and livestock
- **Processing:** Transformation of food into food products
- **Distribution:** All the ways food is transported, stored, and marketed from farm to consumer.
- **Consumption / Retail:** All activities and processes by which a society acquires and utilizes food material
- **Waste Management:** The series of activities by which food waste is collected, sorted, processed and converted to other materials (i.e. compost), or sent to landfills.

FIGURE 2. The Food System



How does this toolkit address the food system?

Chapter 2 provides information on each sector in Massachusetts. **Chapter 7** describes specific food system projects that are linked to the municipal priorities detailed in **Chapter 3** and to one or more sectors of the food system.

WHY SHOULD MUNICIPALITIES CARE ABOUT THE FOOD SYSTEM?

By their very nature, municipal policies affect the health, livability, and vitality of their communities. Municipal governments have a critical role to play in addressing community economic development and environmental health issues, but many municipalities have only recently begun to recognize connections between food and municipal priorities.

There are many reasons for municipalities to address food system issues: food system activities create economic value; residents and communities benefit from access to affordable, safe, fresh, and healthy food; and locally grown food can reduce the environmental impacts associated with mono-cropping and long-distance transport. In addition, supporting the presence of agriculture-related enterprises such as composting and related food service businesses in Massachusetts communities can create jobs, expand the market for locally grown and processed food, and keep food dollars in the local economy.

As general awareness of and interest in strengthening and restoring local food systems has expanded over the last two decades, municipalities and community organizations across the U.S. have become increasingly involved in efforts to address these issues and have an important role to play in helping to develop the

local food system and ensure a healthier food system overall.

OUR FOOD SYSTEM IN CONTEXT

Agriculture has played a significant role in the history of the United States. The Homestead Act of 1862 promoted westward expansion by promising land ownership to farmers once they had lived on the undeveloped land for five years. By the early 1900s, more than half of Americans were farmers or lived in rural communities (Ikerd 1996). These farmers generally produced a variety of crops and raised multiple types of livestock. Industrialization of the U.S. food system in the twentieth century led to a shift toward highly specialized farms with reduced diversity of production. It also increased the amount and scale of processing and transportation involved in getting food from farms to consumers.

These structural changes in the food system have provided some benefits to both farmers and consumers. For example, technological advances have increased agricultural efficiency and decreased the labor costs associated with food production (Tilman et al. 2002). This efficiency, paired with increased disposable income, has greatly decreased the proportion of household income that Americans spend on food (AgMRC nd; Putnam and Allshouse 1999; Dimitri, Efland, and Conklin 2005; Miller and Coble 2007). In addition, the convenience of processed foods has decreased the time required for consumers to procure and prepare meals, and the global scale of food production and distribution has increased variety in U.S. diets (Ramey 2009; Binkley et al. 2000).

Though the benefits of increased scale and efficiency are clear, they have also had significant negative effects on our environment, economy, and health. Food production and transportation at national and international scales require significant fuel use, which leaves these sectors vulnerable to rising

fuel costs and contributes to increased pollution. The retail sector has experienced a decrease in the number of small and independent stores and a shift away from locating stores in low-income areas. These systemic changes have had far-reaching impacts, such as reduced access to healthy food and diminished employment opportunities. In terms of public health, the increase in fast-food restaurants and our cultural tendency to eat more meals outside of the home have contributed to a rise in health-related diseases such as diabetes and obesity, especially in urban and poor communities (Kaufman 2004; APA 2007).

Within the agricultural sector, the trend toward industrialized production for national and international markets has encouraged the development and growth of very large farms and other food system businesses. Food and farm regulations have also followed this trend, as they are designed for large farms and the businesses that work with them. As a result, smaller farms often need to comply with regulations that were written with much larger operations in mind. This is frequently the case in New England, where geography, urbanization, and other factors have led to a significant (and growing) network of small- and medium-sized farms.

One recent example of how food and farm regulation may not meet the needs of local-scale producers can be seen in the proposed Food Safety Modernization Act (FSMA), which received many comments in New England and elsewhere to include provisions and exemptions for small and medium producers.² Though the FSMA and other agricultural policies are generally determined at the federal level, states and municipalities have an important role to play in interpreting, implementing, and

²For more information on the FSMA, the National Sustainable Agriculture Coalition has written an overview of the proposed rules and who is affected at <http://sustainableagriculture.net/fsma/who-is-affected/>.

enforcing those policies. In **Chapter 6** of this toolkit we will explain further how municipal policies and municipal interpretations of higher-level policies can be used to support local and regional food system development.

PLANNING FOR LOCAL AND REGIONAL FOOD SYSTEMS

The overall food system is comprised of interconnected local, regional, national and international systems. This is necessary to ensure adequate food supply and nutrition in a temperate and densely developed locale such as Massachusetts. As the food system continues to evolve, the need for an increased role for local- and regional-scale elements has become apparent, and movements to develop local and regional food systems in the United States have grown in size, strength, and popularity. Individual food system movements pursue projects and goals specific to their circumstances, but overall their priorities include: place and proximity; economic development; environmental sustainability; public health; and food sovereignty (Hinrichs 2007; Stevenson et al. 2007; Lyson 2007; Kloppenberg et al. 2000; Beus and Dunlap 1990; Feenstra 1997; Wilkins & Eames-Shivley 2003).

Though all of those priorities are key to developing local and regional food systems, place and proximity—the cornerstones of “local food” movements—have received significant media attention in recent years. The U.S. Department of Agriculture (USDA) defines “local food” as food that is sold within the state in which it is produced, or is transported no more than 400 miles from its origin (Martinez et al. 2010). However, most communities and groups set their own parameters for local food—some may focus on seasonality while others may emphasize sourcing products from a certain region or group of states.

Increasing local food production and consumption is an important goal for many reasons. Higher demand for local food provides local growers with opportunities to expand and diversify their operations (LCSA 2011). Strong local food markets are beneficial to farmers—they can receive up to seven times the revenue for local sales compared to mainstream markets (LCSA 2011). These markets also support local economies in general, as they sustain and create jobs in farming and food-related businesses and keep food dollars circulating within communities (LCSA 2011).

These and other reasons make local food system development an important activity for municipalities to undertake. However municipal leaders must avoid falling into the “trap” of assuming that local, or any particular scale, is inherently better than any other (Born and Purcell 2006). Rather than seeing the creation of a locally scaled food system as a goal in and of itself, municipalities should use scale as a strategy for achieving particular goals or outcomes, such as increased economic development and improved public health (Born and Purcell 2006). To feed the world’s growing population, we will need a combination of types and scales of food systems, from local to global (Clancy and Ruhf 2010). Municipalities need to be aware of food systems planning efforts in their larger communities (county, state, region, etc.) and should think critically about their end goals and what scale of food system development would best achieve the outcomes they seek (Born and Purcell 2006; Clancy and Ruhf 2010).

Most municipalities in eastern Massachusetts (and other temperate areas with relatively short growing seasons) cannot realistically expect to create a completely localized and self-sufficient food system. However, municipal food systems planning is still crucial for strengthening local elements of the food system, to the benefit of consumers, producers, and the economy as a whole. As this toolkit will explain, municipalities and food system

movements share many priorities, such as promoting economic development, improving environmental sustainability, and protecting public health, and use many of the same strategies to address their concerns. For example,

- Working to increase access to healthy food can improve community health and nutrition;
- Setting goals to reduce greenhouse gas emissions and municipal waste can contribute to ecological sustainability; and
- Adopting policies that encourage entrepreneurship can strengthen the local economy and encourage civic engagement (Masi et al. 2010).

The processes and projects described in this toolkit will help municipalities use food systems planning to support and enhance the nutritional, environmental, economic, and social health of their communities.

CHAPTER 1 REFERENCES

AgMRC (Agricultural Marketing Resource Center). 2013. "Food Consumption Trends." Ames, Iowa: Iowa State University. Last updated July 2012. Accessed March 2.

http://www.agmrc.org/markets_industries/food/food-consumption-trends/.

APA (American Planning Association). 2007. *Policy Guide on Community and Regional Food Planning*. American Planning Association. Accessed April 10, 2012.

<http://www.planning.org/policy/guides/adopted/food.htm>.

Beus, Curtis E. and Riley E. Dunlap. 1990. "Conventional versus Alternative Agriculture: The Paradigmatic Roots of the Debate." *Rural Sociology* 55 (4): 590-616.

Binkley, J. K., J. Ealies, and M. Jekanowski. 2000. "The Relation between Dietary Change and Rising U.S. Obesity." *International Journal of Obesity* 24 (8): 1032.

Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research* 26: 195-207.
doi:10.1177/0739456X06291389.

Clancy, Kate and Kathy Ruhf. 2010. "Is local enough? Some arguments for regional food systems." *Choices*, 25 (1).
<http://www.choicesmagazine.org/>

Dimitri, Carolyn, Anne Effland, and Neilson Conklin. 2005. *The 20th Century Transformation of U.S. Agriculture and Farm Policy (EIB-3)*. Washington, D.C: Economic Research Service, United States Department of Agriculture.

Feenstra, Gail W. 1997. "Local Food Systems and Sustainable Communities." *American Journal of Alternative Agriculture* 12(1): 28-36.

Hinrichs, C. Clare. 2007. "Introduction: Practice and Place in Remaking the Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 1-15. Lincoln, NE: University of Nebraska.

Ikerd, John E. 1996. "Sustaining the Profitability of Agriculture." Extension Pre-Conference: The Economist's Role in the Agricultural Sustainability Paradigm, San Antonio, TX, July 27.

Kaufman, Jerome L. 2004. "Introduction." *Journal of Planning Education and Research* 23(4): 335-340.

Kloppenber, Jack Jr., Sharon Lezberg, Kathryn De Master, George W. Stevenson, and John Hendrickson. 2000. "Tasting Food, Tasting Sustainability: Defining the Attributes of an Alternative Food System with Competent, Ordinary People." *Human Organization* 59 (2): 177-186.

LCSA (Leopold Center for Sustainable Agriculture). 2011. *Iowa Local Food & Farm Plan: Report to the Iowa Legislature*. Ames, IA: LCSA. Accessed April 20, 2012.
www.leopold.iastate.edu/foodandfarmplan.html.

Lyson, Thomas A. 2007. "Civic Agriculture and the North American Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 19-32. Lincoln, NE: University of Nebraska.

Martinez, S., M. Hand, M. Da Pra, S. Pollack, K. Ralston, T. Smith, S. Vogel, S. Clark, L. Lohr, S. Low, and C. Newman. 2010. *Local Food Systems: Concepts, Impacts, and Issues (ERR 97)*. Washington, DC: Economic Research Service, USDA. Accessed April 6, 2012. www.ers.usda.gov/Publications/ERR97/ERR97.pdf.

Masi, Brad, Leslie Schaller, and Michael H. Shuman. 2010. *The 25% Shift: The Benefits of Food Localization for Northeast Ohio & How to Realize Them*. Accessed May 9, 2011. <http://www.neofoodweb.org/sites/default/files/resources/the25shift-foodlocalizationintheNEOregion.pdf>.

Miller, J. Cory and Keith H. Coble. 2007. "Cheap food policy: Fact or rhetoric?" *Food Policy* 32: 98-111.

Putnam, Judith Jones and Jane E. Allshouse. 1999. *Food Consumption, Prices, and Expenditures, 1970-97 (SB-965)*. Washington, D.C.: USDA Economic Research Service, Food and Rural Economics Division.

Ramey, V.A. 2009. "Time Spent in Home Production in the Twentieth-Century United States: New Estimates from Old Data." *Journal of Economic History* 69(1): 1-47. Accessed April 4, 2012. http://weber.ucsd.edu/~vramey/research/Home_Production_published.pdf.

Stevenson, G.W., Kathryn Ruhf, Sharon Lezberg, and Kate Clancy. 2007. "Warrior, Builder, and Weaver Work: Strategies for Changing the Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 33-62. Lincoln, NE: University of Nebraska.

Tilman, David, Kenneth Cassman, Pamela Matson, Rosamond Naylor, and Stephen Polasky. 2002. "Agricultural Sustainability and Intensive Production Practices." *Nature* 418: 671-677.

Wilkins, Jennifer L. and Marcia Eames-Sheavly. 2003. "A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture." *Discovering the Food System*. Ithaca, NY: Cornell University Extension. Accessed March 15, 2012. <http://www.discoverfoodsys.cornell.edu/pdfs/foodsys.pdf>.

[This page intentionally left blank.]

Two: Examining Massachusetts

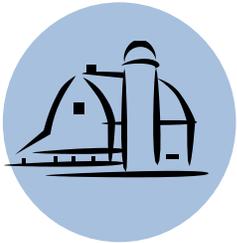


TWO: Examining Massachusetts

This chapter provides Massachusetts-specific data and context for the food system sectors described in **Chapter 1**: production, processing, distribution, consumption/retail, and waste. The chapter concludes with an overview of food systems planning efforts in Massachusetts at the state and regional levels.

I. FOOD SYSTEM SECTORS

PRODUCTION



Massachusetts' Agricultural History

New England has experienced major shifts in landcover and land use patterns since European arrival in the mid-17th century. Demand for timber and farmland caused widespread clearing and conversion of forests for agriculture; eventual transitions to industrial activities reduced reliance on the

land and allowed natural forest regrowth to occur. In Massachusetts, land clearing progressed through the mid-1800s at which point open land (predominantly pastureland) peaked at near 70 percent. Grains such as corn, wheat, oats, rye, barley, and hay were grown on the plowed land, which comprised only 5 percent of the total cleared land in the state (Foster et al. 2004). Limited transportation infrastructure at the time made local production of grains for human and animal consumption critical, since storage and transportation over longer distances was not possible.

Beginning in the late 19th century, significant industrialization drew large populations away from agricultural employment and toward developing urban centers. As reliance on the land declined, farms were abandoned and natural reforestation was

allowed to occur. This process returned forested land in Massachusetts to about 70 percent. This regrowth, combined with residential and commercial development, significantly reduced the amount of land remaining in farms. While farming once formed a “diverse base that enabled regional self-sufficiency,” the variety of products produced in Massachusetts has shrunk considerably (Foster et al. 2004, 83). Massachusetts is now known mainly for specialty crops such as apples and cranberries and local products including cheeses, other dairy products, and maple syrup.

In the late 1970s, many agricultural development and marketing programs were created to help farmers transition from wholesale to direct marketing. This shift was encouraged as a strategy to yield higher profit margins for growers. As a result of these programs and increased consumer interest in buying local foods directly from producers, Massachusetts was ranked 9th in the nation for the total value of direct sales in 2007, behind states such as California, New York, and Pennsylvania. In addition, Massachusetts had the second highest average direct market sales per farm (\$25,365) in the nation in 2007 (MDAR 2013b).

Contemporary Agriculture in Massachusetts

As of the 2007, the last year for which the U.S. Census of Agriculture is available, Massachusetts had 7,691 farms in operation. They encompass 517,879 acres of farmland and the average farm size is 67 acres. In 2007 the total market value of Massachusetts agricultural products sold equaled \$489 million (NASS 2009, Table 1). Massachusetts' top agricultural products based on their percentage of agricultural income are listed in **Table 1** below. Though this toolkit is focused on agriculture as it relates to food production, municipal officials should note that not all agricultural products grown in Massachusetts are food products.

As of 2007 there were 11,983 total farm operators in MA (7,281 men and 4,702 women) including both full-time and part-time farmers (NASS 2009, Table 49). Young and beginning farmers face significant barriers including: access to education, training, and technical assistance; access to capital and credit; access to land, and access to adequate markets (Ruhf 2002).

Another issue for Massachusetts farmers, beginning and established, is the pressure of suburbanization and development that has marginalized farming as a profession. This is certainly an issue in the MAPC region. A number of interview respondents addressed the reduction in working farms specifically, noting that their towns had recently adopted right-to-farm bylaws to protect farmers, or were actively working to ensure that remaining farms received the support they need to stay in business.

TABLE 1: Massachusetts' Top Agricultural Products

Agricultural Products	% Total Cash Receipts
Greenhouse/nursery	35%
Fruit/vegetables	19%
Cranberries	17%
Livestock/poultry	12%
Milk	9%
Other crops	8%

Source: NASS 2009, Table 2

FOOD SYSTEMS EMPLOYMENT

Though the number of farmers in Massachusetts (and across the U.S.) is relatively small compared to the total population, many people are employed throughout the food system. Approximately 9% of all Massachusetts employees work in food processing and consumption/retail services including: food and beverage manufacturing, grocery stores and wholesalers, and food service establishments. The distribution of employment across food system sectors is depicted in **Table 2**.

TABLE 2: Food Systems Employment in Massachusetts

Sector	Employers	Employees
Food manufacturing	645	20,557
Beverage manufacturing	40	2,453
Grocery and related product wholesalers	887	18,454
Food and beverage stores	4,607	90,032
Food service and drinking places	14,939	225,602

Source: USCB 2007

PROCESSING



Most food products go through some level of processing before they reach consumers. The businesses involved in these activities operate at all scales and sizes. Massachusetts is home to 300 specialty food processors (MDAR 2013f), and food manufacturers employ over 20,000 people in the state (USCB 2007). In western Massachusetts, the

Franklin County CDC has created the Western Massachusetts Food Processing Center to promote economic development and provide opportunities for food-related businesses to develop (FC CDC 2013).

DISTRIBUTION



Food products sold in Massachusetts come from around the world, and even the products grown in-state travel through various distribution routes to reach consumers. The top 125 food distributors in New England reported over \$32.5 million in sales; 66 of those distributors are based in Massachusetts with \$4.7 billion in sales (NEFS 2013).

RETAIL AND CONSUMPTION



As noted above, the local food movement is strong in Massachusetts: in 2012, Massachusetts ranked fourth nationally in the number of farmers' markets and second in the country in direct sales to consumers as a share of total agricultural sales (MDAR 2012). As of December 2013, the USDA listed 291 Massachusetts farmers' markets in its

national directory (AMS 2013a). In addition to farmers' markets, Massachusetts is home to just under 6,000 grocery stores and other food retailers (including convenience stores and warehouse stores/supercenters) (USCB 2011a; USCB 2011b).

Food Access and Assistance Programs

Unfortunately, access to healthy, affordable food is still a crucial issue for many Massachusetts residents. In 2011, the state's food insecurity rate was 11% for the whole population and 18% for children, and over 800,000 residents relied on food assistance provided by food banks and other sources (Patrick 2012).

A number of national programs exist in the U.S. to address issues of food insecurity and food access. Each program targets the needs of a specific demographic and is designed to facilitate consistent access to healthy food.

The **Supplemental Nutrition Assistance Program (SNAP)**, formerly known as food stamps, is designed to aid individuals and families who are unable to afford to purchase adequate food. SNAP provides a monthly benefit payout that can be used at many food retailers (e.g., grocery stores and corner stores). SNAP functioned as a safety net for an average of 44.7 million Americans a month in 2011 (Tiehen et al. 2012). In 2011, average monthly SNAP participation in Massachusetts reached 447,066 households, or approximately 18% of all households in the state. Benefits that year totaled \$1.29 billion (FNS 2013de USCB 2013). This shows a significant increase from 239,802 households on average in 2007 and total benefit payout of \$472 million (FNS 2013e). These sharp increases are likely linked to the economic recession that began in 2008 and from which the economy has not fully recovered.

The **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)** specifically aims to "safeguard the

health of low-income women, infants, and children up to age 5 who are at nutrition risk by providing nutritious foods to supplement diets, information on healthy eating, and referrals to health care” (FNS 2013a). In fiscal year 2011, there were a total of 119,099 WIC recipients in Massachusetts; the program’s food, nutrition education, and administrative costs totaled \$88.6 million (FNS 2013g).

In addition to the traditional WIC program, in 1992 Congress established the **Farmers Market Nutrition Program (FMNP)** “to provide fresh, unprepared, locally grown fruits and vegetables to WIC participants, and to expand the awareness, use of, and sales at, farmers’ markets” (FNS 2013f). This program provides coupons specifically for the purchase of eligible foods from farmers’ markets and roadside stands. In fiscal year 2010, WIC benefits were distributed to approximately 9.17 million participants per month; 2.15 million of those participants received FMNP benefits (FNS 2013c; FNS 2013f).

Finally, the **National School Lunch Program (NSLP)** “provides nutritionally balanced, low-cost or free lunches to children;” over 31 million children in the U.S. were served each day in 2010 (FNS 2013d). Meals are priced on a sliding scale dependent on household income, with meals provided at no cost for children from families with incomes at or below 130% of the poverty level. All NSLP meals are required to meet the standard Federal Nutrition requirements; however, local school districts make decisions about what specific foods to serve. In Massachusetts, over 90 million meals were served in 2011 to 542,258 children who took advantage of the NSLP (FNS 2013b). In September 2013, the City of Boston announced its decision to offer free lunches to all students, regardless of family income. This policy is part of a new USDA initiative to streamline the school meals process and reduce the stigma for students receiving a free or low-cost meal. As 2013 is the first year that Massachusetts school districts are eligible to

participate in the program, other cities and towns may soon follow suit (Vaznis 2013).

TABLE 3: 2013 Poverty Guidelines

Persons in family/household	Poverty guideline
1	\$11,490
2	15,510
3	19,530
4	23,550
5	27,570
6	31,590
7	35,610
8	39,630
For families/households with more than 8 persons, add \$4,020 for each additional person.	

Source: HHS 2013

Local Food Assistance

Large national programs are not the only avenues for addressing issues of food insecurity. Local soup kitchens and food pantries distribute emergency food supplies at low or no cost to individuals and families in need. These organizations are located in the communities they serve and are often operated by non-profit or volunteer organizations. In eastern Massachusetts, many of these organizations work with and receive food from the **Greater Boston Food Bank**. Massachusetts residents facing hunger can also get information and referral services from Project Bread’s **FoodSource Hotline: 1-800-645-8333**.

In addition to emergency food programs, independent organizations and municipalities have been working together to address issues of hunger and food access. For example, Wholesome Wave’s Double Value Coupon Program (available in

Connecticut, California, New York, and Massachusetts) and Boston's Bounty Bucks Program offer SNAP recipients a discount on their farmers' market purchases (WW 2013; BFM 2013).

MASSACHUSETTS FOOD ASSISTANCE RESOURCES

Greater Boston Food Bank

<http://www.gbfb.org/>

Project Bread's FoodSource Hotline

1-800-645-8333

<http://www.projectbread.org/>

WASTE



Municipalities devote a significant portion of their resources to managing the waste produced by their residents, businesses, and institutions. In 2010, the United States generated approximately 250 million tons of Municipal Solid Waste (MSW); Massachusetts municipalities contributed 7.5 million tons to the total. (EPA 2011b; MassDEP 2011a). MSW is made up of materials such as product packaging, yard clippings, computers, paper, and food scraps from residential and commercial sources (EPA 2011b).

Massachusetts has set ambitious waste reduction goals in its **2010-2020 Solid Waste Master Plan**, including reducing the disposal of solid waste by 30% by 2020 and 80% by 2050 (MassDEP 2013a), using 2008 levels as a baseline. This will require reducing the overall amount of waste generated and increasing the proportion of waste that is diverted from the waste stream through processes

such as composting and recycling. The state has already made some progress toward those goals: For example, the total MSW generated in 2010 (7.5 million tons) was 10% less than the 2008 total (MassDEP 2011b).

Waste and the Food System

Organic matter (paper, yard clippings, wood, and food waste) comprises over half of the total MSW generated in the U.S. and 20% of the total MSW generated in Massachusetts (EPA 2013b; MassDEP 2013a). Organic matter can be recovered from the waste stream through composting or anaerobic digestion, which converts food waste into renewable energy. Though most municipalities have systems in place for composting or recycling paper, wood, and yard clippings, similar systems for food waste are much less prevalent. Of the 34.76 million tons of food waste generated in the United States in 2010, only 2.8% (0.97 million tons) was composted (EPA 2011b).

Within Massachusetts' **Solid Waste Master Plan** are targets for reducing solid waste disposal of food waste and other organic materials by 350,000 tons on an annual basis by 2020 (MassDEP 2013b). To facilitate these changes, the Massachusetts Department of Environmental Protection has published a guide on reducing food waste for businesses and institutions and proposed a ban on the disposal of commercial food waste in the state, to take effect July 1, 2014 (EEA 2013a).³ Under the ban, companies that dispose of a significant amount of food waste (at least one ton per week) would be required to donate or re-purpose useable food and dispose of the remaining food waste through anaerobic digestion, composting, or as animal feed. The ban would be accompanied by

³ **Reducing Food Waste: A How to Guide for Businesses and Institutions** is available for download at <http://www.mass.gov/eea/docs/dep/recycle/reduce/m-thru-x/reducefw.pdf>.

funding to support the development of anaerobic digestion facilities. Though the ban as written only affects large businesses, the new infrastructure for processing food waste and the increased awareness of food waste issues will likely improve food waste disposal options for individual residents and smaller businesses in the future. For more information on these and other strategies, see the *MassDEP Organics Study and Action Plan*, available at <http://www.mass.gov/eea/docs/dep/public/committee-4/orgplan12.pdf>.

II. FOOD SYSTEMS PLANNING IN MASSACHUSETTS

There are many efforts underway in Massachusetts to develop food systems that are environmentally sustainable and attuned to the economic, social, and public health needs of communities. As noted in **Chapter 1**, no type or scale of food system is inherently better than another, and no one system can meet the needs of all consumers (Born and Purcell 2006; Clancy and Ruhf 2010). Municipalities should be aware of state- and regional-level food systems planning (FSP) efforts and explore ways to work together to create complementary food systems in Massachusetts and our multi-state regions.

State-Level FSP: MA Food Policy Council

The Massachusetts Food Policy Council (MA FPC) was established by state statute in November 2010. Its 17 members include four members from the legislature (majority and minority leaders in both the House and Senate appoint a member), six representatives of agencies in the Executive branch, and seven food system industry representatives who are appointed by the Governor. The enabling legislation, meeting minutes, and reports of the MA Food Policy Council can be downloaded from <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>.

According to state law, the MA FPC's purpose is to

- 1) "increase production, sales and consumption of Massachusetts-grown foods;
- 2) develop and promote programs that bring healthy Massachusetts-grown foods to Massachusetts residents through various programs such as:
 - a) targeted state subsidies,
 - b) increased state purchasing of local products for school and summer meals and other child and adult care programs,
 - c) double coupon initiatives,

- d) direct market subsidies to communities with identified needs,
 - e) increasing institutional purchases of Massachusetts-grown foods and other programs to make access to healthy Massachusetts products affordable, and
 - f) increasing access to healthy Massachusetts-grown foods in communities with disproportionate burdens of obesity and chronic diseases;
- 3) protect the land and water resources needed for sustained local food production; and
 - 4) train, retain and recruit farmers and to provide for the continued economic viability of local food production, processing and distribution in the commonwealth” (Massachusetts General Laws Part I Title II Chapter 20 Section 6C).

In the summer of 2013, the MA FPC released an RFR for an entity to create a “comprehensive, multi-year Massachusetts Food Plan that:

- Is guided by a unified vision
- Is created by broad stakeholder involvement/engagement
- Identifies a multi-year strategy
- Outlines immediate and on-going actions and initiatives
- Creates measurement tools by which progress is monitored according to project goals which should include economic

MASSACHUSETTS FOOD POLICY COUNCIL

c/o Department of Agricultural Resources
251 Causeway Street, Suite 500, Boston, MA 02114
Bonita Oehlke | 617-626-1753 Bonita.Oehlke@state.ma.us

<http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>

impacts which may include but are not limited to USDA, FDA and other state and federal agencies” (MDAR 2013e, 2). This plan will likely serve as a reference point and model for municipalities in Massachusetts as they create more localized food system assessments and plans.

Regional FSP: MAGIC Pilot and Pioneer Valley Grows

In eastern Massachusetts, MAPC has led a pilot project to develop a Comprehensive Agricultural Planning Program for the **Minuteman Advisory Group for Interlocal Coordination (MAGIC) Subregion**. MAGIC has the least densely populated land within the region. These communities are particularly susceptible to encroaching development on lands suitable for agricultural production. The goal of the project is to increase the economic viability of farming and protect sustainable “foodsheds” (farms and agricultural soils close to metropolitan markets) within the subregion, and to provide solutions for promotion and marketing. This project has served as a starting point for discussions with the farming and ranching community regarding how municipal officials fit into the food system and food system planning.

Regional food systems planning is also happening in western Massachusetts through **Pioneer Valley Grows (PVGrows)**, a network of organizations and individuals with shared interests in the region’s food system. The following reports detail PVGrows’ work and food systems planning in the Valley:

- ***Creating a Community Investment Fund: A Local Food Approach*** (Shuman 2013a)
- ***The 25% Shift: The Economic Benefits of Food Localization for the Pioneer Valley & the Capital Required to Realize Them*** (Shuman 2013b)
- ***Scaling Up Local Food: Investing in Farm & Food Systems Infrastructure in the Pioneer Valley*** (Christie 2011)

- **Local Food, Local Jobs: Job Growth and Creation in the Pioneer Valley Food System. Massachusetts Workforce Alliance** (Schroeder 2013)

Multi-State Regional FSP

Communities in Massachusetts are also part of regional food systems planning efforts for both New England and the Northeast.

Food Solutions New England (FSNE) is a regional food systems learning-action network. Its work includes creating *A New England Food Vision* and events and research related to state-level food systems planning in New England. The **Northeast Sustainable Agriculture Working Group (NESAWG)** is a 12-state network of food system practitioners, activists, researchers, and organizations. Though NESAWG is not a planning agency, the work it does in bringing together individuals and organizations from all sectors of the food system is crucial to regional food system development.

REGIONAL FOOD SYSTEMS PLANNING GROUPS

Minuteman Advisory Group for Interlocal Coordination (MAGIC) Subregion

<http://www.mapc.org/magic>

Pioneer Valley Grows

<http://www.pvgrows.net>

Food Solutions New England

<http://www.foodsolutionsne.org/>

Northeast Sustainable Agriculture Working Group

<http://www.nefood.org/page/nesawg>

CHAPTER 2 REFERENCES

AMS (Agricultural Marketing Service). 2013a. "Farmers' Market Directory." Washington D.C.: AMS, USDA. Accessed December 20. <http://search.ams.usda.gov/farmersmarkets/>.

BFM (Boston Farmers' Markets). 2013. *SNAP/Bounty Bucks*. Accessed December 1. <http://bostonfarmersmarkets.org/bounty-bucks/>.

Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research* 26: 195-207. doi:10.1177/0739456X06291389.

Christie, Margaret. 2011. *Scaling Up Local Food: Investing in Farm & Food Systems Infrastructure in the Pioneer Valley*. South Deerfield, MA: Community Involved in Sustaining Agriculture. <http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11rwithLinks.pdf>.

Clancy, Kate and Kathy Ruhf. 2010. "Is local enough? Some arguments for regional food systems." *Choices*, 25 (1). <http://www.choicesmagazine.org/>.

EEA (Energy and Environmental Affairs). 2013a. "Patrick Administration Announces Plan to Ban Disposal of Commercial Food Waste." Accessed August 16. <http://www.mass.gov/eea/pr-2013/commercial-food-waste-ban.html>.

EPA (Environmental Protection Agency). 2011b. *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*. Washington, DC: EPA. http://www.epa.gov/epawaste/nonhaz/municipal/pubs/msw_2010_rev_factsheet.pdf.

———. 2013b. "Municipal Solid Waste." Accessed December 5. <http://www.epa.gov/epawaste/nonhaz/municipal/index.htm>.

FC CDC (Franklin County Community Development Corporation). 2013. "About the Western Massachusetts Food Processing Center." Accessed December 5. <http://www.fccdc.org/about-the-center>.

FNS (Food and Nutrition Service, USDA). 2013a. "About WIC." Washington, DC: FNS, USDA. Accessed December 1. <http://www.fns.usda.gov/wic/aboutwic/mission.htm>.

———. 2013b. "Child Nutrition Program Data: State Level Tables." Washington, DC: FNS, USDA. Accessed December 1. <http://www.fns.usda.gov/pd/cnpmain.htm>.

———. 2013c. "Frequently Asked Questions about WIC." Accessed August 22, 2013. <http://www.fns.usda.gov/wic/frequently-asked-questions-about-wic>.

———. 2013d. "National School Lunch Program Fact Sheet." Washington, DC: FNS, USDA. Accessed December 10. <http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf>.

———. 2013e. "Supplemental Nutrition Assistance Program: Annual State Level Data." Washington, DC: FNS, USDA. Accessed November 20. <http://www.fns.usda.gov/pd/snapmain.htm>.

———. 2013f. "WIC Farmers' Market Nutrition Program." Washington, DC: FNS, USDA. Accessed December 2. <http://www.fns.usda.gov/wic/fmnp/fmnpfaqs.htm>.

———. 2013g. "WIC Program Data: Annual State Level Data: Total Participation; Food Costs; Nutrition Services and Administrative Costs." Washington, DC: FNS, USDA. Accessed December 1. <http://www.fns.usda.gov/pd/wicmain.htm>.

Foster, D., G. Motzkin, J. O'Keefe, E. Boose, D. Orwig, J. Fuller, and B. Hall. 2004. "The Environmental and Human History of New England." In *Forests in Time: The Environmental Consequences of 1,000 Years of Change in New England*, edited by D. R. Foster and J. D. Aber, 43. New Haven: Yale University Press.

Godfray, Charles H., John R. Beddington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas, and Camilla Toulmin. 2010. "Food security: the challenge of feeding 9 billion people." *Science* 327: 812–818.

HHS (Health and Humans Services Department). 2013. *Annual Update of the HHS Poverty Guidelines*. Accessed December 1, 2013. <https://www.federalregister.gov/articles/2013/01/24/2013-01422/annual-update-of-the-hhs-poverty-guidelines>.

MassDEP (Massachusetts Department of Environmental Protection). 2011a. *2010 Solid Waste Data Update*. Boston, MA: MassDEP. Accessed November 1, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/10swdata.pdf>.

———. 2011b. *Summary Analysis of Municipal Waste Combustor Class II Recycling Program Waste Characterization Studies completed in February & March 2011*. Boston, MA: MassDEP. Accessed November 1, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/wcsum.pdf>.

———. 2013a. *Massachusetts 2010-2020 Solid Waste Master Plan: Pathway to Zero Waste*. Boston, MA: MassDEP. Accessed November 4, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf>.

———. 2013b. "New Solid Waste Master Plan Puts Massachusetts on the Road to 'Zero Waste' by 2020." *EnviroMatters (MassDEP eNewsletter)*, Summer 2013: 3-4. <http://www.mass.gov/eea/docs/dep/about/enews-print-final0613.pdf>.

MDAR (Massachusetts Department of Agricultural Resources). 2012. *2012 Annual Report: Massachusetts Department of Agricultural Resources*. Boston, MA: MDAR. Accessed October 2, 2013. <http://www.mass.gov/eea/docs/agr/docs/2012-annual-report.pdf>.

———. 2013b. "Agricultural Resources Facts and Statistics." Accessed December 20. <http://www.mass.gov/eea/agencies/agr/statistics/>.

———. 2013e. *Massachusetts Food Plan RFR*. Boston, MA: MDAR. Accessed December 21. <http://www.mass.gov/eea/docs/agr/boards-commissions/foodpolicyrfrfinal.pdf>.

———. 2013f. *Massachusetts Food Processors Resource Manual*. Boston, MA: MDAR. Accessed December 18. <http://www.mass.gov/eea/agencies/agr/markets/culinary-tourism/massachusetts-food-processors-resource-manual-generic.html>

NASS (National Agricultural Statistics Service, USDA). 2009. *Census of Agriculture: 2007 Massachusetts State Level Data*. Washington, DC: NASS, USDA. Accessed March 30, 2012.

http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/mav1.pdf.

NEFS (New England Food Show). 2013. "New England Food Distributors." Accessed November 10. <http://www.nefs-expo.com/exhibit/new-england-food-distributors>.

Patrick, Deval L. 2012. "Hunger Action Month Proclamation." Accessed December 20, 2013. <http://www.mass.gov/governor/constituentservices/recognition/isuedproclamations/2012831-hunger-action-month.html>.

Ruhf, K. 2002. "About New Farmers." Paper presented at the National Conference on Family Farm Succession: Winnipeg, Manitoba, Canada, 11 May. New England Small Farm Institute.

Schroeder, Alex Risley. 2013. *Local Food, Local Jobs: Job Growth and Creation in the Pioneer Valley Food System*. Boston, MA: Massachusetts Workforce Alliance. Accessed December 12, 2013. <http://www.mass.gov/eea/docs/agr/boards-commissions/mwa-food-report-03062013-screen.pdf>.

Shuman, Michael. 2013a. *Creating a Community Investment Fund: A Local Food Approach*. Silver Spring, MD: Cutting Edge Capital. Accessed December 15, 2013. <http://www.pvgrows.net/wp-content/uploads/2013/07/Creating-A-Community-Investment-Fund-for-PVGrows-2013.pdf>.

———. 2013b. *The 25% Shift: The Economic Benefits of Food Localization for the Pioneer Valley & the Capital Required to Realize Them*. Silver Spring, MD: Cutting Edge Capital. Accessed December 20, 2013. [http://www.pvgrows.net/wp-](http://www.pvgrows.net/wp-content/uploads/2013/07/The-25%25-Shift-by-Michael-Shuman-for-PVGrows.pdf)

[content/uploads/2013/07/The-25%25-Shift-by-Michael-Shuman-for-PVGrows.pdf](http://www.pvgrows.net/wp-content/uploads/2013/07/The-25%25-Shift-by-Michael-Shuman-for-PVGrows.pdf).

Tiehen, L., D. Jolliffe, and C. Gundersen. 2012. *Alleviating Poverty in the United States: The Critical Role of SNAP Benefits (ERR 132)*. Washington, DC: Economic Research Service, USDA.

USCB (United States Census Bureau). 2007. *2007 Economic Census: Massachusetts*. Washington, DC: USCB. Accessed February 12, 2012. <http://www.census.gov/econ/census07/>.

———. 2011a. *2011 County Business Patterns (NAICS)*. Washington, DC: USCB. Accessed November 10, 2013. <http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl>.

———. 2011b. *Nonemployer Statistics*. Washington, DC: USCB. Accessed November 10, 2013. <http://www.census.gov/econ/nonemployer/index.html>.

———. 2013. *State and County QuickFacts: Massachusetts*. Washington, DC: USCB. Accessed November 10. <http://quickfacts.census.gov/qfd/states/25000.html>.

Vaznis, James. 2013. "Without paperwork, school lunch free in Boston: Officials seize opportunity to join new federal meal program." *The Boston Globe*, September 3. Accessed October 10, 2013. <http://www.bostonglobe.com/metro/2013/09/02/boston-public-schools-will-offer-free-lunches-all-students/2aaUy5sxJl9ndGDHxkJ/story.html>.

WW (Wholesome Wave). 2013. "Double Value Coupon Program." Accessed November 19, 2013. <http://wholesomewave.org/dvcp/>.

**Three:
Connecting
Food Systems
to Municipal
Priorities**



THREE: Connecting Food Systems to Municipal Priorities

Over the last decade, local governments on the cutting edge of policy innovation have started to think about, and plan for, improvement in their local and regional food systems. Some of these pioneering municipalities are well known across the country for their food system initiatives. Oakland, California, Minneapolis, Minnesota and Cleveland, Ohio are just a few examples of municipalities with active food policy councils, institutional support from elected officials, and engaged community organizations that are moving food system projects forward.

But not all food system initiatives are being undertaken by large cities. In eastern Massachusetts, municipalities of all sizes and types are actively working to improve the quality, accessibility, and availability of food in their communities. Developing suburbs like Littleton have active agricultural commissions that are intended to represent farmers' interests in local government. Dense urban areas like Chelsea are working with community partners to improve food access and offer healthy options in convenience stores. Concord, a maturing suburb, recently completed a local community food report and created a food policy council to educate residents and implement recommendations from the report. (For more information about food system planning in Concord, visit <http://concordfood.ning.com> and read their food report: *Building Local Food Connections: A Community Food System Assessment in Concord, Massachusetts* (Gibson and Pottern 2012).)

MUNICIPAL PRIORITIES AND GOALS

This toolkit is the result of extensive background research and one-on-one interviews with municipal officials and food system advocates in 15 municipalities in the Metro Boston region of eastern Massachusetts. While many interviewees were involved in food systems initiatives, the term “food system” did not resonate with municipal officials. Rather, they described their work in terms of five municipal priorities: **economic development, health, conservation, equity, and education**. This chapter explores each of those priorities and its relationship to the food system. Each priority section includes links to the related **Project Guides** found in **Chapter 7**. This framework will assist local government officials and food system advocates in connecting the food system with their long-term municipal goals.

Goal-setting and priority identification are important elements of all types of planning, and especially food systems planning. As discussed in **Chapter 1**, many food systems planning efforts focus too narrowly on developing local systems because of widespread assumptions about the inherent benefits of local food production and consumption (Born and Purcell 2006). Municipalities can avoid falling into this “local trap” by setting specific goals for their communities and then determining what scale of food system development is the most effective for achieving those outcomes.

Below you will find an overview of each priority, an explanation of its relationship to food systems, and links to the related **Project Guides** found in **Chapter 7**. The purple “On the Ground” boxes provide examples of municipal food systems planning projects that are related to that particular priority. This section is designed to help local government officials and food system advocates connect food system projects to their long-term municipal goals.

MUNICIPAL PRIORITY: Economic Development

Using policy and planning tools to encourage economic growth is one of municipal government's primary functions (Kwon et al. 2009). To maintain and improve the health and vitality of their communities, municipal governments pursue various strategies for economic development. For example, some municipalities may develop policies to encourage the growth of small businesses, while others may recruit a large company to build a facility in town. The tools used to achieve both of these goals are similar—zoning, permitting, and tax incentives—but their application varies. A municipality aiming to attract small business development might adopt a zoning code that limits the size of retail businesses, while a municipality that is interested in larger companies would likely ensure that large, contiguous areas of the community are zoned for business use (Botwinick et al. 2010).

In addition to attracting new business and encouraging business expansion, municipalities also support their existing businesses by providing business development and skills trainings or allocating funding for businesses to upgrade their stores or improve window displays and facades. Other strategies to support existing businesses include cultivating municipal relationships with the business community, active participation in the Chamber of Commerce, and providing and maintaining adequate infrastructure.

CONNECTING FOOD SYSTEMS TO ECONOMIC DEVELOPMENT PRIORITIES

There is significant overlap between food systems initiatives and economic development priorities. The most appropriate strategies for food-focused economic development depend on the specific characteristics of the municipality. For example, a community

interested in generating increased tax revenue from commercial development might focus on food hub projects for aggregation and distribution, rather than on increasing the number of farms in the town. For one municipality in eastern Massachusetts, distributing food to airport employees and airlines is part of the city's economic development plan. The municipality lacks the land for significant urban agriculture, but plans to use its strengths in distribution and proximity to the airport to enhance the municipal food system and local economy.

Municipalities with a larger land base available for agricultural uses can support farmers in much the same way that municipalities provide support and incentives to other small business entrepreneurs. Beginning farmers in particular would benefit from municipal support for farmer training programs and increased access to affordable farmland. Municipal officials can use the food system assessment tools described in **Chapter 4** to inventory their assets and identify the appropriate strategies for food system-related economic development in their communities.

Benefits of food-focused economic development include:

- Improved food access for community residents;
- Job growth in food-related sectors, like restaurants and food processing facilities;
- Increased tax base as food businesses locate in a community or expand current operations;
- Decreased waste management costs (see **Environmental Sustainability** below for details); and
- Additional opportunities for food-related small business innovation, especially from existing community members.

STRATEGIES FOR ECONOMIC DEVELOPMENT THROUGH FOOD SYSTEMS

Preserving Farmland

Preserving agricultural land and protecting it from development offers many benefits to municipalities. Even when agricultural land is taxed at a lower rate than other land types, it contributes more in tax revenue than it requires in municipal services. A 10-year study of several Massachusetts towns found that the residential sector required \$1.09 in services (schools, public safety, etc.) for every \$1.00 of municipal tax revenue it generated. In contrast, farmland provides a positive cash flow to municipalities as it only requires \$0.47 in services for every \$1.00 of tax revenue (Bowell et al. 2008). Having a strong agricultural economy also creates strong tourism economies for municipalities (Chase et al. 2012).

Creating Local Markets

Increasing local food production and consumption is an important goal for many reasons. Higher demand for local food provides local growers with opportunities to expand and diversify their operations (LCSA 2011). Strong local food markets are beneficial to farmers—they can receive up to seven times the revenue for local sales compared to non-local markets (LCSA 2011; King et al. 2010). Local markets also support broader local economies by sustaining and creating jobs in farming and food-related businesses and keeping food dollars circulating within communities (LCSA 2011).

Recent studies of farmers' markets in Oklahoma and Iowa found that the economic multipliers for direct sales of local food can be as high as 1.78 (O'Hara 2011). Even using a more conservative multiplier of 1.5, this means that local agriculture contributed \$290 million directly to the Massachusetts economy in 2007 and accounted for an additional \$145 million in other industries (Magnusson and Gittel 2010). Promoting and supporting local

agriculture is a key strategy for municipalities to increase the proportion of food spending that stays in the community, as local agriculture also provides farmers with more disposable income to spend on local supplies and services (Ikerd 1998).

Food Systems and Job Creation

Job creation is a major component of economic development. Though farming is only feasible at a relatively small scale in most communities, agriculture is still an important industry for municipalities to consider when they plan for economic development. In the short term, it is difficult to characterize farming and farm growth as job creation. Much like other small businesses, there is often a long start-up period before a farmer is financially able to hire an employee. Especially in early stages of farm development, many production jobs on farms are seasonal, part-time, low-wage and require significant manual labor. However, over the long term, developing the new farms required to support local and regional food systems can result in job creation in related businesses such as restaurants, food service providers, and small-scale food processors. For example, for every job in food manufacturing, three additional jobs are created in the state's economy. Every job on a dairy farm creates an additional 1.24 jobs, and every job in agricultural services, a growing part of the food system, creates 0.25 additional jobs (Bills 2001; Struckle 2011; GPO 2012). These numbers make it clear: farming and other food systems industries play a vital role in municipal job creation and economic development.

ON THE GROUND: Home GR/Own Milwaukee

As Milwaukee, Wisconsin, has changed its zoning code to allow for urban agriculture, the city found that land availability is a major concern for Milwaukee's urban farmers. The city created **Home GR/Own Milwaukee** to address land and food access issues, re-purpose vacant, foreclosed properties, and support food-based economic development (HGM 2013). Home GR/Own involves streamlining the processes for developing food- and agriculture-related businesses in residential areas and selling tax-foreclosed properties to urban farmers and food business entrepreneurs at significantly reduced rates (Johnson 2013).

Tools and Project Ideas

If your municipality is looking for ways to connect food systems initiatives with economic development priorities, there are lots of resources available to help you get started. See the **Project Guides** for **Community Kitchens, Farmers' Markets, and Food Hubs** for more information on these projects, and see **Chapter 6** for details on the types of zoning and other tools municipalities can use to support farmland preservation, farmers' market development, and other food systems initiatives.

MUNICIPAL PRIORITY: Health

Community well-being is a major concern of many municipal officials in eastern Massachusetts. As a field, public health focuses on promoting positive health outcomes for populations and communities. Public health is often the impetus and framework for many types of municipal programs, from pedestrian and bicycle transit initiatives to the creation of food policy councils and farmers' markets.

OBESITY AND PUBLIC HEALTH

One focus of public health is the prevention of illness, disease, and other health complications such as obesity. Research has shown that people who are overweight or obese have a higher risk of developing many chronic diseases, including some cancers, stroke, heart disease, and diabetes. In the United States, chronic diseases are the primary cause of illness, poor quality of life, and shortened life expectancy (Murphy et al. 2012). Furthermore, the proportion of Americans who are overweight and obese has doubled since 1980; recent calculations estimate that 66% of U.S. adults and 20% of U.S. children are either overweight or obese (Khan et al. 2009). The obesity epidemic shows no signs of slowing, and the prevention of chronic diseases that are linked to obesity has emerged as a primary concern of municipal officials across the country.

Who Can Help Implement Food-Focused Health Projects?

- Community non-profits (e.g., the YMCA)
- Neighborhood health clinics
- Hospitals
- Local schools or educational institutions

FARMERS' MARKETS AND PUBLIC HEALTH

Municipal officials are working to improve the connections between farmers' markets and more broadly focused health programs such as Shape Up Somerville and the federal Let's Move initiative. While some of these relationships have already been established, many more opportunities exist for municipalities to support healthy living by strengthening potential partnerships between farmers' markets and broader public health initiatives. Municipalities can support the development of farmers' markets in their communities through zoning and regulations discussed in [Chapter 6](#). They can also support existing farmers' markets by connecting them with other local business and economic development activities.

ON THE GROUND: Bounty Bucks

Boston's **Bounty Bucks Program** offers SNAP recipients a discount on their farmers' market purchases by providing a dollar-for-dollar match up to \$10 for each trip to a participating farmers' market. Bounty Bucks began as a program of The Food Project with municipal support from the Boston Mayor's Office. It is currently administered by the Boston Collaborative for Food and Fitness and receives financial support from the Mayor's Office and private funders. Since it began in 2008, the number of markets participating in Bounty Bucks increased from 7 to 18, and the sales at participating markets increased from \$1,310 to \$170,000 (BFM 2013).

OPPORTUNITIES FOR COLLABORATION

Public health officials and advocates should have many opportunities to work with officials in other municipal areas, such as economic development and environmental protection. Farmers' markets are often used as a business development strategy, particularly for encouraging foot traffic to local businesses and creating a culture of shopping within a community. Working with and supporting farmers who use organic and other sustainable production practices reduces the use of pesticides within a community, which in turn improves both human and environmental health conditions.

ON THE GROUND: Shape Up Somerville

Shape Up Somerville began as a community-based research project and has become a citywide campaign "to increase daily physical activity and healthy eating through programming, physical infrastructure improvements, and policy work. The campaign targets all segments of [the] community, including schools, city government, civic organizations, community groups, businesses, and other people who live, work, and play in Somerville" (SDH 2012, n.p.).

ON THE GROUND: Mass in Motion

Mass in Motion (MiM) is a statewide public health program that focuses on policy, systems, and environmental changes in communities, worksites, childcare, schools, and state regulations. MiM Community Strategies include improving infrastructure for farmers' markets, increasing market access for low-income residents, and implementing a Healthy Dining campaign with local restaurants. MiM also provides funding and technical assistance for obesity prevention efforts in 52 communities through its Municipal Wellness and Leadership Grant Program. For more information visit <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion/>.

Tools and Project Ideas

To help you begin thinking about different ways to link your local food system with health priorities in your municipality, use the Project Guides for **Healthy Corner Stores**, **Health Codes**, and **Peri-Urban/Urban Agriculture**. **Chapter 6** also has relevant policy options and other tools for supporting public health and food systems goals.

MUNICIPAL PRIORITY: Environmental Sustainability

When considering issues of environmentalism and sustainability, many people think first of federal legislation such as the Clean Air Act and the Clean Water Act, or the Environmental Protection Agency's (EPA) efforts to reduce land pollution and clean up contaminated sites (EPA 1980). However, environmental sustainability encompasses much more than the absence of pollution—it is an active process of protecting wildlife habitat and biodiversity, preserving open space, managing stormwater and waste, and ensuring sustainable use of resources (Mazmanian and Kraft 2009). Many municipal officials have made conservation a priority in their communities. Some municipalities have long-term sustainability plans, while others work with partners on specific conservation projects.

The ways in which communities work to preserve and protect their environments varies by community type. For example, some densely populated urban municipalities are primarily interested in improving water quality and environmental health, and have done significant work with brownfield redevelopment through the EPA. Municipalities with fewer pollution concerns may invest in strategies to preserve open space as a way to expand recreational opportunities in their communities. Municipalities of all types are beginning to address climate change through a variety of their policies and long-range plans.

CONNECTING FOOD SYSTEMS TO ENVIRONMENTAL PRIORITIES

In terms of food system development, municipal officials are working to set up water harvesting and organic materials composting programs through the Department of Public Works, and to establish community gardens and a network of small urban

growing spaces. Towns with a strong agricultural heritage are more likely to include farming concerns in their zoning codes and long-range plans, and conservation and open space preservation are frequently used as strategies to ward off development. Issues of food production, distribution, and access can all be connected to the conservation of open space through commonly-used municipal tools and policies.

Municipalities should recognize that farms can provide many “free” environmental services such as water filtration, wildlife habitat preservation, and erosion and flood control (Lopez et al. 2010). A 2003 study by the Massachusetts Audubon Society estimated the value of these services to be \$1,381 per acre for cropland and pasture and \$984 per acre for forestland. In 2007, Massachusetts had 518,000 acres of land in farms that provided the state with \$631 million in non-market ecosystem services (Bowell et al. 2008; NASS 2009, Table 8).

Developing sustainable local food systems is crucial in the context of climate change. First, food production and other food system sectors are major contributors to climate change trends through fossil fuel use and the production of greenhouse gases such as methane and nitrous oxide (Johnson 2009; Foley et al. 2011). Second, the food system will be severely affected by changes in short- and long-term climate patterns (Foley et al. 2011; Godfray et al. 2010). As municipalities incorporate climate change concerns into their planning and policies, they should make sure to include goals and initiatives that address the many connections between food systems and the environment.

OPEN SPACE AND FARMLAND CONSERVATION

The amount of open space in Massachusetts is rapidly decreasing. Recent estimates show that Massachusetts loses about 16,000

acres of open space a year (Bowell et al. 2008). To combat this trend, many municipalities have purchased land for open space and recreation, incorporated land acquisition into their comprehensive plans, and created Conservation Commissions to support the protection of open space.

About 2,000 acres of the open space lost each year in Massachusetts are working farmland (Bowell et al. 2008). There are many general land conservation tools that can be used to preserve working farmland, such as Agricultural Preservation Restrictions (APR) and the Community Preservation Act. These tools and others are explored in detail in **Chapter 6**. Though municipalities are not without options, more work needs to be done to ensure that farming remains a viable land use.

Emphasizing Environmental Concerns

Agricultural land and open space are often mentioned in the same breath, but they are not one and the same. Agriculture does not generally take place inside factories and warehouses, but it is an industry nonetheless: farmers make decisions about inputs, outputs, and management decisions that have direct ecological and economic impacts on their land and the surrounding areas. However, unlike many industries, most farming operations are considered non-point-source polluters, and therefore are not regulated by the Environmental Protection Agency or other environmental laws.

Though Massachusetts state law pre-empts restricts municipal regulation of many farming activities such as pesticide and nutrient use, municipalities can still work with farmers to promote good stewardship of land and resources. For example, a municipality could create a local purchasing policy that gives highest preference products that are local and organic, followed by local non-organic and then non-local products. Or a Conservation Commission could set policies that encourage or

require environmentally beneficial practices on Commission-owned agricultural land.

WASTE MANAGEMENT

Municipalities can work with local farmers to identify partnership opportunities in which residential food waste collected by the municipality can be delivered to the local farm for composting with agricultural wastes generated on site. This provides the farmer with a source of revenue from “tipping fees” and provides nutrient rich feedstock to produce a value-added compost. A portion of the finished compost might be provided to residents or to community gardens. They can also promote the work of gleaner’s groups and organizations like **Lovin’ Spoonfuls** in Boston to save and reuse edible food that would otherwise have been added to the waste stream. Reducing waste management costs frees up municipal funds to be used toward public health, education, and other priorities.

The Massachusetts Department of Agriculture licenses farm-based agricultural composting facilities. Though these are independent entities, municipal officials can support them and their contributions to environmental sustainability by understanding the benefits of agricultural composting and the guidelines for such facilities (MFBF, personal communication 2013). This information may be useful when educating residents and dealing with any nuisance complaints from farm neighbors. For more information on addressing resident concerns see **Chapter 5**.

Waste Management Resources

- Lovin’ Spoonfuls: <http://www.lovin Spoonfulsinc.org/>
- **Guide to Agricultural Composting**, MDAR: <http://www.mass.gov/eea/docs/agr/programs/compost/guidetoagcomposting2011.pdf>

OPPORTUNITIES FOR COLLABORATION

Though environmental and economic goals are often assumed to be in opposition to one another, there are opportunities for collaboration related to agriculture and open-space preservation. Promoting stewardship and environmentally conscious agricultural practices increases the value of ecosystem services provided by local farmland. Providing support (in the form of financial assistance and/or training programs) for farms to transition to organic production will also increase the environmental benefits of local agriculture and the supply of local organic food. In addition, many environmental problems related to pesticide use and water contamination are also public health issues. Officials working on projects to address these concerns should be sure to work together and seek opportunities to collaborate.

Tools and Project Ideas

Conservation and open space planning provide significant opportunities for municipalities to support local food production. If you are interested in more information about how to incorporate food systems into your conservation priorities, you may want to consult the **Project Guides for Peri-Urban/Urban Agriculture and Compost Programs.**

MUNICIPAL PRIORITY: Equity

Local governments attempt to provide equal services to all residents. Despite these efforts, however, disparities in access to health care, recreational opportunities, and high-quality education persist in many municipalities (Adler and Newman 2002). In addition, communities of color and low-income communities are disproportionately exposed to pollution and other environmental burdens (e.g., hazardous waste) (Brown 1995; Mohai et al. 2009).

Municipal governments have begun to incorporate equity into their plans and policies. For example, municipalities have initiated youth engagement programs to reduce gang violence, passed living wage ordinances to ensure that people earn enough money to support their families, and implemented affordable housing regulations to provide better living conditions for low-income residents (Saha and Paterson 2008). In its *State of Equity in Metro Boston* report, MAPC established a baseline for equity-related indicators to track the region's progress (Arcaya and Grogan 2011). MAPC is currently developing an action plan to guide municipalities in achieving regional equity goals.

CONNECTING FOOD SYSTEMS TO EQUITY PRIORITIES

Federal food assistance programs like the Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program (NSLP), and the Women, Infants, and Children (WIC) Program are some of the primary food access and equity programs in the United States. (See [Chapter 2](#) for more details.) These programs are crucial safety nets for vulnerable populations, but access to food assistance programs does not guarantee that everyone in a municipality is actually able to access fresh, healthy food on a regular basis. Food access is a serious equity concern—30% of interview respondents talked about the affordability or

accessibility of healthy food in their municipalities. Two municipalities are pursuing healthy corner store initiatives to improve community food security, and several others are implementing SNAP or WIC farmers' market coupon programs at their markets. One respondent also said that his municipality, which has a large immigrant population, is trying to increase the number of community garden plots to enable residents to grow culturally appropriate food.

Equity and Food Systems: Not Just an Urban Concern

Creating food systems initiatives that will improve equity is not just an urban responsibility. Food systems advocates in suburban and peri-urban communities are also considering the impacts of food systems projects on low-income residents, minority communities, elderly people, and others who may not have a strong voice in municipal decision-making. Many municipal officials are working to address the needs of specific groups, such as low-income people and senior citizens, through SNAP, WIC and other voucher programs at farmers' markets. (See the [Public Health Priority](#) above for information on Boston's Bounty Bucks Program.)

In municipalities with lower population densities, food-related equity concerns are often related to the viability of farms and farming. Several interviewees who work directly with growers are concerned about the protection of farmland and farm activities in suburban communities and are working to ensure that growers have access to affordable farmland. The availability of affordable housing in agricultural communities is also an issue for farmers and ranchers. Concord, Massachusetts recently addressed this issue by purchasing McGrath Farm and converting the house to rental units for the agricultural workforce (Hooper 2013).

The Grocery Store Gap

An “urban grocery store gap” has been identified between low-income and more affluent zip codes in 21 of the largest U.S. cities (Cotterill and Franklin 1995, 14). Many residents of minority and low-income communities must rely on small convenience stores and bodegas for their daily food shopping. Compared to grocery stores, convenience stores are far less likely to stock produce and healthy foods and typically charge higher prices for healthy foods (Treuhaft and Karpyn 2010).

Tools and Project Ideas

To better incorporate equity concerns into food systems initiatives, an assessment of the current state of your municipality’s food system is a good place to start. Effective collaboration with community partners can help you gather information and include a diverse range of perspectives in your food systems project. See **Chapters 4 and 5** for information on assessments and community engagement. See the Project Guides for **Healthy Corner Stores** and **Peri-Urban/Urban Agriculture** for more on particular initiatives that address issues of equity in food systems.

MUNICIPAL PRIORITY: Education

Public schools, libraries, and community colleges are anchor institutions in many municipalities. They provide invaluable access to programming, opportunities for social connection, and career advancement tools. The benefits of education are both economic and social: high levels of educational attainment have been linked to increased earnings, improved child and adult health, more engaged civic behavior, and reduced crime rates (Wolfe and Haveman 2002). Non-profit organizations and community groups also provide educational services to community members. Wellness centers and job training organizations are just two examples of the many community-based education programs that contribute to the health and vibrancy of communities across the U.S. (Armah IV and Henderson 2010; Greenstone and Looney 2011).

CONNECTING FOOD SYSTEMS TO EDUCATION PRIORITIES

In general, people working on food systems initiatives face two distinct education needs: 1) information for municipal officials, and 2) information for community members.

Municipal Education

Municipal officials are asking for guidance about how to design food systems initiatives and how to connect the food system to their daily work, specifically best practices for model ordinances, bylaws, and zoning practices. Most municipal officials have requested technical information about health/wellness, gardening, soil safety, and small business entrepreneurship. These needs could potentially be met through collaboration with public health departments, gardening clubs, and business associations. There is also an unmet need for assessments and research to

gather baseline food systems data; 40% of interview respondents discussed their need for more information about the state of their local food systems.

In addition, though most agricultural policy is set at the federal level, states and municipalities can play a role in interpreting and enforcing those policies. It is important for municipal officials to stay informed on food system policy topics and to understand how their interpretation of policies will affect farmers, consumers, and other food system stakeholders. (See [Chapter 6](#) for more details on how municipal policies and municipal interpretations of higher-level policies can support local and regional food system development.)

Strategies for Municipal Education

- Establish Agricultural Commissions in towns that don't have them, and engage them in development of educational programming. (See [Chapter 4](#) for more details.)
- Brief municipal officials about the status of agriculture and food systems in their community and the important role their AgComs (or planning board, in absence of) play in food systems planning.
- Institute inter-disciplinary learning opportunities for municipal officials to learn from each other and understand the intersections of food systems planning and municipal interests and activities.

Community Education

Community members and food advocates are looking for ways to inform people about the benefits of local food systems. Word-of-mouth marketing and information booths at farmers' markets are common methods of education. Some food advocates are also beginning to embrace social media, listservs and web-based communication. For example, Concord has made its food system report available online in various formats, and uses the

Concordfood.ning.com site to share its findings, events, and activities. Concord officials hope that people will begin to read and talk about the assessment together, generating more interest and enthusiasm for future food systems projects.

In the context of educating community members, planners may find that they need to target some programming specifically towards farmers. It is crucial that farmers are informed of the importance of their connection to the community and that they are engaged in educational programming for schools and the broader community.

Strategies for Community Education

- Work with schools to get food systems information into the curriculum through school gardens or farm-to-school programs to help children learn about where food comes from.
- Invite municipal officials to local food businesses (e.g., farms, processing facilities) to start new relationships and begin to generate support for food systems projects.
- Provide educational materials at farmers' markets and other food-related events to encourage community members to talk to growers, try new foods, or get involved in health and wellness activities.
- Highlight individuals and organizations that are already involved in local food systems development through events or activities such as the Local Food Heroes award in Cambridge, MA (Wicked Local Cambridge 2013).

ON THE GROUND: Massachusetts Farm to School Project

The **Massachusetts Farm to School Project (MFSP)** works across the state to build relationships between farms and buyer institutions through

- technical assistance and match-making,
- promotional and educational materials for schools,
- annual research on farm-to-institution in Massachusetts, and
- sharing best practices through the Farm to School Network.

In the 2005-2006 school year, MFSP started working with 32 public school districts, 19 colleges and independent K-12 schools, and 20 farms. In the 2011-2012 school year, participation had grown to 231 districts, 89 individual colleges and schools, and 114 farms (MFSP 2013). Visit <http://www.massfarmtoschool.org/> for more information on how MFSP can help connect local farmers and food purchasing institutions in your community.

Tools and Project Ideas

For information about zoning and other policy and planning tools, see **Chapter 6**. There you'll find links to relevant ordinances, examples of actions taken by other municipalities, and additional resources. For more details about community education, the **Project Guides for Community Kitchens, Healthy Corner Stores, and Peri-Urban/Urban Agriculture** are a good place to start.

CHAPTER THREE REFERENCES

- Adler, N.E. and K. Newman. 2002. "Socioeconomic Disparities in Health: Pathways and Policies." *Health Affairs* 21(2): 60-76. Accessed April 12, 2012. <http://content.healthaffairs.org/content/21/2/60.full.pdf>.
- Arcaya, Mariana and Jessie Grogan. 2011. *State of Equity in Metro Boston: Indicators Report*. Boston, MA: MAPC. Accessed December 20, 2013. http://regionalindicators.org/site_media/pdf/Equity-Report_12-14_72ppi.pdf.
- Armah IV, N. and Henderson, B.R. 2010. "Making the Case for Community-Based Wellness Programs." *National Civic Review*, 99 (1). 27-34. doi:10.1002/ncr.20006.
- BFM (Boston Farmers' Markets). 2013. *SNAP/Bounty Bucks*. Accessed December 1. <http://bostonfarmersmarkets.org/bounty-bucks/>.
- Bills, Nelson. 2001. *Agriculture-Based Economic Development: Trends and Prospects for New York (EB 2001-18)*. Ithaca, NY: Department of Applied Economics and Management, Cornell University.
- Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research* 26: 195-207. doi:10.1177/0739456X06291389.
- Botwinick, D., J. Effron and J. Huang. 2010. "Saving Mom and Pop: Zoning and Legislating for Small and Local Business Retention." *Journal of Law and Policy* 18: 607-653.
- Bowell, Ben, Cris Coffin, Mike Eley and Doris Mittasch. 2008. *Farms for the Future: Massachusetts' Investments in Farmland Conservation*. Northampton, MA: American Farmland Trust. Accessed October 31, 2013. <http://www.farmland.org/programs/states/ma/documents/MAInvestmentsfinal.pdf>.
- Brown, P. 1995. "Race, Class, and Environmental Health: A Review and Systematization of the Literature." *Environmental Research* 69(1): 15-30. Accessed March 15, 2012. doi:10.1006/enrs.1995.1021.
- Chase, Lisa, Robert Manning, and William Valliere. 2012. *Agricultural and Culinary Tourism Literature Review: Summary of Findings and Annotated Bibliography*. Brattleboro, VT: Vermont Tourism Data Center, Park Studies Laboratory, University of Vermont. Accessed December 15, 2013. http://www.uvm.edu/~snrvtdc/publications/agritourism_lit_review.pdf.
- Cotterill, R. W. and A. W. Franklin. 1995. *The Urban Grocery Store Gap (Food Marketing Policy Issue Paper 8)*. Storrs, CT: Food Marketing Policy Center, University of Connecticut. Accessed December 20, 2013. <http://www.fmpc.uconn.edu/publications/ip/ip8.pdf>.
- EPA (Environmental Protection Agency). 1980. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*. Accessed December 20, 2013. <http://www2.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>.

Foley, Jonathan A., Navin Ramankutty, Kate A. Brauman, Emily S. Cassidy, James S. Gerber, Matt Johnston, Nathaniel D. Mueller, Christine O'Connell, Deepak K. Ray, Paul C. West, Christian Balzer, Elena M. Bennett, Stephen R. Carpenter, Jason Hill, Chad Monfreda, Stephen Polasky, Johan Rockstrom, John Sheehan, Stefan Siebert, David Tilman, and David P. M. Zak. 2011. "Solutions for a cultivated planet." *Nature*. 478: 337-342. doi:10.1038/nature10452

Gibson, Christina and Jamie Pottern. 2012. *Building Local Food Connections: A Community Food System Assessment in Concord, Massachusetts*. Concord Community Food Project Steering and Advisory Committee.
<http://issuu.com/conwaydesign/docs/concordfood2012>

Godfray, Charles H., John R. Beddington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas, and Camilla Toulmin. 2010. "Food security: the challenge of feeding 9 billion people." *Science* 327: 812-818.

GPO (Governor's Press Office, New York State). 2012. "Governor Cuomo Hosts First New York State Yogurt Summit." *Press Release*, August 15. Accessed December 20, 2013.
<http://www.governor.ny.gov/press/08152012-nys-yogurt-summit>.

Greenstone, Michael and Adam Looney. 2011. *Building America's Job Skills With Effective Workforce Programs: A Training Strategy to Raise Wages and Increase Work Opportunities*. The Brookings Institute: The Hamilton Project. Accessed December 20, 2013.
http://www.brookings.edu/~media/research/files/papers/2011/11/training%20greenstone%20looney/11_training_greenstone_looney.pdf.

HGM (HOME GR/OWN Milwaukee). 2013. "HOME GR/OWN." Office of Environmental Sustainability, City of Milwaukee. Accessed December 10, 2013.
<http://city.milwaukee.gov/sustainability/HOMEGR/OWN.htm>.

Hooper, Kimberly A. 2013. "Town comes to agreement with McGrath Farm family." *Wicked Local Concord*, March 29. Accessed October 1, 2013.
<http://www.wickedlocal.com/concord/news/x171167605/Town-comes-to-agreement-with-McGrath-Farm-family>.

Ikerd, John E. 1998. "Sustainable Agriculture as a Rural Economic Development Strategy," report of joint research project with University of Missouri and Tennessee State University cooperating, University of Missouri, Columbia, MO. Accessed December 19, 2013. <http://web.missouri.edu/~ikerdj/papers/sa-cdst.htm>.

Johnson, M.L. 2013. "Milwaukee aims to turn extra land into urban ag." *Associated Press*, October 31. Accessed November 15, 2013.
<http://dailyreporter.com/2013/10/31/milwaukee-aims-to-turn-extra-land-into-urban-ag/>.

Johnson, Renée. 2009. *Climate Change: The Role of the U.S. Agriculture Sector (RL33898)*. Washington, D.C.: Congressional Research Service.

Khan, L.K., K. Sobus, D. Keener, K. Goodman, A. Lowry, J. Kakietek, and S. Zaro. 2009. "Recommended Community Strategies and Measurements to Prevent Obesity in the United States." *Morbidity and Mortality Weekly Report*, 58(RR07). Washington D.C.: CDC. Accessed April 14, 2012.
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5807a1.htm>

King, Robert P., Michael S. Hand, Gigi DiGiacomo, Kate Clancy, Miguel I. Gomez, Shermain D. Hardesty, Larry Lev, and Edward W. McLaughlin. 2010. *Comparing the Structure, Size, and Performance of Local and Mainstream Food Supply Chains (ERR 99)*. Washington, DC: USDA Economic Research Service. <http://ers.usda.gov/Publications/ERR99/>.

Kwon, M., F.S. Berry, and R.C. Feiock. 2009. "Understanding the Adoption and Timing of Economic Development Strategies in U.S. Cities Using Innovation and Institutional Analysis." *Journal of Public Administration Research and Theory* 19: 967-988. doi:10.1093/jopart/mun026.

LCSA (Leopold Center for Sustainable Agriculture). 2011. *Iowa Local Food & Farm Plan: Report to the Iowa Legislature*. Ames, IA: LCSA. Accessed April 20, 2012. www.leopold.iastate.edu/foodandfarmplan.html.

Lopez, Rigoberto A., Deepak Joglekar, Chen Zhu, Peter Gunther, and Fred Carstensen. 2010. *Economic Impacts of Connecticut's Agricultural Industry*. Storrs, CT: College of Agriculture and Natural Resources, University of Connecticut. Accessed December 20, 2013. <http://are.uconn.edu/documents/economicimpacts.pdf>.

Magnusson, Matt and Ross Gittell. 2010. *Home Grown: The Economic Impact of Local Food Systems in New Hampshire*. Durham, NH: University of New Hampshire, Food Solutions New England.

Mazmanian, D.A. and Kraft, M.E. 2009. "The Three Epochs of the Environmental Movement." In *Toward Sustainable Communities: Transition and Transformations in Environmental Policy*, edited by D.A. Mazmanian and M.E. Kraft. MIT Press. Cambridge, MA.

MFSP (Massachusetts Farm to School Project). 2013. "About Us." Accessed December 20. <http://www.massfarmtoschool.org/about-us/>.

Mohai, P., D. Pellow, and J.T. Roberts. 2009. "Environmental Justice." *Annual Review of Environment and Resources* 34: 405-430. doi:10.1146/annurevenviron-082508-094348.

Murphy, S.L., J. Xu, and K.D. Kochanek. 2012. "Deaths: Preliminary Data for 2010." *National Vital Statistics Reports* 60 (4). Washington, DC: Division of Vital Statistics, CDC. Accessed 14 April 2012. http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_04.pdf.

NASS (National Agricultural Statistics Service, USDA). 2009. *Census of Agriculture: 2007 Massachusetts State Level Data*. Washington, DC: NASS, USDA. Accessed March 30, 2012. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/mav1.pdf.

O'Hara, Jeffrey K. 2011. *Market Forces: Creating Jobs Through Public Investment in Local and Regional Food Systems*. Cambridge, MA: Union of Concerned Scientists Publications. http://www.ucsusa.org/food_and_agriculture/solutions/big_picture_solutions/market-forces.html.

Saha, D. and R.G. Paterson. 2008. "Local Government Efforts to Promote the 'Three Es' of Sustainable Development: Survey in Medium to Large Cities in the United States." *Journal of Planning Education and Research* 28(1): 21-37. doi:10.1177/0739456X08321803.

SDH (Somerville Department of Health). 2012. "Shape Up Somerville." Accessed April 30, 2012. <http://www.somervillema.gov/departments/health/sus>.

Struckle, Marjorie. 2011. "Officials Learn How Ag Drives Their Local Economy." *Lancaster Farming*, May 27. Accessed December 20, 2013. <http://lancasterfarming.com/results/Officials-Learn-How-Ag-Drives-Their-Local-Economy--#.UrWkYI052YE>.

Treuhافت, Sarah and Allison Karpyn. 2010. *The Grocery Gap: Who Has Access to Healthy Food and Why It Matters*. Oakland, CA: PolicyLink and The Food Trust. Accessed December 20, 2013. <http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/FINALGroceryGap.pdf>.

Wicked Local Cambridge. 2013. "Cambridge to honor 'Food Heroes' Monday, Oct. 21." *Wicked Local Cambridge*, October 18. <http://www.wickedlocal.com/cambridge/news/x529841438/Cambridge-to-honor-Food-Heroes-Monday-Oct-21>.

Wolfe, B.L. and R.H. Haveman. 2002. "Social and nonmarket benefits from education in an advanced economy." *Conference Series, Proceedings* June 2002, 97-142. Boston, MA: Federal Reserve Bank of Boston. Accessed April 12, 2012. <http://www.bostonfed.org/economic/conf/conf47/conf47g.pdf>.

Four: Getting Started



FOUR: Getting Started

This chapter provides information about starting the food systems planning process at the municipal level by creating a **food systems group**, such as a food policy council or agricultural commission and by conducting a **food systems assessment**.

I. CREATING STRUCTURES TO SUPPORT LOCAL FOOD SYSTEMS

Municipal officials and community residents can begin to address food systems issues in their community by forming a dedicated group to plan, coordinate, and carry out that work. A food systems group may initially be informal or project-based, such as a task force established to conduct a food systems assessment or a committee working to set up and run a farmers' market. More formally structured food systems groups include **Food Policy Councils (FPCs)** and groups dedicated to agricultural development such as **Agricultural Commissions (AgComs)**. These groups will work with, and should include representatives from, other municipal groups such as Conservation Commissions, Planning Boards, and Public Health Departments. They should also include other food system stakeholders such as farmers, anti-hunger advocates, grocery store managers, restaurant owners, health care providers, and school food service directors. See [Chapter 5](#) for more information on identifying and working with diverse groups of stakeholders.

Benefits of Creating a Food Systems Group

Research on community development and social capital shows that creating a food systems group can provide many benefits to a community. The process of creating an organization brings together various stakeholders and provides opportunities to reach

agreement and make plans. These organizations can contribute to broader community development by serving as intermediaries between individual citizens and the municipal government. Participating in the creation and development of the group will increase members' "capacity to contribute to community change" and their investment in the work (Sharp et al. 2011, 191).

Additional research has shown that developing food systems groups creates a "social infrastructure that is likely to generate and support the use of concrete policies, programs, and activities to support local farming and food systems" (Sharp et al. 2011, 202). Local leaders can contribute to local food systems groups by creating social, political, intellectual, and economic space for individuals to discuss, plan, and carry out food systems activities and projects (Feenstra 2002).

Group Development

When developing a food systems group, it is essential to identify a broad group of potential stakeholders, members, and partners, and to involve that group in the planning process (Hamilton 2012). This diversity should not only be demographic; including people with various backgrounds and areas of expertise is also important. Group diversity is key to maintaining a broad food systems perspective and will help to avoid a narrow focus on one particular sector or the needs of one particular group (Dahlberg 1994; Borron 2003). Cultivating a diverse membership means that developing a food systems group will require time and skilled facilitation to 1) bring together many individuals and their views, 2) establish trust and healthy working relationships among the members, and 3) determine the group's structure, priorities, and first projects (Borron 2003).

New food systems groups will benefit from working in collaboration with their peers and with larger-scale food systems planning groups. For example, new food policy councils can follow

the structures and/or best practices established by existing FPCs, and can coordinate their work with efforts happening at the state and regional levels. (See below for links to local food policy councils in Massachusetts, and see **Chapter 1** for information on state and regional food systems planning.) New AgComs can join the **Massachusetts Association of Agricultural Commissions (MAAC)** for resources, education, and training. MAAC has published a toolkit for organizing an AgCom in Massachusetts, available at <http://www.mass.gov/eea/docs/agr/agcom/docs/handbook/pdf/handbook-for-agricultural-commissions-full-doc.pdf>.

Timeframe

The work carried out by a food systems group will likely be long-term. The process of getting to know a local food system through assessments and other activities may take a few years, and though specific projects may be fairly easy to implement, the systemic change that many groups seek does not happen quickly. In addition, farmers, farmers' market managers, and other stakeholders involved in agricultural production have limited availability for meetings and activities during the growing and harvest seasons. Food systems group leaders should be aware of these constraints as they plan project timelines and work to recruit many types of stakeholders.

TYPES OF FOOD SYSTEMS GROUPS

The following sections describe the structure, membership, and activities of two common food systems group types: Food Policy Councils and Agricultural Commissions. They also include common steps for starting those groups and resources for more information. Though there are differences between the group types, the form and name of the organization is likely less important than the fact that a food systems group exists in a

community and is managed in such a way that members and engaged citizens can create and carry out projects related to food systems development (Sharp et al 2011).

Food Policy Councils

What Are Food Policy Councils?

Food Policy Councils (FPCs) are one type of group established to develop the food system within a particular municipality, county, region, or state.⁴ They are intended to address “the actions and in-actions by government that influence the supply, quality, price, production, distribution, and consumption of food” (Harper et al. 2009, 1). However, the activities of FPCs are not limited to policy change, as many of them have a significant focus on programmatic work (Schiff 2008). FPCs have existed in the United States since the 1980s and usually operate at the state and the local or county level. Compared to more farm- and agriculture-focused organizations such as Agricultural Commissions, FPCs are more frequently found in urban areas and have a more prominent representation of consumers and environmental social justice groups (Sharp et al. 2011).

How Are Food Policy Councils Created and Structured?

FPCs can be created by community organizations and residents or through a government act such as an executive order or joint resolution (Harper et al. 2009). There are tradeoffs to keep in mind when considering the structure and relationships of an FPC. Having an official connection to local government can provide a FPC with resources, status, and access within a community. Independent FPCs may have less access to those benefits, but in

⁴Food Policy Councils sometimes go by names such as “food council,” “food system network,” or “food policy coalition.” This toolkit uses Food Policy Council as a general term for all of these groups.

exchange have more freedom to set their own agenda and priorities (Borron 2003).

Who Are the Members of a Food Policy Council?

Ideally a FPC includes representatives from all sectors of the food system and from many constituencies in the community.

Membership may include any and all of the following:

- Farmers
- Anti-hunger and food justice advocates
- Educators and other school system representatives
- Nonprofit organizations
- Concerned citizens
- Government officials
- Grocers
- Chefs and restaurateurs
- Food processors, wholesalers and distributors
- Community and religious leaders
- Scholars and researchers (Borron 2003; Harper et al. 2009)

What Municipal Priorities Do Food Policy Councils Address?

FPCs address many of the municipal priorities discussed in **Chapter 3**: economic development, health, conservation, equity and education. They provide a forum and structure for collaboration among municipal departments, and similarly between municipal departments and community groups and residents. FPCs can also serve as a bridge organization between a specific municipality and its neighboring communities by encouraging collaboration and resource sharing. From initial assessments to the resulting projects, much of a FPC's work will address health and economic development concerns, such as understanding and meeting the nutritional and food access needs of the community, and following the flow of "food dollars" spent by residents and directing that money to local businesses and markets.

Food Policy Council Resources

- The APA's Planning and Community Health Research Center offers many publications about food systems planning and food policy councils, including a **Food Policy Councils Briefing Paper**, available at <http://www.planning.org/nationalcenters/health/briefingpapers/foodcouncils.htm>.
- In 2010, the **Massachusetts Food Policy Council** was established. For more information on its members, purpose, and activities, see **Chapter 2** and <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>.
- Some Massachusetts towns and cities have active Food Policy Councils; their structure and activities can be used as models for municipalities that are creating new FPCs. Examples include:
 - **Worcester Advisory Food Policy Council**
<http://www.worcesterfoodpolicy.org>
 - **Springfield Food Policy Council**
<http://www3.springfield-ma.gov/planning/466.0.html>
 - **Holyoke Food and Fitness Policy Council**
<http://holyokefoodandfitness.org/>

Agricultural Commissions

What Is an Agricultural Commission?

Agricultural Commissions (AgComs) are another type of food system group, usually found in rural areas and communities with a significant agricultural history and/or current agricultural presence. As the name implies, AgComs are generally more focused on agriculture and the production sector of the food system than FPCs and other food systems groups. The number of AgComs in Massachusetts has increased dramatically in recent years, from 6 in 2001 to 156 in 2013 (MAAC 2013a; 2013b).

How Are Agricultural Commissions Created and Structured?

Towns can form an Agricultural Commission by passing a bylaw at a Town Meeting. In cities, a city council can make a recommendation for the creation of an Agricultural Commission which must then be approved by the mayor. The leadership structure of AgComs follows that of many town committees (Chair, Vice-Chair, Secretary, Treasurer), and they operate according to the Massachusetts Open Meeting Law, MGL c.30A, s.18-25. Each AgCom's duties and responsibilities are determined by the town or city. Under the current Massachusetts law, AgComs do not have regulatory power. Instead, in an advisory capacity they give a voice to local agriculture in town governance. However, AgComs could be given authority to implement powers as granted within a state law. For an example of agricultural commissions being given "advisory and review authority," see New Hampshire's State Law Title LXIV, Planning & Zoning, Ch 674, Sect 44-f.

What Do Agricultural Commissions Do?

Agricultural Commissions serve as the voice of farmers and agriculture in municipal government. AgComs take on various projects to fulfill their mission of supporting the agricultural industry, such as passing Right-to-Farm legislation, establishing farmers' markets, conducting an inventory of local farms and agriculture-related businesses, and promoting land conservation and open space preservation in their communities. Through these initiatives and others, an AgCom can serve as a liaison between the agricultural sector and the rest of the community.

Who Are the Members of an Agricultural Commission?

AgCom members are appointed by selectmen or town or city councilors. The membership generally represents "the principal elements of the local agricultural community and agricultural businesses, by geography, commodity and size of farm. An agricultural commission may include other supporters of farming and land preservation as well as people who also serve on other

town boards and commissions, such as the planning board or conservation commission" (Merrill, n.d.). The bylaw that creates the AgCom will specify the "number of members and composition of the commission" (MDAR 2005, 2).

What Municipal Priorities Do Agricultural Commissions Address?

AgComs work to advance municipal priorities such as conservation, economic development, and education. By bringing together farmers, agricultural business representatives, municipal officials, and members of the broader community, AgComs provide many opportunities for interdisciplinary communication and collaboration. Through their work on open space protection and environmental initiatives, they promote land conservation and sustainability. AgComs also promote economic development by supporting farmers, agricultural business owners, and the interests of the local agricultural industry. Finally, an AgCom's activities and participation in municipal governance provide many opportunities to educate the community about farming and agriculture.

Starting an Agricultural Commission

The Massachusetts Department of Agricultural Resources' (MDAR) [Handbook for Agricultural Commissions](#) includes a list of steps and is a good resource for how to create an AgCom (see below for details). The process is much like creating a standard organization, but requires additional formal legislative elements. For example, MDAR notes that "it is important to include a member of the Board of Selectmen, City Council, and town staff such as the town planner, administrator, health agent and/or conservation agent on the AgCom steering committee" (2005, 4). Once an AgCom is established, its first activities are often to develop a plan of work, establish a budget, and communicate with the public. If the establishing bylaw does not require a plan of work, the AgCom may operate on a project-by-project basis.

Common Steps for Starting an AgCom:

- 1) Assess the interest in your community by talking to farmers, community decision makers, residents, boards, and committees.
- 2) Organize an exploratory and educational public meeting to discuss starting an AgCom in town:
 - a) Invite farmers and community decision makers through written letters; invite residents and the general public through press releases and newspaper articles.
 - b) Invite members of established AgComs to speak about why they organized, what they do and the benefits of having an AgCom.
 - c) Ask an active farmer, Town Administrator and/or Selectman to facilitate the meeting.
- 3) If support for creating an AgCom surfaces at the meeting, convene a group of steering committee volunteers immediately following to agree on a date, place and time to meet more formally.
- 4) Develop an article for the Town Meeting warrant. Prepare for the Town Meeting by educating residents and town officials about the article and its benefits to the community.
- 5) It is important to include a member of the Board of Selectmen, City Council, and town staff such as the town planner, administrator, health agent and/or conservation agent on the AgCom steering committee

AgCom Resources

- The **Massachusetts Department of Agricultural Resources** (MDAR) offers resources and guidance for AgComs in MA. <http://www.mass.gov/agr/agcom/>
- The **Handbook for Agricultural Commissions** includes Massachusetts General Laws relating to agriculture, open meetings, and conducting public business; sample AgCom bylaws; a model right-to-farm bylaw; steps commonly used to develop work plans; examples of AgCom work plans; and public education plans. <http://www.mass.gov/agr/agcom/docs/handbook/PDF/handbook-for-agriculturalCommissions-full-Doc.pdf>
- The **Massachusetts Association of Agricultural Commissions** (MAAC) provides education, training, and support for AgComs across the state. Their resources include a toolkit for organizing an Agricultural Commission: <http://www.massagcom.org/AgComToolkit.php>.

II. ASSESSING YOUR LOCAL FOOD SYSTEM

Conducting a food systems assessment is a critical first step to ensure that food-related initiatives will be beneficial to your municipality, well received by community members, and sustained by engaged community organizations and residents. A thorough assessment can help quantify the specific needs you wish to address through your food systems initiative, as well as begin to generate dialogue among community stakeholders.

What Can a Food Systems Assessment Do for Your Community?

Food systems assessments aim to explore the different facets of local food systems in a comprehensive, systematic way. Although organizations and communities conducting a food systems assessment will have slightly different goals, they generally use food systems assessments to:

1. Understand the current state of the food system,
2. Set goals for improvement,
3. Generate policies and initiatives to meet goals, and
4. Identify indicators to monitor the success of food systems initiatives (Cohen 2002).

Investing the time and resources required to complete a food systems assessment in your municipality can have multiple, long-lasting benefits including:

- increased support and momentum for food systems initiatives as residents become involved in the assessment process;
- improved integration of programs in multiple areas, e.g., better coordination of health/wellness initiatives and farmers' markets;
- enhanced awareness of community needs and assets;

- strengthened relationships among community groups, municipal officials, and residents; and
- targeted use of scarce funding and human resources (Pothukuchi et al. 2002; Cohen 2002).

Who Should Conduct the Assessment?

A food systems assessment is a significant undertaking for any community, regardless of municipality size or level of available resources. Data must be collected from many different sources, and the goals and initiatives developed in a food systems assessment process can have far-reaching implications for community organizations, municipal departments, local schools, and others. For these reasons, assessments can be conducted inter-municipally, subregionally, or locally. Many food systems assessments are planned and implemented by task forces or steering committees of 6 to 12 participants that have been specifically convened to conduct the assessment (Abi-Nader et al. 2009; Cohen 2002). The composition of these stakeholder groups varies widely, but often includes regional and local planners, municipal officials, representatives from community organizations, engaged residents, and content experts.

What Should Be Measured?

There are many different (and often overlapping) types of food systems assessments that policymakers, planners, community organizations, and others are currently using to measure and monitor food systems across the U.S. There is no generally accepted method for conducting a food systems assessment because food systems assessments are a relatively new tool (Pothukuchi et al. 2002; Freedgood et al. 2011; Minaker et al. 2011). The types of measurement that will work best for your municipality are inextricably linked to the unique priorities and characteristics of your community. Below, you will find

descriptions of several food systems assessment tools and the types of communities for which they might be appropriate.

Food Systems Assessment Examples

The following examples of a variety of assessment tools and resources are included to help you decide how to measure your local food system. Think of these resources as a starting point for discussion in your municipality and consider adapting relevant assessment processes to reflect the concerns and ideas of people in your community. This list of assessments is by no means exhaustive; please see the additional resources at the end of this section for further information.

Building Local Food Connections: A Community Food System Assessment in Concord, Massachusetts (Gibson and Pottern 2012)

- Initiated by a steering and advisory committee of approximately thirty Concord citizens, town officials, and local experts. Committee members represent an array of stakeholders, such as farmers, educators, business owners, town policy-makers, chefs, and local organization representatives.
- Primary municipal priorities addressed: sustainability, public health, and economic development

A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan (Unger and Wooten 2006)

- Initiated by the Mayor's Office of Sustainability for the purpose of creating a plan to reach 30% local food production in Oakland. The study was conducted over an eight-month period by Serena Unger and Heather Wooten, graduate students from the University of California at Berkeley. The assessment uses a comprehensive food systems approach to explore Oakland's food-related

production, distribution/processing, consumption, and waste activities.

- *Primary municipal priorities addressed:* equity, conservation, and economic development

Food NYC: A Blueprint for a Sustainable Food System (Stringer 2010)

- Initiated by the Manhattan Borough President to help craft policy goals that will "spark systemic change in New York's regional food system" (6). The assessment, based on a 2009 report, was conducted over a three-month period with input from New York University and the NYC Food & Climate Steering Committee. Food NYC sets 10 goals for New York City's food system, encompassing economic development, health, education, and food access concerns, among others. The goals were informed by feedback from 1,114 attendees of a one-day Food & Climate Summit.
- *Primary municipal priorities addressed:* health, economic development, and equity

2010 Toronto Food Sector Update (Ajayi et al. 2010)

- Prepared for the Toronto Economic Development and Culture Division to update an earlier report (Food Industry Outlook, WCM Consulting 2002) and explore changes in consumer preference and demand in the food industry. The update, conducted over a three-month period, reports that the food and beverage industry is Toronto's second largest employment sector in the city, and that many employers are small or medium-sized businesses.
- *Primary municipal priorities addressed:* economic development

Town of Hoosick (NY) Draft Agriculture and Farmland Protection Plan (HAFPPC 2011)

- Initiated by the town board to develop a municipal agricultural and farmland protection plan, in partnership with the American Farmland Trust and the Rensselaer County Economic Development and Planning Department; directed by a committee of farmers and residents. The report thoroughly describes the agricultural land base and benefits of farming to the community. Goals of the plan include encouragement of on-farm renewable energy, education of town residents, and the development of a local agricultural economy, among others.
- *Primary municipal priorities addressed:* conservation, education

Food policy audits (Ray and Cobb 2010; Sanders and Shattuck, 2011)

Professors and graduate students at the University of Virginia recently developed another approach to food systems assessments. Using an evaluation list of approximately 100 municipal policies, students conducted interviews and researched the existence of food-related policies in the six municipalities of central Virginia that comprise the Thomas Jefferson Planning District. Instructions for completing a food policy audit and templates for use in your municipality are available at <http://ien.arch.virginia.edu/courses/food-systems-resources#audit>

Food Systems Assessments: General Processes (Cohen 2002)

1. Determine scope/information needs.
2. Create a team to conduct the assessment.
3. Plan the assessment process and timeline.
4. Collect and analyze data.
5. Formulate initiatives and indicators to measure progress.
6. Implement/Evaluate.

Additional Food Systems Assessment Resources

This toolkit is primarily geared toward the municipal level, but there are several extremely useful food systems assessments that have been conducted at regional and state levels. The following assessments might be of particular interest to municipal food systems planners in Massachusetts.

FSA Questions To Consider

- What is your goal in undertaking this assessment?
- Is relevant data available? If not, will you be able to collect it?
- Are there community groups already working on the parts of the food system you want to measure? They may have data, funding, or people to share (Cohen 2002).
- How much time are you willing to commit to a food systems assessment of your community? [Note: Depending on the extent of your assessment, the process could take anywhere from a few months to two or more years (Pothukuchi et al. 2002).]

Rhode Island Food Assessment (Karp Resources 2011)

Utilizes “supply chain case studies” to develop priorities for improving community food security in Rhode Island. Case studies include farm to school, milk to supermarkets, fish to restaurants, and direct-to-consumer farm sales.

Home Grown: The Economic Impact of Local Food Systems in New Hampshire (Magnusson and Gittell 2010)

Primarily focused on the food industry (defined in the report as local agriculture, food manufacturing, food support services, and food retailing) in New Hampshire and state economic

development. Very thorough presentation of food industry data from New England states.

Greater Philadelphia Food System Study (DVRPC 2010)

Uses the concept of a 100-mile foodshed around Philadelphia to represent the potential land base for local agriculture in the region. The assessment includes both a comprehensive food systems approach and a thorough stakeholder engagement process.

Vermont Farm to Plate: A 10-Year Strategic Plan for Vermont's Food Systems (VSJF 2011)

A 10-year strategic plan for Vermont's food system created by the Vermont Sustainable Jobs Fund and the Vermont Sustainable Agriculture Council. The primary goals of the plan are to increase food-related economic development, create food and farm jobs, and improve food access. The plan looks at local, regional, and national markets.

For an excellent overview of food systems assessment types and examples, see Freedgood et al. (2011), **Emerging assessment tools to inform food system planning**, *Journal of Agriculture, Food Systems, and Community Development* 2(1), 83-104.

To find more comprehensive information about how to conduct a community food security assessment, consult Cohen (2002), **Community Food Security Assessment Toolkit**, published by the Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA).

CHAPTER 4 REFERENCES

- Abi-Nader, Jeanette, Adrian Ayson, Keecha Harris, Hank Herrera, Darcel Eddins, Deb Habib, Jim Hanna, Chris Paterson, Karl Sutton, and Lydia Villanueva. 2009. *Whole Measures for Community Food Systems: Values-Based Planning and Evaluation*. Mad River Valley, VT: Center for Whole Communities.
- Ajayi, Jesse, Catherine Denson, Brendan Heath, and Kimberley Wilmot. 2010. *2010 Toronto Food Sector Update*. Toronto, Canada: University of Toronto.
- Borron, Sarah. 2003. *Food Policy Councils: Practice and Possibility*. Eugene, OR: Congressional Hunger Center. Accessed January 31, 2012. <http://www.hungercenter.org/wp-content/uploads/2011/07/Food-Policy-Councils-Borron.pdf>.
- Cohen, Barbara. 2002. "Community Food Security Assessment Toolkit." Washington, DC: Economic Research Service, USDA.
- Dahlberg, Kenneth. 1994. "Food Policy Councils: The Experience of Five Cities and One County." Paper presented at the Joint Meeting of the Agriculture Food and Human Values Society and the Association for the Study of Food and Society, Tucson, Arizona, June 11. Accessed May 1, 2012. <http://unix.cc.wmich.edu/~dahlberg/F4.pdf>.
- DVRPC (Delaware Valley Regional Planning Commission). 2010. *Greater Philadelphia Food System Study*. Philadelphia, PA: DVRPC.
- Feenstra, Gail. 2002. "Creating space for sustainable food systems: Lessons from the field." *Agriculture and Human Values* 19: 99–106. Accessed April 16, 2012. doi:10.1023/A:1016095421310.
- Freedgood, Julia, Mari Pierce-Quiñonez, and Kenneth A. Meter. 2011. "Emerging Assessment Tools to Inform Food System Planning." *Journal of Agriculture, Food Systems, and Community Development* 2(1): 83-104.
- Gibson, Christina and Jamie Pottern. 2012. *Building Local Food Connections: A Community Food System Assessment in Concord, Massachusetts*. Concord Community Food Project Steering and Advisory Committee. <http://issuu.com/conwaydesign/docs/concordfood2012>.
- HAFPPC (Hoosick Agriculture and Farmland Protection Plan Committee). 2011. *Town of Hoosick Draft Agriculture and Farmland Protection Plan*. Retrieved December 20, 2013 from <http://townofhoosick.org/>.
- Hamilton, Joanna. 2012. *The Current State of Regional Food System Work in Iowa*. Ames, IA: Leopold Center for Sustainable Agriculture. Accessed April 3, 2012. <http://www.leopold.iastate.edu/pubs-and-papers/2012-03-current-state-regional-food-system-work-iowa>.
- Harper, Alethea, Annie Shattuck, Eric Holt-Gimenez, Alison Alkon and Frances Lambrick. 2009. *Food Policy Councils: Lessons Learned*. Oakland, CA: Food First/Institute for Food and Development Policy. Accessed January 21, 2012. <http://www.foodfirst.org/files/pdf/Food%20Policy%20Councils%20Report%20small.pdf>.
- Karp Resources. 2011. *Rhode Island Food Assessment*. Providence, RI: Rhode Island Food Policy Council.
- MAAC (Massachusetts Association of Agricultural Commissions). 2013a. "About AgComs: History." Accessed December 21. <http://www.massagcom.org/AgComsHistory.php>.

———. 2013b. "About AgComs: MA AgComs. Accessed December 21. <http://www.massagcom.org/AgComs.php>.

Magnusson, M. and R. Gittel. 2010. *Home Grown: The Economic Impact of Local Food Systems in New Hampshire*. Durham, NH: Food Solutions New England, University of New Hampshire.

MDAR (Massachusetts Department of Agricultural Resources). 2005a. *A Handbook for Agricultural Commissions*. Boston, MA: MDAR. Accessed January 30, 2012. <http://www.mass.gov/eea/docs/agr/agcom/docs/handbook/pdf/handbook-for-agricultural-commissions-full-doc.pdf>.

Merrill, Lorraine Stuart. n.d. *Guide to starting an Agricultural Commission in Your Hometown*. Concord, NH: University of New Hampshire Extension. Accessed January 15, 2012. www.agriculture.nh.gov/documents/agcom.pdf.

Minaker, Leia M., Pat Fisher, Kim D. Raine, and Lawrence D. Frank. 2011. "Measuring the Food Environment: From Theory to Planning Practice." *Journal of Agriculture, Food Systems, and Community Development* 2(1): 65-82.

Pothukuchi, Kami, Hugh Joseph, Hannah Burton, and Andy Fisher. 2002. *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Venice, CA: Community Food Security Coalition.

Ray, Jessie and Tanya Denckla Cobb. 2010. *Food Policy Audit: Executive Summary*. Charlottesville, VA: Institute for Environmental Negotiation, University of Virginia.

Sanders, Beth and Annie Shattuck. 2011. *Policy Brief no. 19. Cutting through the Red Tape: A Resource Guide for Local Food Policy Practitioners and Organizers*. Oakland, CA: Food First/Institute for Food and Development Policy/Food First Books.

Schiff, Rebecca. 2008. "The Role of Food Policy Councils in Developing Sustainable Food Systems." *Journal of Hunger & Environmental Nutrition* 3(2-3): 206-228. Accessed January 31, 2012. doi:10.1080/19320240802244017.

Sharp, Jeff S., Doug Jackson-Smith, and Leah Smith. 2011. "Agricultural economic development at the rural-urban interface: Community organization, policy, and agricultural change." *Journal of Agriculture, Food Systems, and Community Development* 1(4): 189-204. Accessed October 31, 2011. doi:10.5304/jafscd.2011.014.002.

Stringer, Scott M. 2010. *FoodNYC: A Blueprint for a Sustainable Food System*. NYC, NY: President of the Borough of Manhattan NYC.

Unger, Serena and Heather Wooten. 2006. *A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan*. Oakland, CA: Oakland Mayor's Office of Sustainability, University of California, and Berkeley Department of City and Regional Planning.

VSFJ (Vermont Sustainable Jobs Fund). 2011. *Farm to Plate: A 10-Year Strategic Plan for Vermont's Food Systems*. Montpelier, VT: VSFJ. Accessed April 10, 2012. <http://www.vsjf.org/project-details/5/farm-to-plate-initiative>.

**Five:
Collaboration
and Community
Engagement**



FIVE: Collaboration and Community Engagement

Food systems projects, like most municipal initiatives, require collaboration to get off the ground. It is likely that some stakeholders are already working on food systems issues but are unaware of each other and the potential resources available. As discussed in **Chapter 4**, one of the first steps in food systems planning is identifying and bringing together the stakeholders who are already involved in the work. **Chapter 5** explores strategies for engaging those stakeholders and others, creating opportunities for collaboration, and addressing community concerns related to food systems planning.

ENGAGING COMMUNITY MEMBERS AND BUILDING COMMUNITY SUPPORT

Municipal support (from the Board of Selectmen, City Council, and/or mayor) for food systems planning is critical – institutional support allows for funding, staff time, and publicity as food systems initiatives develop. However, although municipal interest in food systems planning is growing, it remains rare for municipalities to have a department or staff person dedicated to the design and implementation of new food systems initiatives. (There are some exceptions to this rule, including the City of Boston, which has created an Office of Food Initiatives under the direction of the Mayor.) In addition, communities frequently have little or no funding allocated specifically for food systems planning.

These constraints make it critical for municipal officials to tap into resources and knowledge available through other municipal departments, local organizations, and interested groups and individuals within the community. Partnerships and collaboration

with stakeholders and community groups play an important role in generating enthusiasm for new initiatives and in enabling those initiatives to move forward. Engaged stakeholders can provide much-needed start-up support for food systems initiatives and can inject valuable expertise and resources into new and expanding programs.

There are two separate, yet often intertwined, issues to keep in mind: the first concerns collaboration with knowledgeable organizations, individuals, and groups; the second concerns engaging with and inviting feedback from the community as a whole. Though many of the strategies for engagement overlap, the process for recruiting and collaborating with targeted groups and individuals versus the broader community may differ depending on the size of your community and its level of interest in and awareness of food systems issues. This chapter addresses strategies for engaging stakeholders and community partners outside the sphere of municipal departments.

Why Build Community Support?

Collaboration brings a range of perspectives to a project, builds feelings of ownership and accountability within the community, and creates foundations for effective actions for long-term change (Pothukuchi et al. 2002). A solid group of committed stakeholders and a high level of community buy-in are key to implementing and sustaining new local initiatives, partly because residents must recognize a direct benefit from new initiatives if they are to endorse them and to support their success. Widespread community support makes clear that new initiatives are appreciated and desired, and can fuel the implementation and expansion of new programs.

Best Practices for Building Support Within Your Community

A number of themes emerged in our interviews and in our review of the literature on food systems initiatives. It may be helpful to keep the following in mind when designing your strategies for engagement and outreach:

- Early and ongoing community involvement is important.
- A high level of community buy-in helps win support for new initiatives and is critical for large-scale projects in residential areas (CFPAC 2011).
- Strong leadership is essential to implement and sustain initiatives.
- In searching for potential collaborators, target specific individuals or organizations with desirable skills, knowledge, or experience.
- Work through existing community organizations to get the word out and to build support (Bernstine et al. 2007).
- Outreach is a two-way process and “should include communicating both the goals of the process and the benefits of participation, as well as seeking to understand community members’ [related] issues and interests” (Pothukuchi et al. 2002, 44).
- Be sure to recognize constraints that may affect community partners’ capacity for participation. For example, farmers have limited time during the growing season, but may be more available to participate in meetings and activities during the winter.
- Conduct interviews and focus groups to understand the needs and interests of specific stakeholder groups. This is particularly important for municipalities reaching out to farmers and ranchers, as they are likely to have different perspectives than other food system participants and may not be used to working directly with government officials (Emily Torres and Julie Conroy (MAPC), personal communication 2013).

Identifying Potential Partners and Getting People Involved

While specific strategies for engagement depend greatly on your particular community, building support and getting the word out to community members frequently involve strategies similar to the ones laid out below.

To Connect with Targeted Constituent Groups and to Identify Stakeholders:

- Perform a stakeholder analysis by “map[ping] community resources” to identify engaged individuals, neighborhood associations, community-based organizations, and other groups who have active food-related initiatives or who might be likely supporters of your work (Bernstine et al. 2007).
- Attend meetings of potential constituent groups to gauge interest and solicit their support. This strategy lessens the burden on constituents at the beginning of the engagement process and sends the message that you value their involvement.
- Use the stakeholder analysis to assemble a diverse steering committee or other collaborative group with broad community representation and the specific skills and knowledge needed to drive new initiatives forward.

To Engage and Involve the Broader Community:

- Educate residents about new food-related initiatives and how they integrate with existing municipal priorities. This can be done through mailings, local news articles, open public meetings, community activities, or other channels.
- Tap into community networks and established organizations (e.g., Boy Scouts, League of Women Voters, climate action groups) to distribute educational information on food-

related initiatives in your community, and/or to spread the word about upcoming public meetings.

- Employ social media (e.g., community listservs, Twitter accounts) or traditional media (e.g., newspapers, flyers) to educate and inform residents about new initiatives and/or upcoming meetings.

Assembling an Assessment Team

In *What's Cooking in Your Food System*, the Community Food Security Coalition⁵ lays out a list of criteria to use when identifying members of a food security assessment team (Pothukuchi et al. 2002, 42). Targeting collaborators with these characteristics will be valuable for any initiative.

Community representation: Seek engaged residents and respected community members who have a stake in the outcome.

Diversity: A diverse group will bring in different perspectives, foster creative thinking, and facilitate community buy-in. Municipal officials should seek diversity in terms of factors such as race, ethnicity, and nationality; socio-economic status; professional skills, knowledge, and experience; age; disability status; and educational attainment. The assessment team's makeup should represent the entire community.

Expertise and experience: A broad skill set and knowledge base will bolster resourcefulness and the group's capacity to move forward.

⁵ The Community Food Security Coalition closed in August 2012 but its projects were transferred to other organizations and many of its publications and resources are still available online.

Availability: Seek collaborators who are able to participate consistently and who are willing to commit to the process.

Capacity for decision-making: Collaborators empowered to make decisions on behalf of their organization will help to move the process forward efficiently.

Questions to consider:

The following questions and suggestions are meant to help municipal officials and food systems planning groups start thinking about the types of support they need and where to look for these resources.

1. *What specific skills and resources might you need for this initiative, and where might you find them?*

Whatever your background and experience, it is likely you will lack at least some of the skills and knowledge that are essential to your chosen initiative. Starting a community garden may require organizational skills to generate support and the ability to locate appropriate land and secure permits, but could also require carpentry skills to build raised beds and knowledge of composting and gardening techniques. If you have little vegetable gardening experience, recruiting a farmer to provide advice on structuring the garden space and to lead workshops for community members on vegetable gardening would be a huge help. You may also want to consider assembling a board of advisors for your food systems initiative. Members of the board can offer expertise in small business ownership, accounting, farming, or other skills that are critical to project success.

2. *Where can you find potential supporters of proposed food-related initiatives in your community?*

Start by “map[ping] community resources” (Bernstine et al. 2007). Identify engaged individuals, neighborhood associations, community-based organizations, and other groups who are already engaged in food-related initiatives (e.g., soup kitchens, community gardening programs, composting programs), or who might be likely supporters of your initiative (e.g., classroom or out-of-school time educators, gardening associations, environmental conservation groups, small business owners, public officials). Then you can begin to reach out to those individuals and groups to gauge their interest and to build support. Additionally, public meetings or announcements are a great way to access interested community residents who may not be part of specific groups.

3. *What level of involvement are you looking for from collaborators?*
Collaborators may have more or less time to give depending on their position and other commitments, so it’s important to work with them based on how much time they can offer. For example, starting a community garden will require short-term commitments from collaborators to raise funds or to design and build raised beds; maintaining the garden will require ongoing support and involvement from people who are willing to manage the space throughout the season or to provide technical support to new gardeners.
4. *What is the best strategy to reach out to potential partners?*
Flyers and open community meetings could attract a broad audience, whereas attending meetings of specific groups or inviting representatives to an organized meeting takes a more targeted approach. Whichever method you choose, it is essential to first educate potential partners about your initiative: what it is, why it’s important, how it will benefit the community, what will be involved. Be clear and honest about the initiative, and try to address any concerns from community members as soon as possible. Misinformation can lead to strong

opposition from residents; this sentiment may be challenging to reverse and can make it very difficult to move forward.

COLLABORATION FOR FOOD SYSTEMS PLANNING

Strategies for Collaboration

People involved in food systems initiatives in eastern Massachusetts are using several techniques to ensure collaboration in their food system projects. Municipalities within the Middlesex County area of MAPC are working with the Department of Public Health to fund “mini-grants” that build capacity in their partner community organizations. Mass in Motion communities have developed diverse coalitions to manage and implement food system planning projects.

Other strategies to encourage collaboration in food system projects include

- Develop a steering committee or other food systems group to coordinate stakeholders, share information, and foster solid working relationships.
- Engage community groups and nonprofit organizations
- Conduct stakeholder analysis and networking opportunities

Challenges to Successful Collaboration

Many people do not foresee significant opposition to food systems projects and think that any initiative will likely be well received by community members. However, it is important to keep in mind that many factors can generate opposition to municipal initiatives.

- Political differences can delay or stop food systems projects: 35% (7 out of 20) interview respondents cited local politics as a barrier to efficient or effective food systems initiatives
- Low levels of transparency about municipal processes (how to petition for a zoning change, for example) can be

frustrating for community food advocates who are unsure of how to find the right person or information.

- Regulations can be burdensome, especially for agricultural practitioners (e.g., farmers, vendors). Restrictions on what types of food can and can't be sold at farmers' markets were cited as barriers to entry for some food producers.
- NIMBY (Not In My Backyard) concerns seem to arise most frequently when there has not been significant community outreach and education about planned food systems initiatives.

ADDRESSING COMMUNITY CONCERNS

The sections below provide an overview of common concerns related to urban agriculture and food-related business development. While these are not the only issues that may arise in food system initiatives, this section should give you a sense of what type of issues may arise in your community and will get you thinking ahead of time about how to address those concerns.

Common Concerns

Urban and Peri-Urban Agriculture

A content analysis of articles published in U.S. newspapers revealed the following as related to farming, gardening, and raising animals in urban and residential areas. Concerns and questions were raised regarding:

- Noise from farm operations and animals
- Smell from farm operations and compost facilities
- A potential increase in vermin and predators around farms
- The line between "what is appropriate in an urban area and what starts to become offensive" (Patterson 2011)
- The effect of urban farms on property values and neighborhood aesthetics
- Vandals and thieves in gardens

- Uncertainty about who will be responsible for farm upkeep
- Diseases potentially carried by chickens and other farm animals
- Fear of bee stings and bee allergies

Food Processing, Retail, and Waste Management

Food systems planning initiatives often involve the development of food-related businesses such as community kitchens, food trucks, and/or composting facilities in residential areas. This may cause concern among residents about the effects of business development on their property values and the changes that may follow in their neighborhoods. Municipal officials will need to be prepared to explain the direct and indirect benefits of such changes to the community and its residents.

Best Practices for Addressing Concerns

It is wise to try to preempt resident concerns and to eliminate misinformation about initiatives immediately. Educating residents and community groups about the goals and benefits of proposed initiatives and being honest about any potential negative impacts will help reduce unfounded opposition from community members. Beginning as early as possible to engage groups and individuals within the community will generate momentum for your initiative and will strengthen buy-in and feelings of community ownership of the project. Though the particular issues that arise and solutions to those issues will be different in every community, support will certainly help move initiatives forward.

Resources for Addressing Community Concerns

The University of Massachusetts offers an **Agricultural Mediation Program** that provides conflict resolution training and mediation services to resolve disputes as early as possible. For more information visit

http://www.umb.edu/mopc/projects/agricultural_mediation_program.

In 2013 the New Entry Sustainable Farming Project began piloting a **Farm Friendly Neighbor** (FFN) Program in the MAGIC sub-region. The FFN program will work with AgComs and other municipal groups to achieve its goals:

- “Increase understanding of the benefits of local agriculture and of common farming practices.
- Expand community support for agriculture.
- Empower residents with the knowledge and tools to actively support agriculture in their town.
- Build replicable model to expand project state-wide and useable by communities beyond Massachusetts” (FFN 2013).

For more information, visit <http://www.FarmFriendlyNeighbor.org>

CHAPTER 5 REFERENCES

Bernstine, Matthew, Allison Mouch, and Julie Ulrich. *Growing Community Agriculture...from the Ground Up*. Charlottesville, VA: University of Virginia. Accessed March 15, 2012. http://www.virginia.edu/ien/docs/07FoodClassFINAL%20PAPERS/URBAN_GUIDE_FINAL.pdf.

CFPAC (Chicago Food Policy Advisory Council). 2011. *A Vision for Food Policy in Chicago*. Chicago, IL: CFPAC. Accessed April 2, 2012. <http://www.chicagofoodpolicy.org>.

FFN (Farm Friendly Neighbor). 2013. "About FFN." Accessed December 20. <http://www.farmfriendlyneighbor.org/>.

Patterson, Steve. 2011. "Forum Tonight on Backyard Farming; Discussion to Focus on its Coexistence with City Life." *Florida Times-Union, Jacksonville FL*, Oct 6, C-1.

Pothukuchi, Kami, Hugh Joseph, Hannah Burton, and Andy Fisher. 2002. *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Venice, CA: Community Food Security Coalition

Six:
**Municipal Tools
for Food Systems
Planning**



SIX: Municipal Tools for Food Systems Planning

	Municipal Tools	Page
	I. Comprehensive Planning	73
Land Use Planning Tools	II. Zoning for Local Food Production	75
	III. Zoning for Local Food Sales	80
	IV. Zoning for Healthy Food Environments	83
	V. Municipal Legislation for Land Preservation	86
	VI. Non-Regulatory Land Use Tools	90
	VII. Health Codes and Licensing	93
	VIII. Waste Management Policies and Programs	96
	IX. Procurement Policies	97
	X. Business Development Policies	98

INTRODUCTION TO MUNICIPAL TOOLS

In 2007, the APA published its [Policy Guide on Community and Regional Food Planning](#), a literature survey and report that highlighted the many ways municipalities can and should be involved in food systems development. Potential activities include farmland preservation, comprehensive planning, using zoning codes to regulate food production and retail, and planning mixed developments to include appropriate food designations (APA 2007). These activities require the use of various regulatory and non-regulatory tools that can aid in the alignment of these activities with municipal priorities.

APA Policy Recommendations for Community and Regional Food Planning (2007)

1. Support comprehensive food planning processes at the community and regional levels.
2. Support strengthening the local and regional economy by promoting local and regional food systems.
3. Support food systems that improve the health of the region’s residents.
4. Support food systems that are ecologically sustainable.
5. Support food systems that are equitable and just.
6. Support food systems that preserve and sustain diverse traditional food cultures of Native American and other ethnic minority communities.
7. Support the development of state and federal legislation to facilitate community and regional food planning discussed in general policies #1 through #6.

After assessing the current state and needs of a municipality’s food system, the next step in food systems planning is to determine the best tools and techniques for meeting the needs and goals identified in the assessment. This chapter provides legislative statutes and policy techniques that municipalities can customize when integrating food systems initiatives into their policy and planning goals. The tools covered in this chapter can be used to remove some common barriers to food system projects, as well as encourage municipalities to set longer-term priorities and demonstrate their commitment to working on food systems issues.

The sections below provide a description of each tool, its benefits and limitations, “On the Ground” examples of the tools in action, and further resources.

I. COMPREHENSIVE PLANNING

Comprehensive Plans and Food Systems

Comprehensive Plans (CPs), also referred to as Master Plans, set forth the long-range goals, objectives, and strategies to address the challenges and guide the future growth and development of a community. These documents enable municipalities to outline long-range community needs while providing a process for incorporating community input and achieving consensus. Some state legislation requires that all municipalities adhere to a comprehensive plan, but local governments in most states, including Massachusetts, are not required by law to develop a plan. As such, municipal-level plans in Massachusetts are not legally binding. However, as visioning documents, they guide planners and policy makers through the process of identifying future service needs. In addition to traditional planning topics such as land use, transportation, economic development, housing, and natural resources, CPs can address food systems issues and support projects such as urban agriculture, farmers' markets, and healthy food districts.

Benefits

- CPs can help guide overall municipal development and set tangible goals for improving the food environment in a city or town.
- The process of creating a CP provides opportunities for municipalities to engage residents and stakeholders from all sectors of the food system in discussions about the community's future.
- In a CP, a municipality can articulate the many connections between the community's long-term needs and food systems issues, and establish policy and planning recommendation for meeting those needs.

Limitations

- CPs are not legally binding and not required in most states, including Massachusetts.
- Effective use of a CP requires a municipal government to adhere to its policy recommendations, follow through on the CP's proposed projects and initiatives, and monitor and evaluate progress over time.
- Developing a CP is a lengthy, complex process; municipalities often struggle to ensure that the plan represents the interests of all residents.

ON THE GROUND: Lansing, MI

In 2011, the **City of Lansing, Michigan** incorporated the APA's seven general policy recommendations for community and regional food system into the city's 20-year Comprehensive Plan. While Lansing already had a growing number of community gardens and farmers markets, building a stronger local food infrastructure to encourage healthy lifestyles was a long-term planning priority identified through the public involvement process (LPND 2012). Lansing's Plan includes regulatory and non-regulatory actions the city can facilitate as an active participant in food system planning such as:

- Revise existing land use policies and codes to permit urban agriculture in various zoning districts;
- Increase collaboration with community organization to providing gardening spaces on city land;
- Support the creation of food business districts by developing specific zoning and land use policies; and
- Work with Land Banks to adopt policies for mid- and long-term urban agriculture on foreclosed properties.

Comprehensive Plans That Address Food Systems Issues

- **Design Lansing**, 2012 Comprehensive Plan, Lansing, Michigan
http://www.lansingmi.gov/media/view/Design_Lansing_Comprehensive_Plan_ADOPTED_April_9_2012_LowRez/3523
- **Baltimore Sustainability Plan**, 2009
http://www.baltimorecity.gov/Portals/0/agencies/planning/sustainability/public%20downloads/051509_BCS-001SustainabilityReport.pdf
- **Milwaukee Comprehensive Plan**, 2010
<http://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/planning/plans/Citywide/plan/Citywide.pdf>
- **City of Seattle Comprehensive Plan**, 2005
http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd016610.pdf

LAND USE PLANNING TOOLS

Land use planning and control are major factors in local food system development. Municipalities have many tools at their disposal, including zoning ordinances and regulatory and non-regulatory options for promoting local food production, encouraging local food sales, creating healthy food environments, and preserving agricultural land.

Land Use Planning Through Zoning

Municipal officials use zoning to protect the health, safety, and welfare of residents by regulating the use of land and controlling the physical aspects of property development. Zoning ordinances dictate the physical aspects of property such as the height of buildings and parking requirements, as well as the permitted uses allowed in each zoning district. While traditional Euclidean zoning has sought to separate rural activities from urban life, there is now

a push to include more local food system activities across various peri-urban, suburban, and urban landscapes. In response, municipal planners are rethinking and revising regulatory practices so that land use policies explicitly incorporate food systems topics.

Though zoning can be restrictive in nature and may initially present barriers to some food systems projects, planners can review and redesign zoning ordinances that relate specifically to municipal priorities and community needs. Rezoning should be considered in a participatory planning process in order to address concerns from all sectors of the food system. Modifying zoning codes can help facilitate many local food system activities within a municipality.

Considerations for Successful Zoning

The section below outlines various zoning techniques used across the U.S for urban agriculture, healthy food environments, and farmland preservation. Municipalities are starting to increase their efforts to change local zoning codes to prioritize food systems activities. The formal recognition of these activities within a legal framework undoubtedly enhances the visibility of food systems at the municipal level.

When implementing zoning changes, municipal officials must consider the balance between preserving land for the public good and upholding private property rights. The tradeoffs in these decisions are seen in the structure of many agricultural preservation programs such as the state-level APR (see below for details) and Chapter 61A tax incentives: farmers are compensated by the public (from tax revenue) for contributing to the public good by keeping their land from being developed.⁶ In addition,

⁶ For more information on Chapter 61A and land valuation, see [Section 4](#) of the law and the Executive Office of Energy and Environmental Affairs' *Smart Growth / Smart Energy Toolkit* module on "Preserving Agricultural

farmers use the value of their land as equity towards business expenditures and as a long-term investment for family use. This means that zoning changes that preserve land from residential development but also restrict its agricultural uses and activities will likely cause financial hardship for farmers and hinder agricultural development on the properties (Brad Mitchell (MFBF), personal communication 2013).

While zoning is a helpful tool for incorporating food system activities and priorities at a municipal level, it is sometimes overlooked by community members because the development and approval process can be lengthy and complicated. If a municipality fails to clearly define the objectives, uses, and scale of an ordinance, the regulation can become diluted and difficult to enforce. Zoning techniques must be embraced by all stakeholders for successful application.

Another key to zoning success is effective coordination with and direct participation from a diverse group of stakeholders. Incorporating mechanisms for community participation in planning and implementation is recommended when using zoning as a policy and regulation tool. The diversity of a stakeholder group is crucial and builds a municipality's capacity to assess its challenges and opportunities. This collaborative process allows a municipality to examine the types of food systems initiatives that are appropriate for the city and its residents before moving forward with zoning amendments.

Below you will find zoning examples from cities and towns across the U.S. that have been used to support and enhance urban and peri-urban agriculture activities, expand farmers' markets and food retail options, and improve food environments. Basic summaries of

Land and Farming Opportunities," available at http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-ag.html.

each tool and examples are provided for reference as you integrate food systems into your municipal policies and plans. The appropriate model and the details of its implementation will vary based on municipality type (urban, suburban, peri-urban, rural), local needs, and municipal priorities. Links to draft legislation, ordinances, and amendments are provided at the end of the section.

II. ZONING FOR LOCAL FOOD PRODUCTION

Urban and Peri-Urban Agriculture Zoning

Urban and peri-urban agriculture refers to the production, distribution, and marketing of plants, animals, and ornamentals on public and private land within the core of metropolitan areas and its edges (CFSC 2007). These food products can be grown for personal consumption, educational purposes, sale, donation, or a combination of these purposes. The size, scale, and techniques involved in urban food production vary and are adaptable based on the space available. Urban agriculture has been proven successful in backyards, community gardens, rooftops, and vacant lots. Urban farmers generally grow crops in soil or in raised beds, but other tools and techniques such as greenhouses and hoop houses, aquaponics, and vertical mediums are gaining popularity.

While growing local food has become a popular way to contribute to the health, equity, economy, and conservation priorities of communities, there are still barriers and challenges to growing crops and raising animals in and around cities. Some of these barriers include access to land; zoning designations; residential concerns about odor, noise, and appearance; waste management; and soil contamination. Zoning techniques cannot remove all these barriers explicitly, but can provide the necessary regulatory language to permit and promote urban agriculture in urban and peri-urban locales.

Urban/Peri-Urban Agriculture Zoning Models

Zoning ordinances that incorporate urban agriculture activities reflect the changing public opinion about how land should be used to meet municipal priorities. Chicago, San Francisco, Milwaukee, Minneapolis, and Boston are just some of the many cities that have made substantial changes to zoning codes to permit growing crops, raising livestock, and practicing animal husbandry. The manner and extent agricultural activities are permitted varies by city. While some cities such as Milwaukee treat urban agriculture as a use category, other cities such as Cleveland designate agricultural zoning districts.

ON THE GROUND: Milwaukee Agriculture and Livestock

Milwaukee, WI Zoning Code §455.14 and §473.14

Agricultural Uses, Livestock, Greenhouses, Nurseries, Seasonal Markets

Milwaukee is home to **Growing Power**, a nationally known, two-acre farm and greenhouse nonprofit organization committed to sustainable food systems. Since Growing Power's inception, the city of Milwaukee has been actively engaged in urban agriculture initiatives involving food security, job creation, and beautification of city property.

The City has revised its zoning codes to include agricultural use categories for residential, commercial, park, and institutional zoning districts. These uses include growing crops, raising livestock, and establishing greenhouses and nurseries. In residential and industrial districts these uses are permitted by right, but they require a special permit outside these districts. While Milwaukee has put considerable effort into revising its zoning codes, the city has limited its definition of urban agriculture to particular structures and uses, and it has not explicitly addressed the scale of urban farming. These omissions may create issues when enforcing zoning regulations (EPA 2012).

ON THE GROUND: Chicago Urban Agriculture Zoning Code Amendment

Chicago, IL Zoning Code §17-2-0207

Community Gardens, Urban Farms, Accessory Buildings, Aquaponics, Bees, Composting

Several urban agriculture programs that address food security, job training, and public health have been active in Chicago. Based on the findings and recommendations outlined in Chicago's **2009 Food System Report**, the Chicago Planning Department, residents, and community organizations have dedicated people and resources to explore zoning codes that incentivize the conversion of vacant lots and rooftops to small- and large-scale urban agriculture projects (CCT 2009).

In 2011, Chicago revised its urban agriculture zoning ordinance. The zoning amendments follow Milwaukee's lead in treating urban agriculture as a use category, but expand its reach by permitting community gardens in all zoning districts and permitting urban farms in all districts except residential and some business districts. The zoning code also explicitly defines the difference between community gardens and urban farms, allows compost to be generated and used on-site, and specifies the building permits required for accessory buildings such as greenhouses, sheds, and farm stands (CHED 2013). Further research is needed before the City decides on zoning and regulations for outdoor and rooftop aquaponic systems.

ON THE GROUND: Seattle Urban Agriculture Zoning Ordinance

Seattle, WA Ordinance No. 123378

Farm stands, livestock, urban farms, community gardens, rooftop greenhouses

Seattle is a leader in the urban agriculture movement; its success in this area is due to collaborative efforts between community groups, municipal agencies, academia, non-profit organizations, and private businesses. Prior to 2010, the city had acknowledged the many benefits of agriculture but its codes did not have a unique classification for urban agriculture and did not distinguish between community gardens and urban farms.

With the increase in resident demand to grow food and to update regulations to accommodate citizen needs, Seattle approved an ordinance in 2010 that revised its land use codes to include definitions as well as gradation of uses. The ordinance clearly distinguishes between types of agricultural use, such as urban farms and community gardens, and permits such as urban farms and community gardens, and permits:

- Urban farms in all districts (outright or as conditional use; max 4,000 sq. ft);
- Livestock (accessory use or permitted conditional use);
- Community gardens in all zones (max 1,000 sq feet);
- Rooftop agriculture (max 20-25 % of roof area); and
- Aquaculture in commercial and industrial zones.

ON THE GROUND: Minneapolis Zoning Ordinance Amendment

Minneapolis, MN Code of Ordinances Title 20

Beekeeping and fowl, farmers' market, urban agriculture zoning amendments

Minneapolis first began to address urban agriculture and zoning in the context of its 2003 city-wide Sustainability Plan. This plan led to the creation of **Homegrown Minneapolis** (HGM), an initiative to “improve the growth, sales, distribution, and consumption of healthy, locally grown foods within the city and surrounding regions” (Klingler 2009, 7). In 2011, the City Council adopted the Urban Agriculture Policy Plan (http://www.minneapolismn.gov/cped/planning/plans/cped_urban_ag_plan).

In 2012, following some of the recommendations in the Urban Agriculture Policy Plan, Minneapolis amended its zoning code to define and allow indoor and outdoor farmers' markets, raising chickens and other fowl, beekeeping, community gardens, and other urban agriculture uses and structures. (The zoning changes adapted in 2012 are available at <http://www.minneapolismn.gov/www/groups/public/@citycoordinator/documents/webcontent/wcms1p-090596.pdf>.)

As it considered these zoning changes, the City Council conducted an extensive public process that included gathering input from farmers, residents, businesses, experts, and other stakeholders.

ON THE GROUND: Boston Urban Agriculture Zoning Amendment

Boston, MA Zoning Code Article 89

Urban farms (all sizes); composting; aquaculture, hydroponics, and aquaponics; beekeeping and chickens; farmers' markets and farm stands; soil safety

In January 2012, the City of Boston launched its Citywide Urban Agriculture Rezoning Initiative and created a Working Group of farmers, neighborhood representatives, and food systems advocates and experts to guide the process. (See the **On The Ground Box** below for information on the first stage of Urban Ag legislation development in Boston, the Urban Agriculture Overlay District pilot.) The Working Group held many community meetings to get feedback and input on their draft legislation. After presentations to the public and city agencies, the City's Zoning Commission approved the adoption of Article 89 in December 2013 (BRA 2013b; 2013c).

The zoning code article addresses many uses and activities related to urban agriculture:

- Article 89 allows by right small and medium farms in all districts and subdistricts and large urban farms in all industrial districts and subdistricts. Large urban farms are considered a conditional use in all non-industrial districts (BRA 2013a). The article includes a "comprehensive farm review" requirement for large farms to ensure they are designed to be good neighbors" (BRA 2013d, 1).
- The article allows composting as an accessory use on any urban farm and by permit as a primary activity in industrial districts and subdistricts. The Working Group also created a Soil Safety Protocol that must be followed by all urban farms using soil.

ON THE GROUND: Boston Urban Agriculture Zoning Amendment (continued)

Boston, MA Zoning Code Article 89

Urban farms (all sizes); composting; aquaculture, hydroponics, and aquaponics; beekeeping and chickens; farmers' markets and farm stands; soil safety

- Aquaculture and aquaponics are allowed or conditional uses in industrial, commercial, and institutional districts (with two neighborhood-specific exceptions). Smaller aquaculture and aquaponic facilities are allowed in all districts. Hydroponic facilities are also an allowed or conditional use in most districts.
- Keeping hens and bees is addressed in the pre-existing zoning code and Article 89 makes no changes to the districts in which these activities are permitted. The article does define the permissible size and/or numbers and maintenance requirements for bee and hen operations in districts where those uses are conditional.
- Farmers' markets and farm stands are allowed in any zoning areas that allow retail uses. Farm stands are also allowed on urban farms. These uses are conditional in all other districts.

Open Space Zoning Sub-Districts

Community gardens are defined as an area of land managed and maintained by a group of individuals to grow and harvest food and nonfood crops for non-commercial uses (ACGA 2012). Though community gardens are popular in many towns and cities, municipalities do not consistently address them in codes and ordinances. In some cities and towns, community gardens are allowed only as additional uses on residential properties (accessory use) and properties used solely for gardens (permitted use) are not allowed.

One zoning method to allow community gardens on public and private land is to create a separate “community garden” sub-district of open space. This gives gardening the same protections as other types of open space uses. Having a distinct zoning subcategory ensures long-term protection of these open spaces and the activities permitted. Boston, Baltimore, and Chicago all have similar open space districts that allow for community gardening.

ON THE GROUND: Boston Open Space Sub Districts

Boston, MA Zoning Code §33 (1988)

Community gardens

Boston has 200 school and community gardens maintained by various agencies and nonprofit organizations throughout the city. Gardens vary in size and use, spanning from pocket parks to large vegetable plots; their produce improves food security for many low- to moderate-income families. Many of these gardens are managed by homeless shelters, senior centers, housing developments, and neighborhood residents (BPRD 2008).

Boston takes a comprehensive approach to protecting and conserving community gardens through land use regulation. Boston’s open space zoning district includes nine sub-districts, including land appropriated for and limited to community gardens. The community garden sub-district permits the cultivation of vegetables, fruits, and flowers. Defining gardening as an acceptable way for citizens to use open space demonstrates Boston’s commitment to health, equity, and conservation.

Agricultural Overlay Districts

Overlay zoning is a regulatory tool created by establishing a special zoning district superimposed over underlying zoning districts in order to protect a specific resource such as agricultural land and aquifers, or to guide a particular use or type of development that is deemed an appropriate use of the land. These overlays are adopted to supplement or modify a municipality's zoning requirements that are otherwise applicable in underlying districts (SGV 2012).

Examples of overlay districts can be found in urban areas (Urban Agriculture Overlay Districts, or UAODs) as well as suburban and rural towns (Agricultural Overlay Districts, or AODs). AODs are similar in nature to UAODs, but focus on protecting and preserving agricultural lands in rural, suburban, and peri-urban areas, including working farms and land that contains prime agricultural soils.

ON THE GROUND: Town of Amherst, MA Agricultural Overlay Districts

Amherst Township, MA Zoning Ordinance §280-285

Farmland Protection

In 1989, Amherst developed an Agricultural Overlay to protect prime farmland. This innovative zoning ordinance required that any development projects (e.g., subdivisions) within the overlay district be clustered together in order to preserve the remaining land for agricultural purposes. When creating the overlay, the town considered many factors, including the amount of prime agricultural soils on the individual parcel, its proximity to other blocks of farmland, the size of the parcel, and probability of development risk. This zoning process required expertise and knowledge from the Amherst Planning Board, Agricultural Commission, and local residents (EEA 2007).

ON THE GROUND: Boston Urban Agriculture Overlay District

Boston, MA City of Boston Zoning Amendment Ch. 665 §3.1.A

Urban Farming, Composting

The Mayor of Boston's Urban Agriculture Initiative has had two phases: the Urban Agriculture Overlay District (UAOD) pilot and the Rezoning Initiative. The Rezoning Initiative resulted in the comprehensive zoning amendment (Article 89) described in an **On The Ground** box above. The purpose of this two-phase approach is to focus on public health and equity while promoting economic development by supporting local food production citywide.

The process began in November 2011 with a text and map amendment to the city's zoning code that established an UAOD. This amendment allows farming by right on two vacant city-owned parcels within the Greater Mattapan Neighborhood district, including the right to compost on-site and sell produce. Year 1 reports from both sites are online at <http://www.cityofboston.gov/food/urbanag/>. The Department of Neighborhood Development has just released RFPs for urban farm development on additional under-utilized parcels in Mattapan and Roxbury.

ON THE GROUND: Cleveland Urban Garden Districts and Agriculture Overlay District

Cleveland, OH Zoning Code §336.01 and §336A (draft)

Community Gardening, Keeping of Animals and Bees, Urban Farms

Cleveland has responded to growing food insecurity and the increased demand for local food by adopting successive zoning ordinances favorable to urban agriculture. In 2007, Cleveland adopted an Urban Garden District that enabled both community gardening and urban farming. This was followed by ordinances that permitted farm animals and bees, as well as agricultural uses in residential districts. These successes have prompted Cleveland to draft an agricultural overlay that specifically protects community and urban farms by designating areas where they are permitted by right. That legislation is currently pending before the City Council (CCPC 2013).

III. ZONING FOR LOCAL FOOD SALES

Zoning for Farmers' Markets

Over the last two decades farmers' markets have grown dramatically. In 2013, there were over 8,000 markets across the U.S. (more than four times the number in 1994), and 291 in Massachusetts alone (AMS 2013a; AMS 2013b). In 2006, just over \$1 billion of local produce and goods were sold at farmers' markets (Ragland and Tropp 2009). The **Farmers' Market Project Guide** in **Chapter 7** has more information about assessing your community's need for a farmers' market and the steps required to start one.

Like urban farms and gardens, farmers' markets continue to struggle to achieve permanence within municipal land use policies. Often farmers' markets are required to obtain a conditional use permit or variance, which can be subject to denial from year to year. Some advocates suggest that municipalities should encourage farmers' markets through permitted use in certain zoning districts, or under an incentive zoning scheme, particularly in underserved areas (Kareem and Thornton 2009).

Partnerships are also recommended, as they allow farmers' markets to establish themselves in both private and public spaces. Hospitals, schools, universities, commercial centers, and parks are examples of locations in varying districts in which zoning for farmers' markets could be applied. These permitted uses could be tailored to the specific needs and priorities of a municipality. Lastly, incentive zoning could provide developers extra square footage or expedited permits if they pursue "bonus uses," including farmers' markets (Mair et al. 2005).

ON THE GROUND: Farmers' Markets as Permitted Use

City of Fresno Municipal Code §12-211.3 and §12-304-B-25 (2008)

In 2008, the **City of Fresno, California** amended its zoning code to allow farmers' markets to be permitted in any district in which it was not expressly prohibited and add farmers' markets to the list of permissible uses in the City's R-1 residential (single family) districts. The zoning code sets some restrictions on what can be considered a farmers' market; for example, agricultural products must comprise at least 75% of the retail space (SA 2008).

ChangeLab Solutions recently published **From the Ground Up: Land Use Policies to Protect and Promote Farmers' Markets.**

This guide includes model ordinances for protecting farmers' markets through municipal zoning and suggested topics and conditions the legislation should address such as operating rules, parking, SNAP and WIC redemption, and waste management. The guide is available at <http://changelabsolutions.org/publications/land-use-farmers-markets>.

Zoning for Food Trucks and Mobile Food Retail Outlets

Food trucks, food carts, and other mobile food retail vendors are on the rise in cities and towns across the country. Food trucks and similar businesses have much lower start-up costs than brick-and-mortar restaurants, and the scale at which they operate makes it easier for them to work with local farms (Clover 2011). Permitting and supporting these efforts can help municipalities meet economic development and public health goals. As with other zoning and legislative changes, municipal officials should conduct outreach with stakeholders, especially community residents, established restaurant owners, and current food truck/mobile food business entrepreneurs.

Recent research by the American Planning Association found that most cities and towns that have addressed mobile food vendors in their zoning codes have limited them to non-residential districts (APA 2011). Municipalities can also set restrictions related to the hours of operation, length of operation tenure in any one location, and the required distance between mobile units and other vendors and restaurants (APA 2011).

ON THE GROUND: Mobile Food Vending Group Sites

Oakland Municipal Code §5.51, 2012

In 2012, **Oakland, California** expanded its mobile food vending permit program with pilot legislation for "Food Vending Group Sites" (three or more vendors at the same site) in specific areas of Council Districts 1 to 4. Outside of those areas and those identified in prior legislation (OMC §5.49 and §8.09), mobile food vending is considered a "Fast Food Restaurant Commercial Activity" which requires a Major Conditional Use Permit (OPBD 2013). In early 2013, the Oakland City Council removed the expiration date on the Group Sites zoning; those regulations will be in effect until the city adopts permanent citywide regulations for mobile food vending (OPBD 2013).

A report on the first year of the Group Sites program is available for download at

<http://www2.oaklandnet.com/oakca1/groups/ceda/document/s/report/oak038380.pdf>.

ON THE GROUND: Food Truck Licenses by Site Type

City of Boston Code Chapter XVII 17.10

In 2011, the **City of Boston, Massachusetts** approved an ordinance that expanded potential locations for food trucks to include more of downtown Boston and some of the city's neighborhoods. The city defines a food truck as "a walk-on vehicle where food is cooked, prepared and served in individual portions" and restricts food trucks that vend on public sites to no more than 30 feet by 8 feet (HFLPC 2013). (Other types of mobile food vendors such as push carts and canteen trucks are subject to other restrictions at the local and state levels.)

Food trucks must be approved for both a Food Truck Permit and a Site License. The Site License application requirements vary by the type of site; there are 18 locations on city property designated as **Public Sites** for food trucks. Similar to Oakland's Group Sites, many of these locations allow multiple trucks to operate at the same time. Most **Private Sites** in Boston require vendors to obtain a conditional use permit (CUP). The CUP must be approved before the vendor can submit his or her Food Truck Permit application. Each **Special Site** (e.g., MBTA property, the Rose Kennedy Greenway, etc.) has its own individual license application requirements.

Zoning for Food Processors

Similar zoning changes can be used to allow food processing and retail operations to develop in particular areas of a town or city. "Food business" or "food business innovation" districts have been proposed in Kent County, Delaware and Fresno, California (Barban 2013; FCC 2013). These zones would allow municipalities to facilitate and encourage targeted food system development so as to enable small businesses to partner and collaborate. A group of organizations, including Regional Food Systems, LLC and the Northwestern Michigan Council of Governments, recently published **Food Innovation Districts: An Economic Gardening Tool** (Cantrell et al. 2013). This guide includes information on how to assess and identify potential districts in your community, examples of towns and cities that have elements of food innovation districts, and a model zoning overlay ordinance.

IV. ZONING FOR HEALTHY FOOD ENVIRONMENTS

In addition to using zoning tools to support local food production and sales, municipalities can also use their zoning powers to attract grocery stores and limit fast food businesses in their communities. These regulations can control retail space occupancy, limit density of fast food establishments, and require certain businesses to be a minimum distance away from schools, parks, and other areas that children often frequent (CDC 2012)

As obesity and other diet-related public health concerns have increased in recent decades (CDC 2012; Ogden et al. 2012), municipalities have looked to zoning ordinances to promote healthy food environments through the models described below. It is recommended that zoning be combined with other collaborative efforts to create healthier food environments. While zoning may prove effective at removing or limiting unhealthy foods, communities need to develop ways to attract or maintain healthy food options. These methods may include providing financial resources, technical assistance, and business incentives to grocery stores, farmers' markets, and other businesses that offer healthy food to residents (Bell and Standish 2009).

Fast Food Ordinances

It is not uncommon for a municipality to regulate the locations of food service establishments, especially fast food restaurants. While some communities prohibit all fast food restaurants, others regulate the density and number of these establishments within a given area.

ON THE GROUND: Fast Food Ordinances

Concord, Massachusetts bans all fast food and drive-through restaurants (Town of Concord, Mass. Zoning By-laws §4.7.1 2008).

Westwood, California regulates the density of fast food restaurants per street (Westwood Village Specific Plan §5.B 2004).

Warner, New Hampshire requires specific distances between fast food restaurants in established areas (Warner, NH Zoning Ordinance Article XI 2001).

"Healthy Zone" Ordinances

While state laws regulate the health and sanitation codes of fast food establishments and mobile vendors, local zoning powers allow municipal officials to regulate the location of these establishments to promote the health of their citizens (NPLAN 2009). These ordinances do not prevent the sale of non-nutritious foods by businesses already located where children frequent, but they can be used in areas that are currently free of fast food or to prevent additional establishments from locating in school zones.

Many cities throughout the U.S. have enacted zoning ordinances to regulate the locations of certain food service establishments and mobile vendors within specific distances of neighborhoods, schools, parks, and community centers. However, there are limitations to these types of ordinances. Municipalities must keep in mind food variation and quality in order to clearly define fast food establishments for zoning purposes. Also, this type of zoning amendment can create community opposition from residents and businesses alike.

Incentive Zoning for Healthy Food

In the past few years, New York City, Los Angeles, and Philadelphia have rolled out zoning and financial incentive programs to encourage the development of healthier food options. Long-term monitoring and program evaluation will be needed to measure the effectiveness of coupling zoning with financial incentives to create healthy food environments.

ON THE GROUND: Using zoning to meet health and equity priorities

In **Los Angeles, California**, food security advocates influenced the City to pass an interim control ordinance that limits fast food restaurants and drive-through outlets in certain low-income neighborhoods. While the interim ordinance is in effect, the City is developing incentives and design regulations to attract food options that align with community's goals and objectives (Los Angeles Ordinance No. 180103 2008).

Detroit, Michigan requires specified standard, carryout, fast-food, and drive-in restaurants to be at least 500 feet from elementary schools, middle schools, and high schools (Detroit, MI, Zoning Ordinance, §61.12.91).

Arden Hills, Minnesota requires fast food restaurants and drive-in businesses to be at least 400 feet from schools, churches, public recreational areas and residential lots (Arden Hills MINN Code §1325.04)

ON THE GROUND: New York City, NY FRESH

New York, NY Zoning Resolution. Article 6. Special Regulations, Ch. 3 §63 (2011)

Zoning and Financial Incentives

New York City's **Food Retail Expansion to Support Health (FRESH)** Program is a great example of incentive zoning in action. FRESH was formed in response to a 2008 study that found a shortage of grocery stores providing fresh food options in many low- and moderate-income neighborhoods. In order to improve the quality of life and economic condition of selected areas, FRESH decided to combine financial and zoning incentives to encourage the upgrade and expansion of existing grocery stores, as well as promote the development of new full-line grocery stores. Stores eligible for FRESH must sell a general line of healthy food products, have a minimum store selling area of 6,000 square feet, and adhere to special design and certification regulations (e.g., signage, MOU, deed restriction).

What incentives are included?

Zoning Incentives

- Offers additional floor area to developers in Commercial and Mixed Residential Buildings with FRESH food Stores
- Reduces amount of required parking for FRESH foods stores up to 40,000 sq. feet
- Allows larger stores (up to 30,000 sq. ft.) to be built in light manufacturing districts by right

Financial Incentives

- Provides mortgage recording tax deferral
- Reduces property tax on increased value of new renovation or construction
- Sales tax exemption on goods used to equip facility, construct, or renovate (NYC DCP 2008).

Zoning Resources

Land Use and Policy

- **Seeding the City: Land Use Policies to Promote Urban Agriculture**, http://www.phlpnet.org/sites/phlpnet.org/files/Urban_Ag_SeedingTheCity_FINAL_20111021.pdf
- **Community Gardening/Urban Agriculture Land Use and Policy Inventory chart**, prepared by Public Health Law and Policy, http://norcalheal.cnr.berkeley.edu/docs/CommunityGardenPolicyInventory_PHL.P.pdf
- **Using Zoning to Create Healthy Food Environments in Baltimore City**, http://urbanhealth.jhu.edu/PDFs/HBR_Index_Food/BaltimoreCity_2010_ZoningCreatingHealthyFoodEnvironments.pdf
- **Establishing Land Use Protections for Farmers' Markets**, NPLAN, http://changelabsolutions.org/sites/default/files/documents/Establishing_Land_Use_Protections_for_Farmers_Markets_FINAL_WEB_20091203.pdf

Zoning Ordinances/Amendments

- **City of Boston Zoning Code Open Space Sub-Districts for Community Gardens**, <http://www.bostonredevelopmentauthority.org/getattachm ent/cf439d3c-76ed-42ea-89d0-eaf0917468c3>
- **Chicago's Community Garden and Urban Farm Ordinance Amendments FAQ** http://www.cityofchicago.org/content/dam/city/depts/doe/general/NaturalResourcesAndWaterConservation_PDFs/Sustainable%20Backyards/UrbanAgFAQ.pdf

- **Cleveland Urban Overlay District Zoning Code**, <http://planning.city.cleveland.oh.us/zoning/pdf/urbanAgOverlayDraft.pdf>
- **Milwaukee Zoning Codes**, see Subchapter 5-8 for districts permitted, <http://www.mkedcd.org/czo/index.asp>
- Township of Amherst, MA Agriculture Overlay District, http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ag-amherst.html
- **Seattle's Urban Agriculture Zoning Ordinance** (Seattle, WA Ord. No. 123378), http://clerk.ci.seattle.wa.us/~public/meetingrecords/2010/regional20100803_5b.pdf
- **Model Healthy Food Zone Ordinance**, NPLAN, <http://changelabsolutions.org/publications/model-ord-healthy-food-zone>
- **Fresh Food Stores Zoning Amendment**, 2009, 2011 http://www.nyc.gov/html/misc/pdf/fresh_zoning_text_amendment.pdf

Livestock/Keeping of Animals/Bees Ordinances

- Cleveland, OH, **Restrictions on the Keeping of Farm Animals and Bees**, <http://planning.city.cleveland.oh.us/zoning/pdf/34702FarmAnimalsandBees.pdf>
- City of Minneapolis, **Minn. Zoning Code Amendments** (2010), <http://library.municode.com/index.aspx?clientId=11490>
- Seattle, WA, **Municipal Code**, <http://clerk.ci.seattle.wa.us/~scripts/nph-brs.exe?d=CODE&s1=23.42.052.snum.&Sect5=CODE1&Sect6=HITOFF&l=20%20&p=1&u=/~public/code1.htm&r=1&f=G>

V. MUNICIPAL LEGISLATION FOR LAND PRESERVATION

Right-to-Farm Laws

Right-to-Farm laws were originally developed in the 1970s at the state level. Lawmakers were becoming more aware of the decline of agricultural land across the country as urban and suburban populations encroached upon traditional agricultural areas. These population shifts and sprawling developments generated conservation concerns as well as complaints from new residents about odor, dust, noise, and other byproducts of farming operations.

Right-to-Farm statutes have been enacted in all 50 states with varying statutory language. According to the Farmland Information Center (a public/private venture between American Farmland Trust and the USDA's Natural Resources Conservation Service), Right-to-Farm laws are designed to meet one or both of the following goals:

- “(1) to strengthen the legal position of farmers when neighbors sue them for private nuisance; and
- (2) to protect farmers from anti-nuisance ordinances and unreasonable controls on farming operations” (FIC 1998, 1).

Purpose of Right-to-Farm in Massachusetts

The Massachusetts State Constitution calls for “the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air, and other natural resources” (Massachusetts Constitution, Article 97). There are currently three general laws that are considered Right-to-Farm enabling statutes in Massachusetts. (See the [Right-to-Farm Resources](#) section below for the specific legislation.) The Commonwealth of Massachusetts' Right-to-Farm law seeks to protect existing farmers and ranchers from nuisance lawsuits

through standards of acceptable farming practices allowable by law. Nuisances protected under law include odors, noise, visual clutter, and large farming machines (Mass. Gen. Laws Ch. 243, §6, 2005).

Right-to-Farm at the Municipal Level

While state-level Right-to-Farm laws protect individuals' rights to engage in agricultural activities, municipalities in Massachusetts can pass bylaws that reassert the Right-to-Farm statutes pursuant to a town's authority. A bylaw is a municipal version of a federal or state law that shifts much of the responsibility for local governance from the state legislature to the local community. The “Home Rule Amendment” (Article 89 of the Articles of Amendment of the Massachusetts Constitution) confers this authority. In 2005, Massachusetts created a state “Right-to-Farm” bylaw model for municipalities to emulate. As of June 2013, 130 towns in Massachusetts had established their own Right-to-Farm bylaws (MAAC 2013b).

Right-to-Farm bylaws can be used to “strengthen a community's efforts to protect the viability of farming” (RPS 2011, 9). Using a General Bylaw, rather than (or in addition to) zoning code changes, publicly recognizes the importance of farming within a municipality (RPS 2011). One of the major provisions of most Right-to-Farm bylaws in Massachusetts is a notification requirement that informs new community residents of agriculture's place as an important economic and cultural activity in the community (RPS 2011).

The goal of such bylaws is to prevent disputes and lawsuits between farmers and their neighbors (FIC 1998; RPS 2011). Municipalities considering the addition of a Right-to-Farm bylaw should first establish an Agricultural Commission in their communities (RPS 2011). Having an AgCom allows for the town's bylaw to include a dispute resolution process that directs concerns

and complaints to the AgCom before (and hopefully instead of) going to court (RPS 2011; MDAR 2005). In addition, AgComs can help with public education and outreach efforts in the bylaw creation process (RPS 2011).

Benefits of Right-to-Farm Bylaws

Local Right-to-Farm bylaws can include provisions that

- Outline municipal priorities to support agricultural activities based on both state regulations and local needs;
- Create public awareness around the rights of farmers;
- Establish a dispute resolution process to mediate conflicts between residents. Local community bodies such as Agricultural Commissions, town councils, or other planning advisory committees can thus act as the intermediaries in resolving agricultural disputes;
- Protect local farms by informing future residents that they are moving into a farming community;
- Require property sellers to issue a disclosure notice to potential buyers indicating that the land they are about to acquire lies within a town where farming activities occurs.

Limitations of Right-to-Farm Bylaws

- The intent of a Right-to-Farm bylaw is to protect existing farms in rural and suburban areas from the nuisance complaints that often accompany residential development. This does not protect new farms established within urban communities. Urban municipalities are free to regulate activities to protect the health, safety, and welfare of the public through local zoning, health, and environmental standards, including the exclusion of agriculture.
- Though the majority of current Right-to-Farm bylaws in Massachusetts follow the model bylaw set by the state, there is variation from town to town (MAAC 2013c).

- The model Right-to-Farm bylaw in Massachusetts, and the many municipal bylaws modeled after it, declares that “whatever impact may be caused to others through the normal practice of agriculture is more than offset by the benefits of farming to the neighborhood, community, and society in general” for “commercial agricultural and farming operations and activities conducted in accordance with generally accepted agricultural practices” (MDAR 2005, 3). Unfortunately “generally accepted agricultural practices” sometimes differ from what community residents consider “best practices.” This can lead to disagreements or misunderstandings between farming and non-farming residents about what kinds of agricultural practices are protected in the community (Brad Mitchell (MFBF), personal communication 2013).

Right-to-Farm Resources

- **Right-to-Farm Model Bylaw for Massachusetts Cities and Towns**, <http://www.mass.gov/eea/docs/agr/righttofarm/farmbylaw.pdf>
- **Massachusetts Right-to-Farm Enabling Statute (Actions, Limitations)**, MA; State Laws; Mass. Gen. Laws Ch. 243, §6 (2005), <http://www.farmlandinfo.org/massachusetts-right-farm-enabling-statute>
- **Massachusetts Right-to-Farm Enabling Statute (Relating to Board of Health)**, MA; State Laws; Mass. Gen. Laws Ch. 111, §125A (2005), <http://www.farmlandinfo.org/massachusetts-right-farm-enabling-statute-relating-board-health>
- **States’ Right-to-Farm Statutes-State of Massachusetts**, <http://nationalaglawcenter.org/wp-content/uploads/assets/righttofarm/massachusetts.pdf>

- **Right-to-Farm Laws Fact Sheet**, American Farmland Trust, <http://www.farmland.org/programs/states/wa/documents/APPENDIXI-Righttofarmlaws.pdf>
- Right to Farm Resources, National Agricultural Law Center at the University of Arkansas School of Law, <http://www.NationalAgLawCenter.org>

Transfer of Development Rights (TDR)

Transfer of Development Rights (TDR) programs provide states and municipalities with a powerful and flexible technique for land use control. TDR is used in both a non-regulatory and regulatory context under which development rights can be severed from a tract of land and sold in a market transaction between “sending” and “receiving” districts. After a municipality identifies its “sending” and “receiving” districts, individual TDR agreements can be created. In a TDR agreement, the land from which the development rights are removed (i.e., the “sending” parcel) is permanently restricted under a conservation easement, which is non-regulatory in nature. The purchaser of the development rights then can sell them to developers who are looking to gain additional density in a different parcel of land (i.e., the “receiving” parcel). This is where a regulatory approach comes into play, as the allocation of development rights must be consistent with adopted plans and compliant with all applicable zoning regulations. These rules and regulations are declared by local legislative bodies (Nelson et al. 2010).

TDR and Food Systems Planning

TDR is a unique planning tool that uses private markets to preserve farmland while allowing municipalities to strategically direct growth in their communities. TDR programs offer two key benefits to municipalities: they compensate landowners for lost property value due to zoning changes and use markets to pay for the preservation of farmland for the public good. Though this technique has been used to transfer rights from rural or peri-urban

sites to highly dense districts, TDR could also provide incentives for urban agriculture. This transfer of rights would happen at a smaller scale, where an open space parcel could be protected in exchange for development projects in higher density areas (Erickson et al. 2009).

TDR uses zoning to preserve agricultural resources, redirect development, and create a greater permanency than traditional zoning regulations. However, municipalities must keep in mind that not every community is the same, and programs need to complement comprehensive plans and be flexible to changes in the market and within the community they benefit (EEA 2013c). TDR programs must also consider the advantages of working alongside other preservation techniques and partnering with land trusts, non-profits, and regional associations to leverage resources and meet preservation goals.

TDR in Massachusetts

The purpose of the Massachusetts TDR-enabling statute is “to protect open space, preserve farmland, promote housing for persons of low and moderate income or further other community interests” (Mass. Gen. Laws. Ch. 40A, § 9 2005). The law requires towns to provide zoning ordinances or bylaws that allow for special permits that authorize TDR. The law further requires towns to identify specific sending and receiving districts and incentives such as density, intensity of use, floor space, and portion of lot covered.

Benefits

- TDR offers a market-based approach to resource protection; this is unique because it does not require public funds.
- TDR is most effective in communities facing strong development pressure.
- TDR is more permanent than zoning and makes development more predictable.

- TDR allows farmers to retain fee simple ownership of land, and gives them income that can be used to purchase additional farmland and farm equipment or support transition planning.
- TDR allows sending areas that are privately owned to continue to receive the tax benefits acquired through estate and property tax; they can be used to support public education, police and fire, and local infrastructures. (Nelson et al. 2010, LTA 2011).

Limitations

- Implementing TDR requires significant education for municipal officials and residents.
- Developing community buy-in can be a lengthy process.
- TDR requires increased administrative resources for its creation and management.
- There are tradeoffs related to structuring TDR as a voluntary program. Creating a voluntary TDR program can minimize the overall effectiveness of its regulatory capabilities, but makes it more likely that farmers will be supportive of and participate in the program (MFBF, personal communication, 2013).

Getting Started with TDR

The basic steps for implementing TDR are listed below. Because TDR is a complex program to create and implement, municipal officials should look to the model TDR bylaws included in the [Massachusetts Smart Growth/Smart Energy Toolkit](http://www.mass.gov/envir/smart_growth_toolkit/bylaws/TDR-Bylaw.pdf), available at http://www.mass.gov/envir/smart_growth_toolkit/bylaws/TDR-Bylaw.pdf

ON THE GROUND: Using TDR to preserve farmland and open space

Falmouth, Massachusetts first approved its TDR bylaw in 1985. After some amendments, the sending districts now include existing Chapter 61A parcels, areas designated as important to surface and drinking water, the Coastal Resources Overlay, and Areas of Critical Environmental Concern (EEA 2013c). Falmouth's TDR program is only an option for subdivision development, and its incentives are structured as density bonuses (EEA 2013c). TDR was used in Falmouth's McKenna Ridge Road Subdivision to protect 12 acres of land within the Water Resource Protection District and to create a 15-lot housing subdivision on a parcel that would have been restricted to seven lots under standard zoning.

Montgomery County, Maryland has used its TDR program to protect 52,052 acres of farmland, which the County has valued as equivalent to \$115 million of investment from private sector sources rather than tax revenue (Nelson et al. 2010).

In **Northampton, Massachusetts**, the TDR program requires a special permit for any new development in the Farms, Forests, and Rivers Overlay Districts, which are designated as sending zones. Developers in the Planned Village District, the receiving zone, are allowed additional density under the TDR program (GVI 2013).

TDR Implementation Steps (EEA 2013b)

1. Conduct background research, including a real estate market analysis (REMA).
2. Draft the TRD bylaw or ordinance, which requires the municipality to:
 - a. Designate sending areas (for conservation);
 - b. Designate receiving areas (for development);
 - c. Create a formula for allocating development rights;
 - d. Determine the value of a credit in receiving areas;
 - e. Establish administrative and permitting procedures.

TDR Resources

- **Massachusetts TDR Enabling Statute** MA; State Laws; Mass. Gen. Laws. Ch. 40A, §9 (2005), <http://www.farmlandinfo.org/massachusetts-tdr-enabling-statute>
- **Model Bylaws for Massachusetts**, http://www.mass.gov/envir/smart_growth_toolkit/bylaws/DR-Bylaw.pdf
- Clearinghouse of TDR Resources (Overview, Tool, Municipality Examples, assessments, and market analyses), <http://www.kingcounty.gov/environment/stewardship/sustainable-building/transfer-development-rights.aspx>

VI. NON-REGULATORY LAND USE TOOLS

Non-regulatory land use tools and techniques are methods for public and private entities to manage and control land bilaterally, without resorting to unilateral restrictions on private property, such as zoning codes and subdivision policies. This section introduces two non-regulatory methods municipalities can use to acquire and preserve rural and urban agricultural lands. It also highlights some of the benefits private landowners, public agencies, and nonprofit organizations acquire when pursuing these techniques.

Conservation Restrictions

Conservation Restriction (CR) is a general term for permanent land restrictions authorized by state laws in Massachusetts (MGL Ch 184 §31-33) (Ward 2001). One specific type of CR in Massachusetts is the state-level Agricultural Preservation Restrictions (APR) program. Municipalities can protect their agricultural land base by guiding farmers to utilize the state APR program or by creating local APR or CR agreements with farmland owners.

Participating in these agreements allows towns and cities to meet both conservation and economic development priorities through the protection of agricultural lands. While landowners can continue to own and farm the land, they also have the option to permanently donate or sell the agricultural restriction to a nonprofit conservation organization or municipality for state, federal, and estate tax benefits. The section below describes the state APR program, its benefits and limitations, and the importance of local CR agreements.

Massachusetts APR

The main purpose of Agricultural Preservation Restrictions is to protect agricultural land by adding to a state's agricultural

resource base. APRs are voluntary legal agreements entered into between a landowner and a qualified conservation organization or government entity (municipal, county, or state). APRs offer landowners of prime agricultural land a non-development alternative to retain ownership, while placing limitations on the land's development through a tailored deed restriction between the owner and second party. This restriction remains in perpetuity and is binding on both present and future owners of the property (MDAR 2013a). The state APR program in Massachusetts is administered by the Department of Agricultural Resources and authorized under the General Laws of Massachusetts (Mass. Gen. Laws Ch. 184, §§31-33). In addition to APR, the Massachusetts Department of Agricultural Resources (MDAR) created the Agricultural Improvement Program (AIP) to enhance the APR program. This program offers state APR participants technical and business planning assistance as well as eligibility for AIP grant funding (MDAR 2013a).

State APR Requirements

In most communities, if a municipality and a landowner are in agreement on the conservation restrictions, state APR funding is available to offset the costs of protecting working farmland. To become eligible for these funds, municipalities must:

- Demonstrate a commitment to agriculture in their planning and development objectives (often found in Master Plans and Open Space and Recreation Plans);
- Have a minimum of 400 acres of agricultural land base in active use;
- Meet minimum soil requirements; and
- Provide a financial match, dependent on municipality's farmland protection history (MDAR 2013a).

State APR Benefits

- APR programs have been an effective method of protecting farmland and keeping it available for farmers. As of 2011, over 67,000 acres of productive farmland have been permanently protected, and well over 162 cities and towns in Massachusetts have APR-protected farms (Bowell and Coffin 2009; MDAR 2013a).
- The state APR program also offers to pay landowners the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for the permanent restriction. This equity can be reinvested back into the farmland, minimizing the pressures to sell the land for development.

State APR Limitations

- Rising land values have reduced APR programs' rate of protection. In Massachusetts the rate of protection has decreased by 18%, costing \$172.5 million to protect 11.8% of land in farms (Bowell and Coffin 2009).
- To qualify for Massachusetts' state APR program, farms must be at least five acres in size, have been actively used for agriculture for two previous tax years, and have gross sales of \$500 per year for the first five acres, plus \$5 for any additional acre.
- State APR approvals can be limited based on the suitability and productivity of the agricultural land, as well as the degree to which the land is economically viable for agricultural purposes (MDAR 2013a).

Local Conservation Restrictions

Land conservation through the state APR program can and should be augmented by CR efforts at the local level. State funds for APR agreements are limited, and there is often a waiting list. In addition, the state APR requirements often exclude farms that are important to municipalities. Through their local Conservation Restrictions, municipalities can create agreements that are more flexible than the state APR program, with requirements and restrictions that meet their communities' needs. For example, local CRs can use less restrictive language than the state APR and can include stipulations regarding value-added uses and other topics.

Funding for local land preservation agreements can be generated through the Community Preservation Act (CPA) CPA and/or municipal bonding. CPA allows communities to create a local Community Preservation Fund for open space and farmland protection, historic preservation, affordable housing, and/or outdoor recreation. Community preservation monies are raised locally through the imposition of a surcharge of not more than 3% of the tax levy against real property, and municipalities must adopt CPA by ballot referendum. For more information on the CPA, see <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter44B/Section7>.

Land Conservation Resources

- **Farms for the Future: Massachusetts' Investments in Farmland Conservation**, <http://www.farmland.org/programs/states/ma/documents/MInvestmentsfinal.pdf>
- **Massachusetts Conservation Easement Enabling Statutes**, Mass. Gen. Laws Ch. 184, §31-33 (2005) <http://www.farmlandinfo.org/massachusetts-conservation-easement-enabling-statutes>
- **APR Brochure**, Massachusetts Department of Agricultural Resources, <http://www.mass.gov/eea/docs/agr/landuse/apr/apr-brochure.pdf>
- **Land Conservation Options - A Guide for Massachusetts Landowners**, <http://www.thetrustees.org/assets/documents/what-we-care-about/LandConservationOptions.pdf>
- **American Farmland Trust FACT SHEET-Agricultural Conservation Easements**, http://www.farmlandinfo.org/sites/default/files/FIC_ACE_09-2013.pdf
- **Massachusetts Conservation Restriction Handbook**, <http://atfiles.org/files/pdf/MAconsrestrict08.pdf>
- **Massachusetts Conservation Restriction Stewardship Manual: A Handbook for Land Trusts and Conservation Commissions**, <http://www.massaudubon.org/our-conservation-work/land-conservation/about>

Supporting Land Conservation and TDR Programs: Land Trusts

A land trust is a private corporation, non-profit organization, or public entity that aims to permanently protect land and its resources for public benefit. Historically land trusts have been in existence since the 1890s, but have gained popularity over the past 25 years (LTA 2008). They vary in scope and scale, some operating on the national scale, while others focus statewide or locally.

Land trusts involve a bilateral agreement whereby one party (the trustee) agrees to hold ownership of real property for the benefit of the landowner (the beneficiary). Land can be held by a land trust in perpetuity by two methods: purchasing or accepting donations of conservation easements and land. Either method is acceptable; both purchases and donations are commonly used practices for protecting and conserving land (LTA 2011). Some trusts are also involved with monitoring easement restrictions and providing technical assistance to government entities or private buyers looking to buy and protect land.

Land Trusts and Food System Planning

As the demand for more local and healthy food increases, having farmland to support this demand is vital. Land trusts can be a powerful non-regulatory tool to secure and preserve rural and urban agricultural land.

What Can Municipalities Do to Preserve Agricultural Land?

Private, non-profit land trusts usually form when a community group or engaged group of citizens is interested in restricting particular land uses for preservation. This was the case in the 1980s when residents, city agencies, and nonprofits in Providence, Rhode Island organized around the economic and environmental decay occurring in their neighborhood. This sparked the idea of

preserving and transforming 55 acres of vacant land into safe, open space to grow food. Today the Southside Community Land Trust serves over 8,500 residents through youth education programs, workshops and land for farming (SCLT 2012).

Municipalities can perform functions similar to a private land trust, as permitted by state laws involving conservation restrictions. Municipal land trusts are typically based on the municipal priorities and goals set forth within a town or city's comprehensive or general plan. Often, a municipal land trust will partner with other private or non-profit organizations to ensure collective success in preserving rural and urban agricultural lands. These partnerships allow a municipality to increase the amount of funding and technical support available for land preservation.

ON THE GROUND: Preserving Farmland with Land Trusts

The **Forever Farmland Initiative** works with land trusts and other partners to preserve agricultural land in Massachusetts' Connecticut River Valley.

<http://www.foreverfarmland.org/>

The **Peconic Land Trust of Long Island, NY**, was established to in 1983 to "ensure the protection of Long Island's working farms, natural lands, and heritage." The Trust runs an Agricultural Center at Charnews Farms and leases the farmland to local farmers. <https://www.peconiclandtrust.org/index.html>

Benefits of Using Land Trusts

- Land is protected in perpetuity, securing land tenure for urban gardeners and farmers.
- Interests in a land trust cannot be partitioned.
- Land trusts confer tax advantages to owner and his or her heirs such as income tax deduction, estate tax benefits, reduction in property taxes, and charitable gift deduction.

Limitations of Using Land Trusts

The ability to purchase land and monitor and enforce preservation strategies is often dependent on grants, foundations, private contributions and membership fees.

Land Trust Resources

- **Land Trusts** from the Land Trust Alliance, <http://www.landtrustalliance.org/land-trusts>
- **American Farmland Trust, Farmland Protection**, <http://www.farmland.org>
- **Marin (County) Agricultural Land Trust, CA**, <http://www.malt.org/>
- **Brentwood Agricultural Land Trust, CA**, <http://www.brentwoodaglandtrust.org/>
- **South of the Sound Community Farm Land Trust**, Puget Sound, WA, <http://www.communityfarmlandtrust.org/about-us.html>

VII. HEALTH CODES AND LICENSING

To fully encourage local food system development, municipalities must support all sectors of the food system. Most of the tools described above focus on promoting food production in rural, suburban, and urban communities. The next section will explore the ways in which municipal health codes and licensing requirements can support businesses and activities related to food retail. (Food processing businesses are regulated at the state level in Massachusetts; see below for additional tools municipalities can use to support them.) Making health code information clear and easily accessible and streamlining business license processes will encourage growth and development of food-related businesses in your community.

There are many types of food retail businesses, from food trucks and push carts to full-service restaurants and grocery stores. It is important to ensure that the products these businesses sell meet the applicable state health standard regulations. In each municipality, the Local Board of Health (LBOH) is responsible for keeping local codes in line with state and federal requirements and issuing licenses to and performing inspections of food establishments, home-based food producers, and certain farmers' market vendors (NEEFSC 2013). Food retail licenses come in many categories, including Food Service Establishment, Retail Food Establishment, Farmers' Market, Mobile Food, Temporary Food Service, Catering, Food Store Residential Kitchen, and Bed and Breakfast (NHD 2013; GHD 2013; ABH 2013).

Health Codes and Licensing for Local Food Sales

Municipalities can facilitate food business development by providing a streamlined license application process with clear instructions on how to apply and how different businesses are categorized and ensuring application fees are not prohibitively

expensive. Municipal officials can help local producers by connecting them to resources on regulations for food production and sale or by providing trainings or information sessions on how to get started with a home-based food business.

Planners and LBOH staff can also work with a town's farmers (as individuals or through the Agricultural Commission) to ensure that farmers have the training and capacity required to meet relevant requirements. This is a key element of comprehensive food systems planning, as farmers have often considered health code compliance to be a major limitation to their business development (Mark Racicot (MAPC), personal communication 2013). Residential Kitchens and Farmers' Markets are two key types of food retail establishments for selling local food within communities. The following section provides details about regulating residential kitchens and farmers' markets at the local level.

Residential Kitchens

Some Massachusetts towns and cities allow residents to produce low-risk foods, such as cakes, cookies, breads, and jams, in residential kitchens for sale direct to consumers. These businesses must be licensed and inspected by the LBOH. (Residential kitchen businesses that sell products wholesale to restaurants, retail stores, and other businesses must be licensed by the Massachusetts Food Protection Program.) State-level regulations dictate what products may be prepared in residential kitchens and what conditions are required. For example, only household members may be involved in the operation, and foods may not be sold out of state. Additionally, producers must use a standardized recipe, and may be required to submit products for laboratory analysis (MDPH FPP 2005).

Resources for Residential Kitchens

- Examples of municipal regulations and license requirements for residential kitchens:
 - **Arlington, MA: Food Sale and Service**
http://www.arlingtonma.gov/public_documents/ArlingtonMA_Health/food/index
 - **Northampton, MA: Board of Health Permits, Applications, and Fees**
<http://www.northamptonma.gov/704/Food-Permits-Fees>
- **Massachusetts Department of Public Health: Residential Kitchens Questions and Answers**,
<http://www.mass.gov/eohhs/docs/dph/environmental/food/safety/residential-kitchens-faq-sheet.pdf>

Farmers' Markets

Farmers' market vendors selling food products and processed foods other than "farm products" must be licensed as food retail operations and inspected by their local board of health. Specific farmers' markets may have additional regulations as well. According to the Massachusetts Department of Public Health Food Protection Program (FPP), farm products currently include:

- Fresh produce (fresh uncut fruits and vegetables);
- Unprocessed honey (raw honey as defined by the National Honey Board);
- Maple syrup; and
- Farm fresh eggs (must be stored and maintained at 45°F (7.2°C) (MDPH FPP 2011).

Vendors selling only approved farm products as listed above are exempt from permits through the local board of health. Vendors wishing to sell processed foods, such as jams and jellies, or baked goods, such as breads, pies, and cookies, require a retail establishment license and inspection issued by the local board of health.

Massachusetts Food Protection Program (FPP) guidelines state that “processed food sold at a farmers’ market must be manufactured in a licensed food processing facility, a licensed food establishment, or a licensed residential kitchen” (FPP 2011, RF-08). The FPP’s bulletin on farmers’ markets outlines sanitary regulations at the market, “approved sources” of processed foods (e.g., shellfish, finfish, meat and poultry, raw milk products, and wine), and includes information on regulations regarding temperature control, display conditions, food samples, and product labeling. For more details, see the **Massachusetts FPP bulletin on farmers’ markets**, available at <http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/farmer-market-guidelines.pdf>

Inconsistent regulations from one town to the next are a barrier for farmers’ market vendors that sell their products at multiple markets. Though Local Boards of Health can add additional regulations to farmers’ markets, it is effective and helpful to farmers and food producers when municipalities follow the guidelines outlined in the FPP bulletin linked above, even when they differ from the state food code (MFBF, personal communication 2013). (The food code was written with brick and mortar stores in mind, so some of its provisions are not applicable or appropriate for farmers’ markets.)

Farmers’ Market Regulations of Note

- Vendors selling shellfish must obtain approval for sale from both the Division of Marine Fisheries (DMF) and the Food Protection Program.
- Vendors selling finfish and crustaceans must hold a permit with the DMF and be licensed by the local board of health.
- Non-poultry meat for sale at farmers’ markets must have been slaughtered in a federally inspected facility.

- Raw milk cannot be sold at farmers’ markets; however, aged raw milk cheeses made in a licensed food manufacturing facility may be sold.
- Wine may be sold by licensed farm-wineries that have received an event certification from the Department of Agricultural Resources and that hold a liquor license for the specific farmers’ market.
- Food that requires temperature control for safety must be held at proper temperatures in accordance with state and federal laws during transportation and display.
- Fresh, uncut fruits may be displayed in open air, but must be stored off the ground.
- Cooking demonstrations may be conducted for promotional and/or educational value with prior approval from the local board of health; safe food handling practices are required.
- All packaged foods must be labeled with the common or usual name of the product, a complete list of ingredients and sub-ingredients, name and address of manufacturer, and other critical information.
- See the Massachusetts Department of Public Health **Food Protection Program Report No. RF-08** for additional details.

VIII. WASTE MANAGEMENT POLICIES AND PROGRAMS

In Massachusetts, municipalities are authorized to regulate the management and disposal or recycling of waste generated by any person or entity (MGL Ch 111, Section 31A-B; Brooke Nash, (MassDEP), personal communication 2013). In general municipalities do not manage waste produced by businesses and private institutions, but some do use their authority to mandate recycling.

Municipalities spend a considerable share of their budgets on waste management and disposal. Approximately 15% of municipal waste in Massachusetts is made up of food scraps (Brooke Nash, (MassDEP), personal communication 2013). Municipalities can reduce waste management costs, improve environmental conditions, and support local economic development by implementing one or more of the following programs and policies.

Food Recovery

Food Recovery programs divert edible food material from the waste stream and provide it to food banks and other food assistance entities. Some examples include

- The **Food Recovery Project**, (http://minutemanparents.org/Food_Recovery_Project.html) run by the Minuteman Parent Association and Sustainable Arlington, which serves the communities of Arlington, Belmont, Boston (Charlestown), Lexington, Medford, Lawrence, Waltham and others;
- The **Beverly Massachusetts Food Recovery and Distribution** program, coordinated by the Food Not Bombs chapter of Beverly (<http://beverlyfnb.blogspot.com/>); and

- The **Beth Israel Deaconess Medical Center**, which received an EPA Food Recovery Challenge Achievement Award for its food recovery efforts in 2013 (<http://yosemite.epa.gov/opa/admpress.nsf/0/02E7A4D722EF504485257B5900562007>).

Institutional Composting

Municipalities can support institutional composting by encouraging businesses and other institutions (universities, K-12 schools, etc.) to compost as much of their food waste and other organic matter as possible. Examples and resources for these programs can be found on the MassDEP website at <http://www.mass.gov/eea/agencies/massdep/recycle/reduce/commercial-institutional-and-agricultural-composting.html>.

Residential Composting

Municipalities can reduce the amount of organic matter entering their waste streams by offering residents the ability to compost their food waste as one component of municipal waste services. See the **Project Guide on Compost Programs** in **Chapter 7** for details.

Anaerobic Digesters

Finally, municipalities can address waste issues by supporting the development of anaerobic digesters, facilities for processing organic waste matter and developing renewable energy. For more information, visit the MassDEP website on **Anaerobic Digestion and Organics Diversion**: <http://www.mass.gov/eea/agencies/massdep/service/energy/anaerobic-digestion/>.

IX. PROCUREMENT POLICIES

Much of the work to date in local and regional food systems has focused on building up direct-to-consumer markets such as farmers' markets and Community-Supported Agriculture programs (Pothukuchi 2009; Bloom and Hinrichs 2010). In recent years, researchers and activists have recognized the simultaneous need to "scale out" the direct-to-consumer work to more locations and "scale up" to reach more producers and consumers (Day-Farnsworth et al. 2009; Clark, Inwood, and Sharp 2011; Booth 2012; Johnston and Baker 2005; Martinez et al. 2010). Providing locally grown foods to consumers through institutional markets is a key next step for meeting the growing consumer demand for local and sustainably grown foods (Day-Farnsworth et al. 2009; Clancy and Ruhf 2010; Martinez 2010; Slama, Nyquist, Bucknum 2010).

ON THE GROUND: Local Food Procurement

In 2010, the **Cleveland City Council** approved a local purchasing ordinance (Ordinance No. 1660-A-09) that "provides 2% bid discounts on all applicable City contracts to businesses that are sustainable, locally-based, and/or purchase 20% of their food locally" (CCC FPC 2013). Businesses can combine these discounts for a maximum of 4%. This structure bolsters the local economy and the local food system by providing local businesses specific incentives to work with local farmers.

Farm to School

One of the main initiatives in this field is the "farm to school" movement, by which advocates work to bring local foods into school cafeterias and to connect those foods to the school curricula (HFLPC 2012). The USDA's National School Lunch

Program provides meal funding to K-12 schools across the country and recently introduced the option for schools to institute a geographic preference in their purchasing (HFLPC 2012; 76 Fed Reg. 22,603 April 22, 2011). Municipal officials can work with school food service directors to ensure that they understand these options and are aware of the local farms and food producers in their communities.

Beyond Schools

The "farm to school" movement has recently expanded to "farm to institution" or "farm to cafeteria" and includes a wide range of institutions, both public and private. Municipalities can support local food systems and develop markets for local growers and food producers by amending their food procurement policies. These policies have been implemented across the country at the local, county, and state levels. Municipal officials can also offer educational materials and programming to hospitals, businesses, and other institutions in order to explain the benefits of buying local food, share best practices, and explore options for sourcing products collectively to increase buyers' purchasing power.

Strategies for increasing local food procurement through municipal policies include:

- Setting percentage targets for the proportion of local food purchases sourced locally; these targets can be voluntary or mandatory.
- Setting a "percent price preference" mandate that requires the buyer to purchase locally produced foods when the cost is within a certain percentage of the price of a non-local alternative. (This is required of all state agencies in Massachusetts when local products are within 10% of the cost of out-of-state products, according to Massachusetts General Laws Ch. 7, §23B(a and c).)
- Setting a geographic preference that gives departments and buyers the option to purchase local foods even when they

are more expensive than non-local options and/or to purchase local foods directly from producers instead of going through standard procurement channels.

- Incorporating the above strategies and overall support for local food purchasing goals into Comprehensive and Master Plans (PSRC 2012).

X. BUSINESS DEVELOPMENT POLICIES

Much of the work discussed in this toolkit involves partnering with independent businesses and organizations. While municipalities do not directly create and manage those entities, municipalities have a variety of tools at their disposal to promote and support business development in food system sectors.

Municipalities can **attract new food system-related businesses** to their communities by improving infrastructure and offering tax abatements (HFLPC 2012). As new businesses are getting started, municipalities can offer them **development assistance** by connecting them with resources for product development, financial planning, and other start-up phase challenges (HFLPC 2012).

Municipalities can **invest in new and growing businesses** directly or by stimulating private investment. Best practices for direct investment include working through an existing funding vehicle such as a CDC, establishing a specific fund for local food business investment, and ensuring that the investment vehicle also pursues other funds (state, federal, private) and takes steps to manage risks and benefits in the most appropriate way for the municipality (Pansing et al. 2013). Municipalities can also set up public loan funds for new food-related businesses and offer New Market Tax Credits and/or Tax Increment Financing for the creation and/or expansion of new food businesses (Pansing et al. 2013).

Private investment is also a key source of funding for new food ventures. Municipalities can foster private investment in food system sectors by:

- Educating loan providers and local bank staff about the importance of local food systems and investment opportunities therein;
- Matching private investments with public funds;
- Offering incentives for private food systems lending using New Market Tax Credits and/or loan guarantees; and
- Connecting investors with entrepreneurs in local food system sectors (Pansing et al. 2013).

Finally, municipalities can offer **employment and job training** programs to residents to ensure they are prepared for the types of jobs that new businesses will bring. They can provide entrepreneurs with **business and management training** opportunities, which could also include overviews of municipal licensing and permitting processes. Requiring entrepreneurs who seek public funding for their ventures to complete such training is also recommended (Pansing et al. 2013).

Business Development Resources

- *Economic Development and Redevelopment: A Toolkit for Building Health, Vibrant Communities*, California Department of Health Services: <http://changelabsolutions.org/sites/phlpnet.org/files/EcDevToolkit.pdf>.
- *Good Laws, Good Food: Putting Local Food Policy to Work for Our Communities*, Harvard Food Law and Policy Clinic: http://www.cityofboston.gov/images_documents/Boston%20Food%20Truck%20Flowchart%20-%206%2028%2013_tcm3-39832.pdf.

CHAPTER 6 REFERENCES

- ABH (Arlington Board of Health). 2013. "Food Sale and Service." Accessed December 21.
http://www.arlingtonma.gov/public_documents/ArlingtonMA_Health/food/index.
- ACGA (American Community Gardening Association). 2012. "What is a community garden?" Accessed May 2, 2012.
<http://communitygarden.org/learn/what-is-a-community-garden/index.php>.
- AMS (Agricultural Marketing Service). 2013a. "Farmers' Market Directory." Washington D.C.: AMS, USDA. Accessed December 20.
<http://search.ams.usda.gov/farmersmarkets/>.
- . 2013b. "Farmers' Market Growth." AMS, USDA. Accessed December 20.
<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=fmrdirmtk>.
- APA (American Planning Association). 2007. *Policy Guide on Community and Regional Food Planning*. American Planning Association. Accessed April 10, 2012.
<http://www.planning.org/policy/guides/adopted/food.htm>.
- . 2011. *Food Trucks Research*. Chapel Hill, NC: Chapel Hill Town Council, Public Hearing May 16, 2011. Accessed December 20, 2013.
<http://chapelhillpublic.novusagenda.com/Bluesheet.aspx?itemid=1311&meetingid=113>.
- Barban, Sarah. 2013. "Kent County eyes food processing industry." *Dover Post*, April 10. Accessed December 1, 2013.
<http://www.doverpost.com/article/20130410/NEWS/130419973/-1/Entertainment%20%20Life?template=printart>.
- Bell, Judith and Marion Standish M. 2009. "Building healthy communities through equitable food access." *Community Development Investment Review* 5(3): 75-83. Accessed April 10, 2012.
http://www.frbsf.org/publications/community/review/vol5_issue3/bell_standish.pdf.
- Bloom, J. Dara and C. Clare Hinrichs. 2010. "Moving local food through conventional food system infrastructure: Value chain framework comparisons and insights." *Renewable Agriculture and Food Systems* 26 (1): 13-23.
- Booth, Ashley Rachel Masland. 2012. *How Good Is the Good Food Market: An Exploration of Community Food Security*. Master's Thesis. Toronto, Canada: Ontario Institute for the Studies of Education University of Toronto.
- Bowell, Ben and Cris Coffin. 2009. *Farms for the Future: Massachusetts' Investments in Farmland Conservation*. Northampton, MA: American Farmland Trust.
- BPRD (Boston Parks and Recreation Department). 2008. *Open Space Plan 2008-20014*. Boston, MA: BPRD. Accessed April 5, 2012.
http://www.cityofboston.gov/parks/pdfs/OSP2010/OSP0814_7.3.2_CommunityGardens.pdf.
- BRA (Boston Redevelopment Authority). 2013a. "Article 89: Urban Agriculture." Accessed December 20.
<http://www.bostonredevelopmentauthority.org/getattachment/8405c72c-7520-43ad-a969-0e27ddd7a2>

- . 2013b. "Mayor Menino Announces Adoption of Urban Agriculture Zoning." *BRA News and Updates*, Dec 19. Accessed December 21.
<http://www.bostonredevelopmentauthority.org/news-calendar/news-updates/2013/12/19/mayor-menino-announces-adoption-of-urban-agricultu>.
- . 2013c. "Planning Initiatives: Urban Agriculture Rezoning." Accessed December 20.
<http://www.bostonredevelopmentauthority.org/planning/planning-initiatives/urban-agriculture-rezoning>.
- . 2013d. "Quick Facts about Article 89 Urban Agriculture Rezoning Initiative." Accessed December 24, 2013.
<http://www.bostonredevelopmentauthority.org/getattachment/8a1e3014-d6c7-42ac-969f-c9bb12ccf955>.
- Cantrell, Patty, Kathryn Colasanti, Laura Goddeeris, Sarah Lucas, Matt McCauley. 2013. *Food Innovation Districts: An Economic Gardening Tool*. Northwest Michigan Council of Governments. Accessed December 21, 2013.
<http://www.nwm.org/userfiles/filemanager/1660/>
- CCC FPC (Cleveland-Cuyahoga County Food Policy Council). 2013. "Local Purchasing." Accessed December 21.
<http://cccfoodpolicy.org/working-group/local-purchasing>.
- CCPC (Cleveland City Planning Commission). 2013. "Zoning Code Updates." Accessed December 20, 2013.
<http://planning.city.cleveland.oh.us/zoning/cpc.php>.
- CCT (Chicago Community Trust). 2009. *Food System Strategy Summary*. Chicago, IL: Chicago Food Policy Advisory Council and City of Chicago Zoning and Planning. Accessed April 28, 2012.
<http://www.cmap.illinois.gov/strategy-papers/food-policy>.

- CDC (Centers for Disease Control and Prevention). 2012. "Adult Obesity Facts." Washington, DC: CDC. Accessed April 10, 2012.
<http://www.cdc.gov/obesity/data/adult.html>.
- CFSC (Community Food System Coalition). 2007. "The North American Urban and Peri-Urban Agriculture Alliance." Accessed December 20, 2013.
<http://www.cityfarmer.org/NAUPAAdescriptionNov2007.doc>.
- CHED (Chicago Housing and Economic Development). 2013. "Urban Agriculture FAQ." Accessed December 10, 2013.
http://www.cityofchicago.org/city/en/depts/dcd/supp_info/urban_agriculturefaq.html.
- Clancy, Kate and Kathy b. 2010. "Is local enough? Some arguments for regional food systems." *Choices*, 25 (1).
<http://www.choicesmagazine.org/>
- Clark, Jill K., Shoshana Inwood, and Jeff S. Sharp. 2011. *Scaling up Connections between Regional Ohio Specialty Crop Producers and Local Markets: Distribution as the Missing Link*. Columbus, OH: The Ohio State University.
- Clover. 2011. *Food Truck 101*. Accessed December 21, 2013.
<http://www.cloverfoodlab.com/wp-content/uploads/2011/06/Food-Truck-101.pdf>.
- Day-Farnsworth, Lindsey, Brent McCown, Michelle Miller, Anne Pfeiffer. 2009. *Scaling Up: Meeting the Demand for Local Food*. Madison, WI: UW-Extension Ag Innovation Center and UW-Madison Center for Integrated Agricultural Systems.

EEA (Energy and Environmental Affairs). 2007. "Agricultural Preservation Case Study: Town of Amherst, MA." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed April 25, 2012. http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ag-amherst.html.

———. 2013b. "Transfer of Development Rights Model Bylaw." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed December 21. http://www.mass.gov/envir/smart_growth_toolkit/bylaws/TDR-Bylaw.pdf.

———. 2013c. "Transfer of Development Rights (TDR) Module." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed December 21. http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-tdr.html.

EPA (Environmental Protection Agency). 2012. *Urban Agriculture Code Audit: Milwaukee, Wisconsin*. Washington, D.C.: EPA. Accessed December 21, 2013. http://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/Urban-Agriculture/pdfs/MilwaukeeCodeAudit_acknowledge.pdf.

Erikson, Leah, Kyle Griggs, Matt Maria, and Hester Serebrin. 2009. *Urban Agriculture in Seattle: Policy and Barriers*. Accessed December 20, 2013. <http://www.seattle.gov/neighborhoods/ppatch/pubs/Urban%20Agriculture%20in%20Seattle%20Policy%20and%20Barriers.pdf>.

FCC (Fresno City Council). 2013. *City Council Meeting Minutes*, June 27. Accessed November 29, 2013. <http://www.fresno.gov/NR/rdonlyres/D1756DB7-8176-4E81-B218-C94E5D15F0A5/0/June272013minutes.pdf>.

Feldstein, Lisa M., Rick Jacobus, and Hannah Burton Laurison. 2007. *Economic Development and Redevelopment: A Toolkit for Building Health, Vibrant Communities*. California: California Department of Health Services. Accessed December 13, 2013. <http://changelabsolutions.org/sites/phlpnet.org/files/EcDevToolkit.pdf>.

FIC (Farmland Information Center). 1998. *Fact Sheet: Right-to-Farm Laws*. Northampton, MA: American Farmland Trust. Accessed December 21, 2013. <http://www.farmland.org/programs/states/wa/documents/APPEN-DIXI-Righttofarmlaws.pdf>.

GHD (Gloucester Health Department). 2013. "Food Service and Alcohol Licesning." Accessed December 21. <http://gloucester-ma.gov/index.aspx?NID=191>.

GVI (Green Valley Institute). 2013. *Fact Sheet 7: Transfer of Development Rights*. Accessed December 21. http://www.greenvalleyinstitute.org/brochures/fact_sheet_7_transfer_of_development_rights.pdf.

HFLPC (Harvard Food Law and Policy Clinic). 2012. *Good Laws, Good Food: Putting Local Food Policy to Work for Our Communities*. Accessed December 21, 2013. <http://blogs.law.harvard.edu/foodpolicyinitiative/files/2011/09/FINAL-LOCAL-TOOLKIT2.pdf>.

———. 2013. *Boston Food Trucks: Wicked Good Food: A Guide to Food Truck Regulations in Boston*. Accessed December 21. http://www.cityofboston.gov/images_documents/Boston%20Food%20Truck%20Flowchart%20-%206%2028%2013_tcm3-39832.pdf.

Johnston, Josée and Lauren Baker. 2005. "Eating outside the box: FoodShare's good food box and the challenge of scale." *Agriculture and Human Values* 22(3): 313-325. DOI: 10.1007/s10460-006048-y

Kareem, Maryam, and David Thornton. 2009. *Transform Baltimore, Review, Rewrite, Replace*. Washington, DC: Harrison Institute for Public Law and Georgetown University Law Center.

Klingler, Kristen. 2009. *Homegrown Minneapolis*. Minneapolis, MN: Minneapolis Department of Health and Family Support. Accessed April 29, 2012. http://www.ci.minneapolis.mn.us/www/groups/public/@health/documents/webcontent/convert_273062.pdf.

LPND (Lansing Planning and Neighborhood Development). 2012. *Design Lansing: Comprehensive Plan*. Lansing, MI: LPND. Accessed December 20, 2013. https://www.lansingmi.gov/media/view/Design_Lansing_Comprehensive_Plan_ADOPTED_April_9_2012_LowRez/3523.

LTA (Land Trust Alliance). 2008. "Land Trust Fact Sheet." Accessed April 24, 2012. <http://www.landtrustalliance.org/conservation/documents/what-is-land-trust.pdf>.

———. 2011. *National Land Trust Census 2010 Report: A Look at Voluntary Land Conservation in America*. Accessed April 24, 2012. <http://www.landtrustalliance.org/land-trusts/land-trust-census/national-land-trust-census-2010/2010-final-report>.

MAAC (Massachusetts Association of Agricultural Commissions). 2013b. "About AgComs: MA AgComs." Accessed December 21. <http://www.massagcom.org/AgComs.php>.

———. 2013c. "Laws & Regulations: Local." Accessed December 21. <http://www.massagcom.org/LocalLaws.php>.

Mair, Julia, Matthew W. Pierce, and Stephen P. Teret. 2005. *The use of zoning to restrict fast food outlets: a potential strategy to combat obesity*. Washington, DC: Center for Law and the Public's Health at Johns Hopkins and Georgetown Universities. Accessed: April 25, 2012. <http://www.publichealthlaw.net/Zoning%20Fast%20Food%20Outlets.pdf>.

Martinez, S., M. Hand, M. Da Pra, S. Pollack, K. Ralston, T. Smith, S. Vogel, S. Clark, L. Lohr, S. Low, and C. Newman. 2010. *Local Food Systems: Concepts, Impacts, and Issues (ERR 97)*. Washington, DC: Economic Research Service, USDA. Accessed April 6, 2012. www.ers.usda.gov/Publications/ERR97/ERR97.pdf.

MDAR (Massachusetts Department of Agricultural Resources). 2005a. *A Handbook for Agricultural Commissions*. Boston, MA: MDAR. Accessed January 30, 2012. <http://www.mass.gov/eea/docs/agr/agcom/docs/handbook/pdf/handbook-for-agricultural-commissions-full-doc.pdf>.

———. 2005b. *Model Right-to-Farm Bylaw*. Boston, MA: MDAR. Accessed December 21, 2013. <http://www.mass.gov/eea/docs/agr/righttofarm/farmbylaw.pdf>.

———. 2013a. "Agricultural Preservation Restrictions." Boston, MA: MDAR. Accessed December 20. <http://www.mass.gov/eea/agencies/agr/land-use/agricultural-preservation-restriction-program-apr.html>

MDPH FPP (MA Dept. of Public Health Food Protection Program). 2005. Residential Kitchens Questions and Answers (Q&A). Jamaica Plain, MA: MDPH. Accessed April 15, 2012.

<http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/residential-kitchens-faq-sheet.pdf>.

———. 2011. Report No. RF-08: Policies, Procedures and Guidelines, Farmers' Markets. Jamaica Plain, MA: MDPH. Accessed April 15, 2012.

<http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/farmer-market-guidelines.pdf>.

NEEFSC (New England Extension Food Safety Consortium). 2013. "State Information: Massachusetts." Accessed December 21.

http://extension.unh.edu/nefe/state_specific/state_ma.html.

Nelson, Arthur C., Rick Pruetz, and Doug Woodruff. 2010. *The TDR Handbook: Designing and Implementing Transfer of Development Rights Programs*. Washington, DC: Island Press.

NHD (Northampton Health Department). 2013. "Food Permits & Fees." Accessed December 21.

<http://www.northamptonma.gov/704/Food-Permits-Fees>.

NPLAN (National Policy and Legal Analysis Network to Prevent Childhood Obesity). 2009. *Establishing Land Use Protections for Farmers' Markets*. California: *Public Health Law & Policy*. Accessed December 21, 2013.

http://changelabsolutions.org/sites/default/files/documents/Establishing_Land_Use_Protections_for_Farmers_Markets_FINAL_WEB_20091203.pdf

NYC DCP (NYC Department of City Planning). 2008. *Going to Market: New York City's Neighborhood Grocery Store and Supermarket Shortage*. Accessed April 13, 2012.

<http://www.nyc.gov/html/dcp/html/supermarket/index.shtml>.

Ogden, Cynthia, Margaret Carroll, Brian Kit, and Katherine Flegal. 2012. *Prevalence of Obesity in the United States, 2009–2010 (National Conference on Health Statistics Data Brief No. 82)*. Washington, DC: CDC. Accessed April 25, 2012.

<http://www.cdc.gov/nchs/data/databriefs/db82.pdf>.

OPBD (Oakland Planning and Building Department). 2013. "Planning and Zoning: Mobile Food Vending Regulations." Accessed December 21.

<http://www2.oaklandnet.com/Government/o/PBN/OurOrganization/PlanningZoning/OAK032864>.

Pansing, Cynthia, Arlin Wasserman, John Fisk, Michelle Muldoon, Stacia Kiraly, and Tavia Benjamin. 2013. *North American Food Sector, Part Two: Roadmap for City Food Sector Innovation and Investment*. Arlington, VA: Wallace Center at Winrock International. Accessed December 21, 2013.

<http://www.ngfn.org/resources/ngfn-database/knowledge/Roadmap%20for%20City%20Food%20Sector%20Innovation%20and%20Investment.pdf>.

Pothukuchi, Kameshwari. 2009. "Community and Regional Food Planning: Building Institutional Support in the United States." *International Planning Studies* 14 (4): 349-367.

PSRC (Puget Sound Regional Council). 2012. *Local Food Procurement Policies*. Accessed December 21, 2013.

<http://www.psrc.org/assets/9560/procurement.pdf>.

Ragland, E. and D. Tropp, D. 2009. *USDA National Farmers' Market Manager Survey 2006*. Washington, DC: Agricultural Marketing Service, USDA. Accessed April 7, 2012.
<http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5077203&acct=wdmgeninfo>.

RPS (Regional Planning Studio). 2011. *Food System Toolkit for Hampden and Hampshire Counties*. Massachusetts: Pioneer Valley Planning Commission. Accessed December 21, 2013.
http://www.sustainableknowledgecorridor.org/site/sites/default/files/uploads/Food/FoodSecurity_App1_2011.pdf.

SA (Strategic Alliance). 2008. "Farmers' Market Amendment, City of Fresno." *Strategic Alliance Local Policy*. Accessed December 1, 2013.
http://eatbettermovemore.org/sa/policies/policy_detail.php?pid=257&Search_PolicyPage=6&policyID=276.

SCLT (Southside Community Land Trust). 2012. "History, Mission, and Values." Accessed April 12, 2012. <http://southsideclt.org>.

SFOM (San Francisco Office of the Mayor). 2009. *Executive Directive 09-03: Healthy and Sustainable Food for San Francisco*. Accessed December 21, 2013.
<http://www.sfgov3.org/Modules/ShowDocument.aspx?documentid=74>.

SGV (Smart Growth Vermont). 2012. "Overlay Districts." Accessed April 15, 2012.
<http://www.smartgrowthvermont.org/toolbox/tools/overlaydistricts/>.

Slama, J., K. Nyquist, and M. Bucknum. 2010. *Local Food System Assessment for Northern Virginia*. Wallace Center at Winrock International, FamilyFarmed.org, and Triskeles Foundation.

Ward, Wesley T., ed. 2001. *Land Conservation Options: A Guide for Massachusetts Landowners*, Fifth Rev. Ed. Massachusetts: Essex County Greenbelt Association and The Trustees of Reservations. Accessed December 10, 2013.
<http://www.thetrustees.org/assets/documents/what-we-care-about/LandConservationOptions.pdf>.

Seven: Food System Project Guides



[This page intentionally left blank.]

SEVEN: Food Systems Project Guides

The previous chapters of the toolkit covered food system sectors, municipal priorities, food systems assessments and groups, collaboration, and municipal tools for food systems planning. The final chapter links those topics together in guides to food systems planning projects that municipal officials can implement in collaboration with community residents, local food systems groups, and other food system stakeholders.

The projects and initiatives included here are not intended to be a comprehensive set of food systems planning activities but rather to provide a wide breadth of examples that address all of the food system sectors and municipal priorities discussed above. The guides include descriptions of what the project entails and how it works, benefits and challenges, steps to get started, examples of the project in action, and links to additional resources.

Project	Food System Sector	Municipal Priorities	Page
Community Kitchens	Processing	Economic Development, Education	108
Healthy Corner Stores	Consumption	Health, Equity, Education	110
Peri-Urban/Urban Agriculture Programs	Production	Health, Conservation, Equity	114
Soil Contamination and Safety for Community Gardening and Urban Farming	Production	Health, Conservation, Education	117
Food Hubs	Processing and/or Distribution	Economic Development	120
Farmers' Markets	Consumption	Economic Development, Equity, Education	122
Compost Programs	Waste Management	Economic Development, Conservation	126

PROJECT GUIDE: COMMUNITY KITCHENS

FOOD SYSTEM SECTOR: *Processing*

MUNICIPAL PRIORITIES: *Economic Development, Education*

What Is a Community Kitchen?

Shared-use community kitchens are licensed facilities structured to enable small and start-up food businesses to prepare lightly processed and value-added products for legal sale at minimal cost. Also called kitchen incubators and commercial kitchens, these spaces offer a regulated kitchen environment where users may rent space and time to prepare their product. Community kitchens may be for-profit or nonprofit enterprises, and may be a distinct operation or one part of the mission of a larger organization. Unfortunately, many operators face tough challenges, including high utility bills and operation costs, complex administrative coordination of scheduling and facility rental, frequent time-consuming inspections, and difficulties in gauging long-term demand (Miller 2007). Research done at the University of Wisconsin-Madison shows that successful community kitchens have clear goals, committed leadership, and solid plans and funding to guarantee long-term profitability (CIAS 2001).

How Can a Community Kitchen Benefit Your Municipality?

Because community kitchen “space and equipment are used by different users at different times throughout the day or week,” costs to users are minimal in comparison to costs to establish an individual facility. Sharing kitchen space reduces initial investment costs to new businesses and minimizes risk in the start-up phase (Hollyer et al. 2000, 3). Shared-use kitchens promote community economic development by providing support for new and existing small businesses through training, technical assistance, business development, facilities, and even financing. Although each user

must be licensed appropriately, one benefit to users is that they are not required to maintain federal and state permits, licenses, and certifications for the site itself.

How to Get Started

A shared-use community kitchen could be appropriate for a community that currently lacks space for small businesses to produce value-added products, but that is experiencing a high level of demand for licensed facilities. A high level of community desire and “buy-in” for a shared-use kitchen is critical to long-term success and is perhaps the greatest indicator of whether such a facility is right for a particular community. Therefore it is important to gauge interest ahead of time to determine whether demand is high enough to justify cost and kitchen operation. If there is need and interest in the project, municipalities can support the development process by bringing together and facilitating meetings with stakeholders, connecting the community kitchen’s start-up team to potential sites or facilities in town, and pursuing some of the business development strategies detailed in **Chapter 6**.

Shared Use Kitchens in Massachusetts

- **CropCircle Kitchen, Jamaica Plain**
<http://www.cropcirclekitchen.org/>
- **Dartmouth Grange Kitchen, Dartmouth**
http://www.dartmouthgrange.org/about_kitchen.html
- **Pearl Food Production Center, Dorchester**
<http://cckpearl.squarespace.com/>

ON THE GROUND: Western Massachusetts Food Processing Center

Greenfield MA, <http://www.fccdc.org/fpcabout.html>

Mission: "To promote economic development through entrepreneurship, provide opportunities for sustaining local agriculture, and promote best practices for food producers"

Services:

- Financing for start-up and existing small businesses
- Support and training for preserving harvests, manufacture of value-added products; copack services
- Technical assistance, business planning and counseling, product development, distribution resources
- Facilities support
- Professional development
- Launched "extended season farm to institution program" in 2009 "in order to increase our region's capacity to lightly process fruits and vegetables (freezing and canning) in order to make local food accessible year-round"

Rates: \$600/yr. membership fee; \$38/hr. for production; dry and cold storage rates vary based on size

Massachusetts Directories of Community Kitchens and Co-Packers

[Shared-Use and Commercial Kitchens and Small Co-Packers in Massachusetts](http://necfe.foodscience.cals.cornell.edu/kitchens-supplies/small-co-packers-commercial-kitchens/massachusetts), Northeast Center for Food Entrepreneurship: <http://necfe.foodscience.cals.cornell.edu/kitchens-supplies/small-co-packers-commercial-kitchens/massachusetts>

[List of Co-Packer Businesses](http://www.mass.gov/eea/agencies/agr/markets/culinary-tourism/copacker-list-of-businesses-generic.html), Massachusetts Executive Office of Energy and Environmental Affairs: <http://www.mass.gov/eea/agencies/agr/markets/culinary-tourism/copacker-list-of-businesses-generic.html>

Community Kitchen References

CIAS (Center for Integrated Agricultural Systems). 2001. *Community Kitchens: Key Elements of Success (Research Brief #54)*. Madison, WI: College of Agricultural and Life Science, University of Wisconsin-Madison.

Hollyer, J., L. Castro, C. Salgado, L. Cox, A. Hodgson, W. Thom, C. Yurth, P. Kam, and M. Kwok. 2000. *Some Costs and Considerations for Establishing an Entrepreneurial Community Shared-use Kitchen or "Test-Kitchen Incubator."* Manoa, HI: Cooperative Extension Service, University of Hawaii College of Tropical Agriculture & Human Resources.

Miller, K. 2007. "Kitchen Incubators Get Food Businesses Cooking." Bloomberg Businessweek. http://www.businessweek.com/smallbiz/content/dec2007/sb20071214_603976.htm

PROJECT GUIDE: HEALTHY CORNER STORES

FOOD SYSTEM SECTOR: *Consumption*

MUNICIPAL PRIORITIES: *Health, Equity, Education*

What Is a Healthy Corner Store Initiative?

In some communities without adequate access to a full-service supermarket, municipal and community leaders have directed their energies toward improving the quality of food available at local convenience stores. Healthy corner store initiatives have been shown to increase customer purchases of fresh fruits and vegetables and to improve sales of healthy food items at small local businesses (Song et al. 2009; NYC DHMH 2010). Using a combination of technical assistance, financing, and outreach, municipal and community leaders have worked with store owners to increase access to healthy foods in underserved communities.

How Does It Work?

To improve food equity and health outcomes, a healthy corner store initiative typically addresses two food access issues: healthy food availability and consumer education. Municipal officials and community leaders identify convenience store owners who are willing to stock healthy food items, such as fresh fruits or vegetables, and provide assistance to store owners in exchange for an agreement to stock healthy food for a specific length of time. In addition, successful healthy corner store initiatives include an outreach and education component that promotes the healthy food items through marketing, coupons, and even taste tests (Song et al. 2009).

Benefits

When healthy corner store initiatives are embraced by residents and store owners and supported with municipal resources, they can become a stepping stone to a healthier food environment. Healthy corner store initiatives build on the infrastructure that already exists in a community and can support municipal economic development goals by revitalizing small local businesses. The municipal investment needed for this type of initiative is relatively modest, especially when compared to the time, money, and energy required to build a new supermarket (PolicyLink 2013). Healthy corner store initiatives also have the potential to generate opportunities for collaboration across municipal departments (e.g., public health, economic development, and planning) and with community partners.

Challenges

There are challenges to implementing a healthy corner store initiative. Store owners are often reluctant to devote scarce shelf space to perishable items, and healthy foods may have a lower profit margin than snacks like chips and candy. Furthermore, many convenience store owners do not have adequate refrigeration (PolicyLink 2013). In short, the risks to store owners of implementing a healthier food initiative are high. Municipal officials can greatly reduce these risks by providing financial assistance for refrigeration, access to training opportunities, and an ongoing partnership with business owners. (See [Chapter 6](#) of this toolkit and the additional resources for more information on financial tools that can be used to support this kind of initiative.) Municipal officials also need to be sure to secure adequate funding and staff time for the project so that it is sustainable in the long term.

How to Get Started

A healthy corner store initiative may be appropriate in a community with a substantial number of convenience stores and limited access to a full-service supermarket. To begin a healthy corner store initiative, it is first critical to get a clear idea of the food retail environment in your community. The CDC has created a Healthier Food Retail Guide that includes many data sources and ideas for how to measure the availability of healthy food in your community (CDC 2010); see also the Food System Assessments section of **Chapter 4** in this toolkit.

After determining the need for a healthy corner store initiative, you may want to assess community interest by surveying residents, community groups, and convenience store owners (individually or through a business association). In addition, it is crucial to identify the key staff members and/or community partners who will devote time and resources to developing and managing the initiative.

The resources listed below include links to helpful organizations, guides, and potential funding sources for healthy corner store initiatives. In particular, the **Healthy Corner Store Network website** includes information on initiatives across the country. Municipal officials should look to programs in similar communities for best practices and to determine the potential risks and benefits. The ChangeLab Solutions guide to **Licensing Healthy Food Retailers** (see link below) provides an alternative, policy-based approach to identifying and promoting healthy food retailers in towns and cities.

ON THE GROUND: Boston Public Health Commission (BPHC) “Healthy on the Block”

Mission: “To assist corner store owners in Mattapan and East Boston in offering healthier options, including higher quality fruits and vegetables, at a reasonable price.”

Requirements: Healthy on the Block items include fresh fruits and vegetables and shelf items that contain:

- less than 10 grams of sugar per serving
- at least 2 grams of fiber per serving
- no more than 200 calories per serving

Store owners must participate for at least six months and are responsible for regularly stocking healthy items, implementing marketing materials, and participating in technical assistance training.

Support: Store owners receive marketing materials including banners, labels, stickers, etc. The **BPHC Strategic Alliance for Health** also provides incentives, individual outreach to store owners, and technical assistance on product placement and marketing.

Process: Healthy on the Block began with a 2009 community survey and had its public kick-off in April 2011 (Cooper 2011). The BPHC Strategic Alliance for Health, in collaboration with the East Boston Neighborhood Health Center and the Mattapan Food and Fitness Coalition, assessed store owner interest in two target neighborhoods: Mattapan and East Boston. Pilot sites were selected based on the store owners’ levels of interest and their willingness to work with community members. Healthy on the Block began with five stores, and as of December 2012 the initiative had expanded to 16 stores. (A map of participating stores is available at DataBoston (data.cityofboston.gov). For more information, visit

<http://www.bphc.org/whatwedo/healthy-eating-active-living/healthy-on-the-block/Pages/Corner-Store-Initiative.aspx>.)

ON THE GROUND: The Food Trust's Healthy Corner Store Initiative, Philadelphia, PA

The Food Trust piloted its Healthy Corner Store Initiative in 2004 and has increased the program's size and scope ever since. Over 600 stores currently participate in the Philadelphia area. Program strategies include:

- "Increasing store capacity to sell and market healthy items in order to improve healthy options in communities
- Training and offering technical assistance to store owners to provide the skills to make healthy changes profitable
- Marketing healthy messages to youth and adults to encourage healthy eating choices
- Offering in-store community nutrition education lessons
- Educating youth in schools near targeted corner stores to reinforce healthy messages and provide nutrition education through the Snackin' Fresh program
- Linking corner store owners to community partners, local farmers and fresh food suppliers to create and sustain healthy corner stores" (TFT 2013)

Additional Resources

- **Healthy Corner Stores Network**, <http://www.healthycornerstores.org/>
- **CDC Healthier Food Retail Guide**, <http://www.cdc.gov/obesity/downloads/HFRassessment.pdf>
- **Mass in Motion Healthy Market Program**, <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion/community/strategies/healthy-markets.html>
- **Healthy Corner Store Sell Healthy! Guide**, <http://foodfitphilly.org/FOODFITPHILLY/assets/File/Sell%20Healthy%20Guide%281%29.pdf>
- **USDA Food Environment Atlas**, <http://www.ers.usda.gov/FoodAtlas>
- **USDA Food Access Research Atlas**, <http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx>
- **PolicyLink Corner Store Tool**, http://www.policylink.org/site/c.lkIXLbMNjRE/b.7676977/k.9E6C/Corner_Stores.htm
- **Healthy Corner Stores: Criteria for Participation**, http://www.bphc.org/whatwedo/healthy-eating-active-living/healthy-on-the-block/Documents/Healthy_On_The_Block_Criteria.pdf
- **ChangeLab Solutions, Licensing Healthy Food Retailers Model Ordinance and Guide**, <http://changelabsolutions.org/publications/HFR-licensing-ord>

Healthy Corner Store References

CDC (Centers for Disease Control and Prevention). 2010. *Healthier Food Retail: Beginning the Assessment Process in Your State or Community*. Washington, DC: Division of Nutrition, Physical Activity, and Obesity, CDC. Accessed April 10, 2012.

<http://www.cdc.gov/obesity/downloads/HFRassessment.pdf>.

Cooper, Kenneth J. 2011. "Healthy on the Block' coming to Mattapan." Bay State Banner, April 21. Accessed April 15, 2012.

<http://baystatebanner.com/news/2011/apr/20/healthy-on-the-block-coming-to-mattapan/>.

NYC DHMH (Department of Health and Mental Hygiene). 2010. *New York City Healthy Bodegas Initiative, 2010 report*. NYC, NY: DHMH. Accessed December 20, 2013.

<http://www.nyc.gov/html/doh/downloads/pdf/cdp/healthy-bodegas-rpt2010.pdf>.

PolicyLink. 2013. *Corner Stores Tool*. Accessed December 20.

http://www.policylink.org/site/c.lkIXLbMNJrE/b.7676977/k.9E6C/Corner_Stores.htm.

Song, H.J., J. Gittelsohn, M. Kim, S. Suratkar, S. Sharma, and J. Anliker. (2009). "A corner store intervention in a low-income urban community is associated with increased availability and sales of some healthy foods." *Public Health Nutrition* 12(11): 2060-2067. doi:10.1017/S1368980009005242.

TFT (The Food Trust). 2013. "What We Do: In Corner Stores." Accessed December 14.

<http://thefoodtrust.org/what-we-do/corner-store>.

PROJECT GUIDE: PERI-URBAN/URBAN AGRICULTURE

FOOD SYSTEM SECTOR: *Production*

MUNICIPAL PRIORITIES: *Health, Conservation, Equity*

What Is Peri-Urban/Urban Agriculture?

Urban and peri-urban (adjoining urban areas) agriculture refers to the production, distribution and marketing of plants, animals, and ornamentals within the core of metropolitan areas and at its edges (CFSC 2007). The size and scale of urban agriculture can be adapted for large or small contiguous or noncontiguous parcels, rooftops, and porches. In-soil growing techniques may include raised beds, containers, and greenhouses or hoop houses, though other techniques such as aquaponics or vertical mediums may be used. Food may be grown for personal consumption and education or for sale or donation.

A Brief History

Urban agriculture isn't new to the American city. In the late nineteenth century, high unemployment encouraged both rural and urban dwellers to resort to growing their own food. To ameliorate food shortages during World Wars I and II, over 20 million "Victory Gardens" were planted by Americans on both private and public land. It has been estimated that these gardens produced an estimated 9 million to 10 million tons of fruit and vegetables, accounting for 44% of the fresh vegetables grown in the U.S. at the time (Reinhardt 2013). Though widespread urban farming declined after WWII, the contemporary urban agriculture movement has been spreading across the nation over the past 40 years.

Benefits

- Improves access to and affordability of fresh produce; provides moderate physical activity
- Local opportunities for agriculture-based entrepreneurship and employment
- Diverts waste from landfills to compost; green space mitigates urban heat island effect, provides habitats for native and migratory species; transformation of land remediates vacant, blighted lots
- Offers opportunities for education and life skills development for youth and adults

Challenges

- Residents may have concerns (e.g., odors and noise, potential increase in vermin, effect on neighborhood property values) about allowing certain crops, livestock, and beekeeping. (See [Chapter 5](#) to learn about addressing community concerns.)
- Existing zoning codes may limit or prevent agricultural activities (See [Chapter 6](#) for information on zoning for urban agriculture.)
- Soil contamination concerns are often not addressed in zoning ordinances. (See the [Soil Safety Project Guide](#) for more information.)
- Urban agriculture sites do not necessarily have the appropriate infrastructure in place for managing agricultural waste.
- Urban farmers do not have sufficient access to land. (This can be addressed through land trusts, long-term leases, and incentives for farmers to rent or lease.)

Common Types of Urban Agriculture

- Micro-Farms: In and around a house /apartment
- Community Gardens: Parcels of land, subdivided into small plots that are farmed by a number of local residents for their own use, not for sale
- Urban Farms: Includes small- and large-scale farms, cultivated by a farmer or organization for commercial purposes
- Keeping of Animals: Can include livestock, poultry, bees
- Aquaponics: Cultivation of fish and plants together in a re-circulating water system

What Can Your Municipality Do to Support Urban Agriculture?

Cities and towns across the U.S. are using urban agriculture to address a range of municipal priorities, from equity, education, and health, to conservation and economic development. While each municipality is unique in designing initiatives to address its specific needs, the following universal steps are important in every case.

Take an Inventory

What is currently being done in your municipality? What organizations or community groups are involved in growing food? Your municipality may be able to partner with them to assess the need for additional urban agricultural land. Another great way to get started is to conduct a land inventory, which can help identify available parcels in your community and their suitability for production. Finally, management plans administer the use of sites and are a crucial companion to the site identification process. The data needed for land inventories and management plans should be easily accessible to the community.

Review Zoning and Policy

Review current municipal land use policies and zoning codes, and create appropriate regulations that promote and permit urban food production by right, conditional use, special permit, or agricultural district. Zoning codes may unintentionally prohibit agricultural activities; simple changes can make it possible for residents to grow food or keep animals successfully on their properties. See **Chapter 6** for examples of zoning ordinances and other policies that promote urban agriculture.

Develop Institutional Support

Create a multidisciplinary task-force representing various stakeholders and experts to develop recommendations for urban agriculture. Community engagement and public hearings are crucial and should be a constant throughout your process. There should be a purposeful connection to those who use, own, regulate, and benefit from the land

Urban Agriculture Resources

- **Seeding the City: Land Use Policies**
<http://www.phlpnet.org/childhood-obesity/products/urban-ag-toolkit>
- **Urban Agriculture Policy Inventory**
http://norcalheal.cnr.berkeley.edu/docs/CommunityGardenPolicyInventory_PHLIP.pdf
- **Brownfield Urban Agriculture Interim Guidelines**
http://www.epa.gov/brownfields/urbanag/pdf/bf_urban_ag.pdf
- **Urban Agriculture Policy Inventory**
http://norcalheal.cnr.berkeley.edu/docs/CommunityGardenPolicyInventory_PHLIP.pdf
- **The Food Project, Growing Guide**
<http://thefoodproject.org/sites/default/files/GrowingGuide2010.pdf>

Urban Agriculture References

CFSC (Community Food System Coalition). 2007. "The North American Urban and Peri-Urban Agriculture Alliance." Accessed December 20, 2013.

<http://www.cityfarmer.org/NAUPAAdescriptionNov2007.doc>.

Reinhardt, Claudia. 2013. "Farming in the 1940s: Victory Gardens." York, NE: Wessels Living History Farm. Accessed December 20.

www.livinghistoryfarm.org/farminginthe40s/crops_02.html.

PROJECT GUIDE: SOIL CONTAMINATION & SAFETY FOR COMMUNITY GARDENING AND URBAN FARMING

FOOD SYSTEM SECTOR: *Production*

MUNICIPAL PRIORITIES: *Health, Conservation, Education*

Why Is Soil Contamination an Issue?

Community gardening and urban farming can provide affordable, healthy foods and additional benefits associated with physical activity, urban green space, and community development. Unfortunately, soil contamination from heavy metals and hydrocarbon-based toxicants can be an issue in urban soils and may be problematic to human health if not addressed before food is grown (Turner 2009). Soils should be tested and remediated as needed using biological or physical methods. Contaminant remediation may be cost prohibitive; a common alternative is to build raised beds and to import new, clean soil. (For general information on soil health, visit the USDA's [Soils Primer for Municipal Officials and Homeowners](http://soils.usda.gov/use/urban/downloads/primer(screen).pdf) at [http://soils.usda.gov/use/urban/downloads/primer\(screen\).pdf](http://soils.usda.gov/use/urban/downloads/primer(screen).pdf).)

What Are the Sources of Soil Contamination?

The potential for soil contamination in urban areas is evident due to the historical prevalence of land use for gas stations, junk yards, and other industrial operations. Though industrial contaminants on these and other brownfield⁷ sites vary, a common concern for urban farms and gardens is contamination from lead. Many urban properties are contaminated from lead-based paint and leaded

⁷ According to the 2002 *Brownfields Law* (42 U.S.C. §9601.39.A), brownfield sites are properties where "expansion, redevelopment, or reuse [...] may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

gasoline. Lead poses the greatest dangers to human health through unintentional consumption of contaminated soil or dust, a problem especially for children who may frequently play in urban backyards and are more susceptible to negative impacts from exposure to lead. Though plants may take in some lead from the soil, health risks to humans from consumption of edible plants grown in leaded soil is relatively minimal (Rosen 2010).

What Contaminant Levels Are Acceptable?

Massachusetts addresses soil contamination in a set of regulations called the [Massachusetts Contingency Plan \(310 CMR 40\) \(MCP\)](#). The MCP outlines multiple methods for assessing risk levels at a particular site based on current and potential future activities, soil accessibility, and/or groundwater characteristics. Accessible soils (those that are less than three feet below the site's surface) that are, or may be, used "for growing fruits and vegetables for human consumption" are designated "S-1," the category "associated with the highest potential for exposure" (310 CMR 40.0933.1-9). The MCP includes detailed information about the Upper Concentration Limits and Reportable Quantities and Concentrations of various contaminants for each soil category and the types of responses that are required.

At the federal level, the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), and the Environmental Protection Agency (EPA) regulate material applied on farm land for food safety, but have not issued regulations regarding specific maximum toxicant levels for soils used to grow food. In 2011, the EPA Brownfields Program provided interim guidelines for urban agriculture; these cover soil safety practices for brownfield remediation and reuse (EPA 2011a).

Soil Safety General Practices

- Review the history of the site and surrounding areas using the local town or city registry.

- Build raised beds over soils that are contaminated; utilize geotextile barriers to prevent clean soils from intermingling with contaminated soils.
- Avoid pressure-treated wood for constructing raised beds; they are usually treated with chemicals, such as copper, chromium, or arsenic.
- Wash hands and other exposed skin that comes in contact with soil; prevent children from eating soil or playing in contaminated soil; keep soil outdoors; wash produce thoroughly to remove soil particles.
- Send a soil sample to a soil testing laboratory (e.g., University of Massachusetts (UMass) Amherst Soil and Plant Tissue Test Laboratory).
 - Note that being informed of contamination makes the landowner liable for remediation and cleanup, regardless of their involvement in the original contamination. Soil testing is important, but municipal officials and their constituents should be aware of potential liability issues (Jennifer Rushlow (CLFV), personal communication 2013).

How Can Municipalities Address Soil Safety?

Municipalities can provide residents and community groups with soil safety best practices. Information can be documented and provided using online and offline methods. Below is a summary of soil safety strategies that municipalities can use to support urban gardeners and other stakeholders in considering soil contamination risks and implementing strategies to reduce exposure.

Soil Testing

Lead levels and the level of major soil nutrients can be analyzed by the UMass Soil and Plant Tissue Test Laboratory for a fee of \$10. This test is useful for lead, but it doesn't test for other contaminants such as hydrocarbons, PCBs, pesticides, arsenic, or

mercury. Other laboratories can provide a more comprehensive soil contamination analysis, but are usually more expensive (\$100+). See <http://www.umass.edu/soiltest/> for more information.

Soil Remediation

Biological remediation mainly involves phytoremediation, or using plants to remove contaminants from soils. This method provides a long-term solution to the problem, as it requires multiple growing seasons. While it is a proven strategy to reduce contaminant exposure, biological remediation can take years and may be very expensive (EPA 2011a).

Physical remediation may include excavation or soil washing. Soil excavation is the most effective method, but this process of physical removal also discards valuable topsoil. Soil washing is similar to excavation; however, it returns the soil back to the ground after treatment. Both of these methods are prohibitively expensive, and the removal process raises additional concerns about disposal of the contaminants (EPA 2011a; Turner 2009).

Alternatives to remediation

A common solution to avoid contamination and the prohibitive costs associated with remediation is to build a raised bed and to place a geotextile barrier between imported and native soil. A geotextile is a synthetic blanket-like material that provides an impermeable barrier to remaining contaminants that could migrate to new soil (Turner 2009). It is important that even soil in raised beds be tested to determine its toxicity and nutrient levels. Additionally, gardeners and farmers can use container gardens, green walls, rooftop spaces, and aquaponic techniques to grow food (EPA 2011a). Each of these strategies avoids the issue of soil contamination by using imported soil as a growing medium.

ON THE GROUND: The Food Project Soil Testing and Remediation

The Food Project, a youth development and urban farming organization in Boston, conducts soil testing and remediation in its urban gardening work. TFP has found lead concentrations above the MassDEP limit of 400pm in 82% of the 125 gardens they tested. To deal with lead and other contaminants, the Food Project uses a variety of methods, mainly building raised beds and performing phytoremediation with mustard greens and sunflowers. Their phytoremediation experiments showed that these plans would need to be paired with some kind of amendment (such as a chelating agent to increase lead's mobility into the plants) to make a significant impact on the contaminant levels. For more information on The Food Project's work with soils, visit <http://thefoodproject.org/soil-testing-and-remediation>.

Soil Testing and Remediation Resources

- Contamination Levels and Sources of Contamination, CDC: <http://www.atsdr.cdc.gov/>
- Raised Beds: <http://thefoodproject.org/build-a-garden>
- **Brownfields and Urban Agriculture: Interim Guidelines for Safe Gardening Practices**, EPA: http://www.epa.gov/brownfields/urbanag/pdf/bf_urban_ag.pdf
- UMass Soil Testing: <http://www.umass.edu/soiltest/>
- **Lead Hazard Risk Assessment and Management of Urban Gardens and Farms**, San Francisco Department of Public Health: <http://www.sfdph.org/dph/files/EHSdocs/ehsCEHPdocs/Lead/LeadHazardUrbanGardening.pdf>

- **Soils Primer for Municipal Officials and Homeowners**, USDA: [http://soils.usda.gov/use/urban/downloads/primer\(screen\).pdf](http://soils.usda.gov/use/urban/downloads/primer(screen).pdf)
- **Massachusetts Contingency Plan (310 CMR 40)**, Maximum Contaminant Levels (not agriculture-specific): <http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/soil-category-selection-matrix.html>
- **Soil Sampling Fact Sheet**, MassDEP: <http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/fact-sheet-soil-sampling.html>
- **Boston Soil Safety Protocol**: <http://www.bostonredevelopmentauthority.org/documents/community-planning/urban-agriculture-soil-safety-protocol-final-5-13>

Soil Safety References

EPA (Environmental Protection Agency). 2011a. *Interim Guidelines for Safe Gardening Practice*. Accessed April 29, 2012. http://www.epa.gov/brownfields/urbanag/pdf/bf_urban_ag.pdf.

Rosen, Carl. 2010. *Lead in the Home Garden and Urban Soil Environment*. St. Paul, MN: University of Minnesota Extension. Accessed December 20, 2013. <http://www1.extension.umn.edu/garden/yard-garden/soils/lead-in-home-garden/>.

Turner, Alison. 2009. *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening Practice Guide #25*. Louisville, KY: Center for Environmental Policy and Management. Accessed December 20, 2013. https://louisville.edu/cepm/publications/practice-guides-1/PG25%20-%20Urban%20Agriculture%20-%20Soil%20Contamination.pdf/at_download/file.

PROJECT GUIDE: FOOD HUBS

SECTOR: Processing and/or Distribution

MUNICIPAL PRIORITIES: *Economic Development*

What Are Food Hubs?

One of the main obstacles to developing local and regional food systems is the lack of scale-appropriate infrastructure. Food hubs address this gap by aggregating, processing, distributing, and/or marketing differentiated products⁸ within local and regional markets (Barham et al. 2012). The core services of each food hub will vary. Some may aggregate and distribute food products packaged on-farm; others play the role of packing house, “handl[ing] raw produce immediately after harvest and prepar[ing] it for delivery to customers” (Lindsey and Slama 2012, 7).

What Municipal Priorities Do Food Hubs Address?

While food hubs generally operate as independent businesses or nonprofit organizations, their work addresses multiple municipal priorities and goals. Food hubs are part of a growing business sector and can contribute to municipal economic development by creating jobs and increasing tax revenue. Because food hubs often operate at a regional scale, the process of establishing and supporting them provides opportunities for collaboration both within a municipality and among at municipality and its neighboring towns and cities. Food hubs differ from larger-scale food system businesses in their commitment to particular values such as food justice (ensuring equitable access to affordable healthy food), environmental health (promoting sustainable production practices), and providing a living wage for farmers.

⁸ In contrast to interchangeable commodities sold in large-scale markets, food hub products carry information about where and how they were made from the point of origin all way to the consumer.

ON THE GROUND: Food Hubs

Red Tomato, a non-profit organization based in southeast Massachusetts, brokers sales among its network of almost 50 growers and institutional buyers in the Northeast, including Whole Foods, Common Market, Trader Joe’s, and Omni Foods. RT has developed branding lines for the products it aggregates from multiple growers, including the sustainably grown EcoApple. <http://redtomato.org>

FoodEx, a food distributor based in Boston, provides producers transparency about its pricing and transportation costs and offers full traceability to its buyers. Its online platform “allows buyers to

- place orders for local product
- source from multiple farms and food producers
- receive those products on one delivery and invoice” (FE 2013).

Blue Ridge Produce Company of Elkwood, Virginia, is a for-profit packing house and aggregator for local produce in its region. The company works with approximately 40 growers and with institutions such as grocery stores, hospitals, and conference centers to bring regional produce to the Washington, D.C. metropolitan area. <http://www.blueridgeproduce.net>

Where Are Food Hubs Likely to Be Successful?

Building Successful Food Hubs, a guide created by multiple organizations and agencies in Illinois provides a list of characteristics of locations that might be appropriate for a food hub, including:

- Evidence of strong commercial demand for locally-produced goods;
- Presence of large groups of suppliers and buyers;
- Active entrepreneurial investigation;
- Sufficient pool of qualified management candidates; and
- Strong stakeholder networks: public sector, academic, business, agricultural (Lindsey and Slama 2012, 42).

How to Get Started

Starting a food hub is similar to starting any other business. Entrepreneurs can follow the processes outlined in the *Building Successful Food Hubs* guide and other resources below. Municipalities can promote and initiate food hub development by offering tax breaks or other financial incentives to food hubs in the start-up phase. (See **Chapter 6** for details.) They can also collaborate with neighboring municipalities to identify priority areas for infrastructure development.

Some food hub organizations are structured as public-private partnerships. In those cases, the municipality plays a more active role by providing land, buildings, equipment, and/or start-up funding to the business. A feasibility study is a good first step for identifying and assessing the needs within a community and the potential impact of a food hub on public needs.

Food Hub Resources

- Many organizations and agencies are partners in the National Food Hub Collaboration, a group that coordinates food hub networking, research, and information sharing. The

Collaboration's online "Food Hub Center," hosted by the National Good Food Network (NGFN), offers research and resources, archived NGFN webinars, a database of consultants, links to funding sources, and a list of all the working food hubs in the United States.

- <http://ngfn.org/resources/food-hubs>
- The USDA's Agricultural Marketing Service (AMS) provides news and research on food hubs, as well as links to other sources of food hub-related information. <http://www.ams.usda.gov/AMSV1.0/FoodHubs>
- *Regional Food Hub Resource Guide*, USDA: <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5097957>
- *Findings Of The 2013 National Food Hub Survey*, MSU: <http://foodsystems.msu.edu/resources/2013-food-hub-survey>

Food Hub References

Barham, Jim, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. 2012. *Regional Food Hub Resource Guide*. Washington, D.C.: Agricultural Marketing Service, USDA. Accessed December 20, 2013. <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5097957>

FE (FoodEx). 2013. "About Us." Accessed December 20. <http://orfoodex.com/about-us/>.

Lindsey, Timothy C. and Jim Slama. 2012. *Building Successful Food Hubs: A Business Planning Guide for Aggregating and Processing Local Food in Illinois*. Illinois: FamilyFarmed.org, IL Dept. of Commerce and Economic Opportunity, University of Illinois Business Innovation Services, and IL Dept. of Agriculture. Accessed January 27, 2012. <http://www.familyfarmed.org/wp-content/uploads/2012/01/IllinoisFoodHubGuide-final.pdf>.

PROJECT GUIDE: FARMERS' MARKETS

FOOD SYSTEM SECTOR: *Consumption*

MUNICIPAL PRIORITIES: *Economic Development, Equity, Education*

Addressing Municipal Priorities with Farmers' Markets

Consumer interest in purchasing and eating local foods continues to grow, and farmers' markets offer an exciting opportunity to increase access to fresh, healthy food in municipalities across the country. Because farmers' markets require less investment than new supermarkets and can devote far more space to healthy foods, they are sometimes a preferred option for municipalities that are trying to improve food access and health (Obadia 2011). According to the USDA National Directory of Farmers' Markets, the number of farmers' markets in the United States has more than quadrupled since 1994 (AMS 2013b). The most recent estimates from 2013 count over 8,000 farmers' markets in the U.S. (AMS 2013a). Sales from farmers' markets account for over \$1 billion annually (Martinez et al. 2010).

What Is a Farmers' Market?

The USDA defines a farmers' market as "a common area where several farmers gather on a recurring basis to sell a variety of fresh fruits, vegetables, and other farm products directly to consumers" (Martinez et al. 2010, 5). Most farms that participate in farmers' markets are small, grossing under \$50,000 in annual sales. Markets take place in many different types of communities, but are generally more common in densely populated urban and suburban communities. Furthermore, the vast majority of farmers' markets are seasonal, operating for six or fewer months each year (Ragland and Tropp 2009). Municipalities can help establish farmers' markets by providing a location and/or publicizing the market to residents.

FARMERS' MARKETS IN MASSACHUSETTS

MDAR defines a Massachusetts Farmers' Market as "a public market for the primary purpose of connecting and mutually benefiting Massachusetts farmers, communities, and shoppers while promoting and selling products grown and raised by participating farmers.

Minimum qualifications for a Massachusetts Farmers' Market:

- Two or more farmers primarily selling products grown, produced, or raised by the farmers
- The market has set hours of operation and operates on a regular schedule
- The products are clearly labeled as to origin
- The market complies with all applicable local, state, and federal laws and regulations
- The market must have, and abide by, a set of rules* that governs the operation of the market and, at a minimum, assures the primary purpose of a Massachusetts Farmers' Market as providing a direct marketing opportunity for Massachusetts farmers, foresters and fisheries and addresses the following:
 - Terms and conditions of sales, including pricing and labeling
 - Vendor eligibility and product source
 - Compliance by all vendors with local, state, and federal laws and regulations

MDAR strongly suggests that farmers' markets have a written grievance procedure and address market and vendor liability, including any insurance requirements, in their policies or rules.

*Rules must be approved by MDAR if the market is applying for or receiving MDAR-sponsored grant funds or intending to include the sale of wine by farm wineries at the market. However, all farmers' markets are expected to have rules that meet these minimum qualifications." (MDAR 2013g, n.p.)

Benefits of Farmers' Markets

- Improve resident access to healthy foods
- Provide revenue for small farmers
- Increase foot traffic to businesses near the market
- Create opportunities for community education about health and wellness

Challenges for Farmers' Markets⁹

- Finding vendors, especially a group of vendors that can provide a diverse set of crops that meet the needs of community members
- Ensuring access to farmers' markets for lower-income residents
- Retaining vendors if overall market revenue is low
- Maintaining high customer turnout, especially for new markets
- Heavy reliance on volunteers – only 39% of markets had a paid manager in a recent survey
- Market managers may not have the appropriate experience or support for effective management
- Complying with local and state regulations

How to Get Started

A farmers' market can be a great way to increase food access and promote health in many different types of communities. Municipalities that already have markets should assess them to find opportunities to strengthen and/or expand their markets. For municipalities without farmers' markets, the Massachusetts Department of Agriculture (MDAR) has an excellent guide to

⁹ Farmers' Market Benefits and Challenges sources: Obadia 2011; Ragland and Tropp 2009; Lola Omolodun (MAPC), personal communication 2013

starting a farmers' market, available at <http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-howtorun-generic.html>.

The first step for most farmers' market organizers is to gather together a group of interested community members to define the goals of the market, do preliminary market research, and choose a location and time (MDAR 2013d). Market research should include a realistic assessment of the potential customer base for a market and whether local farmer and consumer needs are being met by existing farmers' markets in the community or in neighboring towns.

Municipal officials should work with interested stakeholders to ensure that zoning, health codes, and other local policies do not prevent the market from being successful. Municipalities should also collaborate with market managers and local business owners to ensure that everyone can benefit from the increased foot traffic and consumer attention to local purchasing opportunities that farmers' markets can create. The resources listed below, and the farmers' market sections in **Chapter 6**, are a good place to begin if you are looking for information about how to start a market or the kinds of regulations that apply to farmers' markets.

Addressing Food Access and Equity through Farmers' Markets

Municipalities can use farmers' markets to address many public health and equity concerns in their communities by accepting SNAP and WIC payments, offering coupons or other incentives for farmers' market purchases, and ensuring all residents have access to the market(s).

Accepting SNAP/WIC

One of the major platforms for addressing health and food access issues through farmers' markets is to accept SNAP/WIC payments

through vouchers or Electronic Bank Transfers (EBT). For more information on how to enable SNAP/WIC payments at your market, see the following resources:

- SNAP Benefits at Farmers' Markets, USDA:
<http://www.fns.usda.gov/snap/ebt/fm.htm>
- **The Facts About Farmers' Market Equipment Funds and Participation in SNAP**, USDA:
<http://www.fns.usda.gov/sites/default/files//Mythbuster.pdf>
- **SNAP/EBT at your Farmers Market: Seven Steps to Success**, Project for Public Spaces:
<http://www.pps.org/store/featured-items/snapebt-at-your-farmers-market-seven-steps-to-success/>
- Massachusetts Farmers' Market EBT-SNAP Initiative, MDAR:
<http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmer-market-ebt-snap-initiative-generic.html>

Massachusetts Farmers' Market Nutrition Program and Incentive Programs

Massachusetts has a Farmers' Market Nutrition Program, funded by the state and the federal government, that "provides elders, and women and children in the Federal Supplemental Food Program for Women, Infants, and Children (WIC) with coupons for fresh fruits and vegetables redeemable at Farmers' Markets" (MDAR 2013c). Municipalities can complement this program with additional incentives or vouchers such as the Bounty Bucks program highlighted in **Chapter 3**.

Market Access

To make the market accessible to as many community members as possible, municipal officials should work with market managers to ensure that:

- Market locations are physically accessible even for residents with disabilities or limited mobility;
- Markets are located along public transportation routes;

- Market days and times are scheduled such that they do not completely overlap with typical work and school hours; and
- Promotional materials about the market and signage at the market itself are provided in the major languages spoken in the community.

If public transit is not an option, municipalities could offer shuttle transportation to and from the market for senior citizens and others with limited mobility.

Farmers' Market Resources

- Farmers' Markets, MDAR:
<http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/>
- Farmers' Market Resources for Market Managers, MDAR:
<http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-resources-mkt-mgrs-generic.html>
- Massachusetts Federation of Farmers' Markets
http://www.massfarmersmarkets.org/FMFM_Main.aspx
- USDA Agricultural Marketing Service
<http://www.ams.usda.gov/AMSV1.0/FARMERSMARKETS>
- Farmers' Market Coalition Resources
<http://farmersmarketcoalition.org/education/resource-library/>
- Market Umbrella & MarketShare
<http://www.marketumbrella.org/>
- Massachusetts General Laws: Specific to public markets
<http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter40/Section10>

Farmers' Market References

AMS (Agricultural Marketing Service). 2013a. "Farmers' Market Directory." Washington D.C.: AMS, USDA. Accessed December 20, 2013. <http://search.ams.usda.gov/farmersmarkets/>.

———. 2013b. "Farmers' Market Growth." AMS, USDA. Accessed December 20. <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=fmrdirmtk>.

Martinez, S., M. Hand, M. Da Pra, S. Pollack, K. Ralston, T. Smith, S. Vogel, S. Clark, L. Lohr, S. Low, and C. Newman. 2010. *Local Food Systems: Concepts, Impacts, and Issues (ERR 97)*. Washington, DC: Economic Research Service, USDA. Accessed April 6, 2012. www.ers.usda.gov/Publications/ERR97/ERR97.pdf.

MDAR (Massachusetts Department of Agricultural Resources). 2013c. "Farmers' Market Nutrition Program." Boston, MA: MDAR. Accessed December 20. <http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-coupon-program.html>.

———. 2013d. *How to Organize and Run a Successful Farmers' Market*. Boston, MA: MDAR. Accessed December 20. <http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-howtorun-generic.html>.

———. 2013g. *Policy for Massachusetts Farmers' Markets*. Accessed December 21. <http://www.mass.gov/eea/docs/agr/markets/farmersmarkets/farmers-markets-policy-final.pdf>.

Obadia, J. 2011. *Massachusetts Farmers' Markets: Contributions to Farmer Sales and Food Access*. Boston, MA: Tufts University. Accessed 10 April 2012. <http://gradworks.umi.com/3481135.pdf>.

Ragland, E. and D. Tropp, D. 2009. *USDA National Farmers' Market Manager Survey 2006*. Washington, DC: Agricultural Marketing Service, USDA. Accessed April 7, 2012. <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5077203&acct=wdmgeninfo>.

PROJECT GUIDE: COMPOST PROGRAMS

SECTOR: Waste Management

PRIORITIES: Economic Development, Conservation

Municipal Waste Management and Composting

Municipalities devote a significant portion of their resources to managing the waste produced by their residents, businesses, and institutions. In 2010, the United States generated approximately 250 million tons of Municipal Solid Waste (MSW) (EPA 2011b). MSW is made up of materials such as product packaging, yard clippings, computers, paper, and food scraps (EPA 2011b). The organic materials in MSW can be recovered from the waste stream through composting. Composting is a controlled form of decomposition that transforms organic waste matter into a nutrient-rich product that can be used to remediate, fertilize, and replenish soil.

In 2010, organic material (paper, yard clippings, wood, and food waste) comprised 62% of the total MSW in the U.S. (EPA 2011b); 13.9% of that organic matter was food waste. In Massachusetts, organic matter made up approximately 20% of the total MSW generated in 2009; food waste made up almost 75% of all organic waste that year (MassDEP 2011b). Though most municipalities have systems in place for composting or recycling paper, wood, and yard clippings, similar systems for food waste are much less prevalent. Of the 34.76 million tons of food waste generated in the United States in 2010, only 2.8% (0.97 million tons) was composted (EPA 2011b).

When organic matter is sent to landfills with non-organic waste, it decomposes anaerobically and produces methane, a harmful greenhouse gas (Pierce-Quinonez 2011). Municipalities can reduce the proportion of food waste and other organic material that is sent to landfills by implementing a municipal composting

program for institutional and residential waste, and by supporting residential composting.

Organic Waste Management in Massachusetts

Massachusetts currently bans some organic waste (leaves, yard trimmings, and recyclable paper products) from its MSW, and supports municipal efforts to reduce overall waste through the Sustainable Materials Recovery Program Municipal Grants offered by the Massachusetts Department of Environmental Protection (MassDEP 2013c). Communities can apply for funding and equipment for “recycling, composting, reuse and source reduction activities that will increase diversion of municipal solid waste and household hazardous waste from disposal” (MassDEP 2013c, n.p.).

Massachusetts has set ambitious goals for waste reduction across the state: the [2010-2020 Solid Waste Master Plan](#) calls for a 30% reduction (2 million tons) by 2020 and an 80% reduction in solid waste disposal by 2050 (MassDEP 2013a). As one strategy for meeting these goals, the Master Plan calls for a reduction of the disposal of food waste and other organic materials by 350,000 tons annually through 2020 (MassDEP 2013b). Some of that diverted waste will go towards meeting the Master Plan’s goal of creating 50 megawatts of renewable energy via anaerobic digestion (MassDEP 2013b).

MassDEP has recognized that meeting these goals will require increased recycling and composting infrastructure and support for programs that will increase the amount of organic waste diverted from the main waste stream. To that end, the state has announced a proposed ban on the disposal of commercial food waste in the state, to take effect July 1, 2014 (EEA 2013a). Companies that dispose of a significant amount of food waste (at least one ton per week) would be required to donate or re-purpose useable food and dispose of the remaining food waste through anaerobic digestion, composting, or as animal feed. The ban would be

accompanied by funding to support the development of anaerobic digestion facilities. Though the ban as written only affects large businesses, the new infrastructure for processing food waste and the increased awareness of food waste issues will likely improve food waste disposal options for individual residents and smaller businesses in the future.

Starting a municipal composting program

In the *Decision-Makers' Guide to Solid Waste Management, Volume II*, O'Leary and Walsh list the "steps for developing and implementing a successful composting program.

1. Identify goals of the composting project.
2. Identify the scope of the project (backyard, yard trimmings, source-separated, mixed MSW, or a combination).
3. Get political support for changing the community's waste management approach.
4. Identify potential sites and environmental factors.
5. Identify potential compost uses and markets.
6. Initiate public information programs.
7. Inventory materials available for composting.
8. Visit successful compost programs.
9. Evaluate alternative composting and associated collection techniques.
10. Finalize arrangements for compost use.
11. Obtain necessary governmental approvals.
12. Prepare final budget and arrange financing.
13. Construct composting facilities and purchase collection equipment, if needed.
14. Initiate composting operation and monitor results." (1995, 7.17-18).

Benefits

- Composting reduces organic material in the waste stream, reserves landfill space for non-compostable and non-recyclable materials, and reduces a municipality's greenhouse gas emissions.
- Compost products can be used to prevent erosion, enrich and remediate soils, and for stormwater management.
- Composting cuts municipal costs by reducing the need for fertilizer, water, and pesticides on public properties.
- Anaerobic digestion of organic waste is a highly effective way of generating energy from waste. For more information, visit the EPA's AgSTAR resource: <http://www.epa.gov/agstar/anaerobic/>.
- End products can be sold to users such as farmers, gardeners, schools, parks, golf courses, and landscapers; increases municipal revenue (O'Leary and Walsh 1995; EPA 2013a; USCC 2008; 2012).

Challenges

- Composting programs require adequate markets and uses for the end product.
- Many municipalities lack experienced designers, vendors, and technical staff.
- Composting programs face potential problems with odors and contaminants (O'Leary and Walsh 1995). *Note: Restricting meat from food scrap collection can cut down on odor and pest issues, but will make participation and compliance harder as residents will have to sort their food waste before disposing.*

Types Of Compost Collection Programs

- **For yard trimmings**
 - Curbside collection
 - Street collection (vacuum trucks/trailers)
 - Drop-off locations
- **For food scraps**
 - Curbside collection with yard waste
 - Curbside collection separate from yard waste
 - Drop-off center collections

Strategies for Success

- Introduce the program to community members by offering composting at special events and providing education materials to participants.
- Target large waste generators such as grocery stores, restaurants, and universities and other institutions to make a significant impact on the municipal waste stream.

Compost Resources:

- **Best Management Practices (BMPS) for Incorporating Food Residuals Into Existing Yard Waste Composting Operations**, US Composting Council:
<http://compostingcouncil.org/admin/wp-content/uploads/2010/09/BMP-for-FW-to-YW.pdf>
- **Composting Yard Trimmings and Municipal Solid Waste**, EPA:
<http://www.epa.gov/epawaste/conserves/composting/pubs/cytmsw.pdf>
- **Decision Maker's Guide to Solid Waste Management, Volume II (EPA 530-R-95-023)**, EPA:
<http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=1000VWJ.PDF>.
- The Composting Council,
<http://compostingcouncil.org/index.cfm>

- The University of Maine Cooperative Extension's Compost School: <http://www.composting.org/>
- Municipal Waste Reduction Toolkit, MassDEP:
<http://www.mass.gov/eea/agencies/massdep/recycle/reduce/municipal-waste-reduction-toolkit.html>
- Compost Resources, Northeast Recycling Council,
<http://www.nerc.org/nerc-resources/search-for-resources/>
- Composting for Facilities, EPA:
<http://www.epa.gov/epawaste/conserves/composting/index.htm>

Compost References

EEA (Energy and Environmental Affairs). 2013a. "Patrick Administration Announces Plan to Ban Disposal of Commercial Food Waste." Accessed August 16. <http://www.mass.gov/eea/pr-2013/commercial-food-waste-ban.html>.

EPA (Environmental Protection Agency). 2011b. *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*. Washington, DC: EPA. Accessed April 30, 2012. <http://www.epa.gov/epawaste/nonhaz/municipal/msw99.htm>.

———. 2013a. "Environmental Benefits." Washington, DC: EPA. Accessed December 20. <http://www.epa.gov/composting/benefits.htm>

MassDEP (Massachusetts Department of Environmental Protection). 2011b. *Summary Analysis of Municipal Waste Combustor Class II Recycling Program Waste Characterization Studies completed in February & March 2011*. Boston, MA: MassDEP. Accessed November 1, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/wcssumm.pdf>.

———. 2013a. *Massachusetts 2010-2020 Solid Waste Master Plan: Pathway to Zero Waste*. Boston, MA: MassDEP. Accessed November 4, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf>.

———. 2013b. "New Solid Waste Master Plan Puts Massachusetts on the Road to 'Zero Waste' by 2020." *EnviroMatters (MassDEP eNewsletter)*, Summer 2013: 3-4. <http://www.mass.gov/eea/docs/dep/about/enews-print-final0613.pdf>.

———. 2013c. "Sustainable Materials Recovery Program (SMRP) Municipal Grants." Accessed December 20. <http://www.mass.gov/eea/agencies/massdep/recycle/grants/smrp-grants.html>

O'Leary, Philip R. and Patrick W. Walsh. 1995. *Decision Maker's Guide to Solid Waste Management, Volume II, (EPA 530-R-95-023)*. Madison, WI: Solid and Hazardous Waste Education Center, University of Wisconsin-Madison Extension. Accessed December 21, 2013. <http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=10000VWJ.PDF>.

Pierce-Quinonez, Mari. 2011. "Compost: The Forgotten Link in the Food System Chain." *Sustainable Cities Collective*. Accessed November 30, 2013. <http://sustainablecitiescollective.com/maripqz/24610/compost-forgotten-link-food-system-chain>.

USCC (United States Composting Council). 2008. *USCC Fact Sheet: Compost and Its Benefits*. Ronkonkoma, NY: USCC. Accessed April 30, 2012. <http://compostingcouncil.org/admin/wp-content/uploads/2010/09/Compost-and-Its-Benefits.pdf>

———. 2012. "FactSheets and Free Reports." Ronkonkoma, NY: USCC. Accessed April 30, 2012. <http://compostingcouncil.org/factsheets-and-free-reports/>.

[This page intentionally left blank.]

REFERENCES

ABH (Arlington Board of Health). 2013. "Food Sale and Service." Accessed December 21. http://www.arlingtonma.gov/public_documents/ArlingtonMA_Health/food/index.

Abi-Nader, Jeanette, Adrian Ayson, Keecha Harris, Hank Herrera, Darcel Eddins, Deb Habib, Jim Hanna, Chris Paterson, Karl Sutton, and Lydia Villanueva. 2009. *Whole Measures for Community Food Systems: Values-Based Planning and Evaluation*. Mad River Valley, VT: Center for Whole Communities.

ACGA (American Community Gardening Association). 2012. "What is a community garden?" Accessed May 2, 2012. <http://communitygarden.org/learn/what-is-a-community-garden/index.php>.

Adler, N.E. and K. Newman. 2002. "Socioeconomic Disparities in Health: Pathways and Policies." *Health Affairs* 21(2): 60-76. Accessed April 12, 2012. <http://content.healthaffairs.org/content/21/2/60.full.pdf>.

AgMRC (Agricultural Marketing Resource Center). 2013. "Food Consumption Trends." Ames, Iowa: Iowa State University. Last updated July 2012. Accessed March 2. http://www.agmrc.org/markets_industries/food/food-consumption-trends/.

Ajayi, Jesse, Catherine Denson, Brendan Heath, and Kimberley Wilmot. 2010. *2010 Toronto Food Sector Update*. Toronto, Canada: University of Toronto.

AMS (Agricultural Marketing Service). 2013a. "Farmers' Market Directory." Washington D.C.: AMS, USDA. Accessed December 20. <http://search.ams.usda.gov/farmersmarkets/>.

———. 2013b. "Farmers' Market Growth." AMS, USDA. Accessed December 20. <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=fmrdirnkt>.

APA (American Planning Association). 2007. *Policy Guide on Community and Regional Food Planning*. American Planning Association. Accessed April 10, 2012. <http://www.planning.org/policy/guides/adopted/food.htm>.

———. 2011. *Food Trucks Research*. Chapel Hill, NC: Chapel Hill Town Council, Public Hearing May 16, 2011. Accessed December 20, 2013. <http://chapelhillpublic.novusagenda.com/Bluesheet.aspx?itemid=1311&meetingid=113>.

———. 2013. "Food Systems." Accessed December 22. <http://www.planning.org/nationalcenters/health/food.htm>.

Arcaya, Mariana and Jessie Grogan. 2011. *State of Equity in Metro Boston: Indicators Report*. Boston, MA: MAPC. Accessed December 20, 2013. http://regionalindicators.org/site_media/pdf/Equity-Report_12-14_72ppi.pdf.

Armah IV, N. and Henderson, B.R. 2010. "Making the Case for Community-Based Wellness Programs." *National Civic Review*, 99 (1). 27-34. doi:10.1002/ncr.20006.

Barban, Sarah. 2013. "Kent County eyes food processing industry." *Dover Post*, April 10. Accessed December 1, 2013.

<http://www.doverpost.com/article/20130410/NEWS/130419973/-1/Entertainment%20%20Life?template=printart>.

Barham, Jim, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. 2012. *Regional Food Hub Resource Guide*.

Washington, D.C.: Agricultural Marketing Service, USDA. Accessed December 20, 2013.

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

Bell, Judith and Marion Standish M. 2009. "Building healthy communities through equitable food access." *Community Development Investment Review* 5(3): 75-83. Accessed April 10, 2012.

http://www.frbsf.org/publications/community/review/vol5_issue3/bell_standish.pdf.

Bernstine, Matthew, Allison Mouch, and Julie Ulrich. *Growing Community Agriculture...from the Ground Up*. Charlottesville, VA: University of Virginia. Accessed March 15, 2012.

http://www.virginia.edu/ien/docs/07FoodClassFINAL%20PAPERS/URBAN_GUIDE_FINAL.pdf.

Beus, Curtis E. and Riley E. Dunlap. 1990. "Conventional versus Alternative Agriculture: The Paradigmatic Roots of the Debate." *Rural Sociology* 55 (4): 590-616.

BFM (Boston Farmers' Markets). 2013. *SNAP/Bounty Bucks*. Accessed December 1. <http://bostonfarmersmarkets.org/bounty-bucks/>.

Bills, Nelson. 2001. *Agriculture-Based Economic Development: Trends and Prospects for New York (EB 2001-18)*. Ithaca, NY: Department of Applied Economics and Management, Cornell University.

Binkley, J. K., J. Ealies, and M. Jekanowski. 2000. "The Relation between Dietary Change and Rising U.S. Obesity." *International Journal of Obesity* 24 (8): 1032.

Bloom, J. Dara and C. Clare Hinrichs. 2010. "Moving local food through conventional food system infrastructure: Value chain framework comparisons and insights." *Renewable Agriculture and Food Systems* 26 (1): 13-23.

Booth, Ashley Rachel Masland. 2012. *How Good Is the Good Food Market: An Exploration of Community Food Security*. Master's Thesis. Toronto, Canada: Ontario Institute for the Studies of Education University of Toronto.

Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research* 26: 195-207. doi:10.1177/0739456X06291389.

Borron, Sarah. 2003. *Food Policy Councils: Practice and Possibility*. Eugene, OR: Congressional Hunger Center. Accessed January 31, 2012. <http://www.hungercenter.org/wp-content/uploads/2011/07/Food-Policy-Councils-Borron.pdf>.

Botwinick, D., J. Effron and J. Huang. 2010. "Saving Mom and Pop: Zoning and Legislating for Small and Local Business Retention." *Journal of Law and Policy* 18: 607-653.

Bowell, Ben and Cris Coffin. 2009. *Farms for the Future: Massachusetts' Investments in Farmland Conservation*. Northampton, MA: American Farmland Trust.

Bowell, Ben, Cris Coffin, Mike Eley and Doris Mittasch. 2008. *Farms for the Future: Massachusetts' Investments in Farmland Conservation*. Northampton, MA: American Farmland Trust. Accessed October 31, 2013.

<http://www.farmland.org/programs/states/ma/documents/MAInvestmentsfinal.pdf>.

BPRD (Boston Parks and Recreation Department). 2008. *Open Space Plan 2008-2014*. Boston, MA: BPRD. Accessed April 5, 2012. http://www.cityofboston.gov/parks/pdfs/OSP2010/OSP0814_7.3.2_CommunityGardens.pdf.

BRA (Boston Redevelopment Authority). 2013a. "Article 89: Urban Agriculture." Accessed December 20. <http://www.bostonredevelopmentauthority.org/getattachment/8405c72c-7520-43ad-a969-0e27dddae7a2>

———. 2013b. "Mayor Menino Announces Adoption of Urban Agriculture Zoning." *BRA News and Updates*, Dec 19. Accessed December 21. <http://www.bostonredevelopmentauthority.org/news-calendar/news-updates/2013/12/19/mayor-menino-announces-adoption-of-urban-agricultu>.

———. 2013c. "Planning Initiatives: Urban Agriculture Rezoning." Accessed December 20. <http://www.bostonredevelopmentauthority.org/planning/planning-initiatives/urban-agriculture-rezoning>.

———. 2013d. "Quick Facts about Article 89 Urban Agriculture Rezoning Initiative." Accessed December 24, 2013. <http://www.bostonredevelopmentauthority.org/getattachment/8a1e3014-d6c7-42ac-969f-c9bb12ccf955>.

Brown, P. 1995. "Race, Class, and Environmental Health: A Review and Systematization of the Literature." *Environmental Research* 69(1): 15-30. Accessed March 15, 2012. doi:10.1006/enrs.1995.1021.

Cantrell, Patty, Kathryn Colasanti, Laura Goddeeris, Sarah Lucas, Matt McCauley. 2013. *Food Innovation Districts: An Economic Gardening Tool*. Northwest Michigan Council of Governments. Accessed December 21, 2013. <http://www.nwm.org/userfiles/filemanager/1660/>.

CCC FPC (Cleveland-Cuyahoga County Food Policy Council). 2013. "Local Purchasing." Accessed December 21. <http://cccfoodpolicy.org/working-group/local-purchasing>.
CCPC (Cleveland City Planning Commission). 2013. "Zoning Code Updates." Accessed December 20, 2013. <http://planning.city.cleveland.oh.us/zoning/cpc.php>.

CCT (Chicago Community Trust). 2009. *Food System Strategy Summary*. Chicago, IL: Chicago Food Policy Advisory Council and City of Chicago Zoning and Planning. Accessed April 28, 2012. <http://www.cmap.illinois.gov/strategy-papers/food-policy>.

CDC (Centers for Disease Control and Prevention). 2010. *Healthier Food Retail: Beginning the Assessment Process in Your State or Community*. Washington, DC: Division of Nutrition, Physical Activity, and Obesity, CDC. Accessed April 10, 2012. <http://www.cdc.gov/obesity/downloads/HFRassessment.pdf>.

———. 2012. "Adult Obesity Facts." Washington, DC: CDC. Accessed April 10, 2012. <http://www.cdc.gov/obesity/data/adult.html>.

CFPAC (Chicago Food Policy Advisory Council). 2011. *A Vision for Food Policy in Chicago*. Chicago, IL: CFPAC. Accessed April 2, 2012. <http://www.chicagofoodpolicy.org>.

- CFSC (Community Food System Coalition). 2007. "The North American Urban and Peri-Urban Agriculture Alliance." Accessed December 20, 2013.
<http://www.cityfarmer.org/NAUPAADescriptionNov2007.doc>.
- . 2007. "The North American Urban and Peri-Urban Agriculture Alliance." Accessed December 20, 2013.
<http://www.cityfarmer.org/NAUPAADescriptionNov2007.doc>.
- Chase, Lisa, Robert Manning, and William Valliere. 2012. *Agricultural and Culinary Tourism Literature Review: Summary of Findings and Annotated Bibliography*. Brattleboro, VT: Vermont Tourism Data Center, Park Studies Laboratory, University of Vermont. Accessed December 15, 2013.
http://www.uvm.edu/~snrvtdc/publications/agritourism_lit_review.pdf.
- CHED (Chicago Housing and Economic Development). 2013. "Urban Agriculture FAQ." Accessed December 10, 2013.
http://www.cityofchicago.org/city/en/depts/dcd/supp_info/urban_agriculturefaq.html.
- Christie, Margaret. 2011. *Scaling Up Local Food: Investing in Farm & Food Systems Infrastructure in the Pioneer Valley*. South Deerfield, MA: Community Involved in Sustaining Agriculture.
<http://www.buylocalfood.org/upload/resource/ScalingUp10-17-11rwithLinks.pdf>.
- CIAS (Center for Integrated Agricultural Systems). 2001. *Community Kitchens: Key Elements of Success (Research Brief #54)*. Madison, WI: College of Agricultural and Life Science, University of Wisconsin-Madison.

- Clancy, Kate and Kathy Ruhf. 2010. "Is local enough? Some arguments for regional food systems." *Choices*, 25 (1).
<http://www.choicesmagazine.org/>.
- Clark, Jill K., Shoshana Inwood, and Jeff S. Sharp. 2011. *Scaling up Connections between Regional Ohio Specialty Crop Producers and Local Markets: Distribution as the Missing Link*. Columbus, OH: The Ohio State University.
- Clover. 2011. *Food Truck 101*. Accessed December 21, 2013.
<http://www.cloverfoodlab.com/wp-content/uploads/2011/06/Food-Truck-101.pdf>.
- Cohen, Barbara. 2002. "Community Food Security Assessment Toolkit." Washington, DC: Economic Research Service, USDA.
- Cooper, Kenneth J. 2011. "'Healthy on the Block' coming to Mattapan." *Bay State Banner*, April 21. Accessed April 15, 2012.
<http://baystatebanner.com/news/2011/apr/20/healthy-on-the-block-coming-to-mattapan/>.
- Cotterill, R. W. and A. W. Franklin. 1995. *The Urban Grocery Store Gap (Food Marketing Policy Issue Paper 8)*. Storrs, CT: Food Marketing Policy Center, University of Connecticut. Accessed December 20, 2013.
<http://www.fmpc.uconn.edu/publications/ip/ip8.pdf>.
- Dahlberg, Kenneth. 1994. "Food Policy Councils: The Experience of Five Cities and One County." Paper presented at the Joint Meeting of the Agriculture Food and Human Values Society and the Association for the Study of Food and Society, Tucson, Arizona, June 11. Accessed May 1, 2012.
<http://unix.cc.wmich.edu/~dahlberg/F4.pdf>.

Day-Farnsworth, Lindsey, Brent McCown, Michelle Miller, Anne Pfeiffer. 2009. *Scaling Up: Meeting the Demand for Local Food*. Madison, WI: UW-Extension Ag Innovation Center and UW-Madison Center for Integrated Agricultural Systems.

Dimitri, Carolyn, Anne Effland, and Neilson Conklin. 2005. *The 20th Century Transformation of U.S. Agriculture and Farm Policy (EIB-3)*. Washington, D.C: Economic Research Service, United States Department of Agriculture.

DVRPC (Delaware Valley Regional Planning Commission). 2010. *Greater Philadelphia Food System Study*. Philadelphia, PA: DVRPC.

EEA (Energy and Environmental Affairs). 2007. "Agricultural Preservation Case Study: Town of Amherst, MA." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed April 25, 2012. http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ag-amherst.html.

———. 2013a. "Patrick Administration Announces Plan to Ban Disposal of Commercial Food Waste." Accessed August 16. <http://www.mass.gov/eea/pr-2013/commercial-food-waste-ban.html>.

———. 2013b. "Transfer of Development Rights Model Bylaw." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed December 21. http://www.mass.gov/envir/smart_growth_toolkit/bylaws/TDR-Bylaw.pdf.

———. 2013c. "Transfer of Development Rights (TDR) Module." *Smart Growth / Smart Energy Toolkit*. Boston, MA: EEA. Accessed December 21. http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-tdr.html.

EPA (Environmental Protection Agency). 1980. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*. Accessed December 20, 2013. <http://www2.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>.

———. 2011a. *Interim Guidelines for Safe Gardening Practice*. Accessed April 29, 2012. http://www.epa.gov/brownfields/urbanag/pdf/bf_urban_ag.pdf.

———. 2011b. *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*. Washington, DC: EPA. Accessed April 30, 2012. <http://www.epa.gov/epawaste/nonhaz/municipal/msw99.htm>.

———. 2012. *Urban Agriculture Code Audit: Milwaukee, Wisconsin*. Washington, D.C.: EPA. Accessed December 21, 2013. http://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/Urban-Agriculture/pdfs/MilwaukeeCodeAudit_acknowledge.pdf.

———. 2013a. "Environmental Benefits." Washington, DC: EPA. Accessed December 20. <http://www.epa.gov/composting/benefits.htm>

———. 2013b. "Municipal Solid Waste." Accessed December 5. <http://www.epa.gov/epawaste/nonhaz/municipal/index.htm>.

Erikson, Leah, Kyle Griggs, Matt Maria, and Hester Serebrin. 2009. *Urban Agriculture in Seattle: Policy and Barriers*. Accessed December 20, 2013. <http://www.seattle.gov/neighborhoods/ppatch/pubs/Urban%20Agriculture%20in%20Seattle%20Policy%20and%20Barriers.pdf>.

FC CDC (Franklin County Community Development Corporation). 2013. "About the Western Massachusetts Food Processing Center." Accessed December 5. <http://www.fccdc.org/about-the-center>.

FCC (Fresno City Council). 2013. *City Council Meeting Minutes*, June 27. Accessed November 29, 2013.

<http://www.fresno.gov/NR/rdonlyres/D1756DB7-8176-4E81-B218-C94E5D15F0A5/0/June272013minutes.pdf>.

FE (FoodEx). 2013. "About Us." Accessed December 20.

<http://orfoodex.com/about-us/>.

Feenstra, Gail W. 1997. "Local Food Systems and Sustainable Communities." *American Journal of Alternative Agriculture* 12(1): 28-36.

———. 2002. "Creating space for sustainable food systems: Lessons from the field." *Agriculture and Human Values* 19: 99–106. Accessed April 16, 2012. doi:10.1023/A:1016095421310.

Feldstein, Lisa M., Rick Jacobus, and Hannah Burton Laurison. 2007. *Economic Development and Redevelopment: A Toolkit for Building Health, Vibrant Communities*. California: California Department of Health Services. Accessed December 13, 2013.

<http://changelabsolutions.org/sites/phlpnet.org/files/EcDevToolkit.pdf>.

FFN (Farm Friendly Neighbor). 2013. "About FFN." Accessed December 20. <http://www.farmfriendlyneighbor.org/>.

FIC (Farmland Information Center). 1998. *Fact Sheet: Right-to-Farm Laws*. Northampton, MA: American Farmland Trust. Accessed December 21, 2013.

<http://www.farmland.org/programs/states/wa/documents/APPEN-DIXI-Righttofarmlaws.pdf>.

FNS (Food and Nutrition Service, USDA). 2013a. "About WIC." Washington, DC: FNS, USDA. Accessed December 1.

<http://www.fns.usda.gov/wic/aboutwic/mission.htm>.

———. 2013b. "Child Nutrition Program Data: State Level Tables." Washington, DC: FNS, USDA. Accessed December 1.

<http://www.fns.usda.gov/pd/cnpsmain.htm>.

———. 2013c. "Frequently Asked Questions about WIC." Accessed August 22, 2013. <http://www.fns.usda.gov/wic/frequently-asked-questions-about-wic>.

———. 2013d. "National School Lunch Program Fact Sheet." Washington, DC: FNS, USDA. Accessed December 10.

<http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf>.

———. 2013e. "Supplemental Nutrition Assistance Program: Annual State Level Data." Washington, DC: FNS, USDA. Accessed November 20. <http://www.fns.usda.gov/pd/snapmain.htm>.

———. 2013f. "WIC Farmers' Market Nutrition Program." Washington, DC: FNS, USDA. Accessed December 2.

<http://www.fns.usda.gov/wic/fmnp/fmnpfaqs.htm>.

———. 2013g. "WIC Program Data: Annual State Level Data: Total Participation; Food Costs; Nutrition Services and Administrative Costs." Washington, DC: FNS, USDA. Accessed December 1.

<http://www.fns.usda.gov/pd/wicmain.htm>.

Foley, Jonathan A., Navin Ramankutty, Kate A. Brauman, Emily S. Cassidy, James S. Gerber, Matt Johnston, Nathaniel D. Mueller, Christine O'Connell, Deepak K. Ray, Paul C. West, Christian Balzer, Elena M. Bennett, Stephen R. Carpenter, Jason Hill, Chad Monfreda, Stephen Polasky, Johan Rockstrom, John Sheehan, Stefan Siebert, David Tilman, and David P. M. Zak. 2011. "Solutions for a cultivated planet." *Nature*. 478: 337-342. doi:10.1038/nature10452

Foster, D., G. Motzkin, J. O'Keefe, E. Boose, D. Orwig, J. Fuller, and B. Hall. 2004. "The Environmental and Human History of New England." In *Forests in Time: The Environmental Consequences of 1,000 Years of Change in New England*, edited by D. R. Foster and J. D. Aber, 43. New Haven: Yale University Press.

Freedgood, Julia, Mari Pierce-Quiñonez, and Kenneth A. Meter. 2011. "Emerging Assessment Tools to Inform Food System Planning." *Journal of Agriculture, Food Systems, and Community Development* 2(1): 83-104.

GHD (Gloucester Health Department). 2013. "Food Service and Alcohol Licesning." Accessed December 21. <http://gloucester-ma.gov/index.aspx?NID=191>.

Gibson, Christina and Jamie Pottern. 2012. *Building Local Food Connections: A Community Food System Assessment in Concord, Massachusetts*. Concord Community Food Project Steering and Advisory Committee. <http://issuu.com/conwaydesign/docs/concordfood2012>

Godfray, Charles H., John R. Beddington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas, and Camilla Toulmin. 2010. "Food security: the challenge of feeding 9 billion people." *Science* 327: 812-818.

GPO (Governor's Press Office, New York State). 2012. "Governor Cuomo Hosts First New York State Yogurt Summit." *Press Release*, August 15. Accessed December 20, 2013. <http://www.governor.ny.gov/press/08152012-nys-yogurt-summit>.

Greenstone, Michael and Adam Looney. 2011. *Building America's Job Skills With Effective Workforce Programs: A Training Strategy to Raise Wages and Increase Work Opportunities*. The Brookings Institute: The Hamilton Project. Accessed December 20, 2013. http://www.brookings.edu/~media/research/files/papers/2011/11/training%20greenstone%20looney/11_training_greenstone_looney.pdf.

GVI (Green Valley Institute). 2013. *Fact Sheet 7: Transfer of Development Rights*. Accessed December 21. http://www.greenvalleyinstitute.org/brochures/fact_sheet_7_transfer_of_development_rights.pdf.

HAFPPC (Hoosick Agriculture and Farmland Protection Plan Committee). 2011. *Town of Hoosick Draft Agriculture and Farmland Protection Plan*. Retrieved December 20, 2013 from <http://townofhoosick.org/>.

Hamilton, Joanna. 2012. *The Current State of Regional Food System Work in Iowa*. Ames, IA: Leopold Center for Sustainable Agriculture. Accessed April 3, 2012. <http://www.leopold.iastate.edu/pubs-and-papers/2012-03-current-state-regional-food-system-work-iowa>.

Harper, Alethea, Annie Shattuck, Eric Holt-Gimenez, Alison Alkon and Frances Lambrick. 2009. *Food Policy Councils: Lessons Learned*. Oakland, CA: Food First/Institute for Food and Development Policy. Accessed January 21, 2012. <http://www.foodfirst.org/files/pdf/Food%20Policy%20Councils%20Report%20small.pdf>.

HFLPC (Harvard Food Law and Policy Clinic). 2012. *Good Laws, Good Food: Putting Local Food Policy to Work for Our Communities*. Accessed December 21, 2013. <http://blogs.law.harvard.edu/foodpolicyinitiative/files/2011/09/FINAL-LOCAL-TOOLKIT2.pdf>.

———. 2013. *Boston Food Trucks: Wicked Good Food: A Guide to Food Truck Regulations in Boston*. Accessed December 21. http://www.cityofboston.gov/images_documents/Boston%20Food%20Truck%20Flowchart%20-%206%2028%2013_tcm3-39832.pdf.

HGM (HOME GR/OWN Milwaukee). 2013. "HOME GR/OWN." Office of Environmental Sustainability, City of Milwaukee. Accessed December 10, 2013. <http://city.milwaukee.gov/sustainability/HOMEGR/OWN.htm>.

HHS (Health and Humans Services Department). 2013. *Annual Update of the HHS Poverty Guidelines*. Accessed December 1, 2013. <https://www.federalregister.gov/articles/2013/01/24/2013-01422/annual-update-of-the-hhs-poverty-guidelines>.

Hinrichs, C. Clare. 2007. "Introduction: Practice and Place in Remaking the Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 1-15. Lincoln, NE: University of Nebraska.

Hollyer, J., L. Castro, C. Salgado, L. Cox, A. Hodgson, W. Thom, C. Yurth, P. Kam, and M. Kwok. 2000. *Some Costs and Considerations for Establishing an Entrepreneurial Community Shared-use Kitchen or "Test-Kitchen Incubator."* Manoa, HI: Cooperative Extension Service, University of Hawaii College of Tropical Agriculture & Human Resources.

Hooper, Kimberly A. 2013. "Town comes to agreement with McGrath Farm family." *Wicked Local Concord*, March 29. Accessed October 1, 2013. <http://www.wickedlocal.com/concord/news/x171167605/Town-comes-to-agreement-with-McGrath-Farm-family>.

Ikerd, John E. 1996. "Sustaining the Profitability of Agriculture." Extension Pre-Conference: The Economist's Role in the Agricultural Sustainability Paradigm, San Antonio, TX, July 27.

———. 1998. "Sustainable Agriculture as a Rural Economic Development Strategy," report of joint research project with University of Missouri and Tennessee State University cooperating, University of Missouri, Columbia, MO. Accessed December 19, 2013. <http://web.missouri.edu/~ikerdj/papers/sa-cdst.htm>.

Innes, J. E., and D. E. Booher. 2010. *Planning with complexity: An introduction to collaborative rationality for public policy*. Routledge: New York.

Johnson, M.L. 2013. "Milwaukee aims to turn extra land into urban ag." *Associated Press*, October 31. Accessed November 15, 2013. <http://dailyreporter.com/2013/10/31/milwaukee-aims-to-turn-extra-land-into-urban-ag/>.

Johnson, Renée. 2009. *Climate Change: The Role of the U.S. Agriculture Sector (RL33898)*. Washington, D.C.: Congressional Research Service.

Johnston, Josée and Lauren Baker. 2005. "Eating outside the box: FoodShare's good food box and the challenge of scale." *Agriculture and Human Values* 22(3): 313-325. DOI: 10.1007/s10460-006048-y

Kareem, Maryam, and David Thornton. 2009. *Transform Baltimore, Review, Rewrite, Replace*. Washington, DC: Harrison Institute for Public Law and Georgetown University Law Center.

Karp Resources. 2011. *Rhode Island Food Assessment*. Providence, RI: Rhode Island Food Policy Council.

Kaufman, Jerome L. 2004. "Introduction." *Journal of Planning Education and Research* 23(4): 335-340.

Khan, L.K., K. Sobus, D. Keener, K. Goodman, A. Lowry, J. Kakietek, and S. Zaro. 2009. "Recommended Community Strategies and Measurements to Prevent Obesity in the United States." *Morbidity and Mortality Weekly Report*, 58(RR07). Washington D.C.: CDC. Accessed April 14, 2012.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5807a1.htm>

King, Robert P., Michael S. Hand, Gigi DiGiacomo, Kate Clancy, Miguel I. Gomez, Shermain D. Hardesty, Larry Lev, and Edward W. McLaughlin. 2010. *Comparing the Structure, Size, and Performance of Local and Mainstream Food Supply Chains (ERR 99)*. Washington, DC: USDA Economic Research Service. <http://ers.usda.gov/Publications/ERR99/>.

Klingler, Kristen. 2009. *Homegrown Minneapolis*. Minneapolis, MN: Minneapolis Department of Health and Family Support. Accessed April 29, 2012.

http://www.ci.minneapolis.mn.us/www/groups/public/@health/documents/webcontent/convert_273062.pdf.

Kloppenber, Jack Jr., Sharon Lezberg, Kathryn De Master, George W. Stevenson, and John Hendrickson. 2000. "Tasting Food, Tasting Sustainability: Defining the Attributes of an Alternative Food System with Competent, Ordinary People." *Human Organization* 59 (2): 177-186.

Kwon, M., F.S. Berry, and R.C. Feiock. 2009. "Understanding the Adoption and Timing of Economic Development Strategies in U.S. Cities Using Innovation and Institutional Analysis." *Journal of Public Administration Research and Theory* 19: 967-988. doi:10.1093/jopart/mun026.

LCSA (Leopold Center for Sustainable Agriculture). 2011. *Iowa Local Food & Farm Plan: Report to the Iowa Legislature*. Ames, IA: LCSA. Accessed April 20, 2012.

www.leopold.iastate.edu/foodandfarmplan.html.

Lindsey, Timothy C. and Jim Slama. 2012. *Building Successful Food Hubs: A Business Planning Guide for Aggregating and Processing Local Food in Illinois*. Illinois: FamilyFarmed.org, IL Dept. of Commerce and Economic Opportunity, University of Illinois Business Innovation Services, and IL Dept. of Agriculture. Accessed January 27, 2012. <http://www.familyfarmed.org/wp-content/uploads/2012/01/IllinoisFoodHubGuide-final.pdf>.

Lopez, Rigoberto A., Deepak Joglekar, Chen Zhu, Peter Gunther, and Fred Carstensen. 2010. *Economic Impacts of Connecticut's Agricultural Industry*. Storrs, CT: College of Agriculture and Natural Resources, University of Connecticut. Accessed December 20, 2013. <http://are.uconn.edu/documents/economicimpacts.pdf>.

LPND (Lansing Planning and Neighborhood Development). 2012. *Design Lansing: Comprehensive Plan*. Lansing, MI: LPND. Accessed December 20, 2013.

https://www.lansingmi.gov/media/view/Design_Lansing_Comprehensive_Plan_ADOPTED_April_9_2012_LowRez/3523.

LTA (Land Trust Alliance). 2008. "Land Trust Fact Sheet." Accessed April 24, 2012.

<http://www.landtrustalliance.org/conservation/documents/what-is-land-trust.pdf>.

———. 2011. *National Land Trust Census 2010 Report: A Look at Voluntary Land Conservation in America*. Accessed April 24, 2012.

<http://www.landtrustalliance.org/land-trusts/land-trust-census/national-land-trust-census-2010/2010-final-report>.

Lyson, Thomas A. 2007. "Civic Agriculture and the North American Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 19-32. Lincoln, NE: University of Nebraska.

MAAC (Massachusetts Association of Agricultural Commissions). 2013a. "About AgComs: History." Accessed December 21. <http://www.massagcom.org/AgComsHistory.php>.

———. 2013b. "About AgComs: MA AgComs." Accessed December 21. <http://www.massagcom.org/AgComs.php>.

———. 2013c. "Laws & Regulations: Local." Accessed December 21. <http://www.massagcom.org/LocalLaws.php>.

Magnusson, M. and R. Gittel. 2010. *Home Grown: The Economic Impact of Local Food Systems in New Hampshire*. Durham, NH: Food Solutions New England, University of New Hampshire.

Mair, Julia, Matthew W. Pierce, and Stephen P. Teret. 2005. *The use of zoning to restrict fast food outlets: a potential strategy to combat obesity*. Washington, DC: Center for Law and the Public's Health at Johns Hopkins and Georgetown Universities. Accessed: April 25, 2012. <http://www.publichealthlaw.net/Zoning%20Fast%20Food%20Outlets.pdf>.

Margerum, Richard D. 2002. "Collaborative Planning: Building Consensus and Building a Distinct Model for Practice." *Journal of Planning Education and Research* 21: 237. Accessed April 28, 2012. doi:10.1177/0739456X02021003.

Martinez, S., M. Hand, M. Da Pra, S. Pollack, K. Ralston, T. Smith, S. Vogel, S. Clark, L. Lohr, S. Low, and C. Newman. 2010. *Local Food Systems: Concepts, Impacts, and Issues (ERR 97)*. Washington, DC: Economic Research Service, USDA. Accessed April 6, 2012. www.ers.usda.gov/Publications/ERR97/ERR97.pdf.

Masi, Brad, Leslie Schaller, and Michael H. Shuman. 2010. *The 25% Shift: The Benefits of Food Localization for Northeast Ohio & How to Realize Them*. Accessed May 9, 2011. <http://www.neofoodweb.org/sites/default/files/resources/the25shift-foodlocalizationintheNEOregion.pdf>.

MassDEP (Massachusetts Department of Environmental Protection). 2011a. *2010 Solid Waste Data Update*. Boston, MA: MassDEP. Accessed November 1, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/10swdata.pdf>.

———. 2011b. *Summary Analysis of Municipal Waste Combustor Class II Recycling Program Waste Characterization Studies completed in February & March 2011*. Boston, MA: MassDEP. Accessed November 1, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/wcsumm.pdf>.

———. 2013a. *Massachusetts 2010-2020 Solid Waste Master Plan: Pathway to Zero Waste*. Boston, MA: MassDEP. Accessed November 4, 2013. <http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf>.

———. 2013b. "New Solid Waste Master Plan Puts Massachusetts on the Road to 'Zero Waste' by 2020." *EnviroMatters (MassDEP eNewsletter)*, Summer 2013: 3-4.

<http://www.mass.gov/eea/docs/dep/about/enews-print-final0613.pdf>.

———. 2013c. "Sustainable Materials Recovery Program (SMRP) Municipal Grants." Accessed December 20.

<http://www.mass.gov/eea/agencies/massdep/recycle/grants/smrp-grants.html>

Mazmanian, D.A. and Kraft, M.E. 2009. "The Three Epochs of the Environmental Movement." In *Toward Sustainable Communities: Transition and Transformations in Environmental Policy*, edited by D.A. Mazmanian and M.E. Kraft. MIT Press. Cambridge, MA.

MDAR (Massachusetts Department of Agricultural Resources). 2005a. *A Handbook for Agricultural Commissions*. Boston, MA:

MDAR. Accessed January 30, 2012.

<http://www.mass.gov/eea/docs/agr/agcom/docs/handbook/pdf/handbook-for-agricultural-commissions-full-doc.pdf>.

———. 2005b. *Model Right-to-Farm Bylaw*. Boston, MA: MDAR. Accessed December 21, 2013.

<http://www.mass.gov/eea/docs/agr/righttofarm/farmbylaw.pdf>.

———. 2012. *2012 Annual Report: Massachusetts Department of Agricultural Resources*. Boston, MA: MDAR. Accessed October 2, 2013. <http://www.mass.gov/eea/docs/agr/docs/2012-annual-report.pdf>.

———. 2013a. "Agricultural Preservation Restrictions." Boston, MA: MDAR. Accessed December 20.

<http://www.mass.gov/eea/agencies/agr/land-use/agricultural-preservation-restriction-program-apr.html>

———. 2013b. "Agricultural Resources Facts and Statistics." Accessed December 20.

<http://www.mass.gov/eea/agencies/agr/statistics/>.

———. 2013c. "Farmers' Market Nutrition Program." Boston, MA: MDAR. Accessed December 20.

<http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-coupon-program.html>.

———. 2013d. *How to Organize and Run a Successful Farmers' Market*. Boston, MA: MDAR. Accessed December 20.

<http://www.mass.gov/eea/agencies/agr/markets/farmers-markets/farmers-market-howtorun-generic.html>.

———. 2013e. *Massachusetts Food Plan RFR*. Boston, MA: MDAR. Accessed December 21.

<http://www.mass.gov/eea/docs/agr/boards-commissions/foodpolicyrfrfinal.pdf>.

———. 2013f. *Massachusetts Food Processors Resource Manual*. Boston, MA: MDAR. Accessed December 18.

<http://www.mass.gov/eea/agencies/agr/markets/culinary-tourism/massachusetts-food-processors-resource-manual-generic.html>

———. 2013g. *Policy for Massachusetts Farmers' Markets*. Accessed December 21.

<http://www.mass.gov/eea/docs/agr/markets/farmersmarkets/farmers-markets-policy-final.pdf>.

MDPH FPP (MA Dept. of Public Health Food Protection Program). 2005. *Residential Kitchens Questions and Answers (Q&A)*. Jamaica Plain, MA: MDPH. Accessed April 15, 2012.

<http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/residential-kitchens-faq-sheet.pdf>.

———. 2011. Report No. RF-08: Policies, Procedures and Guidelines, Farmers' Markets. Jamaica Plain, MA: MDPH. Accessed April 15, 2012.
<http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/farmer-market-guidelines.pdf>.

Merrill, Lorraine Stuart. n.d. *Guide to starting an Agricultural Commission in Your Hometown*. Concord, NH: University of New Hampshire Extension. Accessed January 15, 2012.
www.agriculture.nh.gov/documents/agcom.pdf.

MFSP (Massachusetts Farm to School Project). 2013. "About Us." Accessed December 20. <http://www.massfarmtoschool.org/about-us/>.

Miller, J. Cory and Keith H. Coble. 2007. "Cheap food policy: Fact or rhetoric?" *Food Policy* 32: 98-111.

Miller, K. 2007. "Kitchen Incubators Get Food Businesses Cooking." Bloomberg Businessweek.
http://www.businessweek.com/smallbiz/content/dec2007/sb20071214_603976.htm

Minaker, Leia M., Pat Fisher, Kim D. Raine, and Lawrence D. Frank. 2011. "Measuring the Food Environment: From Theory to Planning Practice." *Journal of Agriculture, Food Systems, and Community Development* 2(1): 65-82.

Mohai, P., D. Pellow, and J.T. Roberts. 2009. "Environmental Justice." *Annual Review of Environment and Resources* 34: 405-430. doi:10.1146/annurevenviron-082508-094348.

Murphy, S.L., J. Xu, and K.D. Kochanek. 2012. "Deaths: Preliminary Data for 2010." *National Vital Statistics Reports* 60 (4). Washington, DC: Division of Vital Statistics, CDC. Accessed 14 April 2012.
http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_04.pdf.

NASS (National Agricultural Statistics Service, USDA). 2009. *Census of Agriculture: 2007 Massachusetts State Level Data*. Washington, DC: NASS, USDA. Accessed March 30, 2012.
http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/Massachusetts/mav1.pdf.

NEEFSC (New England Extension Food Safety Consortium). 2013. "State Information: Massachusetts." Accessed December 21.
http://extension.unh.edu/nefe/state_specific/state_ma.html.

NEFS (New England Food Show). 2013. "New England Food Distributors." Accessed November 10. <http://www.nefs-expo.com/exhibit/new-england-food-distributors>.

Nelson, Arthur C., Rick Pruetz, and Doug Woodruff. 2010. *The TDR Handbook: Designing and Implementing Transfer of Development Rights Programs*. Washington, DC: Island Press.

NHD (Northampton Health Department). 2013. "Food Permits & Fees." Accessed December 21.
<http://www.northamptonma.gov/704/Food-Permits-Fees>.

NPLAN (National Policy and Legal Analysis Network to Prevent Childhood Obesity). 2009. *Establishing Land Use Protections for Farmers' Markets*. California: Public Health Law & Policy. Accessed December 21, 2013.
http://changelabsolutions.org/sites/default/files/documents/Establishing_Land_Use_Protections_for_Farmers_Markets_FINAL_WEB_20091203.pdf

NYC DCP (NYC Department of City Planning). 2008. *Going to Market: New York City's Neighborhood Grocery Store and Supermarket Shortage*. Accessed April 13, 2012. <http://www.nyc.gov/html/dcp/html/supermarket/index.shtml>.

NYC DHMH (Department of Health and Mental Hygiene). 2010. *New York City Healthy Bodegas Initiative, 2010 report*. NYC, NY: DHMH. Accessed December 20, 2013. <http://www.nyc.gov/html/doh/downloads/pdf/cdp/healthy-bodegas-rpt2010.pdf>.

O'Hara, Jeffrey K. 2011. *Market Forces: Creating Jobs Through Public Investment in Local and Regional Food Systems*. Cambridge, MA: Union of Concerned Scientists Publications. http://www.ucusa.org/food_and_agriculture/solutions/big_picture_solutions/market-forces.html.

O'Leary, Philip R. and Patrick W. Walsh. 1995. *Decision Maker's Guide to Solid Waste Management, Volume II, (EPA 530-R-95-023)*. Madison, WI: Solid and Hazardous Waste Education Center, University of Wisconsin-Madison Extension. Accessed December 21, 2013. <http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=10000VWJ.PDF>.

Obadia, J. 2011. *Massachusetts Farmers' Markets: Contributions to Farmer Sales and Food Access*. Boston, MA: Tufts University. Accessed 10 April 2012. <http://gradworks.umi.com/3481135.pdf>.

Ogden, Cynthia, Margaret Carroll, Brian Kit, and Katherine Flegal. 2012. *Prevalence of Obesity in the United States, 2009–2010 (National Conference on Health Statistics Data Brief No. 82)*. Washington, DC: CDC. Accessed April 25, 2012. <http://www.cdc.gov/nchs/data/databriefs/db82.pdf>.

OPBD (Oakland Planning and Building Department). 2013. "Planning and Zoning: Mobile Food Vending Regulations." Accessed December 21. <http://www2.oaklandnet.com/Government/o/PBN/OurOrganization/PlanningZoning/OAK032864>.

Pansing, Cynthia, Arlin Wasserman, John Fisk, Michelle Muldoon, Stacia Kiraly, and Tavia Benjamin. 2013. *North American Food Sector, Part Two: Roadmap for City Food Sector Innovation and Investment*. Arlington, VA: Wallace Center at Winrock International. Accessed December 21, 2013. <http://www.ngfn.org/resources/ngfn-database/knowledge/Roadmap%20for%20City%20Food%20Sector%20Innovation%20and%20Investment.pdf>.

Patrick, Deval L. 2012. "Hunger Action Month Proclamation." Accessed December 20, 2013. <http://www.mass.gov/governor/constituentservices/recognition/issuedproclamations/2012831-hunger-action-month.html>.

Patterson, Steve. 2011. "Forum Tonight on Backyard Farming; Discussion to Focus on its Coexistence with City Life." *Florida Times-Union, Jacksonville FL*, Oct 6, C-1.

Pierce-Quinonez, Mari. 2011. "Compost: The Forgotten Link in the Food System Chain." *Sustainable Cities Collective*. Accessed November 30, 2013. <http://sustainablecitiescollective.com/maripqz/24610/compost-forgotten-link-food-system-chain>.

PolicyLink. 2013. *Corner Stores Tool*. Accessed December 20. http://www.policylink.org/site/c.lkIXLbMNJrE/b.7676977/k.9E6C/Corner_Stores.htm.

Pothukuchi, Kameshwari. 2009. "Community and Regional Food Planning: Building Institutional Support in the United States." *International Planning Studies* 14 (4): 349-367.

Pothukuchi, Kami, Hugh Joseph, Hannah Burton, and Andy Fisher. 2002. *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Venice, CA: Community Food Security Coalition

PSRC (Puget Sound Regional Council). 2012. *Local Food Procurement Policies*. Accessed December 21, 2013. <http://www.psrc.org/assets/9560/procurement.pdf>.

Putnam, Judith Jones and Jane E. Allshouse. 1999. *Food Consumption, Prices, and Expenditures, 1970-97 (SB-965)*. Washington, D.C.: USDA Economic Research Service, Food and Rural Economics Division.

Ragland, E. and D. Tropp, D. 2009. *USDA National Farmers' Market Manager Survey 2006*. Washington, DC: Agricultural Marketing Service, USDA. Accessed April 7, 2012. <http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5077203&acct=wdmgeninfo>.

Ramey, V.A. 2009. "Time Spent in Home Production in the Twentieth-Century United States: New Estimates from Old Data." *Journal of Economic History* 69(1): 1-47. Accessed April 4, 2012. http://weber.ucsd.edu/~vramey/research/Home_Production_published.pdf.

Ray, Jessie and Tanya Denckla Cobb. 2010. *Food Policy Audit: Executive Summary*. Charlottesville, VA: Institute for Environmental Negotiation, University of Virginia.

Reinhardt, Claudia. 2013. "Farming in the 1940s: Victory Gardens." York, NE: Wessels Living History Farm. Accessed December 20. www.livinghistoryfarm.org/farminginthe40s/crops_02.html.

Rosen, Carl. 2010. *Lead in the Home Garden and Urban Soil Environment*. St. Paul, MN: University of Minnesota Extension. Accessed December 20, 2013. <http://www1.extension.umn.edu/garden/yard-garden/soils/lead-in-home-garden/>.

RPS (Regional Planning Studio). 2011. *Food System Toolkit for Hampden and Hampshire Counties*. Massachusetts: Pioneer Valley Planning Commission. Accessed December 21, 2013. http://www.sustainableknowledgecorridor.org/site/sites/default/files/uploads/Food/FoodSecurity_App1_2011.pdf.

Ruhf, K. 2002. "About New Farmers." Paper presented at the National Conference on Family Farm Succession: Winnipeg, Manitoba, Canada, 11 May. New England Small Farm Institute.

SA (Strategic Alliance). 2008. "Farmers' Market Amendment, City of Fresno." *Strategic Alliance Local Policy*. Accessed December 1, 2013. http://eatbettermovemore.org/sa/policies/policy_detail.php?pid=257&Search_PolicyPage=6&policyID=276.

Saha, D. and R.G. Paterson. 2008. "Local Government Efforts to Promote the 'Three Es' of Sustainable Development: Survey in Medium to Large Cities in the United States." *Journal of Planning Education and Research* 28(1): 21-37. doi:10.1177/0739456X08321803.

Sanders, Beth and Annie Shattuck. 2011. *Policy Brief no. 19. Cutting through the Red Tape: A Resource Guide for Local Food Policy Practitioners and Organizers*. Oakland, CA: Food First/Institute for Food and Development Policy/Food First Books.

Schiff, Rebecca. 2008. "The Role of Food Policy Councils in Developing Sustainable Food Systems." *Journal of Hunger & Environmental Nutrition* 3(2-3): 206-228. Accessed January 31, 2012. doi:10.1080/19320240802244017.

Schroeder, Alex Risley. 2013. *Local Food, Local Jobs: Job Growth and Creation in the Pioneer Valley Food System*. Boston, MA: Massachusetts Workforce Alliance. Accessed December 12, 2013. <http://www.mass.gov/eea/docs/agr/boards-commissions/mwa-food-report-03062013-screen.pdf>.

SCLT (Southside Community Land Trust). 2012. "History, Mission, and Values." Accessed April 12, 2012. <http://southsideclt.org>.

SDH (Somerville Department of Health). 2012. "Shape Up Somerville." Accessed April 30, 2012. <http://www.somervillema.gov/departments/health/sus>.

SFOM (San Francisco Office of the Mayor). 2009. *Executive Directive 09-03: Healthy and Sustainable Food for San Francisco*. Accessed December 21, 2013. <http://www.sfgov3.org/Modules/ShowDocument.aspx?documentid=74>.

SGV (Smart Growth Vermont). 2012. "Overlay Districts." Accessed April 15, 2012. <http://www.smartgrowthvermont.org/toolbox/tools/overlaydistricts/>.

Sharp, Jeff S., Doug Jackson-Smith, and Leah Smith. 2011. "Agricultural economic development at the rural-urban interface: Community organization, policy, and agricultural change." *Journal of Agriculture, Food Systems, and Community Development* 1(4): 189–204. Accessed October 31, 2011. doi:10.5304/jafscd.2011.014.002.

Shuman, Michael. 2013a. *Creating a Community Investment Fund: A Local Food Approach*. Silver Spring, MD: Cutting Edge Capital. Accessed December 15, 2013. <http://www.pvgrows.net/wp-content/uploads/2013/07/Creating-A-Community-Investment-Fund-for-PVGrows-2013.pdf>.

———. 2013b. *The 25% Shift: The Economic Benefits of Food Localization for the Pioneer Valley & the Capital Required to Realize Them*. Silver Spring, MD: Cutting Edge Capital. Accessed December 20, 2013. <http://www.pvgrows.net/wp-content/uploads/2013/07/The-25%25-Shift-by-Michael-Shuman-for-PVGrows.pdf>.

Slama, J., K. Nyquist, and M. Bucknum. 2010. *Local Food System Assessment for Northern Virginia*. Wallace Center at Winrock International, FamilyFarmed.org, and Triskeles Foundation.

Song, H.J., J. Gittelsohn, M. Kim, S. Suratkar, S. Sharma, and J. Anliker. (2009). "A corner store intervention in a low-income urban community is associated with increased availability and sales of some healthy foods." *Public Health Nutrition* 12(11): 2060–2067. doi:10.1017/S1368980009005242.

Stevenson, G.W., Kathryn Ruhf, Sharon Lezberg, and Kate Clancy. 2007. "Warrior, Builder, and Weaver Work: Strategies for Changing the Food System." In *Remaking the North American Food System: Strategies for Sustainability*, edited by C. Clare Hinrichs and Thomas A. Lyson, 33-62. Lincoln, NE: University of Nebraska.

Stringer, Scott M. 2010. *FoodNYC: A Blueprint for a Sustainable Food System*. NYC, NY: President of the Borough of Manhattan NYC.

Struckle, Marjorie. 2011. "Officials Learn How Ag Drives Their Local Economy." *Lancaster Farming*, May 27. Accessed December 20, 2013. <http://lancasterfarming.com/results/Officials-Learn-How-Ag-Drives-Their-Local-Economy--#.UrWkYI052YE>.

TFT (The Food Trust). 2013. "What We Do: In Corner Stores." Accessed December 14. <http://thefoodtrust.org/what-we-do/corner-store>.

Tiehen, L., D. Jolliffe, and C. Gundersen. 2012. *Alleviating Poverty in the United States: The Critical Role of SNAP Benefits (ERR 132)*. Washington, DC: Economic Research Service, USDA.

Tilman, David, Kenneth Cassman, Pamela Matson, Rosamond Naylor, and Stephen Polasky. 2002. "Agricultural Sustainability and Intensive Production Practices." *Nature* 418: 671-677.

Treuhaft, Sarah and Allison Karpyn. 2010. *The Grocery Gap: Who Has Access to Healthy Food and Why It Matters*. Oakland, CA: PolicyLink and The Food Trust. Accessed December 20, 2013. <http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/FINALGroceryGap.pdf>.

Turner, Alison. 2009. *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening Practice Guide #25*. Louisville, KY: Center for Environmental Policy and Management. Accessed December 20, 2013. https://louisville.edu/cepm/publications/practice-guides-1/PG25%20-%20Urban%20Agriculture%20-%20Soil%20Contamination.pdf/at_download/file.

Unger, Serena and Heather Wooten. 2006. *A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan*. Oakland, CA: Oakland Mayor's Office of Sustainability, University of California, and Berkeley Department of City and Regional Planning.

USCB (United States Census Bureau). 2007. *2007 Economic Census: Massachusetts*. Washington, DC: USCB. Accessed February 12, 2012. <http://www.census.gov/econ/census07/>.

———. 2011a. *2011 County Business Patterns (NAICS)*. Washington, DC: USCB. Accessed November 10, 2013. <http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl>.

———. 2011b. *Nonemployer Statistics*. Washington, DC: USCB. Accessed November 10, 2013. <http://www.census.gov/econ/nonemployer/index.html>.

———. 2013. *State and County QuickFacts: Massachusetts*. Washington, DC: USCB. Accessed November 10. <http://quickfacts.census.gov/qfd/states/25000.html>.

USCC (United States Composting Council). 2008. *USCC Fact Sheet: Compost and Its Benefits*. Ronkonkoma, NY: USCC. Accessed April 30, 2012. <http://compostingcouncil.org/admin/wp-content/uploads/2010/09/Compost-and-Its-Benefits.pdf>

———. 2012. "FactSheets and Free Reports." Ronkonkoma, NY: USCC. Accessed April 30, 2012. <http://compostingcouncil.org/factsheets-and-free-reports/>.

Vaznis, James. 2013. "Without paperwork, school lunch free in Boston: Officials seize opportunity to join new federal meal program." *The Boston Globe*, September 3. Accessed October 10, 2013. <http://www.bostonglobe.com/metro/2013/09/02/boston-public-schools-will-offer-free-lunches-all-students/2aaUy5sxJl9ndGDHxkj/story.html>.

VSFJ (Vermont Sustainable Jobs Fund). 2011. *Farm to Plate: A 10-Year Strategic Plan for Vermont's Food Systems*. Montpelier, VT: VSFJ. Accessed April 10, 2012. <http://www.vsjf.org/project-details/5/farm-to-plate-initiative>.

Ward, Wesley T., ed. 2001. *Land Conservation Options: A Guide for Massachusetts Landowners*, Fifth Rev. Ed. Massachusetts: Essex County Greenbelt Association and The Trustees of Reservations. Accessed December 10, 2013. <http://www.thetrustees.org/assets/documents/what-we-care-about/LandConservationOptions.pdf>.

Wicked Local Cambridge. 2013. "Cambridge to honor 'Food Heroes' Monday, Oct. 21." *Wicked Local Cambridge*, October 18. <http://www.wickedlocal.com/cambridge/news/x529841438/Cambridge-to-honor-Food-Heroes-Monday-Oct-21>.

Wilkins, Jennifer L. and Marcia Eames-Sheavly. 2003. "A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture." *Discovering the Food System*. Ithaca, NY: Cornell University Extension. Accessed March 15, 2012. <http://www.discoverfoodsys.cornell.edu/pdfs/foodsys.pdf>.

Wolfe, B.L. and R.H. Haveman. 2002. "Social and nonmarket benefits from education in an advanced economy." *Conference Series, Proceedings* June 2002, 97-142. Boston, MA: Federal Reserve Bank of Boston. Accessed April 12, 2012. <http://www.bostonfed.org/economic/conf/conf47/conf47g.pdf>.

WW (Wholesome Wave). 2013. "Double Value Coupon Program." Accessed November 19, 2013. <http://wholesomewave.org/dvcp/>.

[This page intentionally left blank.]

GLOSSARY

agricultural commission (AgCom): one type of food systems group that focuses on agriculture and the production sector of the food system; usually operates at the local level in rural areas and communities with significant agricultural history

Agricultural Preservation Restriction (APR) (conservation restriction/easement): voluntary legal agreement between landowner and conservation organization or government entity designed to restrict land for agricultural purposes; landowner retains ownership

brownfield: a former industrial or commercial site where reuse or development is complicated by the real or perceived presence of hazardous substances, pollutants or contaminants

community garden: an area of land designated for the growth and harvest of food crops and/or non-food, ornamental crops, e.g., flowers. Land may be divided into individual plots or may be farmed collectively.

compost: organic material created by combining organic wastes (e.g., yard trimmings, food wastes, manures) in proper ratios to facilitate biological composition; used to enrich soil with essential nutrients

comprehensive plan (or master plan): a document that provides a municipality with a framework for social, economic, and physical public policy; typically outlines long-range community needs and guides growth and development

consumption: activities and processes by which a society acquires and uses food material

farm-to-institution: program that connects farmers with institutions including hospitals, schools, and correctional facilities who wish to purchase and serve fresh, locally grown produce

farmers' market: place where farmers sell their products directly to consumers, often weekly in a public outdoor space

food hub: facility that works to aggregate/store local produce, prepare/ process regional foods, and broaden distribution opportunities for small and midsize farmers, increasing their ability to access markets

Food Policy Council (FPC): one type of food systems group that most often addresses issues from an urban consumer and environmental social justice perspective; usually operates at the state and local/county level

food security: sufficient availability of and access to food to meet all people's dietary needs and food preferences

food system: all the activities involved in production, processing, distribution, and consumption of food, and in the management of food waste.

food system assessment: a tool used to catalog and understand the current state of a local food system as the first step toward improvement

greenhouse: a structure enclosed in glass or another transparent material in which plants are grown; incoming solar radiation is trapped inside the structure, maintaining warmer conditions for growing

hoophouse: a greenhouse-like structure constructed from flexible piping covered with semi-transparent plastic; enables extension of the growing season in colder climates

land trust: a private, non-profit organization or public entity that works to permanently protect land and its resources for public benefit

MAPC (Metropolitan Area Planning Council): Regional Planning agency focused on metropolitan Boston; region consists of 101 cities and towns in metropolitan Boston, divided into four community typologies

open space zoning: zoning designed specifically to protect undeveloped land; sub-districts can be created

peri-urban/urban agriculture: Urban and peri-urban (between urban and rural) agriculture refers to the production, distribution and marketing of plants, animals, and ornamentals within the core of metropolitan areas and at its edges

production: cultivation of edible plants and livestock

processing: transformation of food into food products

distribution: transportation, storage, and marketing of food from farm to consumer.

rain barrel: container used to collect and store rain water runoff to be used for watering gardens and for other uses

raised beds: a wooden frame constructed on the ground; contains imported, clean soil and compost for growing edible plants

right to farm bylaws (nuisance laws): designed to protect existing farmers by denying abutters and/or the public the right to file nuisance lawsuits for farming practices allowable by law

stakeholder: individual, group, and/or organization with a specific interest in an issue or project

stakeholder analysis: process of “mapping community resources” to identify potential community partners and/or supporters

Transfer of Development Rights (TDR): technique under which development rights can be severed from a tract of land and sold in a market transaction; land with rights removed is restricted

permanently under a non-regulatory conservation easement

waste management: collection, sorting, processing, and conversion of food waste into compost or diversion to a landfill

zoning: regulatory mechanism that regulates the use of land and controls the physical aspects of property development; common euclidian zoning districts include residential, commercial, agricultural, open space, and industrial

zoning overlay: a regulatory tool created to superimpose a special zoning district over an underlying district, often to protect a specific resource or to guide a particular use