

**AN ANALYSIS OF FOOD SYSTEM PLANS
A PLANNER'S TOOLKIT**

by

Jenna M. Hahn

Senior Project

City and Regional Planning Department

California Polytechnic State University

San Luis Obispo

2012

APPROVAL PAGE

TITLE: An Analysis of Food System Plans: A Planner’s Toolkit
AUTHOR: Jenna M. Hahn
DATE SUBMITTED: June 13, 2012

Kelly D. Main
Senior Project Advisor

Signature

Date

Hemalata C. Dandekar
Department Head

Signature

Date

With much appreciation and gratitude for Kelly Main and the Cal Poly City and Regional Planning Department for all of your guidance, passion, and support throughout the development of this report and my undergraduate career

Table of Contents

1.1 Introduction	1
1.2 Report Organization	2
1.3 Methodology and Research Approach	2
2 What is Food System Planning?	5
3 Major Themes	8
4 Case Studies	22
5 Reflections	41
References	47

1.1 Introduction

Planning as a profession is distinguishable as being extremely comprehensive in its approach to tackling the issues of today and the future. However, until recently, comprehensive food system planning has been omitted from most planning job descriptions. Planners have been dealing with different phases of the food system for decades, tackling issues such as agricultural preservation and development boundaries, environmental stewardship, economic development, social equity, zoning, and more. Food system plans seek to bridge the gaps between previously separated planning, political, and economic systems to create a more resilient future for communities. Something as essential as how a community feeds its people, where the food comes from, the production and consumption cycle only seems logical to be included in the plans for the future.

There is a growing movement within planning, nonprofit organizations, government, and concerned citizens to take a deeper look into the way food is planned for and accessed. Food planning spans across nearly every facet of planning: land use issues, economics, farmland preservation, fossil fuel used to generate and transport food throughout the cycle, environmental and pollution concerns, public health, social equity and food accessibility to people of all incomes and regions, and sustainable development principles. This report analyzes the current trends in planning techniques and best practices with the intention to better understand these complex issues that are deeply integrated into food systems. Because this is a relatively new field of study and practice, this report aims to act as a toolkit and starting place for interested planners to gain better tools and knowledge to integrate food system planning into communities and their careers. This is done by looking at an overview of issues facing the food system and ways that different municipalities and regions are taking on the challenge.

1.2 Report Organization

This report is organized into five chapters. The first chapter is an introduction to the report and explanation of methodology. The next chapter briefly examines what a food system is, its elements, and who it affects. The third chapter synthesizes information on the existing issues and themes encompassed in food systems; the purpose is to establish a knowledge base for planners to understand that the current U.S. food systems are not functioning sustainably and to help make the argument of why comprehensive food system planning is necessary to start to mend the system. To further analyze existing data, opinions, and consensus, the fourth chapter compares rural and urban food system plan case studies. The findings from previous sections are used to reflect on the state of food system plans and provide best practices and resources for planners to use when building and implementing successful food system plans or components.

1.3 Methodology and Research Approach

In order to achieve the goals of this report, research was conducted based around five main questions related to the current state of food system planning and are answered throughout the following sections. Research was conducted by reviewing current literature published in professional journals, existing food system plans, periodicals, lecture series, books, organizations, and websites.

Question: What is the relevance of implementing food system plans?

- In order to successfully demonstrate the connection of the multitude of issues within current food systems to the planning profession, it is essential to clearly define a food system and food system plan. Chapter 2 aims to set the tone for the remaining research and explain why this type of work is of great priority to be incorporated in the planning of communities’ futures.

Question: What are the existing issues connected to food system plans?

- Before any analysis of case studies or recommendations and best practices can be developed, a thorough investigation of existing issues and themes within food systems is pertinent (Chapter 3). By answering this research question, readers will understand the background data necessary to assess the need for and quality of food system plans.

Question: What are the current professional opinions about food system planning and what is the role of city planners in food system planning?

- This question aims to assess what is currently being done within the planning profession to implement (or not) food system plans and why food system planning has not traditionally been an issue of major concern within in the planning of communities. Chapter 3 will also look at the role city planners can have in food system planning. Understanding the professional response to these issues is essential to knowing how to best move forward with recommendation strategies.

Question: What are the indicators and characteristics of a successful food system plan?

- It is necessary to understand what ideas have been successful in practice (Chapter 4) rather than simply worded nicely but have not been tested. Identifying successes and failures can help planners to more efficiently make food system plan decisions, prioritize issues, and implement plans. The case studies section of this report aims to analyze the indicators and characteristics of successful food system plans.

Question: What tools do planners need to better introduce and educate the public about food system plans?

- All of the preceding research leads to the creation of a planner’s toolkit (Chapter 5) to provide information and resources to assist with strong food system plan development and implementation.

2 What is Food System Planning?

A system is “a regularly interacting or interdependent group of items forming a unified whole” or “a form of social, economic, or political organization or practice” according to Merriam-Webster (Merriam, 2012). In order for a system to carry out its purpose, all parts of a system need to be working in harmony (Hesterman, 2011, p. 3). A food system “refers to the network of activities, actors, resources, regulations, and institutions required to produce, process, distribute, and dispose food,” as seen in Figure 2.1 below (Neuner, Kelly & Raja, 2011). It is influenced by society, politics, technology, and different scales of the economy throughout each stage including production (where the food is grown or raised), processing (altering the food from its most elementary state), distribution (how food moves throughout communities and the world including transportation, sales, location, and cost), consumption (purchasing and eating), and disposal (how and where food related waste goes after consumption including landfills, recycling, compost, etc.).

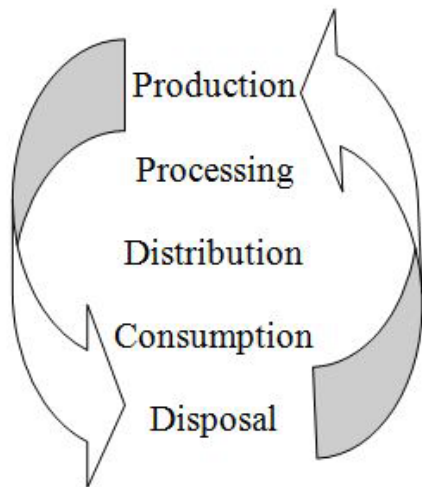


Figure 2.1 Components of a food system

Focusing on each step within the system as an isolated set of events has proven to create unintentional consequences within other stages of the system, society, the economy, and the

environment. New attention is being placed on reexamining how current food systems function and ways to improve efficiency and sustainable functionality as seen by the growing “number of local governments [that] have created stand-alone, comprehensive, food system plans” and other innovative public policy and institutional mechanisms including food as an element within comprehensive plans or plans for a particular component of the food system such as urban agriculture (Neuner, Kelly & Raja, 2011).

Food system planning takes a holistic approach to how food affects society from the beginning of its cycle through consumption and access all the way to the end with different forms of disposal. According to the American Planning Association, food system planning is a collaborative planning process of “developing and implementing local and regional land-use, economic development, public health, and environmental goals, programs and policies” to address six primary concerns that they have identified to be:

- 1) Preserve existing and support new opportunities for local and regional urban and rural agriculture
- 2) Promote sustainable agriculture and food production practices
- 3) Support local and regional food value chains and related infrastructure involved in the processing, packaging, and distribution of food
- 4) 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
- 5) Support and promote good nutrition and health
- 6) Facilitate the reduction of solid food-related waste and develop a reuse, recovery, recycling, and disposal system for food waste and related packaging.

(APA: Planning a Healthy, Sustainable Food System)

These APA primary concerns, supplemented with others identified through extensive research, will be used in the following sections to frame main themes for issues and create criteria for the four case studies.

3 Major Themes

Introduction

This chapter provides: 1) brief descriptions of the major issues and existing conditions in American food systems; 2) a review of the roles planners play in food system planning. This chapter sets the stage for examining case studies and programs’ effectiveness (Chapter 4) and suggesting best practices and recommendations (Chapter 5). For the purpose of this report, the issues presented represent only a summary of the primary concerns with food system and do not claim to cover the entirety because of the complexity of each.

The list of stakeholders involved in food systems – “now more than a \$1 trillion economic engine in our national economy” – is endless (Hesterman, 2011, p. xiii). Some of the most obvious include: farmers, large agribusiness corporations, food retailers and restaurants, consumers, state and federal regulatory agencies such as the Army Corps of Engineers, Fish and Game, and the Environmental Protection Agency, shareholders in large agriculture and food related businesses, local municipalities, environmental groups, etc. However, food systems affect every person on a daily basis, since food is an essential part of life. A large criticism of American society is that the majority of people have lost the understanding and appreciation of where their food comes from, what comprises a balanced diet, and where its waste goes. People have become disconnected from most stages of the food system except for the small part in which they regularly interact with: point of sale and consumption. As society became urbanized, “fewer families were directly involved in producing or even aware of the source of their food” (Hesterman, 2011, p. 8). Movements trying to reconnect society with the broad picture have been emerging around the country, shedding light on the myriad of issues and connecting environmentalists, economists, and sociologists alike under a more interconnected umbrella.

Planners have traditionally had minimal involvement in food planning, often leaving market forces to influence its path. Traditionally planners tackle aspects of a food system independently including agricultural preservation, zoning for different land uses and activities, waste planning and landfill location, and more recently—promoting mixed-use development that includes food destinations. With issues involving environmental degradation, food safety, hunger, public health, landfill capacity, and others gaining increasing attention, planners can no longer look at aspects of food systems as isolated concerns and must realize their potential to interfere and connect healthier food systems (Cassidy & Patterson, 2008, p. 2). Environmental degradation and loss of land to development pose large threats to future generations’ ability to provide food to growing populations. Although technology is allowing for higher productivity of land, intensification of chemical use and animal crowding often comes as a trade-off to achieve this. Society is placing a higher demand for food on smaller parcels of land. Looking at individual issues was not because planners did not care; it was because the status quo is often preferred among decision makers, especially when negative effects are not clearly understood, yet played out, or show greater connections to other issues. Because food systems involve so many stakeholders, different agencies, and issues, planning for them can often be an extremely daunting task.

Much of American history is deeply rooted in agricultural activity, especially with abundance of land to settle on. From 1810 to the end of the twentieth century, the nation saw a drastic change from 93% of the population in living in rural communities that were mostly self-sustaining to over 75% living in urban (United States). The technological advancements spurred by the industrial revolution and afterwards made strides for increased production due to machinery, crop genetics, and chemicals that have all “played a role in creating the most

productive food system the world has ever seen in terms of the amount of food produced and the number of people being fed” (Hesterman 2011).

Agriculture has dramatically changed after World War II as suburban neighborhoods developed and small scale farming fell aside to large-scale industrial farms. Recent farming practices have been criticized for being environmentally and economically unjust. Although large scale agriculture is seen by many as a modern marvel based on its increased productivity, it has become an increasingly resource-intensive sector which environmental planners and municipalities have direct concerns over. Land, water, energy, fossil fuels, and human power all contribute to its ability to function. Patterns in agriculture have seen an increase in the usage of resources, each coming with a myriad of their own issues.

Several important pieces of legislation have helped to influence a movement towards large scale, industrial agriculture: “the Agricultural Adjustment Acts of 1933, 1938, and 1940 and the Commodity Credit Corporation Act of 1948—now joined into what we refer to as the Farm Bill” (Hesterman, 2011). These bills were passed largely in response to the Dust Bowl and Great Depression to protect the income of farmers and the low price of food for consumers. With the Farm Bill, small farms began to disappear and large, machine-dominated industrial agriculture emerged. The goals for the policies were appropriate for the time to create a steady and affordable source of food to feed a growing nation; however, it is important to examine unintended consequences and not assume solutions to be static throughout time. Later, during the Reagan administration, more subsidies that benefited large agribusiness were created to help keep the price of food down. Small and family farms face problems receiving subsidies, which support large scale agriculture that “often encourages environmentally degrading agricultural methods and can make it difficult for farmers to change their practices” out of fear of losing their

subsidies that often financially sustain them (Cassidy & Patterson, 2008). Agricultural subsidies have now become a major point of contention within the food debate.

According to the Bureau of Labor Statistics, more than 40% of farmers are 55 years or older. The aging farmer population has led to concerns about the long-term health of family farms as an American institution because it has become increasingly difficult for young people to enter into farming unless they inherit a farm (Demographics, 2009). Industrialized agriculture utilizes many specialized machines that can cost tens to hundreds of thousands of dollars, making it nearly impossible for start-up or small family farms to compete with large farms. “Since 1935 the US has lost 4.7 million farms” which has large effects on local economies and therefore municipalities that city planners plan for (Anderson, 2007).

The six categories that issues will be grouped into, and later used to base analysis of case studies on, include: agricultural preservation; sustainable agriculture; local systems of processing, packaging, and distribution; food security; nutrition and health; and food-related waste. The final section of this chapter discusses food system planning from the perspective of a city or regional planner.

3.1 Agricultural Preservation

Rapid urban and suburban expansion over the past century has resulted in the loss of prime agricultural land. According to the American Farmland Trust (2012), more than 23 million acres of American agricultural land have been lost to development in the past 25 years (net loss of nearly one million acres per year). While population continues to grow so does the demand for food. The combination of increased population and decreased farmland puts even more pressure on farmers to increase their yields—often encouraging increased use of chemicals and fertilizers to achieve larger yields.

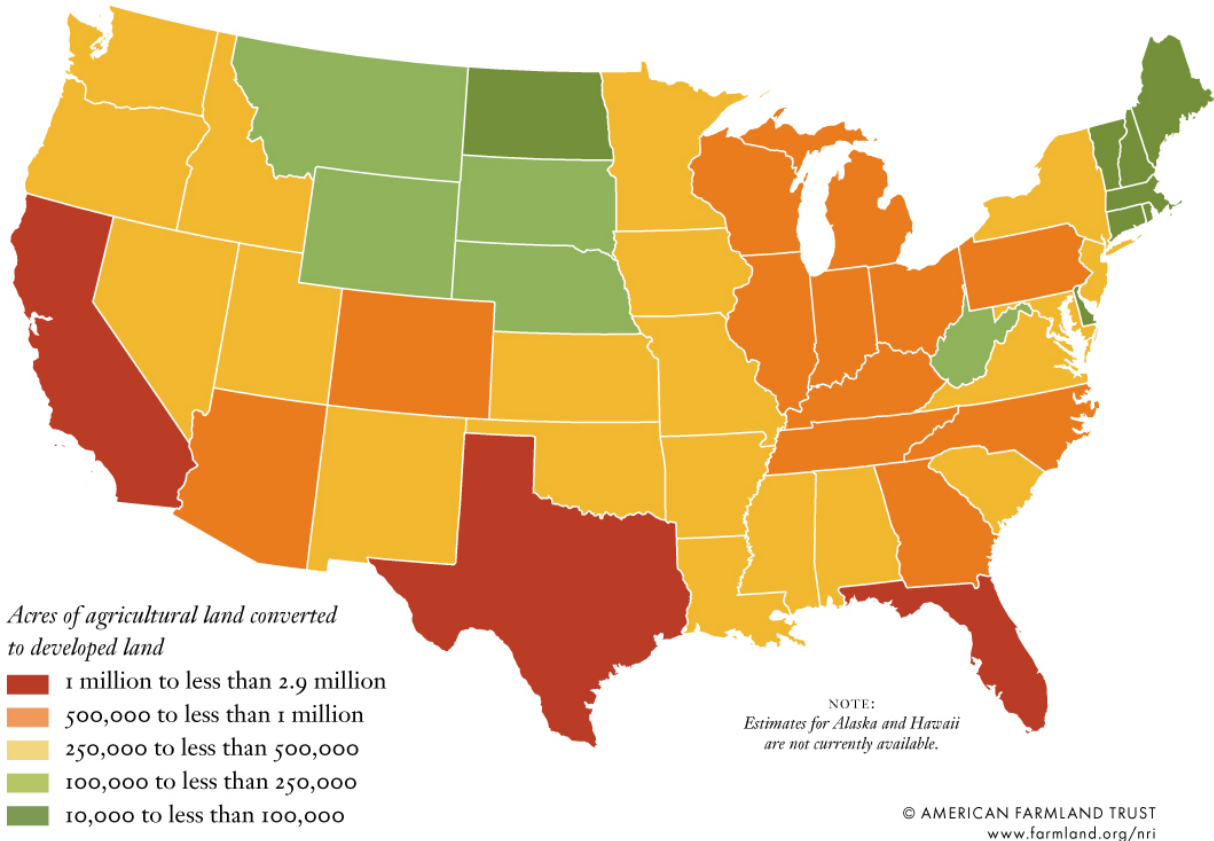


Figure 3.1.1 Net agricultural land converted to developed land from 1982-2007.

Source: American Farmland Trust: *Saving the Land That Sustains Us*. (2011). Retrieved March 3, 2012, from <http://www.farmland.org/>

The national highway systems developed during the mid-twentieth century increased accessibility to previously secluded areas that quickly felt the pressure of suburban sprawl. Farmland conversion has been a long lasting debate within communities, especially for those wanting the freedom to grow as they see fit. Developing on fertile farmland often seems economically appealing to increase property value, attract people (and money) to an area, and serve the “American Dream” trend of larger houses and space. The average American “house size has more than doubled since the 1950s” which amplifies suburban sprawl (Adler, 2006).

The impacts of land use decisions are placing pressures on American farmland. Planners have a large influence over land use decisions regarding development patterns and agricultural

preservation. Legislation, such as the Williamson Act, aims to protect and subsidize existing farmland which is essential to feed growing populations. Population growth is not the main problem: from 1982 to 2007, the U.S. population grew by 30 percent but developed land increased 57 percent (American Farmland Trust, 2012). As property value increases, many farmers are tempted to sell their land to developers since farming is an expensive industry and farmers often are looking for retirement solutions as the population continues to age. Trends like this are also being seen around the world as more people migrate to cities and large corporations and populations expand into previously farmed land. This only compounds the growing global food security and famine problems as previously subsistence farmers leave, or are forced off, their land.

New movements are developing across the nation to restore local food growth and appreciation to help support local economies and be more environmentally conscious. Case studies will be examined in later chapters of this report to explore different approaches and priorities throughout the country.

Local Infrastructure Barriers

The patterns that street and highway systems have expanded have allowed for the leapfrog development of suburban and urban areas, often at the cost of prime farmland. Many neighborhoods also do not want to experience some of the negative effects that farming can have such as noise, smells, and dust near their homes. Traditional infrastructure development can discourage urban agriculture because it may not support the necessary water usage or drainage for runoff associated with managing an urban farm or garden. Cities that are trying to implement more local food and urban agriculture have been learning this lesson, as well as the difficulty that

many standards, codes, and regulations built into a municipality have that prevent the start of some of these projects.

3.2 Sustainable Agriculture

While modernization and subsidies have had great benefits to increase predictability and stability of crops and prices, it has contributed to “topsoil depletion, groundwater contamination, the decline of family farms, continued neglect of the living and working conditions for farm laborers, increasing costs of production, and the disintegration of economic and social conditions in rural communities.” Sustainable agriculture and healthy food systems has been gaining more respect and is beginning to be more accepted within mainstream agriculture because it aims to relieve the negative impacts mentioned throughout this chapter and protect agriculture for future generations on environmental, social, and economic levels.

Soil Erosion and Degradation

Soil is comprised of intricate microorganisms and culture that give life to plants and other species and hold roots and water in place. The health and materials of soil greatly affect water runoff/absorption rates. Unless properly planned for and managed in agricultural practices, topsoil erosion due to water and/or wind is likely to occur. Topsoil is essential to crop success and yields. A 2006 Cornell University Study found that the United States is losing soil at about four tons per acre per year, 10 times faster than the natural replenishment rate. This reduces the ability of soil to store water and support plant growth, thereby reducing its ability to support biodiversity and increasing reliance on fertilizers. It is estimated that soil erosion costs the nation about \$37.6 billion each year in productivity losses (Lang, 2006). Eroded soil particles from

agriculture have become the largest contaminant both in weight and volume to surface waters, such as rivers and lakes (Hesterman, 2011).

Water Contamination

Soils contaminate water with both sediment and fertilizer/herbicides/pesticides. All of these sediments can change the PH of water, the amount of sunlight penetrating surface waters, the amount of oxygen due to excess of nitrates (therefore leading to eutrophication and dead zones), have harmful health effects on the environment, wildlife, and humans, etc. A national water quality assessment conducted by the U.S. Geological Survey in 2000 found herbicides in 37% of groundwater sites studied (Hesterman, 2011). Also, according to the EPA’s most recent National Water Quality Inventory Report to Congress in 2004, pursuant to section 305(b) of the Clean Water Act, the leading source of impairment in assessed rivers, streams, and lakes was due “agricultural activities, such as crop production, grazing, and animal feeding operations” (United States, 2004). Although water quality has improved since the adoption of the Clean Water Act, it is still facing many issues and needs to be improved as many of the environmental contaminants and effects compound over time.

Water Use

Irrigation has made agriculture and certain crops possible in areas that were previously unable to support it because of natural systems and geography; irrigation has provided many benefits to food production. As with any alteration to natural systems, it can also have negative effects. If not properly managed, irrigation can deplete local water sources including aquifers,

lakes, and rivers as well as increase soil erosion (and therefore chemical exposure to the environment), and increase salinization of soils.

Irrigation is mostly seen in the Western part of the United States due to the arid climate and low annual rainfall; however irrigation practices have grown in Eastern states more recently. Currently less than 15% of American cropland is irrigated and is the largest use of freshwater in the United States (USGS, 2005). Water use has decreased by 8% from 2000 levels and is now approximately equal to estimates of irrigation water use in 1970. Decrease in water used shows improvement in agricultural practices to create a more sustainable system.

3.3 Local Systems of processing, packaging, and distribution

Climate Change

With peak oil and climate change a growing concern, especially within the field of planning based on the growing number of climate action plans developed and implemented, it is essential to look at the food system’s demand and effects since 25% of fossil fuel use and air pollution is attributable to food production, processing, and transport—continuing dependence on foreign oil and climate change (Roberts, 2001). On average, food travels 1,500 miles from production to the consumer, adding pressure to the emission-heavy transportation system that includes planes, trains, trucks, and boats. On a personal scale, 20% of all car trips are food related (Cassidy & Patterson, 2008).

Besides CO₂ emissions and petroleum use which often gathers much public attention, methane and nitrous oxide are both greenhouse gases that byproducts of the food system that are more potent pollutants and have much stronger climate changing principles. Methane occurs mainly from anaerobic decomposition of manure that is piled instead of distributed across

grazing lands to act as natural fertilizers. 67% of all nitrous oxide emissions in the U.S. are caused by agriculture, specifically from nitrogen rich fertilizer production and use (Hesterman, 2011).

3.4 Food Security

Community food security is defined by the Johns Hopkins Center for a Livable Future as “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice, and democratic decision-making” (Haering, 2009). According to the USDA, 14.5% (17.2 million households) were food insecure in 2010. Populations experiencing food insecurity are disproportionately represented by low-income and minority groups (Coleman-Jensen, 2011).

Food deserts, which are disproportionately represented by low-income communities and households without regular access to vehicles, are “with limited access to affordable and nutritious food” or full service grocery stores (USDA, 2009). These most often occur in urban areas when full-service supermarkets relocate to wealthier suburbs or are too far away. Many households that are food insecure do not have access to a vehicle, so grocery trips often happen less often which lowers the amount of perishable food purchased. Also, grocery shopping can be difficult if utilizing public transportation for means of carrying large amounts of groceries or transporting frozen items so people are often deterred from this. With these considerations, many households utilize neighborhood stores that often do not offer many nutritious or fresh food options. Food security poses issues related to low-income neighborhoods and amenities, land use decisions, affordable housing and services, emergency food services, and adequate public transportation.

3.5 Public Health and Nutrition

A leading health concern in the United States today is obesity and other diet-related diseases. Americans have the highest percentages of obesity in the world. Reasons vary from land use planning and locations of food services, levels of walkability, lifestyles, and access to affordable, nutritious food – all issues that city planners attempt to tackle through policy and design. Areas with highest levels of obesity are often places with low median household incomes and people have to eat cheap, unhealthy food. A food system plan addresses public health by attempting to better create physical and economic access to food for all people in a community. The problems of diet related diseases is then compounded by low-incomes by often being coupled with little, or no, health insurance.

Besides obesity, type two Diabetes is growing. In the beginning of Diabetes diagnoses, it was considered an adult disease, but childhood diabetes continues to rise every year. Cancers, hypertension, and heart disease are also strongly linked to diets and exercise and place a strain on the healthcare system and the lives of individuals and families. The designs of neighborhoods also greatly affect people’s ability to walk or ride bikes. With poor connectivity, further dependence on vehicles is necessary for even short trips. Food movements are growing momentum because such a percent of the country is being directly affected by diet related disease in epidemic levels, so food systems plans and components are becoming more popular.

Another important aspect is food education through “projects such as farmers’ markets, community gardens, promotion of culturally specific foods for ethnic minorities and Native Americans, local food production and promotion, youth agricultural and culinary training programs, and many other types of programs have all been implemented in a variety of settings,

both urban and rural” (USDA, 2009). Projects like these help to educate people of all ages on the effects of food on the body, healthier alternatives, and give a better understanding of where their food comes from since many people have lost this connection.

In addition to diet’s effects on disease, food safety concerns have been growing. Food recalls are often seen as isolated events rather than a symptom to agricultural practices. Animal production has required the increase in antibiotics because of cramped living conditions that breed dangerous diseases. Centralization of agribusiness also makes it difficult to pinpoint outbreaks such as salmonella, and also makes larger crops vulnerable.

3.6 Food-Related Waste

Another effect of population growth on land use strategies is how to deal with the growing amount of waste on a planet with finite space. Landfills and disposal areas often result in extremely harmful environmental effects including groundwater contamination, habitat deterioration, and greenhouse gas emissions. Waste transportation degrades local roads through more miles traveled with heavier loads, increases vehicle emissions, and reliance on foreign oil. They also are a sensitive land use planning subject as communities look to plan for the future. According to the United States Environmental Protection Agency, the largest contributor of municipal solid waste to landfills and incinerators was food waste with a staggering 33.79 million tons discarded in 2010; see figure 3.6.1. “Food waste includes uneaten food and food preparation scraps from residences or households, commercial establishments like restaurants, grocery stores, cafeterias and industrial sources” (Environmental Protection Agency, 2012).

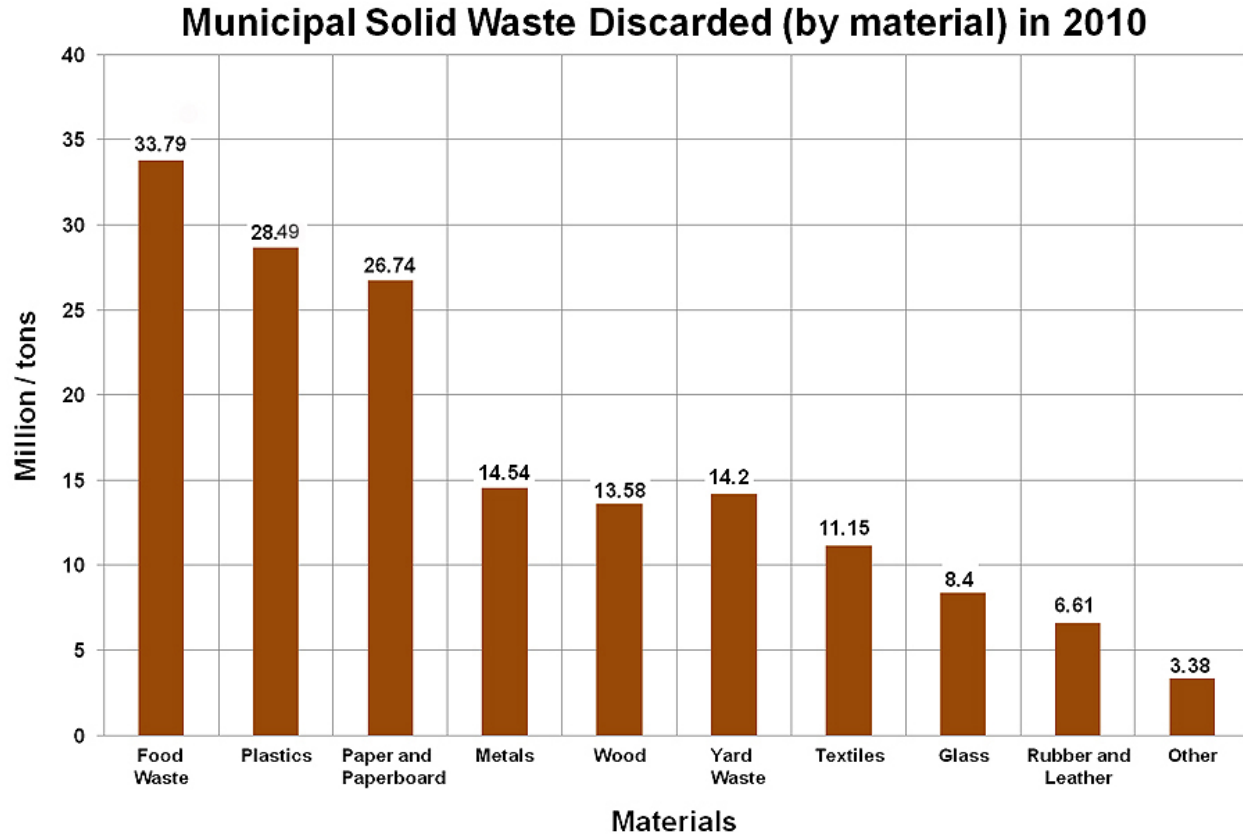


Figure 3.6.1: United States Environmental Protection Agency waste discarded
Source: Basic Information about Food Waste. (2012, April 9). United States Environmental Protection Agency. Retrieved April 15, 2012, from <http://www.epa.gov/osw/consERVE/materials/organics/food/fd-basic.htm>

In addition to environmental concerns, generating food waste has significant economic impacts. It is very costly to families to purchase food and therefore waste their money; and also increasingly more expensive for municipalities to collect, transport, and dispose of their waste, using valuable tax dollars.

3.7 Planners’ Roles in Food System Planning

In the late 1990s planning scholars began researching and writing about the lack of comprehensive approaches to the complex food system. In hopes to partially follow up on a 1996-97 survey, an online survey of American Planning Association members was conducted from September 2007 through January 2008 to gain opinion on the role of planners in

community and regional food planning. One hundred ninety two APA professionals responded, representing a wide variety of backgrounds (Raja et. Al 2008). About 70 percent of respondents in the 2007-08 survey believed that community and regional food issues should be an area in which planners should be significantly involved, a large shift from the 38 percent from ten years earlier. Although the majority of planners recognize the need for comprehensive food planning, 71 percent of respondents reported that their organization had little to no involvement in food issues. They attributed this to different barriers including lack of resources, lack of trained staff, lack of political support, lack of organizational awareness, different work focus, lack of community support, and more. However, the lack of education amongst planners was cited by 51 percent of respondents as being the major barrier; this problem is easily remedied through continued education and attention from APA, especially at their regional and national conferences (Raja et. Al 2008).

Frequency of APA food planning articles, publications, and interest has increased largely since Professor Jerome Kaufman’s keynote address at the 2004 national conference. Later, the 2005 and 2006 conferences offered food tracks with over 80 submissions for workshops from planners each year. In 2005 APA also initiated a Food Interest Group (FIG) comprised of APA members interested in, or actively engaged in, food system planning at the local, regional, state, or national level. Since then, APA has continued their commitment to food systems by publishing many influential reports, some of which include: *Policy Guide on Community and Regional Food Planning* in 2007, 2008 Planning Advisory Service Report 554 *A Planner’s Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Health Eating*, two issues of *Zoning Practice*, a special issue of *Planning Magazine*, and more.

4 Case Studies

Communities all over the country are implementing food related programs and policies, but comprehensive food system plans are still relatively new. Food system plans were easier to find from urban areas, where many of the existing issues discussed in chapter three of this report are compounded especially because of built out land and concentrations of low-income households. Many rural areas that are surrounded by agriculture place much of their food related efforts on agricultural preservation (depending on growth goals) as a component of other plans, such as their general plan. Although finding rural areas with a defined food plan proved to be more difficult than urban plans, the number is growing. This chapter aims to analyze two urban and two rural case studies of adopted food system plans to gain a better understanding of priorities and goals for different community sizes. The case studies were chosen based on the amount of resources found during research that referenced them as examples. Geographic location was also taken into account: both urban and rural case studies have one example from the western United States and one example from the eastern United States.

While finding case studies to analyze for this report, many best practices were discovered that were independent of a comprehensive food system plan. Food system plans can be difficult to create and implement because of many different factors, including level of community support and public outreach, political agendas, and cost to produce/implement. Some successful strategies that communities have implemented, that are not part of a food system plan, but deserve mention in this report (especially since many of these strategies can be included in food system plans of the future) include: food policy councils, farm-to-school programs, community supported agriculture, farmer’s markets (grown from 1,755 in 1994 to 7,175 in 2011 known to the USDA nationwide), healthy food education programs, urban agriculture and gardens,

composting programs, food waste donation organizations (utilizing the Good Samaritan Law). For further information on best practices and recommendations, please see Chapter 5 of this report.

For the following four case studies, all information was gathered directly from the adopted plan unless otherwise cited.

4.1 Rural Food System Case Studies

4.1.1 The Northeast Kingdom Food Systems Strategic Plan

The northeast region of Vermont has become recognized as a leader in rural food system planning. The ultimate goal of this plan is to drive the development of new and more diverse agricultural activity within the area’s economy and to develop a comprehensive strategy to stimulate this innovative food system sector for the three counties of the region: Caledonia, Essex and Orleans with over 65,000 people. The area is one of the most economically disadvantaged in Vermont, but is known for its beautiful farmland and pristine forests. The Northeast Kingdom Food Systems Strategic Plan came about in 2012 in response to the regional food commission’s desire to assess the current regional food system and choose strategies that would further develop the food system and enhance economic development; it was adopted in June 2011.

Through extensive stakeholder participation and public outreach, 10 broad goals were developed for the NEK food system. Over 45 individuals were interviewed from all aspects of the food system, and over 75 participants attended public planning sessions to provide feedback on draft goals and recommendations. Each broad goal has a set of recommended strategies and action items aimed at reaching that goal. The full plan includes specific targets and measures for

each goal, as well as a discussion and prioritization of recommended strategies and action items. The goals and actions are tailored to be applicable at the regional level but took into consideration the Vermont Farm to Plate Strategic Plan throughout the process for consistency.

In order to boost the local economy, local officials and members of the public recognized the benefits of strengthening their food system. In addition to extensive public outreach, in-depth analysis of existing conditions and assets to the regional food system was developed. The plan attempts to look holistically at different demographic, economic, health and environmental trends and tries to draw connections between the different complex issues, as seen especially in chapter 4: *Cross-cutting Issues and Support Systems*.

The ten goals developed for the plan are:

1. The Northeast Kingdom will have increasingly localized, affordable, and sustainable farming and production inputs including energy, fertilizer, seeds, forage, and feed.
2. More food will be produced in the Northeast Kingdom for local and regional markets; production will continue to diversify; and farmers and food producers will be able to be profitable.
3. The NEK food processing and manufacturing sector will grow, increasing value-added food production and providing farmers and producers with additional local and regional markets.
4. There will be a sufficient supply of storage, aggregation, distribution, telecommunications, and other forms of on-farm and commercial infrastructure to meet increasing year-round consumer demand.
5. The demand for local food will increase, local food consumption will rise, and appropriate marketing channels will help drive up the demand for local food, including agritourism,

regional marketing, buy local campaigns, matchmaking and brokerage services, and education and awareness.

6. Farm and food wastes will be recycled to produce compost and energy that will be used as production inputs.
7. NEK residents will increasingly become more food secure; will have economic access to fresh, healthy, and local foods; and food-related health outcomes will be improved.
8. Agricultural land will remain open and available to future generations of farmers and the food system will have increasingly positive impacts on environmental quality.
9. Food systems and agriculture education, training, and workforce development will continue to be developed and offered in primary, middle, secondary, and post-secondary schools and training programs, and the labor force will meet the needs of the food system sector.
10. Support and leadership for food systems (e.g., economic development, workforce development, financing, research, marketing, business planning, technical support, etc.) in the Northeast Kingdom will be adequately coordinated to provide maximum support and these support organizations will work to meet the needs of producers and to provide healthy, fresh, and affordable local food for all residents.

The following chart lists strategies to reach the ten goals set forth in the plan. The strategies are divided into the six main themes identified in Chapter 3 to understand how the plan proposes to address each.

The Northeast Kingdom Food Systems Strategic Plan	
Theme	How it is addressed
Agricultural Preservation	Public information on federal and state loan and grant programs. Develop new and support existing programs to increase access to farm land, including new localized/regional efforts to help place new and existing farmers on underutilized land, both through land sales and leases. The NEK could develop a farm land inventory and GIS database of potential land owners willing to lease land for agricultural use to farmers that is easily accessible to new and existing farmers. Also develop an NEK-based land trust farm fund to raise more funds for farmland conservation. Economic development organizations continue to support and fund farming and other food systems business endeavors as a viable economic development tool.
Sustainable Agriculture	Invest in renewable energy for food production and energy efficiency programs, farms should be provided technical support in energy efficiency. Develop a regional soil monitoring index. Encourage sustainable production and waste management methods that reduce negative environmental impacts.
Local Systems of Processing, Packaging, Distribution	Seek opportunities to promote the production of niche markets that are not being widely produced in the NEK if there is evidence of market demand: aquaculture, honey, beans, poultry, hogs, sheep and goats. If there is not a known market demand, conduct feasibility studies on these products. Develop a comprehensive, up-to-date list of Vermont-produced raw ingredients. Lightly process NEK-grown fruits and vegetables at community kitchens and processing facilities. Increase meat processing capacity and by helping farmers to stagger their slaughter dates throughout the year. Explore opportunities in the NEK to support additional food processing endeavors. Create more distribution opportunities, including transportation, aggregation, and storage, for internal freight movement. Serve more local food at institutions. Form multi-farm CSA or multi-farm buying club cooperatives
Food Security	There are 17 food shelves in the NEK. Develop a comprehensive gleaning program in the NEK that includes the integration and coordination of new and existing community-based efforts, agricultural gleaning, retail and food service recapture, and aggregation/distribution facilities. Expand EBT machine usage for SNAP. Form a diverse region-wide NEK Food Security Task Force to address hunger and food insecurity
Nutrition and Health	Public education programs about benefits of eating healthy foods
Food-Related Waste	Support existing programs and facilities that support food and farm waste recycling. A major education campaign is needed to recycle nutrients into compost for soil, energy, or for animal feed. Nutrient matter pick-up programs should be expanded and developed.
Other	Workforce development and training: Expand and coordinate food systems and agricultural education programs in secondary and post secondary schools. Expand farm-to-school programs and school gardens to every public elementary, middle, and high school in the Northeast Kingdom

Focus and Implementation

The plan places a large emphasis on background information on the current state of issues in the Northeast Kingdom, with the first four chapters having this as their focus. The plan almost appears to serve more as a research report for public education than an implementable plan. Chapter five gives strategies for each of the ten goals identified by the plan, but are very vague and seem to be simply idea based but are lacking a strong foundation. They include a priority level, implementation target, ease of implementation, and potential implementing actors and/or funding sources for each strategy. None of the strategies are clearly defined and it seems like it was published without enough focus on implementation. This plan seems like it would need many other supplemental plans and ordinances to implement. The implementation chapter identifies agencies and stakeholders that could possibly use the strategies in the future.

Much of the focus of the goals and strategies were economically based such as increasing local agriculture and sales of local food. There was very little focus on accessibility to healthy or affordable food which was surprising since the area is lower income than the rest of Vermont.

4.1.2 Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan

Multnomah County is located in the northwestern portion of Oregon and is part of the Portland metropolitan area. The current population of the County is just over 735,000 and has a range of urban and rural landscapes. Oregon is ranked second in hunger by the US Department of Agriculture with about 36,000 people in Multnomah County access emergency food boxes each month (Multnomah County Office of Sustainability, 2010). The County only gets a very little amount of its food locally and is experiencing struggles with access of affordable and healthful foods with a 24% obesity rate, 55% overweight, and 30% of Multnomah County

children receiving food through the SNAP food assistance program. The plan hopes to alleviate some of the pressing issues with food facing the County.

The Multnomah Food Initiative started as an innovative community partnership to develop a shared food system vision, goals, and an action plan that will promote issues of health, social justice, economic vitality, and sustainability within our regional food system. The Multnomah Food Action Plan presents an opportunity for the community to collaborate, plan and invest wisely on community-prioritized goals and actions that was created by the Multnomah Food Initiative Steering Committee and over 400 organizations and community members (Multnomah, 2012). The plan outlines 16 goals and 65 collaborative actions for local government, businesses, non-profits, faith communities and education facilities to improve a local and sustainable food system. A unique aspect of this plan that was not found in other case studies was that it provides specific indicators for each goal to track progress including current conditions and benchmarks for 2018 and 2025. The plan also offers 40 actions that individuals can do in their daily choices to help make a difference and implement the plan. Food system principles and sustainable food are defined early on and a glossary is included at the end to help give readers understand what the plan means when using these words since definitions can vary depending on the audience.

There is a large emphasis on action including what individuals and organizations can do to: support the vision, advance strategic priorities, use collective voice and build coalitions, find funding, align with other plans, frame issues, and make choices. It is also visually laid out well to keep readers engaged and create a clear hierarchy of issues. The following goals are established in the plan:

1. Protect and enhance the agricultural land base

2. Support small and mid-scale farms
3. Increase urban food production
4. Encourage sustainable resource stewardship
5. Create environments that support health and quality of life
6. Increase equitable access to healthy, affordable, safe, and culturally appropriate food in underserved neighborhoods
7. Promote individual and community health by encouraging healthy food choices
8. Increase awareness of food and nutrition assistance programs
9. Address the cause of hunger, food insecurity, and injustice
10. Increase community resilience
11. Facilitate equitable community participation and decision-making
12. Create opportunity and justice for farmers and food system workers
13. Develop the regional food economy and infrastructure
14. Promote local and regional food products and producers
15. Encourage farm to school and institutional purchasing that support the regional food system
16. Create local food system jobs

The following chart lists strategies to reach the sixteen goals set forth in the plan. The strategies are divided into the six main themes identified in Chapter 3 to understand how the plan proposes to address each.

Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan	
Theme	How it is addressed
Agricultural Preservation	Is a goal under the Local Food section. Minimize expansion of the Urban Growth Boundary. Promote integrated land uses. Support small and mid-scale farming ventures and increase urban food production.
Sustainable Agriculture	Encourage environmental resource stewardship by increasing acres of land enrolled in Conservation Reserve, Wetlands Reserve, Farmable Wetlands, or Conservation Reserve Enhancement Programs. Sustainable, local food that is produced close to where it is consumed and in an environmentally responsible manner.
Local Systems of Processing, Packaging, Distribution	Increase acreage of Urban Food Production - convert underutilized land into food production. Develop a local seed library. Strengthen local processing and distribution capacity. Increase local purchasing in the retail sector. Promote integrated land use. Portland Public Schools is national leader in farm-to-school with over 30% of food locally sourced. Create more community gardens. Secure funding for OSU extension service programming on growing, cooking, and preparing nutritious food.
Food Security	Make healthy food more affordable and accessible than unhealthy food. Survey, develop, and map community assets. Promote healthy food financing initiatives. Connect surplus food with need by expanding food bank donation channels, connecting gleaning programs. Increase acceptance of SNAP/WIC in programs such as farmers markets and CSA farms and seek matching funds.
Nutrition and Health	Reduce unhealthy food availability. Adopt robust, coordinated, and consistent policy across local governments and institutions that support healthy food. Implement wellness policies. Enhance community advocacy and education efforts
Food-Related Waste	Not addressed.
Other	Community education: Host an annual Food Summit and Harvest Festival. Increase awareness of food and nutrition assistance programs. Social Equity: focuses on systemic social equality and explores the root causes of hunger and food insecurity. Create a just food system that protects farmers and farmworkers' rights and uphold dignity and quality of life for all who work in the food system through living wages, health care, and safe working conditions. Facilitate equitable community participation and decision-making.

Focus and Implementation

The Multnomah Food Action Plan is very user-friendly and easy to follow. It is short in comparison to the Northeast Kingdom, but very direct. It includes a matrix of indicators and

benchmarks in for progress for 2010, 2018, and 2025 for each of the goals which helps make the goals seem much more attainable and progress measurable. Multnomah County and Portland specifically are seen as great examples of successfully implementing sustainable and healthy food system activities. The municipalities and community have a progressive food culture and are working towards becoming more sustainable and are putting a lot of efforts into educating the public so that other ideas will be more accepted and implementable. A unique aspect of the plan that was not seen in any of the other case studies was special attention on social equity to explore the root causes of hunger and food insecurity.

4.2 Urban Food System Case Studies

From research conducted, most urban food system plans place a greater emphasis on accessibility and equity due to higher concentrations of lower-income populations than rural communities. There is also a large push for the integration of regulatory changes to increase urban agriculture and a reconnection with people to their food since City’s are so often physically disconnected from agriculture and food production.

4.2.1 Oakland, CA

Oakland, CA, located in the east part of the San Francisco Bay Area is a City with rich history and cultural diversity. However, it has the lowest income in Alameda County so the food plan has a special focus towards equity and accessibility. In 2005, Oakland Mayor Jerry Brown’s Office of Sustainability commissioned a study on the Oakland food system. The *Food Systems Assessment for Oakland* was created by both undergraduate and graduate students in the Department of City and Regional Planning at UC Berkeley, led by professors Serena Unger and

Heather Wooten. Local food groups, the public, and stakeholders provided input on the study’s research and recommendations throughout the process of its creation (Oakland Food Policy Council, 2012). The report recommended creating a food policy council with hopes to make the food system more equitable and sustainable. Oakland City Council allocated start-up funding for the council that consists of a well-balanced group of 21 representatives and stakeholders. The council coordinates between food system sectors and sponsored the development of a plan titled *Transforming the Oakland Food System: A Plan for Action* which was adopted in 2010. The plan is a response to the study and establishes recommendations to the City which include:

1. Increase food security in Oakland. We will work to ensure that no Oakland resident experiences hunger.
2. Build greater public health in Oakland. We will support the development of balanced food environments that empower residents with opportunities to make healthy food choices and reduce environmental causes of obesity, diabetes, heart disease, and other diet-related illnesses.
3. Support local agriculture that is economically viable, environmentally sustainable and socially responsible. We will help make Oakland a market for processing and consuming local food, with the objective of having at least 30 percent of Oakland’s food needs sourced from within the City and the surrounding region³.
4. Promote energy efficiency and reduce energy consumption. We will promote local, sustainable food production, and help Oakland transition to a locally and regionally-based food system.

5. Support the protection of environmental resources. We will promote consumption of locally and sustainably-grown food, particularly food produced using environmentally-benign and energy-efficient growing, processing, and distribution practices.
6. Promote a “closed-loop” food system. We will work for a system that eliminates pollution and use of non-renewable materials, and will promote food scrap composting and waste reduction.
7. Promote community economic development. We will foster development in the food sector that creates living-wage jobs and local ownership in many sectors of the food system.
8. Increase public “food literacy.” We will promote the sharing of information that will allow communities to make food-related choices that positively influence public health, social responsibility and environmental sustainability.

The following chart lists strategies to reach the eight goals set forth in the plan. The strategies are divided into the six main themes identified in Chapter 3 to understand how the plan proposes to address each.

Transforming the Oakland Food System: A Plan for Action	
Theme	How it is addressed
Agricultural Preservation	protect and expand urban agriculture by creating zoning definitions and operating standards for both civic and commercial urban agriculture.
Sustainable Agriculture	Synthetic pesticide and GMO production free zones. Encourage local food, decrease food travel.
Local Systems of Processing, Packaging, Distribution	Develop "environmentally preferable purchasing protocols" by partnering with the City of Oakland to develop and implement new RFP standards and language prioritizing and outlining protocols and nutrition standards for all City contracts, phased over 5 years. Scale up local purchasing from local producers and formalize the collaborations between and aggregation of small farmers.
Food Security	Encourage accessible and affordable farmers' markets and promote use and acceptance of food assistance program benefits at farmers' markets. Develop a "fresh food financing initiative" that will provide financing, technical assistance, and location assistance to new food enterprises in underserved communities.
Nutrition and Health	Encourage healthy mobile vending: expand mobile vending regulations to include additional areas of Oakland and encourage fresh food vending.
Food-Related Waste	Expand recycling and food scrap composting by developing a City-wide waste management contract
Other	Strengthen community-government links by building relationships between residents, community leaders, and key government representatives.

Focus and Implementation

Each of the strategies that are summarized in the chart above is given a more in-depth explanation and actions suggested in the plan. The strategies are all based on “value-based practices which were identified in the research and public outreach phases for what the community values. The values include: strong communities, vibrant farms, healthy people, justice and fairness, sustainable ecosystems, and a thriving local economy. The plan also explains the fiscal impact and best practices and further information for each strategy so that readers can easily access other case studies. There was a large emphasis on building a strong community and improving the lives of residents, especially because it is the lowest income area in Alameda County.

4.2.2 New York City, NY

In February 2010, the New York City Council adopted *FoodNYC: A Blueprint for a Sustainable Food System*, the most comprehensive effort to date to unify and reform New York City’s policies regarding the production, distribution, consumption, and disposal of food. “By devoting serious attention to [the] food system, city government can in one stroke improve public health, sustainability, and job creation,” said Manhattan Borough President Scott M. Stringer in 2010. “In recent years, there’s been growing interest in this issue, but [they’re] still left with a grab bag of disjointed, independent initiatives. Now, with the help of hundreds of dedicated New Yorkers, the document will for the first time present a single, comprehensive vision for food policy in [the] city.” Through public outreach, they looked at the life cycle of the city’s food supply, from production and distribution to consumption and disposal, with the goal of shaping a policy that integrates energy and climate objectives with social, public health and economic goals. The report details the best and most pragmatic proposals and urges reform in the following areas:

1. Urban Agriculture – Establish food-producing spaces in New York City for personal, community, or commercial use by the year 2030, through various legislative and land-use actions. The City should facilitate the development of rooftop gardens, in addition to creating an NYC Urban Agriculture Program, which would provide access, resources, and information to promote community gardening.
2. Regional Food Production – Promote and support regional agriculture by connecting upstate and Long Island farms with downstate consumers, and by mapping the food produced and sourced from the region within approximately 200 miles of New York City.

3. Food Processing and Distribution – Increase the sale and consumption of regional foods by expanding distribution and processing capacity. In particular, the Administration, in conjunction with the City’s Economic Development Corporation (EDC), should redevelop the Hunts Point Produce Market, to both modernize this food delivery hub and ensure that the 8,500 jobs the facility maintains remain in NYC.
4. New Markets – Increase the number and type of retail food outlets that deviate from the traditional grocery store model by dedicating city-owned spaces for use as “alternative” food markets. By increasing the number and long term viability of farmers markets, the City can give residents both the option and the access to healthy food.
5. Procurement of Regionally Produced Food – Incorporate preferences for locally-sourced food into the city’s procurement regulations. Specifically, the City Council should pass legislation that would require 20% of all food purchased by city agencies to come from local producers.
6. Education – Educate New York City’s children to become a new generation of healthy and environmentally aware eaters. Moreover, students should have access to some type of agricultural production, be it a community garden or urban farm.
7. Food Waste – Launch twin composting initiatives: (a) support for large-scale composting through creation of a municipal facility; and (b) support for small-scale composting through education, decentralized composting bins, and more pick-up locations.
8. Plastic Water Bottles – Ban the sale of bottled water in all city facilities and on municipal property, and increase the use of water fountains and canteens. Plastic water bottles waste an enormous amount of energy to produce and only a small portion are recycled.

9. Food Economy – Actively develop the local economy’s food sector to create more jobs while elevating labor standards, environmental protections and public health. Moreover, the creation of kitchen incubators in every borough will create entrepreneurial opportunities for many New Yorkers with a talent for food production.
10. Office of Food and Markets – Create an Office of Food and Markets to coordinate and lead systemic reform of the city’s food and agricultural policies and programs. In addition, the Mayor should look at amending PlaNYC to include a comprehensive overhaul of the City’s food system.

The following chart lists strategies to reach the eight goals set forth in the plan. The strategies are divided into the six main themes identified in Chapter 3 to understand how the plan proposes to address each.

FoodNYC: A Blueprint for a Sustainable Food System	
Theme	How it is addressed
Agricultural Preservation	Accelerate the protection of New York's farmland with increased funding. Develop a state strategy for farmland and food production. Determine the capacity of the regional foodshed.
Sustainable Agriculture	Increase local food sources and connections, encourage Urban Agriculture. Assess land availability and suitability for urban agriculture, create a citywide urban agriculture program, ensure the permanence of community gardens as parks. Facilitate the development of rooftop agricultural greenhouses by changing zoning, permitted uses, maximum allowable floor area and light and air regulations.
Local Systems of Processing, Packaging, Distribution	Modernize and expand Hunts Point Produce Market, build small-scale wholesale farmers markets for restaurants to easily source locally, and promote public investment in processing and distribution facilities - Make the remaining \$30 million from the New York State Agricultural Development Fund for investment in food processing, distribution infrastructure, and job creation. Increase farmers markets funding and infrastructure. Pass law requiring City agencies to procure percentages of food to be from regional producers. Protect manufacturing zones and dedicate staff and resources to develop the local food economy in NYC.
Food Security	Not clearly addressed.
Nutrition and Health	Require a food curriculum in public schools, expose City students to farms and gardens, institute "meatless Mondays" in City schools.
Food-Related Waste	NYC Sanitation Department's Compost Project should partner with universities to study the waste stream and make targeted efforts to divert waste. Build a municipal composting site and promote small-scale composting by eliminating barriers to food composting in community gardens.
Other	Economic boosts and job creation: Reduce the cost of liability insurance for small and mid-sized farmers. Create a Restaurant Industry task force to collaborate strategies for making restaurants more competitive and sustainable. Support the rights of farm workers. Reduce water bottle consumption by banning sales in all City facilities and increasing number of drinking fountains.

Focus and Implementation

This plan is different than the other case studies as it has its context and background information woven into each goal section instead of separate chapters. This set up made it very clear to make connections of existing conditions for the specific goal without having to look

backwards or search for what you are looking for amongst a long chapter. The plan is thought out well with references to exact practices such as changing zoning, permitted uses, maximum allowable floor area and light and air regulations to make goals such as composting and urban agriculture into a reality. Specific agencies and funding sources are also identified. The plan did not clearly address any food security issues, although assumptions about connecting urban agriculture and farmers markets to increase accessibility might be able to be made, but are not clearly made as in the other case studies. Public outreach also seemed to focus on public schools and restaurants with ideas such as required curriculum and a restaurant task force. In the other case studies, besides Multnomah’s efforts with their festivals, public outreach and education is used as a wide casting term without clear programs to implement it. Overall, this plan seems well executed, but would have been more complete if it had showed the connection to food security and accessibility, and important aspect to a comprehensive food system plan.

Conclusion

For planners attempting to create and implement comprehensive food system plans, it is essential to understand the background issues and themes both on a large scale and at their regional scale. Understanding the major themes, issues, and some approaches for solutions is beneficial for planners to know, but there will also be specific issues depending on a municipality’s location. There is no “one-size fits all” for food system plans. Although all four case studies were assessed based on six main themes, each varied slightly to adjust to local concerns. Not all of the case studies, or other plans examined during research, addressed all of the American Planning Association’s primary concerns and background research that created the criteria used to compare them, but each one used extensive public outreach to help create their local priorities. However, some language seemed universal across the plans studied for this

report. Because food system planning is still a relatively new endeavor, it would appear that many planners use the few examples and guidance from the APA as inspiration or templates to get their municipalities moving in a progressive direction.

Overall, rural case food system plans placed a large emphasis on agricultural preservation and economic development for local farmers. This is possible because of their direct link to the production, and often, processing phases of the system. Urban case studies seemed to place an emphasis on changing regulations to allow for urban agriculture to bring some small-scale sources closer to the area. Surprisingly New York City did not place much emphasis on food security but Oakland did, perhaps in an attempt to better serve its low-income communities. Most plans did not focus on sustainable agriculture practices that are environmentally responsible except on the local level; this could be because food system plans address local issues and urban areas have little agriculture. This might also be so because there are schisms within the agriculture community as to what are best agricultural practices, and, thus, it would be too controversial to get the plans adopted during the public comments period.

Food system plans are growing in number throughout the nation. Similar to climate action plans, food system plans are wide in scope and call on planners and specialists to make connections between complex issues. They can appear intimidating because of the intricacies and immense collaboration between stakeholders needed for their success and implementation.

5 Reflections

Planners have a long tradition of playing many roles in a community. Information generators, facilitators, policy and plan creators, decision-makers, and advocates, are just a few of the roles that planners have. “Planning for healthful food environments requires a diverse set of skills, interdisciplinary knowledge, and varied experience; as such planners would do well to engage other relevant partners” in the creation and implementation phases in order to create comprehensive food system plans and elements (Raja, Born, & Kozlowski Russell, 2008, p. 95). Because comprehensive plans are still relatively new on the planning landscape, it is difficult to truly judge their success since many of the programs and ideas have yet to be implemented. An analysis of plans in the future would help to show if these powerful ideas came to fruition. Because most ideas have not been tested yet, language tends to remain theoretical and somewhat vague because the plan is not intended to act as policy, but as a guide to shape future policy. It is important to continue educating fellow professionals, stakeholders, and the public on the importance of healthy food systems for the future health of the environment, society, and food security.

Through an analysis of comprehensive food system plans, this report aims to act as an introduction of issues and to provide examples of strategies to tackle these issues. However, there are other strategies that planners can use to influence their local food system. “Local government regulations play a significant role in facilitating or hindering a healthy food system” through actions such as permitting, zoning, public education campaigns, monitoring, public services and utilities, fiscal incentives, and more (Neuner, Kelly, & Raja, 2011, p. 14). After much research, and analysis of existing actions, and drawing from the four case studies examined in this report, a list of actions, references, and resources was developed as follows:

- Conduct an assessment of public lands that could be used for agricultural activities
 - This can be done in both rural and urban areas to identify underutilized land using ArcGIS to better understand the land stock and provide resources for startup agriculture, conservation, or development of City sponsored community gardens as parks.
- Address zoning barriers to urban agriculture, composting, and farm animals
 - Assess zoning and how they encourage or hinder agricultural activities, processing and manufacturing, food sales, and waste management
 - Example cities supporting crop production through zoning and other regulations:
 - Kansas City, MO – community gardens permitted in all residential zones
 - New Orleans, LA – farms of at least five acres allowed in all residential and commercial zones
 - Cleveland, OH – Urban Garden Overlay District
 - Seattle, WA – P Patch (urban agriculture) program
 - San Francisco, CA – Modifying zoning code language to permit agricultural uses in all zoning districts by right or conditional use permit
 - Milwaukee, WI – zoning ordinance that was amended in 2005 to permit agricultural uses
 - (Neuner, Kelly, & Raja, 2011, p. 22)
- Educate producers about sustainable principles and benefits to their business
 - Host community events and symposiums
 - See Multnomah Food Policy Council’s annual festival
- Preserve agricultural land and conservation easements

- Encourage farmers markets and special event permitting
 - Grand Junction, CO; Durham, NC; Madison, WI; Minneapolis, MN; and more permit farmers’ markets as a right in several zoning districts
- Require that public facilities and institutions use specified percentages of local food
- Start farm-to-school programs
- Encourage public school curriculum and school gardens
- Spread use of nutritional assistance programs and acceptance at farmers markets and CSA farms
 - Madison, WI – Coalition of CSA farms
- Use zoning regulations to discourage fast food restaurants
 - Land use decisions for types of businesses and uses allowed
- Provide fiscal incentives to promote healthy food environments
 - Seek grants and other funding sources to support investments in different food system stages.
 - Seattle, WA – new gardens are being built with a \$2 million fund obtained in 2008
 - Austin, TX – City supported community gardens may be exempt from impact fees
 - Real estate tax reductions
- Connect food donation and waste programs with emergency food services
 - Reduce restaurant and retailer waste

- Inform public on Good Samaritan Law that was created to prevent good food from going to waste and to protect companies from liability surrounding their donations
- Create waste ordinances such as mandatory recycling and/or composting
 - See San Francisco’s waste ordinance and programs
- Include food components in comprehensive plans
 - Even if a comprehensive food system plan is not created, components of general plans or ordinances can help to implement the same ideas on smaller scale levels.
 - See Marin County’s community food component in their latest countywide comprehensive plan

References: Good resources for planners to get started on creating healthy food system plans and components:

- American Planning Association: Planning Advisory Service Report Number 554
- A Planners Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Healthy Eating.
Samina Raja, Branden Born, and Jessica Kozlowski Russell, 2009
- Planning to Eat? Innovative Local Government Plans and Policies to Build Healthy Food Systems in the United States
Kailee Neuner, Sylvia Kelly, and Samina Raja, 2011

Resources: Below is a matrix of existing documents that support the healthy food systems and can be used for further research and expansion on all of these ideas.

Plans to Support Healthy Food Systems		
Comprehensive or General Plan Elements		
Municipal-Scale	City	Year Adopted
	Dillingham, AK	2011
	New Orleans, LA	2010
	Madison, WI	2006
	Boise, ID	2010
	Seattle, WA	2005
County or Regional Scale	County/Region	Year Adopted
	Harrison County, MS	2008
	Dane County, WI	2007
	Marin County, CA	2007
	Boston Metro Region	2008
	Southern California	2008
Environment and Climate Action Plans		
Municipal-Scale	City	Year Adopted
	Portland, OR	2009
	Baltimore, MD	2009
	Philadelphia, PA	2009
	Santa Fe, NM	2008
	Toronto, ON	2007
Comprehensive Food System Plans		
Municipal-Scale	City/Neighborhood	Year Adopted
	Buffalo, VY West Side	2003
	New York, NY	2010
	Oakland, CA	2010
	Philadelphia, PA	2011
	Toronto, ON	2010
County or Regional Scale	County/Region	Year Adopted
	Multnomah County, OR	2010
	Northeast Kingdom, VT	2012
	Dane County, WI	2005
	Delaware Valley (Philadelphia), PA	2011
	Waterloo, ON	2007

(Neuner, Kelly, & Raja, 2011)

This page was intentionally left blank

References

- Adler, M. (2006, July 04). Behind the Ever-Expanding American Dream House. *NPR*. Retrieved February 12, 2012, from <http://www.npr.org/templates/story/story.php?storyId=5525283>
- American Farmland Trust: Saving the Land That Sustains Us*. (2011). Retrieved March 3, 2012, from <http://www.farmland.org/>
- Anderson, M. D. (2007). *The Case for Local and Regional Food Marketing* (Publication). Farm and Food Policy Project. doi: http://www.foodsystems-integrity.com/yahoo_site_admin/assets/docs/The_Case_for_Local__Regional_Food_Marketing.28645058.pdf
- Basic Information about Food Waste. (2012, April 9). *United States Environmental Protection Agency*. Retrieved April 15, 2012, from <http://www.epa.gov/osw/consERVE/materials/organics/food/fd-basic.htm>
- Cassidy, A., & Patterson, B. (2008, January). *The Planner's Guide to the Urban Food System* [Scholarly project]. In *University of Southern California School of Policy, Planning, and Development: Center for Sustainable Cities*. Retrieved February 12, 2012, from <http://postcarboncities.net/files/PlannersGuidetotheFoodSystem.pdf>
- Coleman-Jensen, A., Nord, M., Andrews, M., & Carlson, S. (2011). Household Food Security in the United States in 2010. *USDA Economic Research Service*. Retrieved February 20, 2012, from <http://www.ers.usda.gov/Publications/ERR125/>
- Demographics. (2009, September 10). *EPA*. Retrieved February 13, 2012, from <http://www.epa.gov/agriculture/ag101/demographics.html>

Haering, S. A., & Syed, S. B. (2009). Center for a Livable Future | Publications. *Johns Hopkins Bloomberg School of Public Health*. Retrieved March 1, 2012, from

http://www.jhsph.edu/clf/resources/clf_reports.html

Hesterman, O. B. (2011). *Fair food: Growing a healthy, sustainable food system for all*. New York: PublicAffairs.

Jensen, J. (2010). Local and Regional Food Systems for Rural Futures. *RUPRI Rural Futures Lab Foundation*. Retrieved February 13, 2012, from

http://www.rupri.org/Forms/RUPRI_Rural-Futures-Lab_2010_Food_Systems_for_Rural_Futures.pdf

Kenny, J. F., Barber, N. L., Hutson, S. S., Linsey, K. S., Lovelace, J. K., & Maupin, M. A. (2009, October 27). Estimated Use of Water in the United States in 2005. *USGS*.

Retrieved March 12, 2012, from <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>

Lang, S. S. (2006, March 20). 'Slow, insidious' soil erosion threatens human health and welfare as well as the environment, Cornell study asserts. *Cornell Chronicle Online*. Retrieved February 12, 2012, from

<http://www.news.cornell.edu/stories/march06/soil.erosion.threat.ssl.html>

M. (2010). *Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan* (Publication). Retrieved April 22, 2012, from

http://multfood.org/files/PDFs/Dec2010_MFAP.pdf

Multnomah Food Initiative. (2012). Retrieved April 22, 2012, from <http://multfood.org/>

- Neuner, K., Kelly, S., & Raja, S. (2011). *Planning to Eat? Innovative Local Government Plans and Policies to Build Healthy Food Systems in the United States* (Rep.). University at Buffalo, The State University of New York: Food Systems Planning and Healthy Communities Lab.
- Raja, S., Born, B., & Russell, J. K. (2008). *A Planners Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Healthy Eating* (Rep. No. PAS 554).
- Roberts, W. (2001). *The Way to a City's Heart Is through Its Stomach: Putting Food Security on the Urban Planning Menu* (Canada, Toronto Food Policy Council). Retrieved February 15, 2012, from http://www.toronto.ca/health/tfpc_hs_report.pdf
- United States, Census Bureau. (n.d.). *Selected Historical Decennial Census Population and Housing Counts: Urban and Rural Populations, Table-4 Population: 1790 to 1990*. Retrieved February 12, 2012, from <http://www.census.gov/population/www/censusdata/files/table-4.pdf>
- United States Department of Agriculture. (2009). *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences: A Report to Congress* (Rep.). Economic Research Service.
- United States, Environmental Protection Agency. (2004). *National Water Quality Inventory: Report to Congress, 2004 Reporting Cycle*. Retrieved March 1, 2012, from http://water.epa.gov/lawsregs/guidance/cwa/305b/2004report_index.cfm

APPROVAL PAGE
(with grade)

TITLE: An Analysis of Food System Plans: A Planner’s Toolkit

AUTHOR: Jenna M. Hahn

DATE SUBMITTED: June 13, 2012

GRADE: _____

Kelly D. Main Senior Project Advisor	Signature	Date
---	-----------	------

Hemalata C. Dandekar Department Head	Signature	Date
---	-----------	------