PLANNING FOR FOOD ACCESS AND COMMUNITY-BASED FOOD SYSTEMS:

A National Scan and Evaluation of Local Comprehensive and Sustainability Plans

Kimberley Hodgson

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Kimberley Hodgson, AICP, is founder and principal consultant of Cultivating Healthy Places, a consulting business specializing in community health, social equity, and resilient food systems planning; and former manager of the American Planning Association's Planning and Community Health Research Center. She served as the principal investigator of the research project and as primary author of this report.

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EXECUTIVE SUMMARY

Access to safe and nutritious food is considered a basic individual right by the World Health Organization and the United Nations. However, many residents in low-income neighborhoods—both rural and urban—have limited access to fresh produce and other healthful foods.

While food deserts (geographic areas marked by limited healthy food options) and swamps (geographic areas marked by high densities of unhealthy food options) are prominent aspects of a failure in food access, they do not tell the complete story. Public health strategies are lost without an awareness of the food system—or the interlinked network of processes, actors, resources, and policy and regulatory tools required to *produce, process, distribute, access, consume,* and *dispose* of food—and its connection to other urban systems (such as land, housing, transportation, parks and recreation, etc.). Recent research has begun to examine food access more comprehensively, taking into account the nuances of place, people, and policy that interact and reinforce each other.

As a result, food access is not simply a health issue but also a community development and equity issue. For this reason, access to healthy, affordable, and culturally appropriate food is a key component not only in a healthy, sustainable local food system, but also in a healthy, sustainable community.

There are many tools a local government can use to address complicated societal issues such as food access and to plan for the future of a community. Municipal and county planning departments prepare a variety of plans to assess and address challenges in areas ranging from housing and economic development to land use and transportation. While other local and regional level plans (e.g., food charters, strategic food policy and food system plans, healthy community plans, long-range regional plans, etc.) are important policy documents, the comprehensive plan is a leading policy tool with legal significance

and the sustainability plan is an emerging and innovative policy tool with promising influence on local government sustainability actions.

Unlike other types of plans, the comprehensive plan is a long-range policy document that addresses a wide variety of interconnected social, environmental, and economic topics; provides legal, political, and logical rationale behind a community's development and settlement patterns; and shapes long-term decision making for a jurisdiction over a 20- to 30-year time frame. A type of strategic plan, the sustainability plan is being used to expand the transportation, resource conservation, climate protection, air and water quality, open space, economic development, health, and education components of the comprehensive plan and to address new and emerging issues, such as the health and sustainability of the local and regional food system. While typically not required by state statute and thus lacking the legal standing of the comprehensive plan, sustainability scholars are recognizing the importance of the sustainability plan for guiding local government actions and achieving sustainable development. For these reasons, comprehensive and sustainability plans are well suited to address complicated food access and community-based food systems issues and opportunities.

Despite the comprehensive plan's, and more recently the sustainability plan's, importance in driving sound policies, regulations, and investments to improve the food environment, there is little empirical evidence regarding the extent of the use of food access-related goals and policies in local plans and the extent to which these plans are actually implemented. Although more and more local governments are including food access-related goals and policies in their local plans, little is understood about the clarity, quality, and comprehensiveness of these goals and policies, the processes used to create them, and the impact they have on community issues.

With support from the Healthy Eating Research program of the Robert Wood Johnson Foundation, APA's Planning and Community Health Research Center conducted a multiphase research study to identify and evaluate the development, adoption and implementation of food related goals and policies of local comprehensive plans, including sustainability plans, across the United States; and their impact on local policies, regulations, and standards for the purpose of reducing food access disparities among children, adolescents, and adults, and improving community-based food systems. Different legal, policy, and political frameworks, as well as political and financial capacity of local governments, create challenges for research that compares and contrasts local level plans and planning processes. Despite these challenges, this research provides a better understanding of how and why some local governments have addressed food access and food system issues in the comprehensive or sustainability planning process, and identifies common themes and innovative features for implementing plan policies and achieving plan goals.

The following report is divided into four parts, each representing a different phase of the research study.

Part 1 includes results from a national web-based survey used to identify adopted comprehensive and sustainability plans that explicitly address food access and other aspects of the food system. A total of 888 valid responses from local governments in the United States were collected regarding: the location of the food system components in the plan; data and data collection tools; level of involvement of stakeholders; successes and challenges; and impact of the plan on food access and the larger food system. About 12 percent of respondents indicated that their local government's comprehensive plan (80 jurisdictions) or sustainability plan (25 jurisdictions) explicitly addresses an aspect of local or regional food systems. The five most-cited food system topics in the identified comprehensive and sustainability plans were rural agriculture, food access and availability, urban agriculture, food retail, and food waste. Respondents reported that the food system-related goals, objectives, and policies of adopted plans had positive impacts on the community, including the creation of new community gardens, grocery stores, and farmers markets, as well as changes in land-use regulations and the promotion of locally grown food.

Part 2 includes and explains the results from the evaluation of a sample of plans identified in the survey to assess the quality of the plans and the food-related components. Thirteen comprehensive plans and eight local sustainability plans

were evaluated using an evaluation form and protocol that builds upon frameworks of earlier comprehensive plan evaluation research used in the context of smart growth, housing, environmental planning, sustainability, and natural hazard mitigation. Plans were evaluated for how they support and advance principles of a healthy, sustainable food system; how they promote access to safe, nutritious, affordable, culturally appropriate, and sustainably grown food; how they address implementation, monitoring, and evaluation of the food-related goals and policies; and the overall quality of food-related goals and policies.

Overall, the plans in our sample included clearly marked food components and consciously linked the food-related issues, goals, and policies within the plan. The quality of plan language varied within and across plans. Very few plans included spatial and social dimensions to food-related plan goals. Objectives, or intermediate, measureable steps or standards toward attaining food-related goals, were rarely used by the plans in our sample. Some plans included clear, specific, and action-oriented food policies, but also included vague and non-action-oriented policies.

Few comprehensive plans explicitly called out equity considerations in access to healthy, affordable foods, particularly among low-income and minority groups. Even the sustainability plans, which lend themselves to addressing equity more explicitly because the topic is part of typical sustainability planning frameworks, failed to comprehensively tackle the community issue of food access disparities. Improving food access through community gardens and farmers markets were popular strategies by the majority of plans in our sample; however, few addressed the need to improve food retail options and reduce access to unhealthy sources of food.

To better assess and compare overall plan quality, we assigned an *overall score* to each plan, which considers the extent to which each plan addresses food access within the context of the food system, plan language quality, plan implementation, and plan evaluation. While the quality of a plan's components does not guarantee the plan will have an impact and achieve its goals and objectives, plans of high quality in both content and format have the potential to improve community issues.

The top five highest scoring plans include Marin County, California's comprehensive plan; Philadelphia's sustainability plan; San Francisco's sustainability plan; Sacramento, California's comprehensive plan; and Baltimore's sustainability plan. All of these plans addressed food access, but also addressed how to implement the food access policies outlined in the plan and how to track progress in achieving the plan's food access goals.

Part 3 outlines planning and policy lessons learned by the jurisdictions in our sample. From semistructured, key informant phone interviews with local government planners and other stakeholders from 15 of the 21 selected plans, common themes emerged, including: the importance of good baseline data; the value of working with local nonprofit organizations such as universities; the focus on low-hanging fruit, such as regulatory, policy, and administrative review and reform; and the impact plan development had on the public's and local officials' understanding of food system issues in their community as well as how food system issues relate to other city systems.

Part 4 provides recommendations for municipalities and counties that are engaging in (or beginning to engage in) food access and food systems planning, including a list of strategies that planners and other local government staff can use to integrate clear, comprehensive, and action-oriented food access (and supportive food system) goals and policies into the local plan-making process. Among others, recommendations include:

- Develop a **food policy council (FPC)** to facilitate coordination, communication, and collaboration among food system stakeholders within and outside of local government.
- Partner with and include **key local government stakeholders** in the planning process. Encourage all departments to determine how they can promote plan recommendations.
- Develop a cross-appointed, intergovernmental **food systems planning staff position**, an **intergovernmental food systems working group**, or **cross-pollinating working groups** to bring ideas together.
- Partner with **local foundations** to leverage support for initial food systems planning pieces but leverage other funds to continue efforts.
- Balance **aspirational goals** with **measurable goals** to enable monitoring and evaluation over time.

And finally, the appendices provide examples of (1) innovative plan language for vision statements, goals, and policies; (2) action items and implementation mechanisms used to carry out these goals and policies; and (3) data collection and assessment tools to monitor and evaluate changes in the local food system over time.

This study demonstrates that while individual municipalities and counties have made much progress in integrating food issues into both traditional and emerging planning frameworks, there is still a long way to go before food access is considered equally important as access to shelter, transportation, housing, and jobs. Although one study of comprehensive and sustainability plans cannot capture the full spectrum of the planning profession's efforts to plan for food access and the community-based food system, this report fills a gap in the food access and planning literature by providing a review and evaluation of current comprehensive and sustainability plans across the United States. As more municipalities and towns use comprehensive and sustainability plans as a method for addressing their own communities' food access concerns, the rich data and examples in this report will be valuable resources.

INTRODUCTION

Access to safe and nutritious food is considered a basic individual right by the World Health Organization (WHO) and the United Nations (Food and Agricultural Organization 2011). However, many residents in low-income neighborhoods—both rural and urban—have limited access to fresh, affordable produce and other healthful foods (Franco et al. 2009; Krukowski et al. 2010; Michimi and Wimberly 2010; Smith and Morton 2009). In 2010, about 14 percent of U.S. households (about 50 million Americans) were food insecure (Coleman-Jensen et al. 2011), meaning they had limited physical and ec onomic access to and availability of sufficient, safe, nutritious, and culturally appropriate food to maintain a healthy and active life (World Health Organization 1996). People of color, women, and children are especially vulnerable: of all food-insecure households, 25.1 percent are black households, 26.2 percent are Hispanic households, and 35.1 percent are households with children headed by single women or 25.4 percent headed by single men (Coleman-Jensen et al. 2011).

Most Americans do not meet the nutritional guidelines of the federal Healthy People 2020 framework, especially in the area of fruit and vegetable consumption. However, a diet rich in fruits and vegetables is associated with positive growth and development, weight management, and a decreased risk for chronic disease (Gustafson et al. 2007; Rolls et al. 2004; U.S. Department of Health and Human Services 2005). The most overeaten foods in the United States are calorie rich but nutrient poor, leading to serious public health consequences including obesity, diabetes, heart disease, and even some cancers. Fast-food consumption in particular is linked to a higher intake of energy, fat, saturated fat, carbohydrates, sugar, and carbonated soft drinks; lower intake of micronutrients and fruits and vegetables; increased body-mass index (BMI); increased body weight; and higher probability of being overweight (Powell et al. 2007).

Research studies have found that larger food stores such as supermarkets tend to stock healthier foods at a lower cost compared to small grocery stores, convenience stores, and fast-food restaurants (Ball et al. 2009; Treuhaft and Karpyn

2010). However, a lower proportion of supermarkets and a higher proportion of small grocery and convenience stores, as well as high densities of fast-food restaurants offering calorie-rich and nutrient-poor foods, are found in low-income and predominantly black neighborhoods compared to high-income and predominantly white neighborhoods (Gordon et al. 2011; Larson et al. 2009; Herrera et al. 2009; Raja et al. 2008; Short et al. 2007; Treuhaft and Karpyn 2010; Ver Ploeg et al. 2009; Zenk et al. 2005).

Low-income, minority neighborhoods throughout the nation face disproportionately high rates of obesity and chronic disease. Despite such food assistance programs as the United States Department of Agriculture's (USDA) Supplemental Nutrition Assistance Program (SNAP) or USDA's Women, Infants, and Children (WIC), many low-income and minority populations suffer from poor diet and inadequate nutrition (Fox et al. 2004; Nord et al. 2010 Ralston 2006). Among others, one contributing factor may be easy access to fast-food restaurants and convenience stores and the unavailability of larger food stores and other sources of healthy, affordable foods such as farmers markets and urban agriculture (Baker et al. 2006; Giang et al. 2008; Moore et al. 2009; Morland et al. 2002; Wrigley et al. 2002). Individual differences impact eating behavior, yet the built environment greatly affects the cost, locality, quality, and availability of foods—all of which significantly influence purchasing and consumption decisions (Casey et al. 2010; Hill et al. 2004; Inagami et al. 2009).

Much has been written about this correlation between health and the built environment, and while existing literature has laid the groundwork for food access analysis it has also been accused of being overly simplistic, lacking consensus, and misguided (Kliff 2012). In contrast, studies and reports have recently emerged that use a more comprehensive, food-system perspective for analyzing food access disparities (Harvie et al. 2009; Muller 2009; Neff et al. 2009 Shak et al. 2010; Story et al. 2009). Rather than focusing on just one food system sector (in most cases, the consumption sector as expressed by food retail locations), studies and reports have emerged that examine other food-system sectors (production, processing, distribution, and waste recovery sectors) as well as barriers in the political, social, and economic spheres (Hawkes 2009; Jackson et al. 2009; Lang 2009; Leete et al. 2011; Raja et al. 2010; Russel and Heidkamp 2011; Treuhaft and Karpyn 2010). In particular, some recent studies and reports examine such factors as: personal eating habits and willingness to try new foods (Franco et al. 2009; Walker et al. 2011); available resources for cooking, including personal time and ability as well as access to kitchen space or equipment (Walker et al. 2011); available resources for getting to a food source (including car ownership, car-pooling options, or bus routes to grocery stores) or the perceived safety of walking (Dai and Wang 2011; Powell et al. 2004; Shak et al. 2010; Walker et al. 2011); and alternate sources for affordable, healthy, and culturally appropriate food, including discount superstores, community gardens, or food pantries (Krukowski et al. 2010; Raja et al. 2010; Rose et al. 2010).

All these factors paint a much more complex picture of food access disparities across communities and challenge the belief that proximity to a grocery store ensures overall health and well-being of individuals and communities (Kliff 2012). Additionally, many of these factors highlight that food access is not simply a health issue but also a community development and equity issue. When policy decisions consider how food is produced, processed, distributed, and sold, as well as how the built environment supports such processes, then food access disparities can be viewed as a planning problem with health, cultural, and equity implications.

Various institutions and organizations are increasingly taking steps to improve the health and nutrition of Americans through a broad-based approach that incorporates behavior change efforts, including programmatic and educational strategies, as well as policy changes affecting physical development patterns and the built environment (Neff et al. 2009; Rose et al. 2010; Story et al. 2009). Many have noted that public health strategies are lost without an awareness of the food system—or the interlinked network of processes, actors, resources[1], and policy and regulatory tools required to *produce, process, distribute, access, consume,* and *dispose* of food (Raja et al. 2008)—and its connection to other urban systems (such as land, housing, transportation, parks and recreation, etc.) (Caton Campbell 2004; Hawkes 2009; Malhi et al. 2009; Muller et al. 2009; Story et al. 2009). For this reason, access to healthy, affordable, and culturally appropriate food is viewed as a key component not only in a healthy, sustainable local food system (Hamm 2009; Harvie et al. 2009; Lang 2009; Neff et al. 2009), but also in a healthy, sustainable community (Lathey et al. 2009; Raja et al. 2008; Raja et al. 2010).

In 2007 and 2008, several professional membership organizations, including the American Dietetic Association, the American Nursing Association, APA, and the American Public Health Association (APHA) adopted independent policy statements on food systems. In addition, each has member-led groups that focus on food systems. Within their policy statements, these organizations established independent, yet comprehensive, frameworks for considering the health impacts of the food system, including food access. In 2010, these organizations convened to discuss ways they could coordinate their efforts to collectively advocate for healthier food policies.

This was the first time in U.S. history that national leaders in the nursing, nutrition, planning, and public health professions worked collaboratively to create a shared platform for system-wide food policy change. In June 2010, the organizations released a shared vision and set of principles for a healthy, sustainable food system (see http://planning.org/nationalcenters/health/foodprinciples.htm).

According to this document, a healthy, sustainable food system "emphasizes, strengthens, and makes visible the interdependent and inseparable relationships between individual sectors (from production to waste disposal) and characteristics (health-promoting, sustainable, resilient, diverse, fair, economically balanced, and transparent) of the system." A healthy, sustainable food system is:

1. **Health Promoting.** Supports the physical and mental health of all farmers, workers, and eaters. Accounts for the public health impacts across the entire lifecycle of how food is produced, transformed, distributed, marketed, consumed, and disposed.
2. **Sustainable.** Conserves, protects, and regenerates natural resources, landscapes, and biodiversity. Meets our current food and nutrition needs without compromising the ability of the system to meet the needs of future generations.
3. **Resilient.** Thrives in the face of challenges, such as climate change and its effect on food production, increased pest resistance, and declining, increasingly expensive water and energy supplies.
4. **Diverse.** *Size and Scale*—includes a diverse range of food production, transformation, distribution, marketing, consumption, and disposal practices, occurring at diverse scales, from local and regional to national and global. *Geography*—considers geographic differences in natural resources, climate, customs, and heritage. *Culture*—appreciates and supports a diversity of cultures, sociodemographics, and lifestyles. *Choice*—provides a variety of health-promoting food choices for all.
5. **Fair.** Supports fair and just communities and conditions for all farmers, workers, and eaters. Provides equitable physical access to affordable food that is health promoting and culturally appropriate.
6. **Economically Balanced.** Provides economic opportunities that are balanced across geographic regions of the country and at different scales of activity, from local to global, for a diverse range of food system stakeholders. Affords farmers and workers in all sectors of the system a living wage.
7. **Transparent.** Provides opportunities for farmers, workers, and eaters to gain the knowledge necessary to understand how food is produced, transformed, distributed, marketed, consumed, and disposed. Empowers farmers, workers, and eaters to actively participate in decision making in all sectors of the system.

Defining Food Security and Food Access

Food security and food access are closely linked. Simply put, food security is one's ability to obtain enough food to lead an active, healthy life (Nord et al. 2010). Definitions of food security often pay respect to the principles of human rights, human agency, equity, and community sustainability.

For example, WHO suggests food security is a "complex sustainable development issue, linked to health through malnutrition, but also to sustainable economic development, environment, and trade." WHO defines food security based on three pillars: food availability (sufficient quantities of food available on a consistent basis); food access (having sufficient resources to obtain appropriate foods for a nutritious diet); and food use (appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation) (WHO 1996).

In addition to individual food security, many advocate for community food security (CFS): "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 and social justice" (Hamm and Bellows 2003). CFS proponents are careful to highlight and balance the need to provide a living wage to food producers, and affordable, equitable access to low-income and minority populations.

Food access is often discussed in conjunction with these CFS principles and tends to emphasize rights surrounding the consumption of readily available or prepared food. While there is no formal definition of food access, researchers often agree on the components of food access: (1) nutritionally adequate, culturally appropriate, and affordable food; (2) income sufficient to purchase healthy food; and (3) proximity and ability to travel to a food source that offers such food (Neff et al. 2009; Ver Ploeg et al. 2009; Walker et al. 2010).

Many in the fields of urban planning and public health apply the CFS principles of equity, sustainability, and comprehensiveness as a means for examining various local-level factors in the food access equation. These factors, among others, include:

- type and variety of food assets[2] and food retail outlets[3] available in a given area (Moore et al. 2009; Moore and Diez Roux 2006; Raja et al. 2008; Short et al. 2007);
- geographic location and spread of food assets and retail outlets in a given area (Michimi and Wimberly, 2010; Morland et al. 2002);
- density, size, and other characteristics of food assets and retail outlets in a given area (Krukowski et al. 2010; Moore et al. 2008);
- physical and mental ability of individual consumers (Ver Ploeg et al. 2009);
- nutrition quality, cultural appropriateness, and affordability of food sold in food retail outlets in a given area (Baker et al. 2006; Powell et al. 2004; Sharkey and Horel 2009);
- individual income and knowledge to grow or purchase food (Walker et al. 2011);
- availability, accessibility, and cost of transportation (Clifton 2004; Ver Ploeg et al. 2009); and
- the time it takes to travel to food assets and food retail outlets, and consumer travel patterns (Clifton 2004; Ver Ploeg et al. 2009).

Additionally, studies have considered such regional-level factors as:

- the relocation of supermarkets and other large grocery stores from dense, urban areas to the suburbs (Lathey et al. 2009; Russell and Heidkamp 2011);
- the availability of large parcels of land outside cites that allow food retailers to build larger stores and to take advantage of economies of scale (Eisenhauer 2001); and
- zoning impediments and parking requirements that food retailers face (Alwitt and Donley 1997).

Food Deserts, Swamps, and Hinterlands and Sovereignty

The discussion of food access frequently centers on the topic of the "food desert," first identified in the United Kingdom (Reisig and Hobbiss 2000; Wrigley 2002) and defined today in the 2008 USDA Farm Bill as an "area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower income neighborhoods and communities."

The term "food desert," however, is a controversial one, and many have been apprehensive to embrace its use for a host of reasons. Firstly, the term can be viewed as demeaning and as having negative connotations that paint communities as being devoid of all assets (food or otherwise). Secondly, the term is often accused of simply being inaccurate—that racial and economic inequalities are more to blame for food access disparities than placement of large-scale grocery stores per se.

Finally, many have noted that the lack of food retailers (from small to large scale) that offer access to healthy foods like fresh produce, low-fat dairy, or whole grains is only one expression of the food access problem (Freedgood et al. 2011).

As such, various iterations of the food desert analogy have emerged to capture other geographic realities. The term "food swamp" has been coined to refer to geographic areas marked by an absence of healthy food retail but an abundance of unhealthy food sources such as fast-food restaurants. The term "food hinterland" refers to geographic areas—usually less dense, dispersed suburban areas—marked by low food access but located physically further from centrally located food deserts (Leete et al. 2011). Compared to food deserts, Leete et al. explain that "'food hinterlands' lack the concentrated poverty and the shells of defunct grocery stores that are visible reminders of food access issues in food deserts"(2011, 2).

Food deserts, swamps, and hinterlands contribute to the broader discussion of food sovereignty, defined by the International Planning Committee for Food Sovereignty as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (International Planning Committee for Food Sovereignty 2007). Much like CFS, food sovereignty advocates highlight the importance of being able to make decisions, take control, and (if desired) produce one's own food. These concerns for human agency, as it relates to food, is an important consideration when discussing food deserts, swamps, and hinterlands as all these terms capture food situations that are often defined by a lack of agency consumers have had over the food source options in their communities.

Numerous reports detail the spatial relationship between consumers and food outlets using such tools as Geographic Information Systems (GIS) mapping software in an attempt to quantify measures of food access and refine food desert definitions. One such measure is distance between food retailers and residents. Of all U.S. households, 2.3 million, or 2.2 percent, live more than a mile from a supermarket and do not have access to a vehicle. An additional 3.4 million households, or 3.2 percent of all households, live between one-half to one mile from a supermarket and do not have access to a vehicle (Ver Ploeg 2009). In the face of these statistics, some have suggested that an acceptable distance between food retailers and urban residents is 500 meters, or about 0.3 miles or a five- to seven-minute walk (McEntee and Agyeman 2010).

Another measure of food access is travel time. Travel time is a rich measure of food access because in addition to accounting for distance, travel time also captures such factors as mode of transportation and locale (urban versus rural environment). For example, a recent USDA report found that the national average for travel time to a grocery store was 15 minutes (Ver Ploeg 2009), yet those living in low-income areas spend 19.5 minutes traveling to a grocery store. Further complicating this statistic is that 93 percent of those who live in low-income areas with limited access to food sources traveled to the grocery store in a vehicle they or another household member drove.

These data have shed light on the role of the built environment in reinforcing food access disparities, particularly as a reminder of the historical discrimination many low-income and minority residents have been subject to through exclusionary land-use planning and policies (Arnold 2007). Zoning regulations have long been used to separate one land use from another—for example, industrial use from residential use (Arnold 2007). Food access disparities, however, are reflective of land-use decisions that have disproportionately affected certain persons or communities. Additionally, these persons and communities often lack the resources to push against such policy and planning decisions. As such, food access disparities belie more fundamental income and resource inequalities across communities (Story et al. 2009 and perpetuate further issues of inequity as many low-income and minority persons are not provided with healthy, affordable choices within close proximity via walking or public transit.

Given these considerations, some have argued that GIS analysis of food deserts is inadequate because it often relies on a large-scale or chain grocery store as the only source for healthy, affordable food in an area (Raja et al. 2008). Others have noted that these GIS studies often focus on low-income households in food deserts at the expense at looking at low-income households outside food deserts or low-income households more generally (Leete et al. 2011).
As a result, other methods of measuring food access are increasingly used to complement GIS analysis. For example,

many communities conduct Food System Assessments (FSAs) and will draw upon GIS maps as one component of a larger assessment. FSAs come in many varieties, including Local or Regional Foodshed Assessment, Comprehensive Food System Assessment, Community Food Security Assessment, Community Food Asset Mapping, Food Desert Assessment, Land Inventory Food Assessment, Local Food Economy Assessment, and Food Industry Assessment (Freedgood et al. 2011). The many iterations of FSAs point to the fact that food systems are complex and unique to their locale. While mapping food deserts can help provide a very potent visual context, many have noted that it cannot be used to draw causation, nor can it be the only point of intervention. In fact, food desert interventions have produced mixed results. An early food desert intervention, conducted in Leeds, U.K., by Neil Wrigley, found that when a grocery store was introduced to an underserved area, 45 percent of shoppers surveyed had started to use the new store, but had not significantly changed their eating habits (Kliff 2012). Indeed, even the USDA has noted that "causal pathways between food accessibility and BMI is not well understood" (Ver Ploeg 2009). For these reasons, FSAs and other comprehensive efforts to understand food access disparities have emerged. Many who advocate for this approach speak to a food systems perspective that attempts to unpack the many factors in the "causal pathways" to better pinpoint how the built environment is interacting with consumers.

An Urban and a Rural Issue

While considerable attention has been paid to food access disparities in urban areas, rural areas likewise experience inadequacies in food access. The findings from a nationwide study demonstrate that 20 percent of all rural counties (418 total) are food deserts in which all residents live 10 miles or more from the closest supermarket or supercenter (Morton and Blanchard 2007). Dai and Wang (2011) found that in addition to having less spatial accessibility than urban areas, rural areas often have more isolated minority neighborhoods where linguistic and cultural barriers further exacerbate their lack of access to healthy, affordable food.

In addition to these spatial factors, rural areas also experience lower population densities and a higher percentage of residents and children under 18 with household income below the poverty level (Schmit and Gomez 2011). Furthermore, rural areas also have fewer food retail options. For example, the development of new supercenters in rural areas often decreases the economic stability of small, independently owned food retailers (Treuhaft and Karpyn 2010).

However, families in rural areas possess some amenities that make coping with poor food access possible. Rural families are more likely to own a car than their urban counterparts, they have access to space for growing food, and they have access to freezer space for storing food bought in bulk or food they have acquired through growing or hunting (Yousefian et al. 2011). Like their urban counterparts, however, rural residents also experience obstacles to food access simply on account of cost—both in terms of tight household budgets, the cost of food, or the cost of gasoline. (Yousefian et al. 2011). These obstacles can counteract any advantages of car ownership, growing space, or storage space that rural residents may possess.

Food Access is a Systems Problem, Not a Sector Problem

Along with air, water, and shelter, food is a basic necessity for life. Food plays a role in our health, economy, and culture and is a critical part of a sustainable, resilient community. Inadequacies in global, national, regional, and local food systems have made the correlation between healthy food and healthy communities increasingly evident (Hawkes 2009). Food—including unprocessed, whole, and processed, packaged food—is one part of a complex web of connected elements that make up the food system. The concept of the food system emerged in the early 1970s and evolved through the 1990s as a way to conceptualize the complex relationships and linkages between the inputs and outputs involved in the transformation of resources and raw materials into foods and the distribution, access, consumption, and disposal of food and food (Harmon and Gerald 2007; Sobal, Khan and Bisogni 1998). While food is an important part of the food system, it is only one part of a system that is directly and indirectly connected to other systems, like water, transportation, land use, energy, and economic systems. Food systems are generally defined by the following cycle of processes and activities (American Planning Association 2010):

- **Production.** The use of natural resources and human resources to grow edible plants and animals in urban, suburban, or rural settings.

- **Transformation/Processing.** The transformation of raw food materials through value-adding, processing, manipulating, and packaging to create a usable end product for consumption.
- **Distribution.** The direct or indirect distribution and transportation of processed and unprocessed foods to wholesalers, warehouses, retailers, and consumers.
- **Access and Consumption.** The availability and accessibility of foods and their subsequent purchase, preparation, ingestion, and digestion.
- **Waste/Resource Recovery.** The disposal of food-related materials, waste, and by-products and their subsequent disposal, reuse, or recycling.

Food systems are increasingly scrutinized for the harmful effects to the social and natural environment that come with industrial agricultural practices and economies of scale at the global level (Duffy 2009; Gereffi et al. 2009; Jackson et al. 2009; Wallinga 2009). In response, experts in the fields of public health, nutrition, and urban planning, as well as nonprofit organizations, community leaders, and food activists, have called for strengthening the relationships among producers, processors, distributors, and consumers of food at the local and regional level (American Dietetic Association et al. 2010; Raja et al. 2008) to create community-based food systems that are (Hodgson et al. 2011):

- **Place-based**, promoting networks of stakeholders, linking urban and rural issues, engaging residents, and creating senses of place;
- **Ecologically sound**, using environmentally sustainable methods for producing, processing, distributing, transporting, and disposing of food and agricultural byproducts;
- **Economically productive**, bolstering development capacity and providing job opportunities for farmers and community residents;
- **Socially cohesive**, facilitating trust, sharing, and community building across a diverse range of cultures and addressing the concerns and needs of marginalized groups, including minority and immigrant farmers and farm laborers, financially struggling small farmers, and underserved inner-city and rural residents; and
- **Food secure and literate**, providing equitable physical and economic access to safe, nutritious, culturally appropriate, and sustainably grown food at all times across communities and fostering an understanding and appreciation of food, from production to disposal.

Akin to other systems, food-system sectors are interconnected, and failures in the food system express themselves as problems across all sectors. For this reason, failures in food production, processing, and distribution strain other sectors such as food access, and make it difficult to pinpoint a single cause of any given food system failure. Similarly, failures in other systems like transportation and land use negatively impact the food system by limiting such things as food production opportunities or travel to food retail outlets.

While food deserts, swamps, and hinterlands are prominent aspects of a failure in food access, they do not tell the complete story. Recent research has begun to examine food access more comprehensively, taking into account the nuances of place, people, and policy that interact and (potentially) reinforce each other. By taking a food systems approach to addressing issues of access, literature has emerged that helps shed light on how all sectors of a community's food system—production, processing, distribution, consumption, and waste recovery—as well as a community's political, social, and economic environment, may be contributing to food security and food access issues (Raja et al. 2008).

To illustrate this point, the availability of fruits and vegetables is either caused by or reinforced by many policies and activities throughout the food system. For example, the food production sector has a limited capacity in both land and human resources to adequately grow healthy food. A 2006 USDA Economic Research Service (ERS) report suggests that the current supply of domestically-produced fruits and vegetables is insufficient for providing a healthy diet for every American. ERS estimates that the United States would need 13 million more acres of fruit and vegetable production to meet the 2005 recommended dietary requirements with domestic production (Buzby et al. 2006).

Prime agricultural lands, or lands with rich soil ideal for growing food (specifically fruits and vegetables) for human consumption, have been under threat from such development pressures as sprawl (i.e. land development that outpaces population growth). So significant is this threat that land development data from the past 25 years show that during this time the United States' population grew 30 percent yet developed use of land increased 57 percent. Additionally during this time, 23 million acres of agricultural lands were developed for nonagricultural uses (USDA 2009). Some have noted that these trends are, in part, the result of local government policies and plans, and that through innovation and dedicated leaders, these trends can be halted.

In addition, the abundance of processed, packaged foods in food stores versus fresh fruits and vegetables may be due in part to their ease of distribution and transport and their longer shelf life but also agricultural policies and private marketing campaigns. A community-based food system can potentially circumvent the transportation and spoilage problem by connecting local growers to retail retail outlets, providing opportunities for people to grow their own food, or providing economic incentives to small food store owners to purchase cold storage units for stocking fresh products. While it may seem simple to put more fruits and vegetables into food outlets, a complex network of policies and practices related to each sector of the food system makes it difficult to do so (Story et al. 2009).

Major inequities in the built environment are the result of decades of discriminatory land-use planning and policies. Zoning regulations, by design, separate land uses (for example, industrial areas from residential) but many local governments have used this tool to separate groups of people according to income, ethnicity, or race (Arnold 2007). This practice was common up until the 1940s, and continued through the 1960s and early 1970s when exclusionary zoning was an often used technique for separating types of residences—namely low-density, single-family housing from higher density, multifamily housing (Arnold 2007).

In addition to these practices, other land-use policies have facilitated the movement of wealthy, white families away from urban centers and black neighborhoods in particular (Arnold 2007). The infrastructure, facilities, and essential services to support community life followed these more affluent families, subsequently leaving low-income, minority, urban neighborhoods underserved (Arnold 2007). These patterns of migration (of both peoples and resources) have left deep scars on the built environment and the food access disparities today's communities are struggling with are often the result of planning decisions made upwards of 80 years ago.

Community leaders and government officials are also embracing local-level policies as a means for correcting failures in a given food system sector that have "downstream" food access effects. For example, some local governments are reforming their land-use regulations to preserve and protect prime farmland in urban-influenced areas and ensure better geographic diversity, location, and spread of food outlets; providing economic incentives to healthy food retail establishments; and inventorying land suitable for community gardens in areas considered food deserts.

For the purpose of this report, food access is defined as the ease or difficulty of obtaining (growing, purchasing, or receiving) safe, nutritionally adequate, culturally appropriate, and affordable food. Food access is dependent on the interlinked network of processes, actors, resources, and policy and regulatory tools required to produce, process, distribute, access, consume, and dispose of food.

Planning for Food Access

Understanding the interrelated factors that contribute to food access is an important first step toward finding system-wide solutions that can offer fundamental change in the availability of food and the way people acquire and consume food. National health authorities such as WHO, the Institute of Medicine, and the Centers for Disease Control and Prevention recommend environmental and policy interventions as the "most promising strategies for creating population-wide improvements in eating, physical activity, and obesity" (Sallis et al. 2006. To address problems of food access comprehensively is to examine how place, people, and food interact and to use systems in the built, natural, social, and political environment as frameworks for coordinating change.

There are many tools a local government can use to address complicated societal issues and plan for the future of a community. Municipal and county planning departments prepare a variety of plans to assess and address challenges in areas ranging from housing and economic development to land use and transportation. Comprehensive plans (also referred to as the general plan or master plan) cover the entire community and address many subjects. Strategic plans typically focus on high-priority problems or opportunities. Subarea plans address part of a community—a downtown, a corridor, or a neighborhood. And functional plans deal with a particular subject—sewers and water, community health, open space and recreation, housing, and transit. Common to almost all forms of planning are several basic elements: analysis of existing conditions, long-range community visioning and goal setting, policy development, implementation, and monitoring (Kelly and Becker 2000). Plans document the social, economic, or environmental goals of a community, and outline policies—or decisions, standards, regulations, incentives, programs, or projects endorsed by the local government—to improve the community over time. They are grounded in systems thinking, or the notion that everything is connected.

Local and regional government planning agencies are increasingly using urban and regional plans as opportunities for addressing their communities' food system issues: from strategic food plans like Delaware Valley Regional Planning Commission's Eat Well regional food plan and Baltimore's Sustainability Plan, and functional plans like Minneapolis's Urban Agriculture Policy Plan to comprehensive plans like Marin County, California's countywide plan. Some communities at the neighborhood, municipal, county, and even regional levels have developed stand-alone comprehensive food system plans or plans that address a particular food system sector, most commonly production (Neuner et al. 2011). Regardless of whether food is a component of a plan or the subject of a stand-alone plan, it is common for these plans to describe current conditions, highlight interconnections, and make recommendations for improving the food environment.

Addressing Food Access Through Comprehensive and Sustainability Plans

Unlike other types of plans, the comprehensive plan is a long-range policy document that addresses a wide variety of interconnected social, environmental, and economic topics; provides legal, political, and logical rationale behind a community's development and settlement patterns; and shapes long-term decision making for a jurisdiction over a 20- to 30-year time frame (Berke et al. 2006; Edwards and Haines 2007). A comprehensive plan is based on the notion that issues such as housing, transportation, land use, health, the economy, and environmental protection should not be looked at in isolation. The comprehensive planning process enables communities to identify local social, economic, and environmental issues; engage and educate the community; and promote the long-term health and sustainability of the community (Kelly and Becker 2000; Public Health Law & Policy 2006).

Typically updated every 10 to 15 years, the comprehensive plan consists of a variety of mandatory elements (as required by state enabling legislation) with the option of adding additional or voluntary elements that meet specific needs of the community not addressed in the mandatory elements (Feldstein 2006). Since many state statues require some degree of consistency between the comprehensive plan and the zoning code, comprehensive plans can provide a legal foundation for subsequent zoning ordinances (Gitelman et al. 2004).

A new generation of comprehensive plans—sustainability plans—are also emerging in communities across the United States. A type of strategic plan, the sustainability plan is being used to expand the transportation, resource conservation, climate protection, air and water quality, open space, economic development, health, and education components of the comprehensive plan and to address new and emerging issues, such as the health and sustainability of the local and regional food system. While typically not required by state statute and thus lacking the legal standing of the comprehensive plan, sustainability scholars are recognizing the importance of the sustainability plan for guiding local government actions and achieving sustainable development[4] (Newman and Kenworthy, 1999; Newman and Jennings 2008; Portney 2003; Schilling 2011). According to Portney, "the single most important element in assessing the seriousness of a city's efforts towards achieving sustainable development is the presence of a sustainability plan" (Portney 2003).

The sustainability plan is often adopted by the local government or connected to the comprehensive plan as a voluntary element. Local governments are also increasingly integrating sustainability into the comprehensive planning process. In

some cases, such as in Marin County, local governments are creating the "sustainable" comprehensive plan, which uses the principles of ecological, social, and economic sustainability as the framework for the comprehensive plan. Sustainability plans can be classified into three main types: 1) comprehensive sustainability plans; 2) climate action plans; and 3) sustainability policy plans or charters (Schilling 2011).

The comprehensive plan, including this new generation of sustainability plans, makes explicit the dependencies and interrelationships that exist between land use, natural resources, transportation, housing, solid waste, parks and open space, economic development, and other topics related to the physical development of a community—all of which impact the community-based food system. These local plans, and the public processes used to create them, are important tools to solve such complicated societal problems as food access.

Many comprehensive or sustainability plans mention food as one component, or subcomponent, among other more traditional planning elements such as transportation, housing, and land use (Neuner et al. 2011). In these examples, food is often referenced alongside concerns about environmental stewardship, natural and agricultural resources, or health; in some cases, references to food are interwoven throughout the plan (Neuner et al. 2011).

The comprehensive plan directly influences a community's urban design, land-use, and zoning regulations, which in turn influence the opportunities for food production on public and private land; commercial and community food processing facilities; local distribution networks; food retail diversity, density, and location; and commercial and private compositing operations. Collectively, these factors fundamentally drive the availability of and access to healthy and unhealthy foods in a community (Ashe et al. 2007; Gustafson et al. 2007; McCann 2006). Therefore, tools such as comprehensive planning and zoning regulations—both justified through local governments' police power to address the health, safety, and welfare needs of residents—can be used to improve to community food system and provide children, adolescents, and adults access to healthy, affordable foods (Ashe et al. 2007). For this reason, many communities throughout the country have been motivated to include food-system-related goals and policies in their local land-use plans as a means for solving the problem of food access.

Despite the comprehensive plan's—and more recently, the sustainability plan's—importance in driving sound policies, regulations, and investments to improve the food environment, there is little empirical evidence regarding the extent of food access-related goals and policies in local plans. While we know that more and more local governments are including food access-related goals and policies in their local plans, little is understood about the clarity, quality, and comprehensiveness of these goals and policies. Similarly, little is understood about how consistent these goals and policies are with implementation mechanisms such as zoning (Berke et al. 2006).

With funding from Robert Wood Johnson Foundation's Healthy Eating Research program, APA's Planning and Community Health Research Center conducted a multiphase research study to identify and evaluate:

- the development, adoption, and implementation of food-related goals and policies of local comprehensive and sustainability plans, across the United States; and
- their impacts on local policies, regulations, and standards, for the purpose of reducing food access disparities among children, adolescents, and adults and improving community-based food systems.

While other local and regional level plans (e.g., food charters, strategic food policy and food-system plans, healthy community plans, long-range regional plans, etc.) are important policy documents, the comprehensive plan is a leading policy tool with legal significance and the sustainability plan is an emerging and innovative policy tool with promising influence on local government sustainability actions. For these reasons, APA decided to focus on the role of comprehensive and sustainability plans in addressing food access and community-based food systems issues and opportunities. Different legal, policy, and political frameworks, as well as political and financial capacity of local governments, create challenges for research that compares and contrasts local level plans and planning processes. Despite these challenges, this research

provides a better understanding of how and why some local governments have addressed community food system issues in the comprehensive or sustainability planning process and identifies common themes and innovative features. Due to funding and time limitations, this research was not intended to be exhaustive. Only plans identified by the survey phase of the project were considered for further evaluation and study.

This report is divided into four parts, each representing a different phase of the research study. Part 1 includes results from a national web-based survey used to identify adopted comprehensive and sustainability plans that explicitly address food access and other aspects of the community food system. Part 2 includes and explains the results from the evaluation of a sample of plans identified in the survey to assess the quality of the plans and the food-related components. Part 3 outlines planning and policy lessons learned by the jurisdictions in our sample. Finally, Part 4 provides recommendations for municipalities and counties that are engaging in (or beginning to engage in) food access and food systems planning, including a list of tools and strategies that planning and health professionals can use to integrate clear, comprehensive, and action-oriented food goals and policies into the plan-making process, and examples of innovative mechanisms used to carry out plan goals and policies; ensure internal consistency between food topics, vision, goals, policies, and implementation mechanisms; and monitor and evaluate changes in food access over time.

PART 1: THE NATIONAL SURVEY

As part of the first phase of this study, APA designed and conducted a national, web-based survey of planning directors and other individuals responsible for comprehensive and sustainability planning at the local government level to:

a. identify draft and adopted comprehensive and sustainability plans with food access-related goals and policies;
b. inventory the food access principles and topics addressed by these goals and policies;
c. identify the mechanisms for implementation, such as funding, public investment, and zoning and subdivision regulations; and
d. identify the opportunities and barriers faced by each community in the development and adoption of each of these goals and policies.

The APA survey targeted planning directors and other local planning department staff engaged in long-range planning at the local government level. The survey was intended as an information-gathering tool to inform the subsequent phases of this research study. The survey was not exhaustive and represents a snapshot of planning practice at one point in time. While planning directors and local planning department staff responded from all but two states (North Dakota and South Dakota), the survey did not capture all local governments in the United States. As a result, it was not possible to identify every single comprehensive plan or sustainability plan in the United States that addresses one or more aspects of the food system.

APA conducted two rounds of web-based data collection. On June 30, 2010, APA sent a direct e-mail (with a link to the web-based survey) to all planning directors in its membership database, approximately 1,020 members. On August 10, 2010, APA sent an e-mail invitation to the electronic mailing lists of all 50 APA state chapters, which yielded a greater response.

Survey Respondents

The first round of data collection yielded 388 responses and the second round 774 responses, for a total of 1,162 initial responses. Because 274 of the initial responses represented an entity other than a local government or a city-county jurisdiction, such as a regional planning agency, state government, or development district (117 responses), or included duplicate information, where multiple entries were submitted for a single local government (157 responses), they were removed from the data set. The final number of valid responses was 888.

TABLE 1. SURVEY RESPONSES, BY STATE

# of Responses	# of States	State abbreviations
100+	1	CA
90–99	0	-
80–89	0	-
70–79	1	FL
60–69	2	IL, NC
50–59	0	-
40–49	0	-
30–39	4	MI, OH, PA, MA
20–29	8	UT, GA, MN, NJ, OR, AZ, CT, WA
10–19	12	IN, SC, MD, MO, NY, TX, VA, IA, NH, CO, ME, NV
1–9	21	AR, NM, AL, WI, ID, KY, OK, KS, NE, AK, VT, MS, DE, LA, MT, TN, WY, DC, HI, RI, WV
0	2	ND, SD

SUMMARY OF FINDINGS

Topics and Strategies for Improving Food Access and Building Sustainable Food Systems

Comprehensive Plans

- Most of the respondents (95 percent, or 843) indicated that their jurisdictions had either draft or adopted comprehensive plans; however, only nine percent (or 80) of these respondents indicated that their comprehensive plans explicitly addressed an aspect of local or regional food systems.
- The top five most cited food system topics in the identified comprehensive plans were rural agriculture, food access and availability, urban agriculture, food retail, and food waste.
- The top five most cited food system strategies in the identified comprehensive plans were to preserve rural agricultural land; to support new opportunities for the agricultural production of produce; to improve access to farmers markets; to support small farms; and to support new opportunities for noncommercial urban agriculture.

Sustainability Plans

- About 15 percent of all respondents (136) indicated that their jurisdiction had either a draft or adopted sustainability plans; and only 18.3 percent (or 25) of these respondents indicated that their sustainability plans explicitly addressed local or regional food systems.
- The top five most cited food system topics in the identified sustainability plans were urban agriculture, food access and availability, food retail, rural agriculture, and food waste.
- The top five most cited food system strategies in the identified sustainability plans were to improve access to farmers markets; to support new opportunities for noncommercial urban agriculture; to support new opportunities for the agricultural production of produce; to improve access to community gardens; and to support new opportunities for commercial urban agriculture.

Location of the Food System Components in the Plan

- In comprehensive plans that did address food systems, these components were located in land-use, agriculture, natural resources, economic development, or sustainability elements.

Data and Data Collection Tools

- Of the adopted comprehensive plans that explicitly addressed food systems, the majority of respondents indicated that they did not use any food system assessment or data collection tools to identify food system-related problems in the community. Of the respondents that did use such tools, the most commonly used types included environmental, food production, environmental health, air quality, chronic disease, and food access data. About 20 percent indicated that they used an agriculture resource assessment tool in the identification of food system problems.
- Of the adopted sustainability plans that explicitly addressed food systems, the majority of respondents indicated that they did not use any food system assessment or data collection tools to identify food system-related problems in the community (35.3 percent) or that they didn't know if such tools were used (23.5 percent). Only 17.6 percent and 11.8 percent indicated that they used community food assessments or community health assessments, respectively, as tools in the identification of food system problems. About 30 percent indicated that they did not use any type of local data to inform the development of the food system plan components. In those communities that did use local data, the most commonly used types included chronic disease, environmental health, food access, food assistance, and food distribution data.

Level of Involvement of Stakeholders

Respondents reported that beyond the local planning agency, the most involved stakeholder groups and government agencies in the development of the food system components of the adopted comprehensive plan were local planning commissions, community residents, community-based organizations, and local advisory committees on public health and planning. Other responses provided included local economic development agencies, and local cooperative extensions.

Successes and Challenges

According to respondents with adopted comprehensive and sustainability plans, the top reason for including food system components was community support (59.4 percent and 52.9 percent, respectively). Other important reasons for addressing food in comprehensive plans included support by the local planning agency, community awareness, political support, and political awareness. Other important

easons for addressing food in sustainability plans included political awareness, political support, and support by the local health department.

- The top two barriers to including food system components were a lack of political awareness and a lack of community awareness for comprehensive plans, and lack of community awareness and lack of government staff resources for sustainability plans.

Impact of the Plan on Food Systems

- About 34 percent of respondents reported that the food system-related goals, objectives, and policies in their adopted comprehensive plans have had positive impacts or made positive improvements to the community, including the creation of new community gardens, grocery stores, and farmers markets, as well as changes in land-use regulations and the promotion of locally grown food.
- About 33 percent of respondents reported that the food system-related goals, objectives, and policies in their adopted sustainability plans have had positive impacts on the local food system, including changes to land-use regulations, the creation of FPCs, promotion of local food systems, and the attraction of grant funding.

All but two states (North Dakota and South Dakota) were represented by the 888 responses. The state with the largest number of responses was California (107), followed by Florida (71), Illinois (64), and North Carolina (61). States with two responses each included Delaware, Louisiana, Montana, Tennessee, and Wyoming. States with only one response each included Hawaii, Rhode Island, and West Virginia (see Table 1).

Of the 888 respondents, more than half worked for a city government (54.8 percent), 23.3 percent worked for a county government, 12.2 percent worked for a town, and the remaining respondents worked for a township, village, tribe, or other type of entity, such as a private consulting firm. The majority of respondents worked for a medium-sized jurisdiction (35.7 percent for a jurisdiction with a population of 10,000 to 49,999 and 19.5 percent for a jurisdiction with a population of 50,000 to 149,999 people, respectively). About 12 percent worked for a jurisdiction with a population of 2,500 to 9,999; nine percent for a jurisdiction with 150,000 to 499,999; and six percent for a jurisdiction with 500,000 or more people.

The majority of respondents (65.9 percent) were public-sector planners; 11 percent were appointed officials; four percent were public-health professionals, urban designers, architects, or another type of professional; 1.6 percent were private-sector planners; and fewer than one percent were either elected officials or community advocates. About 16 percent of respondents did not provide a response.

Figure 1. Percentage of comprehensive plans that contain goals, objectives, or policies that explicitly address the local or regional food system

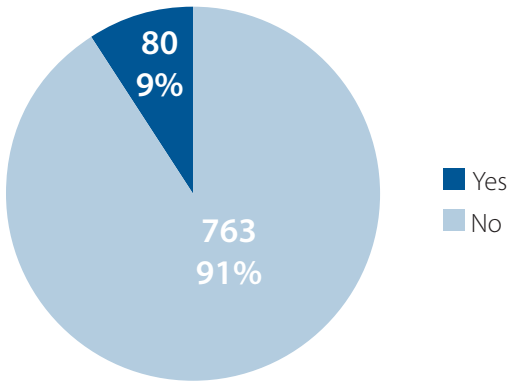
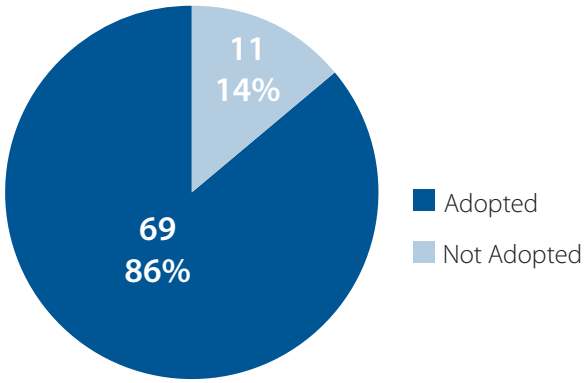
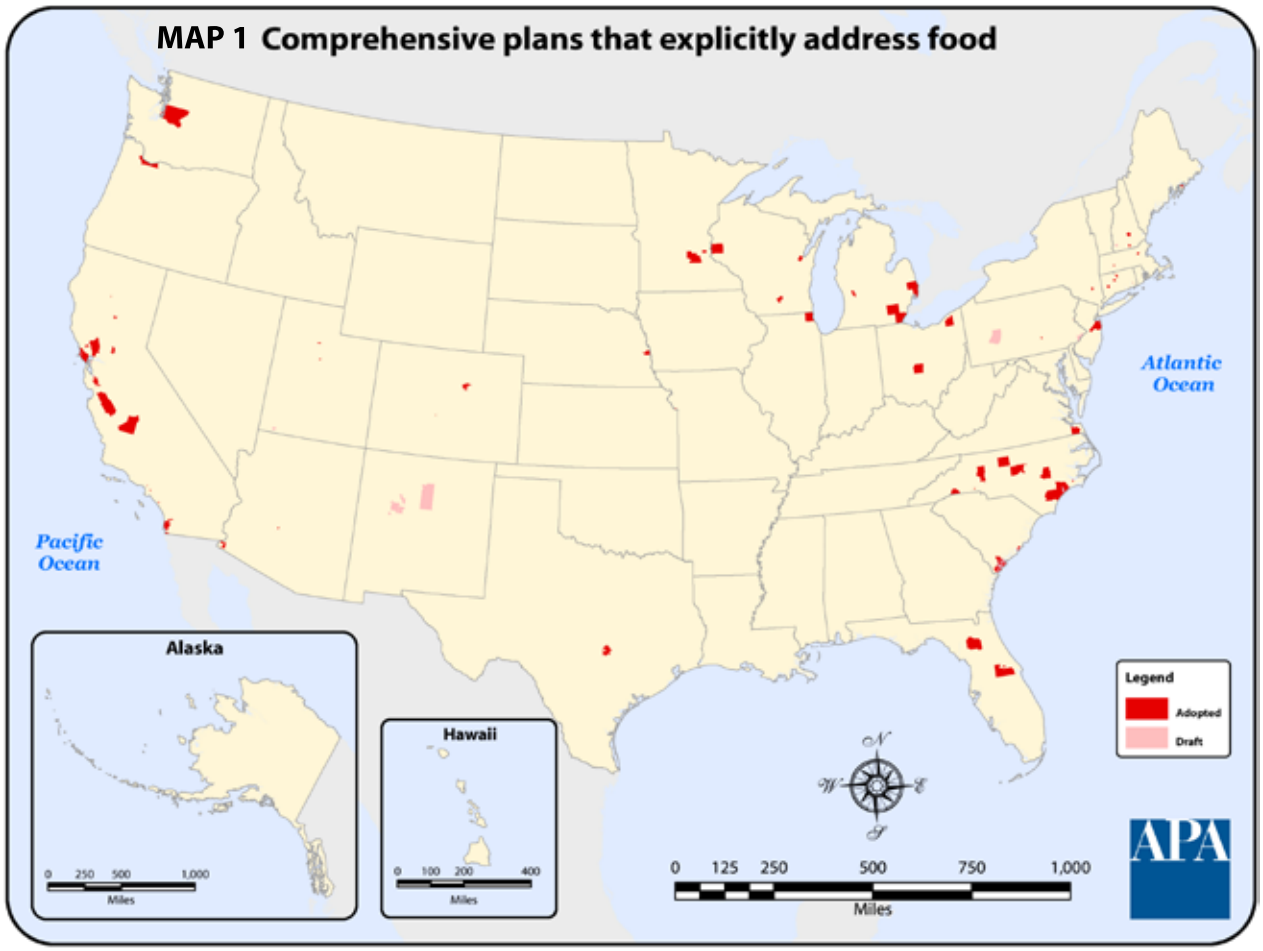


Figure 2. Percentage of comprehensive plans officially adopted by the local government





Approximately 81 percent indicated planning as an area of professional expertise; 25.9 percent economic development; 18.9 percent transportation; 16.6 percent housing; and 10.2 percent parks and recreation (respondents could select more than one response to this question). About 13 percent reported another type of professional expertise, such as sustainability, environmental planning, community development, urban design, historic preservation, zoning, natural resources, energy, or agriculture. Fewer than two percent indicated public health as an area of professional expertise

Results of the Survey

Planning for Food

Most of the respondents (95 percent, or 843) indicated that their jurisdiction had either a draft or an adopted comprehensive plan; however, only nine percent (or 80) of these respondents indicated that their comprehensive plans explicitly addressed an aspect of local or regional food systems (see Figure 1). Map 1 (see map above) shows the geographic spread of these municipalities and counties. Of the identified comprehensive plans with food system components, 86 percent (69) have been officially adopted by their local governments (see Figure 2). (Note: These 69 respondents will be referred to collectively as the CP respondents.) About 43 percent of the adopted comprehensive plans that address an aspect of the food system come from cities, 36 percent from counties, 16 percent from towns, and three percent from townships (see Figure 3 and Table 2).

Fewer than one quarter of the respondents (15.3 percent, or 136) indicated that their jurisdiction had either a draft or an adopted sustainability plan, and only 25 (or 18.3 percent) of these respondents indicated that their sustainability plan explicitly addressed local or regional food systems (see Figure 4). Map 2: Sustainability plans that explicitly address food (see page 29) shows the geographic spread of these municipalities and counties. Of the identified sustainability plans with food system components, 68 percent (17) have been officially adopted by their local governments (see Figure 5). (Note:

TABLE 2. COMPREHENSIVE PLANS: JURISDICTION SIZE		
Population of Jurisdiction	**Number of Respondents**	**Percent of Respondents**
10,000 to 49,999	17	23.3
50,000 to 149,999	14	19.2
150,000 to 499,999	12	16.4
2,500 to 9,999	8	11.0
1,000,000 to 1,999,999	4	5.5
500,000 to 999,999	3	4.1
2,000,000 to 2,999,999	1	1.4
Don't Know	10	13.7
Total		100.0

Figure 3. Comprehensive plans: type of jurisdiction

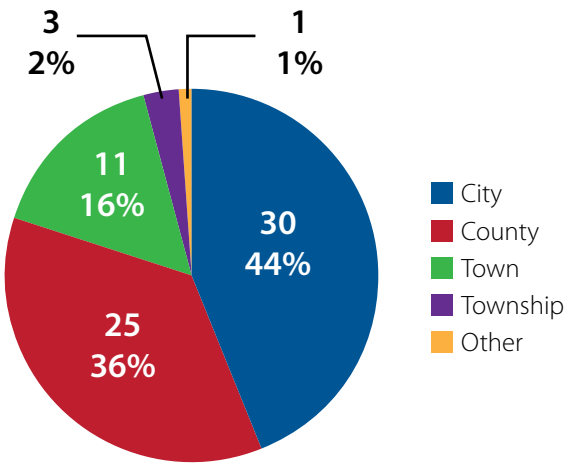


Figure 4. Percentage of sustainability plans that contain goals, objectives, or policies that explicitly address the local or regional food system

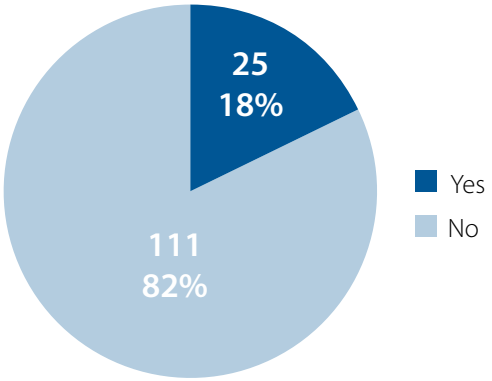


Figure 5. Percentage of sustainability plans officially adopted by the local government

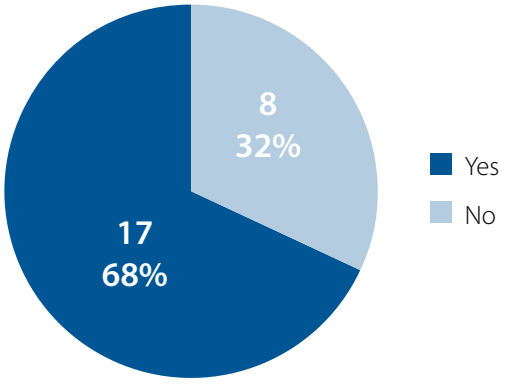
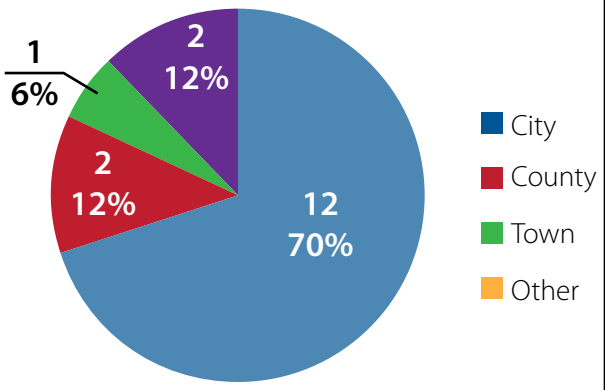
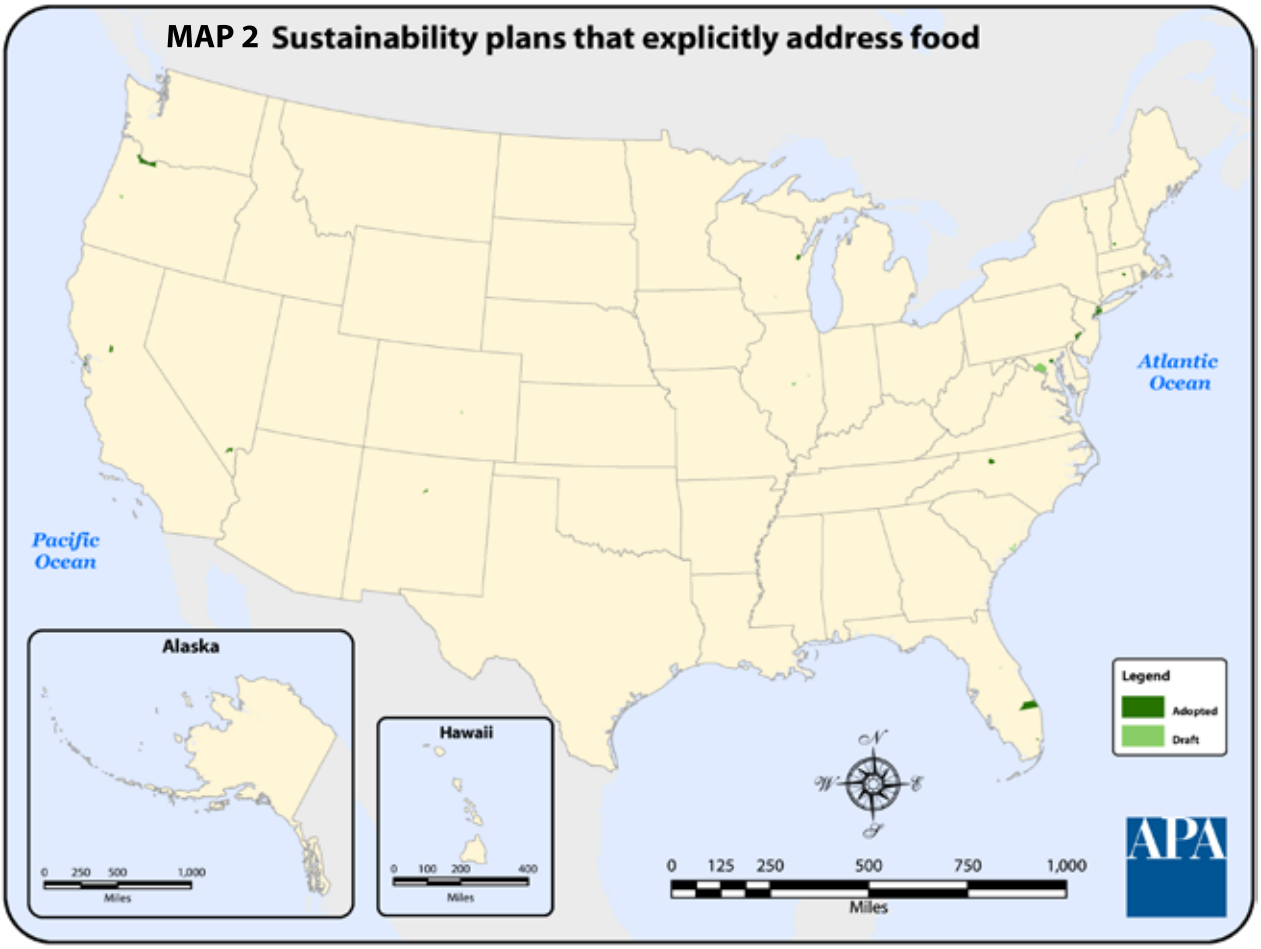


Figure 6. Sustainability plans: type of jurisdiction





These 17 respondents will be referred to collectively as SP respondents.) Twelve (or 70 percent) of the 17 adopted sustainability plans that explicitly address the local or regional food system come from cities, two come from counties, one from a town, and one from a joint county-city area (see Figure 6 and Table 3).

TABLE 3. SUSTAINABILITY PLANS: JURISDICTION SIZE

Population of Jurisdiction	Number of Respondents	Percent of Respondents
50,000 to 149,999	4	24
10,000 to 49,999	3	18
150,000 to 499,999	3	18
500,000 to 999,999	3	18
Don't Know	2	12
1,000,000 to 1,999,999	1	6
4,000,000 or more	1	6
Grand Total	17	100

A regional geographic breakdown of all the identified adopted comprehensive and sustainability plans that address one or more aspect of the food system can be found in Appendix A.

Figure 7. Comprehensive plans: percentage of municipalities with Food Policy Councils

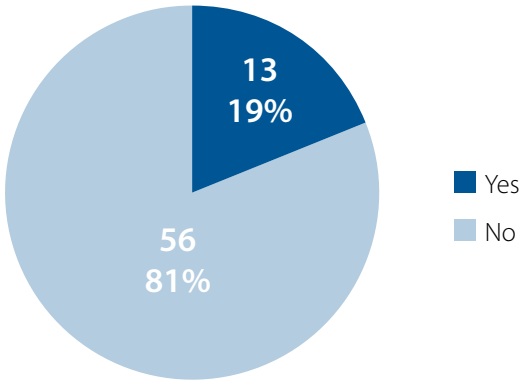
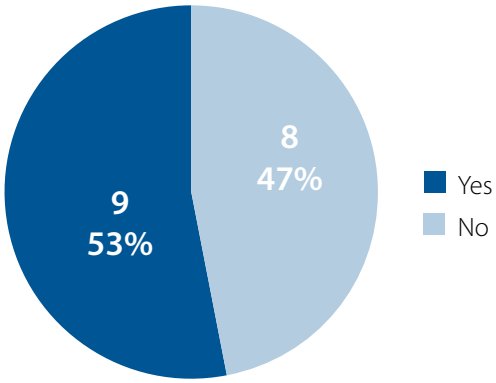


Figure 8. Sustainability plans: percentage of municipalities with Food Policy Councils



Food Policy Council

Only 13 (18.8 percent) of the CP respondents indicated that their jurisdiction had a FPC or other similar entity such as a food policy task force or food coalition (see Figure 7), whereas eight (47 percent) of SP respondents indicated their jurisdiction had a FPC or similar entity (see Figure 8).

Food System Topics

The survey asked respondents to identify the number and type of food system topics included in the comprehensive or sustainability plan. Respondents could choose one or more topics from a list of 10 general food system topics.[5] Over 60 percent of CP respondents indicated that their jurisdictions' adopted comprehensive plans explicitly addressed rural agriculture (e.g., small- and large-scale dairy, livestock, poultry, and fruit and vegetable production in rural and metropolitan areas). Beyond rural agriculture, food access and availability (e.g., physical and economic ability of consumers to obtain safe, nutritious, and culturally appropriate food in the home, school, worksite, and neighborhood setting) and urban agriculture (e.g., urban farming; community, school, or backyard

TABLE 4. TOP 10 MOST CITED FOOD SYSTEMS TOPICS IN COMPREHENSIVE PLANS

Food System Topic	Number of Respondents	Percent of Respondents
Rural agriculture	43	62.3
Food access & availability	29	42.0
Urban agriculture	25	36.2
Food retail	22	31.9
Food waste	15	21.7
Food distribution	14	20.3
Food processing	14	20.3
Food marketing	10	14.5
Other	10	14.5
Food consumption	6	8.7
Food assistance	4	5.8
None of the above	2	2.9
TOTAL	69	100.0

TABLE 5. TOP 10 MOST CITED FOOD SYSTEMS TOPICS IN SUSTAINABILITY PLANS		
Food System Topic	**Number of Respondents**	**Percent of Respondents**
Urban agriculture	10	58.8
Food access & availability	9	52.9
Food retail	7	41.2
Rural agriculture	6	35.3
Food waste	5	29.4
Food consumption	3	17.6
Food distribution	3	17.6
Food processing	3	17.6
Food assistance	2	11.8
Food marketing	2	11.8
Other	1	5.9
Total	17	100.0

gardens and small livestock) were the second and third most cited food system topics in comprehensive plans, respectively. Fewer than nine percent of CP respondents noted that their jurisdictions' comprehensive plans explicitly addressed food consumption (e.g., health, nutrition, culinary and cooking promotion and education) or food assistance (e.g., food banks, food pantries, or emergency food aid; see Table 4).

TABLE 6. IDENTIFIED JURISDICTIONS ADDRESSING 5 OR MORE OF THE GENERAL FOOD SYSTEM TOPICS IN THEIR ADOPTED COMPREHENSIVE PLAN			
Jurisdiction	**State**	**Number of Topics**	**Percent of Topics**
Alachua County	FL	8	80
Omaha	NE	8	80
San Benito	CA	8	80
San Jose	CA	7	70
St. Clair County	MI	7	70
Easton	PA	6	60
Monroe County	MI	6	60
South Gate	CA	6	60
Chico	CA	5	50
Davidson	NC	5	50
King County	WA	5	50
Kings County	CA	5	50
Lake County	IL	5	50
Marin County	CA	5	50
Polk County	NC	5	50
Sacramento	CA	5	50
San Diego	CA	5	50
South Jordan	UT	5	50
Wayne County	NC	5	50

TABLE 7. ALL IDENTIFIED JURISDICTIONS ADDRESSING FOOD SYSTEM TOPICS IN THEIR ADOPTED COMPREHENSIVE PLAN, BY STATE

Jurisdiction	State	Jurisdiction	State
Anderson	CA	Bar Harbor	ME
Emeryville	CA	Monroe County	MI
Kings County	CA	St. Clair County	MI
Marin County	CA	Washtenaw County	MI
Napa County	CA	Saint Paul	MN
Sacramento	CA	Scott County	MN
San Benito	CA	Victoria	MN
San Diego	CA	Parkville	MO
San Jose	CA	Davidson	NC
South Gate	CA	Pender County	NC
West Hollywood	CA	Polk County	NC
Mashatucket Pequot Tribal Nation	CT	Omaha	NE
Alachua County	FL	Blendon Township	OH
Orange County	FL	Easton	PA
Lake County	IL	King County	WA

More than half of SP respondents indicated that their jurisdictions' plans explicitly addressed urban agriculture or food access and availability. Fewer than half noted that their jurisdictions' sustainability plans explicitly addressed food retail, rural agriculture, food processing, food distribution, food consumption, food marketing, or food assistance (see Table 5).

Respondents from Alachua County, Florida; Omaha, Nebraska; and San Benito and San Jose, California, reported that their jurisdictions' comprehensive plans explicitly addressed between seven and eight food system topics (see Tables 6 and 7). Only four respondents reported that their jurisdictions' adopted sustainability plan explicitly addressed at least half (five) of the food system topics (see Table 8).

TABLE 8. ALL IDENTIFIED JURISDICTIONS ADDRESSING FOOD SYSTEM TOPICS IN THEIR ADOPTED SUSTAINABILITY PLAN, BY STATE

Jurisdiction	State
Sacramento City	CA
San Francisco	CA
San Rafael	CA
Baltimore	MD
Winston-Salem	NC
Keene	NH
Portland–Multnomah County	OR
Philadelphia	PA
La Crosse	WI

As mentioned earlier, respondents were asked to indicate whether or not their jurisdiction's comprehensive or sustainability plan explicitly addressed one or more aspects of the food system. A follow-up question then asked respondents to specify the type of food system topics addressed by the plan. Several CP and SP respondents indicated that their jurisdictions' adopted comprehensive or sustainability plan addressed one or more aspects of the food system, but none of the food system topics listed in the survey. Due to the limitations of the survey, it is unclear if these jurisdictions' plans only generally addressed food systems, or did so in a specific way that was not captured in the answer choices of the food system topic question.

Strategies to Improve Food Access and Support Community-Based Food Systems

The survey also asked respondents to report whether or not their jurisdiction's adopted comprehensive or sustainability plan included goals, objectives, or policies that address specific strategies to improve food access and support community-based food systems. Respondents were provided with a list of 25 standard food system strategies directly related to local food production, food access, healthy eating, food waste, climate change, or public participation. (For a complete list of these 25 strategies and a list of all the jurisdictions by number of standard strategies addressed, see Appendices C1 and C2.)

Top 10 Most Cited Food System Strategies

Of the 10 most cited standard strategies in comprehensive plans, eight were related to food production and two to food access. The top five included: preserving rural agricultural land, supporting new opportunities for the production of produce, improving consumer access to farmers markets, supporting small farms, and supporting new opportunities for noncommercial urban agriculture (see Table 9). For sustainability plans, seven of the top ten were related to local food production (three of which relate specifically to urban agriculture as opposed to rural agriculture), two to food access and availability, and one to food waste (see Table 10). The top five included: improving access to farmers markets, supporting new opportunities for noncommercial urban agriculture, supporting new opportunities for the production of produce, improving access to community gardens, and supporting new opportunities for commercial urban agriculture (see Table 10).

TABLE 9. TOP 10 MOST CITED FOOD SYSTEM STRATEGIES IN COMPREHENSIVE PLANS

Answer Options	Count	Percent
Preserve rural agricultural land	46	67.0
Support new opportunities for the agricultural production of produce (i.e. fruit, vegetables)	41	59.0
Improve access to farmers markets	32	46.0
Support small farms	29	42.0
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	29	42.0
Support ecologically sustainable food production practices	23	33.0
Improve access to community gardens	21	30.0
Support infrastructure for local or regional food distribution	19	28.0
Support infrastructure for local or regional food processing	17	25.0
Support local or regional food distribution networks	15	22.0

Common Food System Themes

When the strategies are grouped by common food system themes, most CP respondents reported that their comprehensive plans addressed at least one of the 10 food production strategies (80 percent) or one of the four food access-related strategies (52 percent) (see Table 11). Similarly, most SP respondents reported that their jurisdiction's

sustainability plan addresses at least one or more of the 10 food production strategies (88 percent) or one or more of the four food access strategies (76 percent). A greater percentage of SP respondents, however, reported that their jurisdictions' sustainability plans addressed one or more of the three urban agriculture strategies (71 percent) than CP respondents (45 percent).

TABLE 10. TOP 10 MOST CITED FOOD SYSTEM STRATEGIES IN SUSTAINABILITY PLANS

Answer Options	Count	Percent
Improve access to farmers markets	11	65.0
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	10	59.0
Support new opportunities for the agricultural production of produce (i.e., fruit, vegetables)	8	47.0
Improve access to community gardens	8	47.0
Support new opportunities for commercial urban agriculture (e.g., urban farms)	7	41.0
Support ecologically sustainable food production practices	6	35.0
Support small farms	6	35.0
Preserve rural agricultural land	5	29.0
Facilitate the reduction, reuse, or recycling of food-related waste	5	29.0
Support infrastructure for local or regional food processing	4	24.0

TABLE 11. STANDARD FOOD SYSTEM STRATEGIES ADDRESSED IN COMPREHENSIVE PLANS, GROUPED BY COMMON FOOD SYSTEM THEMES

Food System Strategy	Number of Respondents	Percent of Respondents
Local and Regional Food Production		
Preserve rural agricultural land	46	67
Support new opportunities for the agricultural production of produce (i.e., fruit, vegetables)	41	59
Support small farms	29	42
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	29	42
Support ecologically sustainable food production practices	23	33
Support infrastructure for local or regional food distribution	19	28
Support infrastructure for local or regional food processing	17	25
Support local or regional food distribution networks	15	22
Support new opportunities for commercial urban agriculture (e.g. urban farms)	14	20
Support the health of farm workers	4	6

TABLE 11. STANDARD FOOD SYSTEM STRATEGIES ADDRESSED IN COMPREHENSIVE PLANS, GROUPED BY COMMON FOOD SYSTEM THEMES		
Food System Strategy	**Number of Respondents**	**Percent of Respondents**
Food Access and Availability		
Improve access to farmers markets	32	46
Improve access to community gardens	21	30
Improve access to supermarkets or other large grocery stores	9	13
Reduce access to fast-food restaurants	3	4
Urban Agriculture		
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	29	42
Improve access to community gardens	21	30
Support new opportunities for commercial urban agriculture (e.g., urban farms)	14	20
Food Waste		
Facilitate the reduction, reuse, or recycling of food-related waste	13	19
Climate Change		
Reduce the impact of the food system on climate change	7	10
Healthy Food Retail		
Improve the variety of healthy foods sold at small grocery stores	5	7
Improve the variety of healthy foods sold at convenience stores	5	7
Improve the variety of healthy foods offered by full-service restaurants	3	4
Improve the variety of healthy foods offered by fast food restaurants	2	3
Improve the variety of healthy foods sold at liquor stores	1	1
Improve the variety of healthy foods offered by mobile vending	0	0
Healthy Eating		
Promote healthy food choices at the individual level	6	9
Improve resident participation in food assistance programs	1	1
Engaging the Underserved		
Engage under-served populations in local government decisions related to the food system	4	6

Standard strategies related to food waste, climate change, healthy food retail, healthy foods, and engagement of underserved populations in local government decisions related to the food system were far less cited in both comprehensive and sustainability plans. Among CP respondents, about 20 percent and 10 percent reported that

their comprehensive plans addressed standard strategies related to food waste or climate change, respectively. Fewer than 10 percent of CP respondents reported that their comprehensive plans addressed one or more of the six healthy food retail-related strategies, or at least one of the two healthy eating-related strategies. Only four CP respondents (six percent) reported that their comprehensive plans included goals related to the need to engage underserved populations in local government decisions related to the food system (see Table 11). Similarly, about 29 percent and 18 percent of SP respondents reported that their jurisdictions' sustainability plans addressed standard strategies related to food waste or climate change, respectively. Healthy eating-related strategies were addressed by a greater percentage of the SP respondents (24 percent) than CP respondents (nine percent). Only two SP respondents (12 percent) reported that their jurisdictions' sustainability plans included goals related to the need to engage underserved populations in local government decisions related to the food system, and only one SP respondent (six percent) reported that their jurisdiction's sustainability plan addressed one or more of the six healthy food retail-related strategies (see Table 12).

TABLE 12. STANDARD FOOD SYSTEM STRATEGIES ADDRESSED IN SUSTAINABILITY PLANS, GROUPED BY FOOD SYSTEM THEME

Food System Strategy	Number of Respondents	Percent of Respondents
Local and Regional Food Production		
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	10	59
Support new opportunities for the agricultural production of produce (i.e., fruit, vegetables)	8	47
Support new opportunities for commercial urban agriculture (e.g., urban farms)	7	41
Support ecologically sustainable food production practices	6	35
Support small farms	6	35
Preserve rural agricultural land	5	29
Support infrastructure for local or regional food processing	4	24
Support infrastructure for local or regional food distribution	4	24
Support local or regional food distribution networks	3	18
Support the health of farm workers	1	6
Food Access and Availability		
Improve access to farmers markets	11	65
Improve access to community gardens	8	47
Improve access to supermarkets or other large grocery stores	4	24
Reduce access to fast-food restaurants	0	0
Urban Agriculture		
Support new opportunities for noncommercial urban agriculture (e.g., community gardens)	10	59
Improve access to community gardens	8	47
Support new opportunities for commercial urban agriculture (e.g., urban farms)	7	41
Food Waste		
Facilitate the reduction, reuse, or recycling of food-related waste	5	29
Climate Change		

TABLE 12. STANDARD FOOD SYSTEM STRATEGIES ADDRESSED IN SUSTAINABILITY PLANS, GROUPED BY FOOD SYSTEM THEME		
Food System Strategy	**Number of Respondents**	**Percent of Respondents**
Reduce the impact of the food system on climate change	3	18
Healthy Retail		
Improve the variety of healthy foods sold at small grocery stores	1	6
Improve the variety of healthy foods sold at convenience stores	1	6
Improve the variety of healthy foods sold at liquor stores	0	0
Improve the variety of healthy foods offered by fast-food restaurants	0	0
Improve the variety of healthy foods offered by full-service restaurants	0	0
Improve the variety of healthy foods offered by mobile vending	0	0
Healthy Eating		
Promote healthy food choices at the individual level	3	18
Improve resident participation in food assistance programs	1	6
Engaging the Underserved		
Engage underserved populations in local government decisions related to the food system	2	12

Specific Strategies

The majority of CP respondents (67 percent) indicated that their jurisdictions' comprehensive plans included goals to *preserve rural agricultural land*. This may be due in part to the land-use focus of comprehensive plans as opposed to sustainability plans, and to the fact that farmland preservation is a more traditional topic in land-use planning, as it's often used as a tool to preserve natural resources and prevent urban sprawl in cities and counties.

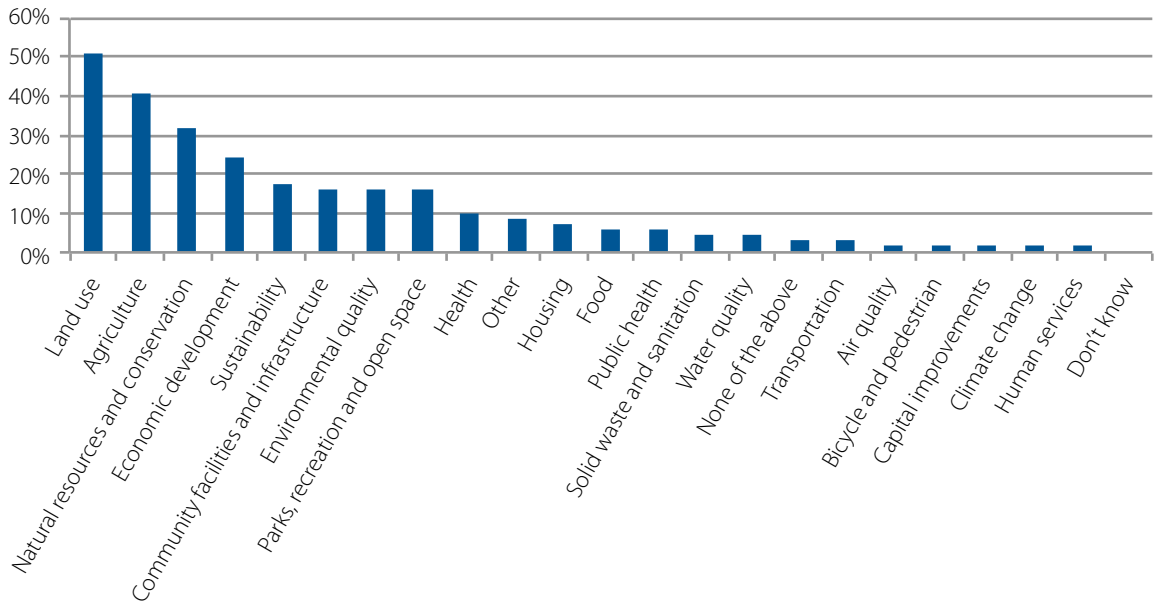
Over 46 percent, 42 percent, and 30 percent reported that their jurisdictions' comprehensive plans included goals to *improve access to farmers markets; support new opportunities for noncommercial urban agriculture, such as community gardens*; or *improve access to community gardens,* respectively. Only 13 percent and four percent reported that their jurisdictions' comprehensive plans included goals to *improve access to supermarkets or other large grocery stores; or reduce access to fast food restaurants*, respectively. Fewer than seven percent of CP respondents indicated that their comprehensive plans included goals to *improve the variety of healthy foods sold within small grocery stores or convenience stores* (see Table 11).

The majority of SP respondents (59 percent) indicated that their jurisdictions' sustainability plans included goals *to support new opportunities for noncommercial urban agriculture*, such as community gardens. This may be due in part to the urban focus of the sustainability plans in our sample (12 of the 17 plans were from cities). About 41 percent of SP respondents also indicated that their jurisdictions' sustainability plans included goals to *support new opportunities for commercial urban agriculture*. About 47 percent and 35 percent indicated that their jurisdictions' sustainability plans included goals to *support new opportunities for the agricultural production of produce*, and to *support ecologically sustainable food production practices*, respectively (see Table 12).

About 65 percent, 47 percent, and 24 percent reported that their jurisdictions' sustainability plans included goals to *improve access to farmers markets; access to community gardens*; and *access to supermarkets or other large grocery stores*,

respectively. Fewer than 20 percent indicated that their jurisdictions' sustainability plans included goals to *promote healthy food choices at the individual level*. Only one SP respondent reported that their jurisdiction's sustainability plan included a goal to *improve the variety of healthy foods sold within small grocery stores or convenience stores* (see Table 12). Not a single SP respondent reported that their jurisdiction's sustainability plan included goals to *reduce access to fast-food restaurants*, or to *improve the variety of healthy foods sold at liquor stores, fast-food restaurants, full-service restaurants, or mobile vendors* (see Table 12).

Figure 9. Location of food components in comprehensive plan elements



Location of the Food System Components in the Plan

The majority of CP respondents noted that food system components (goals, objectives, or policies) were addressed in the land-use elements of their plans. This may be in part because the majority of these respondents addressed farmland preservation. Food system components were also addressed in agriculture, natural resources and conservation, economic development, parks and recreation, or sustainability elements of their plans (see Figure 9). Because sustainability plans are often laid out very differently from comprehensive plans, respondents were not asked about the location of the food system components in their sustainability plans.

Data and Data Collection Tools

The survey asked what types of local data (and associated data collection tools) were used in the development of the food system-related goals, objectives, or policies.

About a third (33 percent) of CP respondents indicated that they did not use any assessment or data collection tools listed in the survey to identify food system-related problems in the community and about 15 percent reported that they didn't know if such tools were used. The most commonly used types of tools included agricultural resource assessments (20 percent) and community food assessments (15 percent). Fewer than 10 percent of respondents indicated that they used community health assessments and fewer than five percent used economic feasibility studies, environmental impact assessments, health impact assessments, brownfields assessments, or climate change studies. None of the respondents reported that they used energy analysis tools in the identification of food system problems in the community (see Figure 10). Other types of tools used that were not mentioned in the survey included community surveys and meetings,

Figure 10. Data collection tools used in the development of food components in comprehensive plans

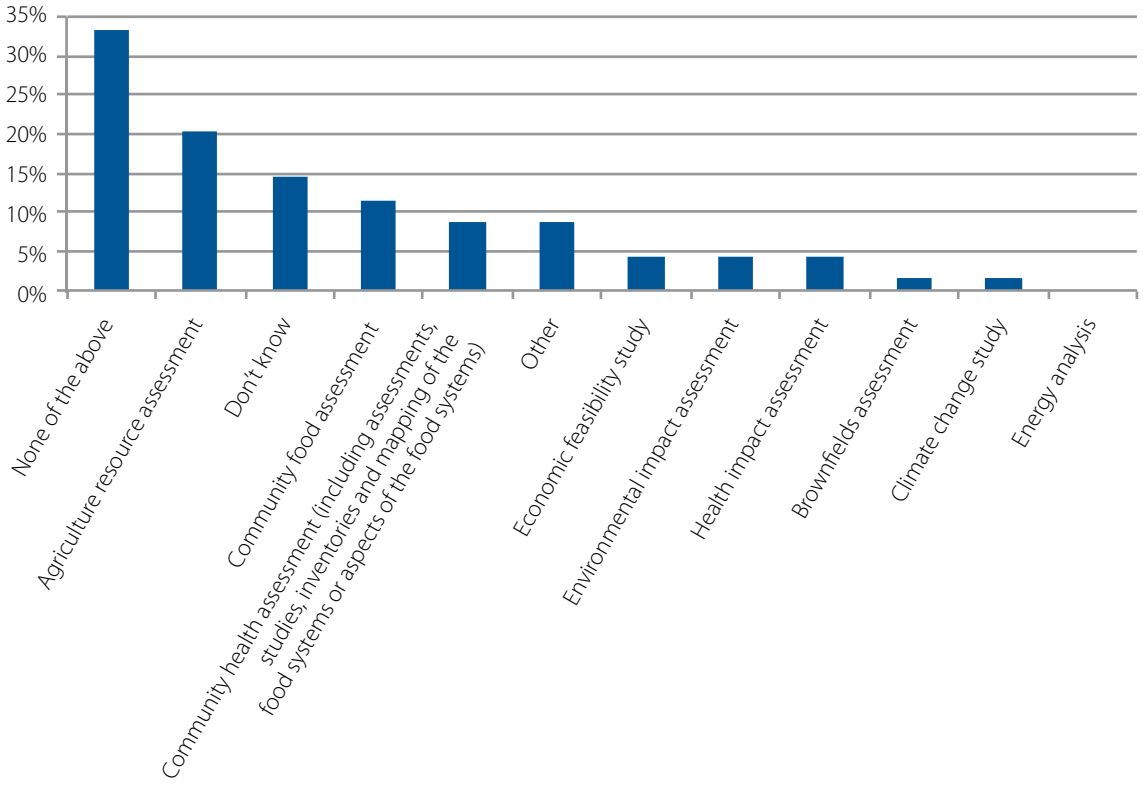


Figure 11. Data collection tools used in the development of food components in sustainability plans

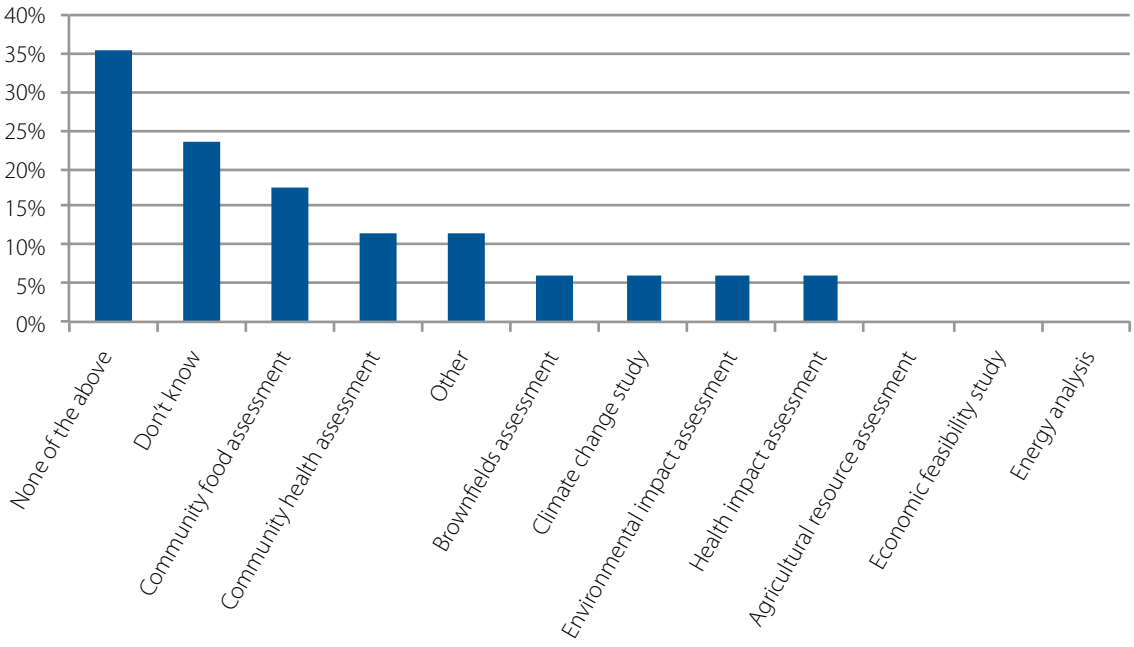
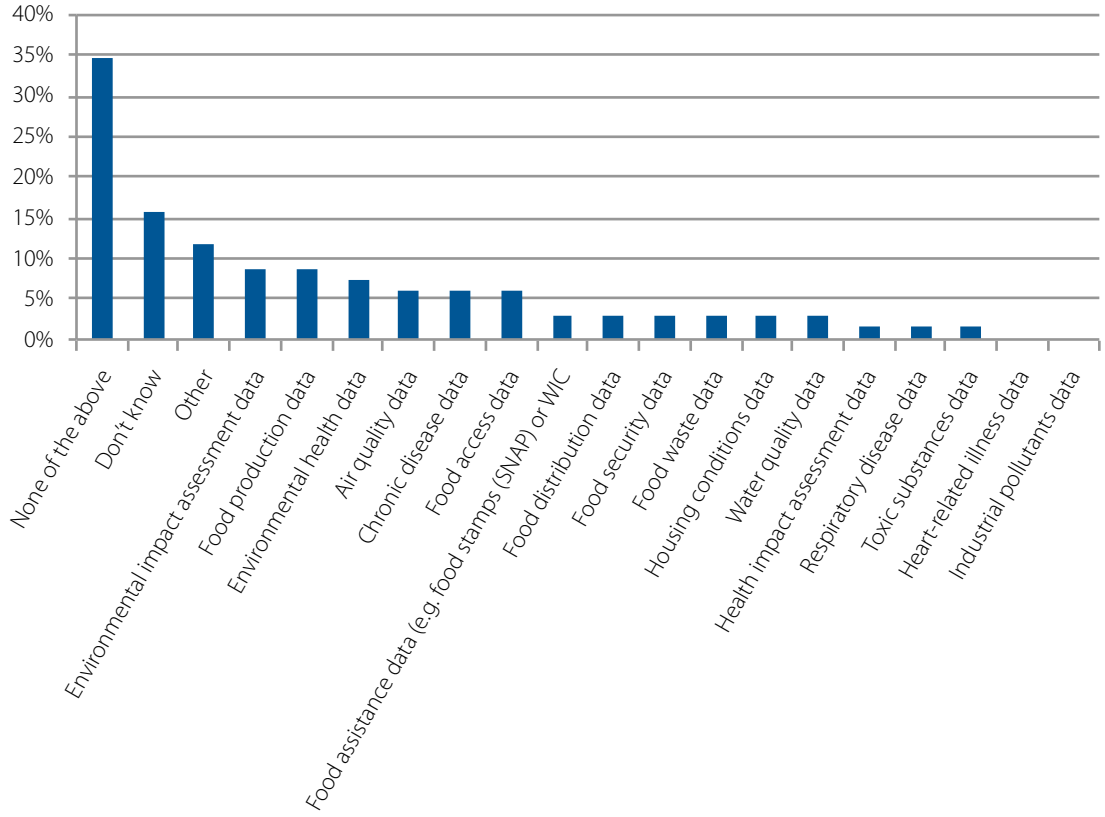


Figure 12. Types of local data used in the development of food components in comprehensive plans



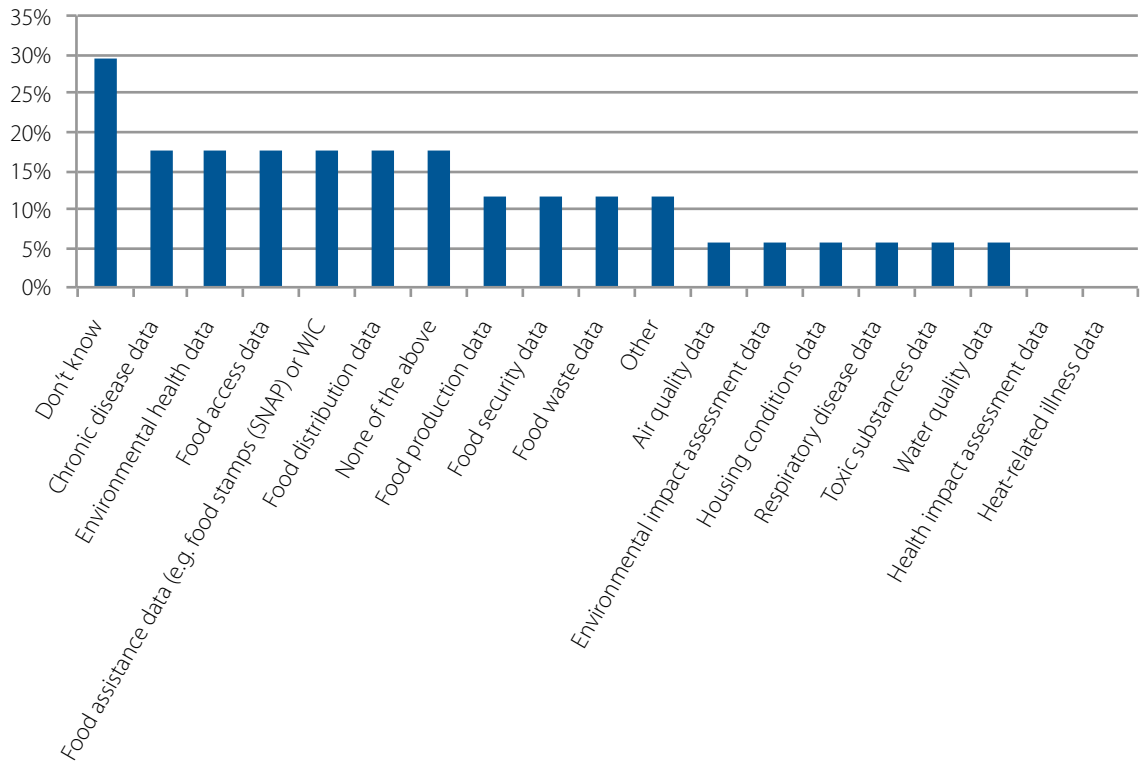
discussions with farmers, and geographic analysis tools to locate food-related businesses.

About 35 percent of SP respondents indicated that they did not use any assessment or data collection tools listed in the survey to identify food system-related problems in the community and about 24 percent reported that they didn't know if such tools were used. About 18 percent reported that they used some type of community food assessment to identify food system-related issues, and 12 percent used community health assessments. Fewer than six percent indicated that brownfields assessments, climate change studies, economic feasibility studies, environmental impact assessments, or health impact assessments were used as tools in the identification of food system-related problems in the community. None of the respondents reported that they used agricultural resource assessments, economic feasibility studies, or energy analysis tools (see Figure 11). Other types of tools used that were not mentioned in the survey included input from the public and the FPC.

About 35 percent of CP respondents indicated that they did not use any of the listed food system-related data in the formation of their comprehensive plans' food system components, and about 16 percent said that they didn't know if local food system data were used. Among those that did use data to influence the planning process, food production, environmental impact assessment, environmental health, food access, air quality, and chronic disease data were the most common. Fewer than five percent of respondents indicated that food assistance, food distribution, or food security data were used (see Figure 12).

A ccording to SP respondents, the most commonly used data in the development of sustainability plans' food system components were data on chronic disease, environmental health, food access, food assistance, food distribution, food production, food security, and food waste (see Figure 13). Almost 30 percent of respondents indicated that they did not

Figure 13. Types of local data used in the development of food components in sustainability plans



know what types of food-related data were used in the development of the food system components of their jurisdictions' sustainability plans (see Figure 13).

Stakeholder Involvement

On a scale of 1 to 5 (1 = very low involvement; 5 = very high involvement), the survey asked respondents to assess the levels of involvement of specific groups or government agencies[6] in the development of the food system components of their comprehensive or sustainability plans. According to CP respondents, the most involved groups or government agencies in the development of the food system components of their comprehensive plans were the local planning agency or department (2.9 average level of involvement), local planning commission (2.6), and community residents (2.3; see Figure 14). According to SP respondents, the most involved groups or government agencies in the development of the food system components of the sustainability plan were the local planning agency (2.1 average level of involvement), followed by community residents (1.5) and community-based organizations (1.2; see Figure 15). On average, for both comprehensive and sustainability plans, local health departments had little or no involvement in the development of the food system components. And, on average, SP respondents reported that local offices of sustainability also had little to no involvement in the development of the food system components in their sustainability plans.

Successes and Challenges

Finally, respondents were asked to identify the opportunities and barriers they encountered in their communities to integrating food system components in their comprehensive or sustainability plans. According to CP respondents, the top three reasons for including food system components into the comprehensive plan were community support, support by the local planning agency, and community awareness (see Figure 16). The top three barriers were lack of political awareness, lack of community awareness, and lack of local government funding. However, about 30 percent indicated that there were no barriers. Other important barriers for CP respondents included lack of state and federal government funding, lack of government staff resources, and lack of political support (see Figure 17).

Figure 14. Level of stakeholder involvement in the development of food components in comprehensive plans

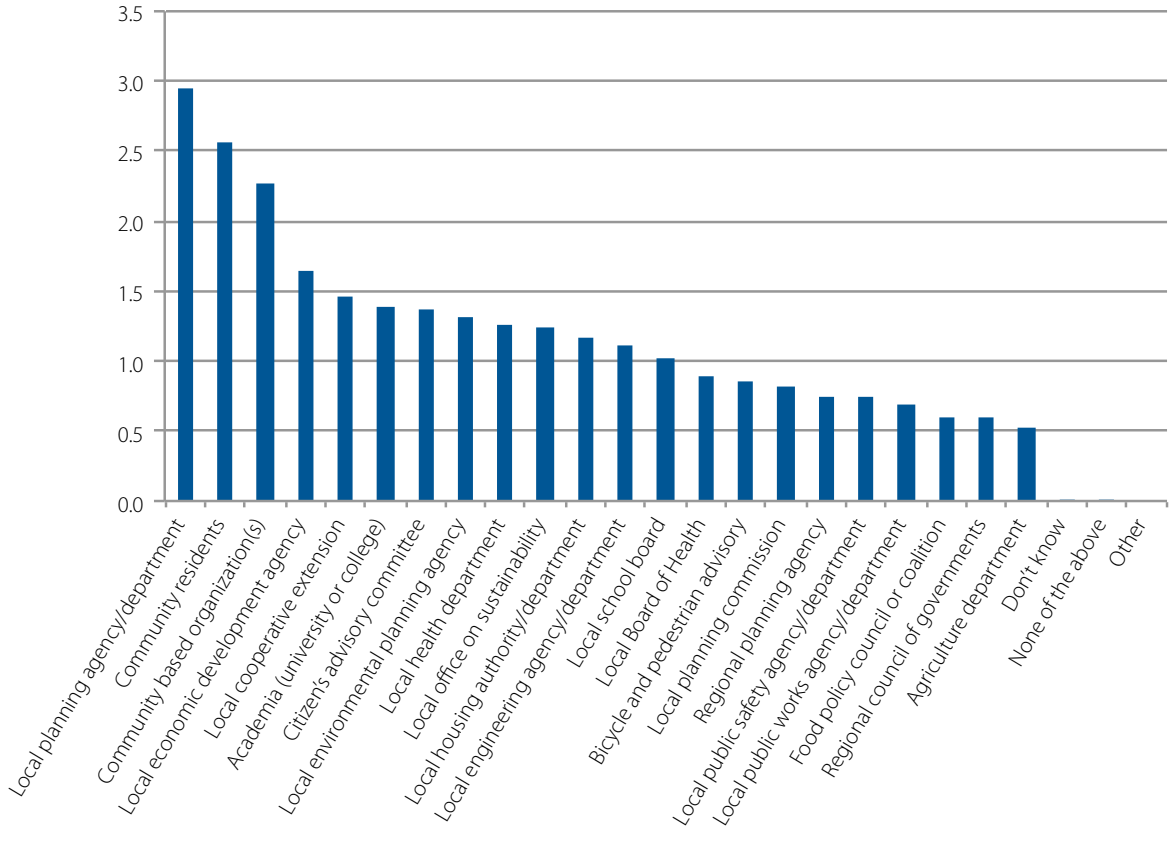


Figure 15. Level of stakeholder involvement in the development of food components in sustainability plans

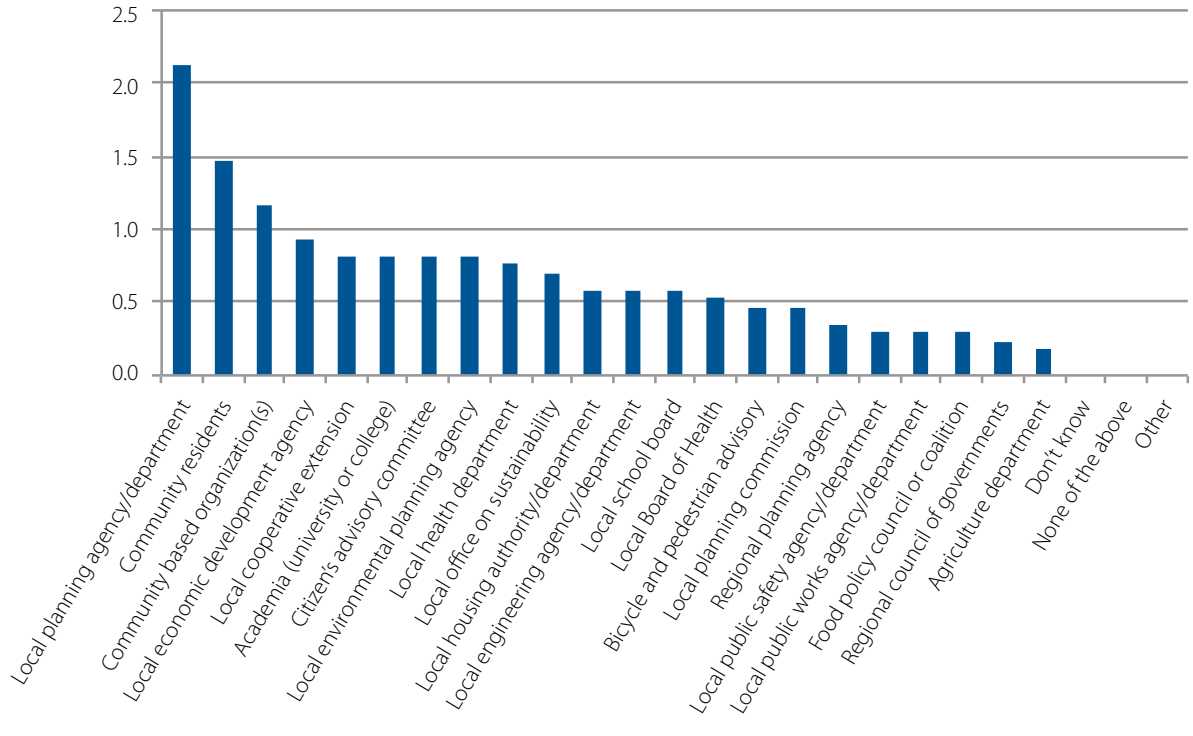
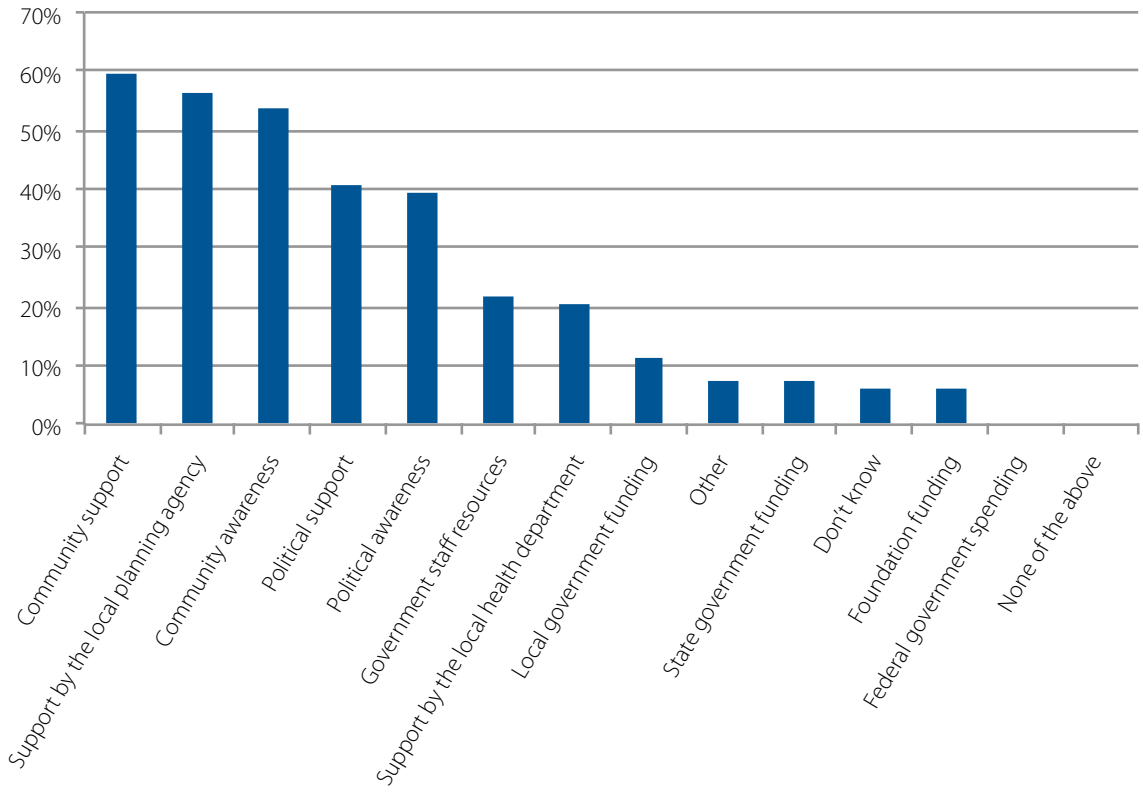


Figure 16. Reasons for including food components in the comprehensive plan



The top three reasons for including food system components into the sustainability plan were community support, political awareness, and political support (see Figure 18), and the top three barriers were lack of community awareness, lack of government staff resources, and lack of federal and local government funding (see Figure 19). Almost 30 percent reported that they weren't sure what the barriers were and almost 24 percent reported that there were no barriers.

Impact of the Plan on the Local Food System

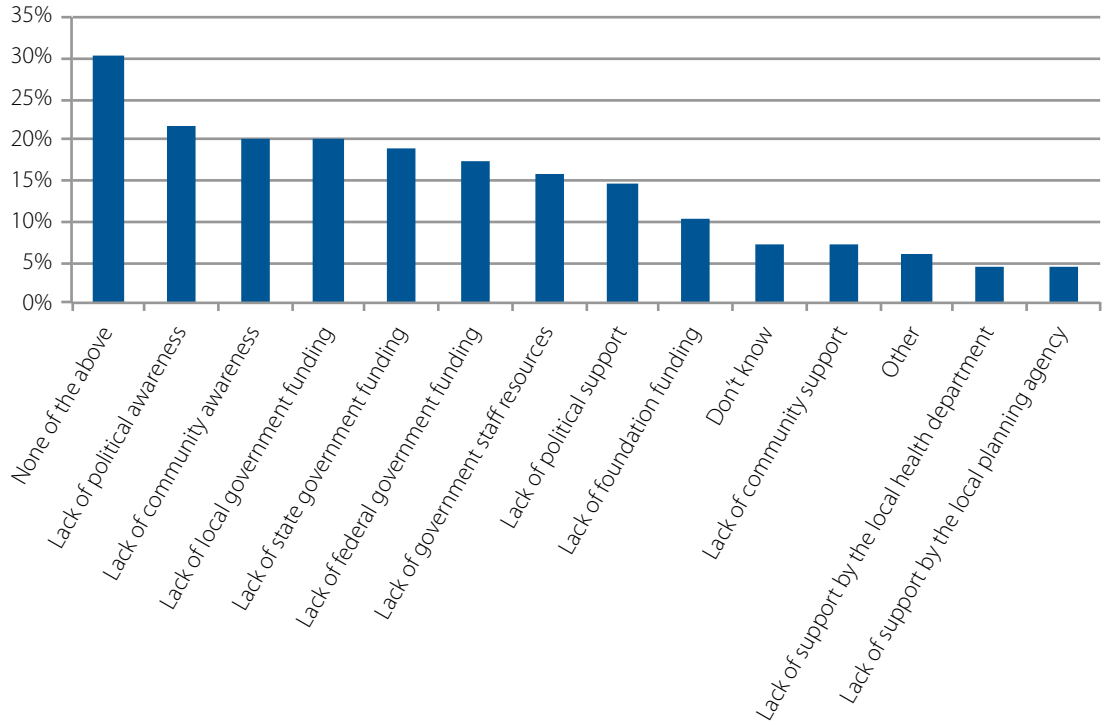
One of the final questions in the survey asked respondents to explain how the food system components of comprehensive plan or sustainability plan had an impact on the community. About 34 percent, or 23 CP respondents, reported that the food system-related goals, objectives, and policies in their adopted comprehensive plans have had positive impacts or made positive improvements to their communities, including the creation of new community gardens, grocery stores, and farmers markets, as well as changes in land-use regulations and the promotion of locally grown food. About six CP respondents reported that the food system components of the comprehensive plan raised awareness among community residents about food system issues. A few reported that the food system components have had very little to no impact (six respondents) or that it is too early to tell if the plan is having an impact (five respondents).

About one-third of SP respondents (five) reported that the food system-related goals, objectives, and policies in the adopted sustainability plan have had positive impacts on the local food system, including changes to land-use regulations, the creation of FPCs, promotion of local food systems, and the attraction of grant funding. Still, 22 percent, or four SP respondents, reported that it is too early to determine the impacts. Only one SP respondent indicated that the food system components had no impact on the local food system in their jurisdiction.

Conclusion

While the survey identified a number of comprehensive and sustainability plans that explicitly address food access and the community food system, the survey results suggest that food systems planning remains an emerging area of planning

Figure 17. Barriers to including food components in the comprehensive plan



practice. Traditionally, comprehensive plans tend to focus on creating livable built environments, instead of taking a more holistic and sustainable approach to community development (Berke and Conroy 2000). However, the results of this survey are promising, and point to the emerging expansion of subjects tackled by community plans.

Some food issues, like rural agriculture and urban agriculture, were addressed more frequently by plans identified in this survey. Historically, local governments, particularly counties, have supported farmland preservation for growth management and natural resource preservation purposes, but communities are beginning to connect farmland preservation to other issues: food availability and access, local food economy, etc. Certain champions and groups may influence the types of food systems issues that are considered, such as the local health department or the FPC (as discussed earlier). But the influence of guidance from national organizations and leaders (such as APA, APHA, the Community Food Security Coalition, the National League of Cities, and the National Association of Counties) on food systems planning efforts is unclear. Similarly, this survey does not identify how federal funding streams, such as the USHUD Neighborhood Stabilization Program, USHHS Communities Putting Prevention to Work, and USDA Community Food Projects, have impacted local planning decisions.

The survey showed that few local governments are collecting information and data about the state of their community food systems. Both the transportation and housing sectors of planning collect robust data sets to analyze existing conditions and better understand current and future transportation and housing needs. Funding for these robust data collection strategies are supported through federal, state and local funding sources. Perhaps food systems data are collected only in a piecemeal fashion, or not at all, due to lack of funding sources or lack of data collection infrastructure. There is a need to study why jurisdictions are not routinely collecting food systems data at the local level and to provide data collection tools to guide local governments on the types of data they should be collecting and how to collect them.

Figure 18. Reasons for including food components in the sustainability plan

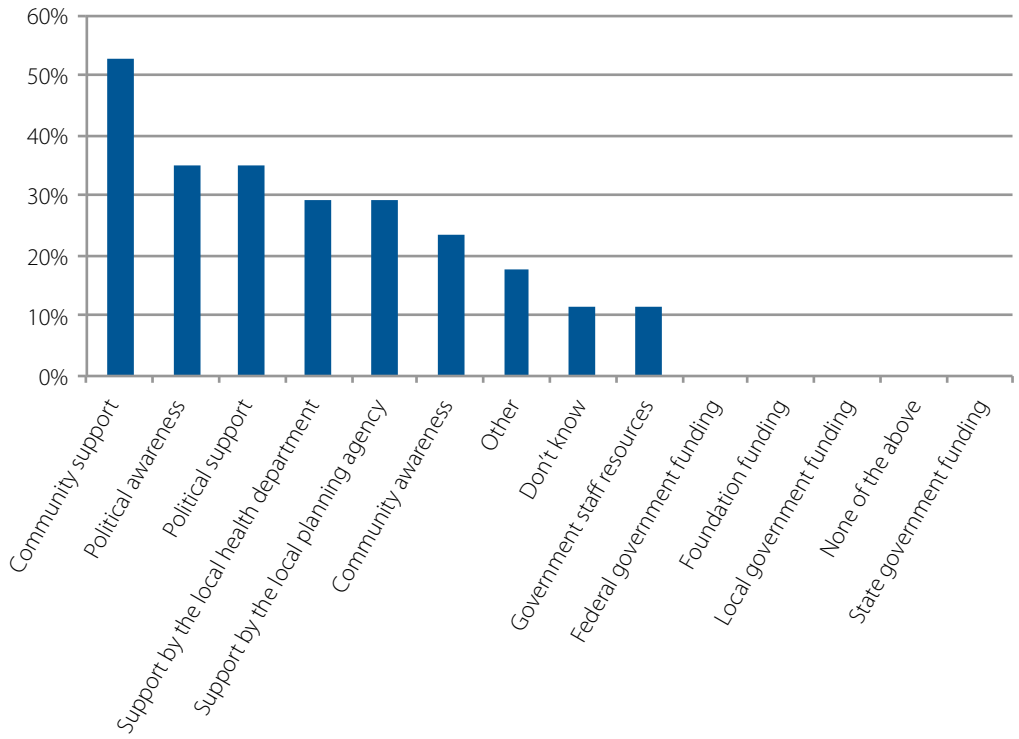
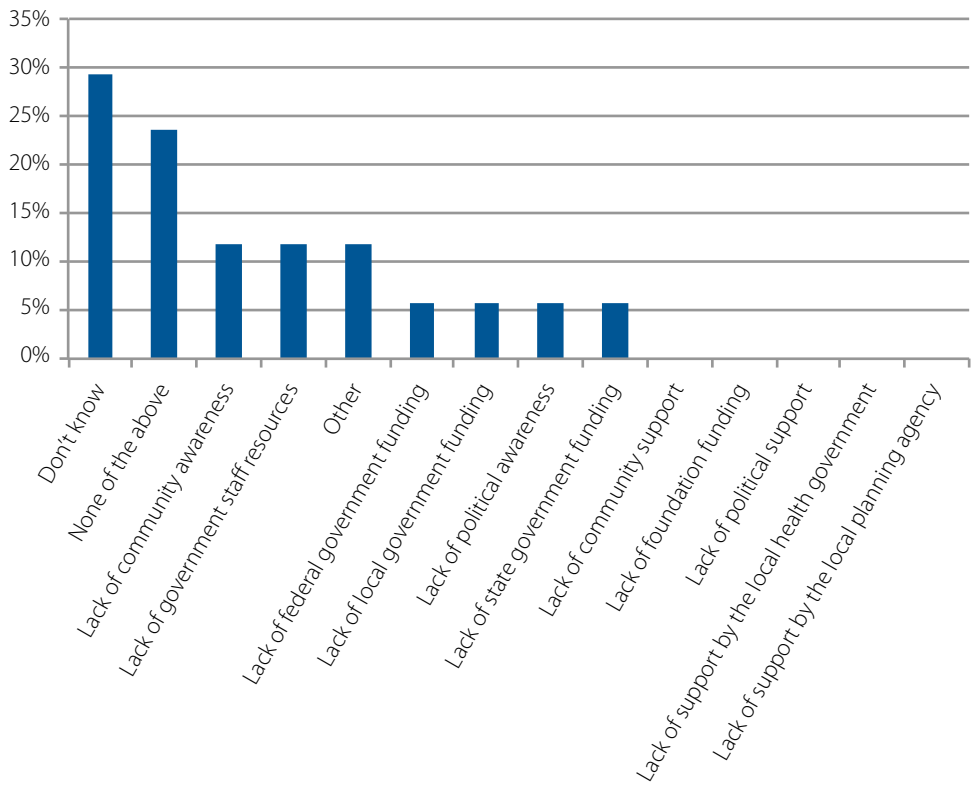


Figure 19. Barriers to including food components in the sustainability plan



Almost half of the jurisdictions with a sustainability plan that addressed food have an FPC. The plan evaluation component of this study delved deeper into the role of the FPC in local government planning efforts, but further study of this topic is needed. For example, do FPCs improve stakeholder engagement in the planning process? And, how are these entities important for plan implementation and achieving plan goals? Does the engagement of the FPC ensure plans more comprehensively address food issues?

Interestingly, a greater percentage of sustainability plans identified in the survey address food systems than comprehensive plans (18 percent versus nine percent). Perhaps this is due in part because sustainability plans are not typically required or mandated by state law. Local governments therefore have the opportunity to be more flexible and adaptive in how they respond to community issues through sustainability planning frameworks. Additionally, the concept of sustainable development lends itself nicely to address food access disparities and other food systems issues, as these issues have direct connections to the three foundational pillars of sustainability: equity, economy, and ecology.

The survey was limited in scope and questions, and therefore was not able to answer some important questions that may contribute to the expanding field of food systems planning. For example, how do differences in political structure and capacity contribute to food systems planning efforts? This survey did not look at the differences in food systems planning trends by type of local government, or type of political structure. Because the planning capacity of local governments varies considerably by political structure, more research is needed to understand how this factor impacts food systems planning efforts.

Finally, this survey focused solely on two types of community plans: the comprehensive plan and the sustainability plan. A variety of other plans at the local and regional level are being used to comprehensively plan for healthier, more sustainable food systems. These include local and regional strategic food system plans and food policy plans, long-range regional plans, neighborhood plans, health plans, and others. While most of these plans are not legally required, municipal and county councils are increasingly adopting them as official governmental policy documents. A better understanding of how these plans impact changes to the community food systems is needed. Also, it is important to gain a better understanding of how the local comprehensive plan connects to and mutually enforces the local sustainability plan, as well as the range of other local and regional plans listed above. For example, if food systems are addressed in a strategic food policy plan, but not the comprehensive plan, is the impact the same because they are connected in a transparent way? Or since comprehensive plans carry more political weight, do they have a greater potential to impact changes to the community than stand-alone food systems or policy plans?

While the national survey helped to identify comprehensive and sustainability plans that explicitly address food access and other food system issues, the evaluation phase of this research study aimed to inventory and analyze the variety of food-related plan components. The following section provides an overview of the plan evaluation phase of the research, including a summary of methodology and results.

Local comprehensive plans are powerful tools to guide political decision making about the future growth and development of communities (Berke and Godschalk 2009). They influence a wide range of issues including economic opportunity, transportation efficiency, environmental justice, natural resource preservation, housing affordability, quality of life, and other community issues (Berke and Godschalk 2009). And they encourage democratic and collaborative engagement of community residents and integration of community values into long-range goals and policies (Berke and Godschalk 2009).

Food system-related goals, objectives, and policies of local comprehensive and sustainability plans can potentially serve as catalysts for (a) raising awareness of citizens, local planners, public health professionals, and policy makers about the need to create healthy, sustainable food systems that improve access to healthy, affordable foods for all and (b) influencing additional local policies, such as zoning, investments in public infrastructure, development and redevelopment projects, and other ordinances and regulations to improve the local food environment.

PART 2: PLAN EVALUATION

Historically, however, with the exception of farmland preservation, comprehensive plans have not addressed or supported goals or policies to advance healthy, sustainable food systems (Evans-Cowley 2011). Furthermore, there is little empirical evidence regarding the extent to which plans support and promote access to healthy, affordable foods through a sector or a systems approach.

The plan evaluation phase of this study sought to answer four research questions:

1. How are comprehensive and sustainability plans explicitly supporting the seven principles of a healthy, sustainable food system, developed by the national consortium of health and planning related organizations[7]?
2. How are they promoting access to safe, nutritious, affordable, culturally appropriate, and sustainably grown food?
3. What is the overall quality of the food-related goals and policies?
4. How are the plans addressing implementation, monitoring, and evaluation of the food-related goals and policies?

Answers to these questions provided insight into the state of planning for food, but also for advancing the integration of food systems and food access components into traditional planning frameworks.

Methodology

Earlier comprehensive plan evaluation research provides a conceptual foundation for evaluating plan concepts, goals, and policies; establishing plan quality principles, criteria, and standards; and analyzing internal and external plan quality (Berke and Godschalk 2009). While no standard methodology for plan evaluation exists, the Edwards and Haines (2007) framework for evaluating smart growth in local comprehensive plans and the plan quality evaluation methodology presented by Berke and Godschalk (2009) served as the foundation for our evaluation.

There are several different methods for conducting plan evaluations. Some researchers choose to measure the extent to which plans advance specific principles, such as sustainable development, affordable housing, social equity, environmental quality, disaster resilience, or other planning policy domains (Edwards and Haines 2007; Berke and Conroy 2000). Some choose to conduct comprehensive inventories of the presence or absence of specific planning topics, goals, or policies (Berke and Godschalk 2009). And others focus on analyzing plan quality against specific evaluation criteria and evaluating how local conditions affect plan making (Berke and Godschalk 2009; Evans-Cowley 2011). A final method utilizes a comparative research design to compare a group of plans (where a key factor is present) to a control group of plans (where the key factor is not present) (Berke and Conroy 2000; Berke and Godschalk 2009). Each method presents limitations.

Local comprehensive plans are designed to address the unique needs and objectives of particular localities and abide by specific legal requirements at the local and state levels. State planning enabling statutes vary greatly in the degree to which they mandate certain local actions. Moreover, the impact of plans on community outcomes is often not realized for several years after a plan has been developed and adopted. Regardless of these issues, "if plans are to achieve their full potential, they should reflect the highest quality of thought and practice" (Berke and Godschalk 2009). Plan content analysis is not a method for precisely measuring plan effectiveness; instead, "it can help planners design holistic planning frameworks, and ensure stronger plan consistency and integration that should result in more effective plans and better outcomes" (Schilling 2011). Plan content analysis can identify specific strengths and weaknesses, overall quality, and innovative techniques for setting measurable objectives and targets (Schilling 2011; Berke and Godschalk 2009).

Our plan evaluation approach combines key elements of the plan evaluation methods explained above:

1. An inventory of specific food access and food system goals, policies, and implementation actions in each plan;
2. A measure of the extent to which plans advance the seven principles of a healthy, sustainable food system[8]; and
3. An analysis of the quality of food components against the specific plan evaluation criteria developed by Berke and Godschalk (2009), summarized in Table 13.

TABLE 13. CHARACTERISTICS OF PLAN QUALITY
Internal Characteristics
Issue identification and vision: description of community needs, assets, trends, and future vision
Goals: reflections of public values that express desired future land-use and development patterns
Fact base: analysis of current and future conditions and explanation of reasoning
Policies: specification of principles to guide public and private decisions to achieve goals
Implementation: commitments to carry out policy-driven actions
Monitoring and evaluation: provisions for tracking change in community conditions
Internal consistency: issues, vision, goals, policies, implementation actions, and monitoring indicators are mutually reinforcing
External Characteristics
Organization and presentation: provisions to enhance understandability for a wide range of readers
Interorganizational coordination: integration with other plans or policies of public and private parties
Compliance: consistent with the purpose of plan mandates

Due to the inherent limitations of plan content analysis and the financial and time constraints of our project, there are several limitations of our methodology: We do not measure or analyze the effects of plan quality on various outcomes (e.g., improved food access) or control for local contextual conditions (e.g., income, population size and growth rates, education). Despite the wide variation among sustainability plans—as comprehensive planning documents, climate action plans,

or strategic policy plans—and their lack of legal foundation, our evaluation approach utilizes the same content analysis methods for both our sample of comprehensive and sustainability plans. The plan quality evaluation criteria developed by Berke and Godschalk (2009) is applicable to both types of plans and has been used by other researchers in their efforts to analyze the content of sustainability plans (Schilling 2011).

Sample Selection

In the national survey, we identified 80 local comprehensive plans and 25 local sustainability plans that explicitly addressed at least one aspect of the food system. Given funding and time limitations, we selected a sample of these identified plans for further evaluation. To select the sample, we developed specific selection criteria. First, the plan had to be adopted by the local government and not be in draft form. Because food access is a food system, not a food sector, problem, we developed two additional criteria to select plans that support multiple areas of the food system *and* identify strategies to improve food access. The plan had to explicitly address two or more of the following **food system topics:**

- rural agriculture (e.g., small- and large-scale dairy, livestock, factory farms/concentrated animal feeding operations poultry, fruit and vegetable production in rural and metropolitan areas)
- urban agriculture (e.g., urban farming; community, school, or backyard gardens; poultry; bees; small livestock)
- processing (e.g., community/commercial kitchens, canneries, butcheries, and other food processing facilities or infrastructure)
- distribution (e.g., dry and cold storage facilities and warehouses, transportation and delivery routes, networks)
- local sourcing
- retail (e.g., supermarkets, grocery stores, corner stores, convenience stores, cafeterias, restaurants, dining halls, fast food and formula restaurants, farmers markets, roadside farm stands, vending machines, mobile vending, and other food vending)
- marketing and advertising (e.g., commercial advertisements, menu labeling, food labeling, media campaigns)
- access and availability (e.g., physical and economic ability of consumers to obtain safe, nutritious, and culturally appropriate food in the home, school, worksite, and neighborhood settings)
- federal assistance (e.g., electronic benefit transfer (EBT) The Emergency Food Assistance Program (TEFAP), WIC)
- community assistance (e.g., food banks, food pantries, Meals on Wheels, soup kitchens)
- food education (e.g., health, nutrition, culinary and cooking promotion and education)
- waste (e.g., backyard composting, municipal curbside composting, edible food waste recovery)

And the plan had to explicitly address two or more of the following **food access strategies:**

- reduce access to fast food restaurants
- improve access to supermarkets or other large grocery stores
- improve access to farmers markets
- improve access to community gardens
- improve the variety of healthy foods sold at small grocery stores
- improve the variety of healthy foods sold at convenience stores
- improve the variety of healthy foods sold at liquor stores
- improve the variety of healthy foods offered by fast food restaurants
- improve the variety of healthy foods offered by full-service restaurants
- improve the variety of healthy foods offered by mobile vending

Only plans that met all three criteria were included in our sample. Out of the 80 local comprehensive plans and 25 local sustainability plans identified in the national survey as explicitly addressing food systems, 13 comprehensive and 8 sustainability plans met our criteria. (See Tables 14 and 15.)

TABLE 14. SELECTED COMPREHENSIVE PLANS			
Jurisdiction	**State**	**Plan Name**	**Adoption Date**
Austin	TX	Austin Tomorrow Comprehensive Plan Interim Update	November 6, 2008
Blendon Township	OH	Blendon Community Plan	June 8, 2010
Davidson	NC	Davidson Comprehensive Plan	August 10, 2010
El Mirage	AZ	El Mirage: Arizona's Sustainable Community (El Mirage General Plan)	July 2010
King Co	WA	King County Comprehensive Plan	October 6, 2008
Kings Co	CA	2035 Kings County General Plan	January 26, 2010
Laguna Hills	CA	Laguna Hills General Plan	July 14, 2009
Marin Co	CA	Marin Countywide Plan	November 6, 2007
Sacramento City	CA	Sacramento 2030 General Plan	March 3, 2009
South Gate	CA	South Gate General Plan 2035	December 2009
South Jordan	UT	South Jordan General Plan	2010
Victoria	MN	2030 Comprehensive Plan Update	June 2009

TABLE 15. SELECTED SUSTAINABILITY PLANS			
Jurisdiction	**State**	**Plan Name**	**Adoption Date**
Baltimore	MD	The Baltimore Sustainability Plan	March 2, 2009
Cleveland	OH	Re-Imagining a More Sustainable Cleveland	December 19, 2008
Doral	FL	Green Master Plan: Green Design for a Sustainable Future	February 11, 2008
Henderson	NV	City of Henderson Sustainability Action Plan	May 2009
Philadelphia	PA	Greenworks Philadelphia	April 2009
Portland–Multnomah Co	OR	Climate Action Plan	October 28, 2009
Sacramento	CA	Creating A Sustainable City: A Master Plan to Move the City of Sacramento Towards Sustainability	December 2007
San Francisco	CA	Sustainability Plan	July 1997
Winston-Salem	NC	Environmental Sustainability In Winston-Salem: An Opportunity for Community Collaboration	August 2008

Comprehensive Plans: Characteristics of Selected Jurisdictions

The demographic characteristics of the 13 selected jurisdictions in the comprehensive plan sample are diverse, but the geographic spread is skewed to the Pacific West. Seven jurisdictions in the sample are located in the Pacific West (six of these are located in California). The remaining six jurisdictions are located in different regions of the country: two in the Mountain West and one each in West South Central, West North Central, East North Central, and South Atlantic. The only three U.S. Census regional divisions[9] not represented in the sample include North Atlantic, New England, and East South Central. The type of government of each jurisdiction in the comprehensive plan sample varies. The sample includes eight cities, three counties, one town, and one township.

The 13 selected jurisdictions represent communities of diverse demographic characteristics. Population ranges from 1.9 million (in King County, Washington) to 7,345 (in Victoria, Minnesota). Ten of the 13 selected jurisdictions have a

majority white population. The remaining three have a majority Hispanic or Latino population (El Mirage, Arizona; Kings County, California; and South Gate, California). Only two jurisdictions have a black population of 10 percent or more. All but three of the jurisdictions (El Mirage, Kings County, and South Gate) are above the national average for educational achievement of a bachelor's degree or higher (27.9 percent for the United States). In eight of the selected jurisdictions, more than 10 percent of the population lives below the poverty level, although the actual percentages varied greatly among jurisdictions (see Table 16.)

TABLE 16. CHARACTERISTICS OF SELECTED COMPREHENSIVE PLAN JURISDICTIONS

Jurisdiction	State	Type of local gov.	Total pop.	White (%)	Black (%)	Hispanic or Latino (%)	Asian (%)	Bachelor's Degree (%)	Persons below poverty level (%)
Austin	TX	City	790,390	68.3	8.1	35.1	6.3	44.1	18.4
Blendon Township*	OH	Township	1,163,414	69.2	**21.2**	4.8	3.9	35.0	17.0
Davidson	NC	Town	10,944	87.8	6.4	3.8	2.8	**68.0**	8.8
El Mirage	AZ	City	31,797	60.9	6.6	47.6	1.6	11.5	**20.2**
King County	WA	County	**1,931,249**	68.7	6.2	8.9	14.6	45.2	10.2
Kings County	CA	County	152,982	54.3	7.2	50.9	3.7	11.8	19.3
Laguna Hills	CA	City	30,344	72.7	1.4	20.6	12.6	43.0	8.5
Marin County	CA	County	252,409	80.0	2.8	15.5	5.5	54.1	7.0
Sacramento	CA	City	466,488	45.0	14.6	26.9	**18.3**	29.6	17.3
San Diego	CA	City	1,307,402	58.9	6.7	28.8	15.9	40.8	14.1
South Gate	CA	City	94,396	50.5	0.9	**94.8**	0.8	6.7	18.5
South Jordan	UT	City	50,418	91.5	0.7	6.0	2.6	36.4	2.7
Victoria	MN	City	7,345	**95.6**	0.5	2.0	2.0	58.1	1.9

Source: 2010 U.S. Census (*Data for Blendon Township is not available. Data presented is for Franklin County.)

Sustainability Plans: Characteristics of Selected Jurisdictions

The geographic spread of jurisdictions in the sustainability plan sample is more extensive than the comprehensive plan sample. Three jurisdictions are located in the Pacific West and three in the South Atlantic regions of the United States. The remaining jurisdictions are located in the Middle Atlantic, East North Central, and Mountain West. The only U.S. Census regional divisions[10] not represented in the sample include West North Central, New England, West South Central, and East South Central.

Unlike the comprehensive plan sample, all nine jurisdictions in the sustainability plan sample are cities. San Francisco is a charter county, meaning that the city and county are considered one jurisdiction. Portland, Oregon, teamed up with Multnomah County to develop its climate action plan, and therefore this is the only city/county plan in our sample.

The demographic diversity of the nine selected jurisdictions in the sustainability plan sample is also broad. Population ranges from 1.5 million (in Philadelphia) to 45,704 (in Doral, Florida). All but one jurisdiction (Doral has a population greater than 200,000. Three jurisdictions (Baltimore, Cleveland, and Philadelphia) have black population majorities, and Doral has a Hispanic or Latino majority. Only three jurisdictions have a white population that consists of 50 percent or

greater overall population (Henderson, Nevada; Portland-Multnomah County, and Winston-Salem, North Carolina). All but three jurisdictions (Baltimore, Cleveland, and Philadelphia) are above the national average (17 percent) for educational achievement of a bachelor's degree. The percentage of persons below the poverty line ranges from seven percent (in Henderson) to 31 percent (in Cleveland; see Table 17).

TABLE 17. CHARACTERISTICS OF SELECTED SUSTAINABILITY PLAN JURISDICTIONS

Jurisdiction	State	Type of local gov.	Total pop.	White (%)	Black (%)	Hispanic or Latino (%)	Asian (%)	Bachelor's Degree (%)	Persons below poverty level (%)
Baltimore	MD	City	620,961	29.6	**63.7**	4.2	2.3	25.2	21.3
Cleveland	OH	City	396,815	37.3	53.3	10.0	1.8	13.1	**31.2**
Doral	FL	City	45,704	**88.7**	2.5	79.5	3.6	55.4	9.8
Henderson	NV	City	257,729	76.9	5.1	14.9	7.2	29.2	7.3
Portland/ Multnomah County	OR	City/County	1,319,110	76.3	5.9	10.2	6.8	39.1	16.1
Philadelphia	PA	City	**1,526,006**	41.0	43.4	12.3	6.3	22.2	25.1
Sacramento	CA	City	466,488	45.0	14.6	26.9	18.3	29.6	17.3
San Francisco	CA	City/County	805,235	48.5	6.1	15.1	**33.3**	**51.2**	11.9
Winston-Salem	NC	City/County	229,617	51.2	34.7	14.7	2.0	31.8	19.3

Source: 2010 U.S. Census

The diversity of the sample of both comprehensive and sustainability plans present a number of challenges in conducting plan content analysis. Differences in legal, policy, and political frameworks, as well as demographics, regional contexts, economic conditions, land pressures, and agricultural bases, make comparative analysis problematic. Additionally, the capacity of local governments to develop and implement the food components of comprehensive and sustainability plans varies tremendously among these jurisdictions.

Despite these challenges, the plan evaluations of this diverse sample of jurisdictions provides a better understanding of how and why some local governments have addressed community food system issues in the comprehensive or sustainability planning process; the extent to which these plans advance the seven principles of a healthy, sustainable food system; the number and type of food topics and strategies addressed by each plan; and the overall quality of food system plan components. Additionally, the plan evaluations helped to identify common themes and innovative features among comprehensive plans and among sustainability plans, and between both types of plans.

Plan Evaluation Method

The first step in evaluating the plans was developing and testing a plan evaluation form and protocol. Our evaluation form and protocol builds upon frameworks of earlier comprehensive plan evaluation research used in the context of smart growth, housing, environmental planning, sustainability, and natural hazard mitigation (Edwards and Haines 2007; Berke and Conroy 2000; Berke and Godschalk 2009; Connerly and Muller 1993; Pendall et al. 2006), the physical activity policy research framework developed by Schmid et al. (2006), and the plan evaluation method used by Evans-Cowley in evaluating food systems components in comprehensive plans in the Mississippi Gulf Coast (Evans-Cowley 2011).

The metrics used in our evaluation included the seven principles of a healthy, sustainable food system discussed earlier in the report; 12 common food system topics found in food systems literature; and 25 food system strategies compiled from food access, food security, and food systems planning goals, objectives, and policies identified through preliminary research. The metrics are listed in Appendix D.

Selected plans were evaluated for:

a. the extent to which the plan advanced or promoted the seven principles in its vision statement, guiding themes, goals, or objectives;
b. the number of food-related goals, objectives, and policies;
c. the presence or absence of specified food system topics or strategies in the plan's goals, objectives, or policies;
d. the comprehensiveness of each food-related goal (e.g., degree of spatial and social comprehensiveness and consideration of current and future conditions);
e. the specificity and action orientation of each food-related objective and policy (e.g., action-oriented and specific or not action-oriented and vague);
f. the implementation mechanisms used to carry out each food-related policy and the commitments identified to achieve each policy with in a specific timeline, with dedicated funding, and by certain responsible organizations;
g. the monitoring and evaluation provisions for tracking change in community conditions; and
h. the internal consistency between food system topics, vision, goals, policies, and implementation mechanisms.

To ensure reliability of the evaluation methodology, three reviewers independently tested the evaluation form and protocol on two plans and compared results. They resolved differences in interpretation of plan language and food system concepts, and revised the protocol accordingly.

Using the revised protocol, two reviewers evaluated all 21 plans independently. All plans in our sample were available in electronic format on the municipality or county's website. The reviewers found that some plans used clear language and the traditional strategic planning framework of vision, guiding principles, goals, objectives, policies, and implementation actions, while others used an abbreviated method, such as goal and policies only, or a nontraditional method. These differences caused reviewers to categorize certain plan language differently from each other. As a result, the evaluation protocol was revised a second time, and several evaluations were redone.

An average overall reliability score[11] of 76 percent was achieved for the evaluation of sustainability plans in the first round. However, the reliability score for some plans was as low as 52 percent and as high as 85 percent. After the final revisions to the evaluation form were complete, the reviewers reevaluated the plans. An average reliability score of 91 percent was achieved for the evaluation of comprehensive plans (85 percent was the low and 99 percent the high).

An average overall reliability score of 71 percent was achieved for the evaluation of sustainability plans in the first round. However, the reliability scores ranged from as low as 46 percent to as high as 88 percent. After the second round evaluations were completed with the revised evaluation form, an average reliability score of 87 percent was achieved for the evaluation of sustainability plans (80 percent was the low and 97 percent the high).

Results

General Plan Characteristics

The majority of comprehensive plans in our sample were updates of past plans, but a few (five, or 38 percent) were original plans. All eight sustainability plans in our sample were new or original plans. Three (38 percent) contained a stand-alone agriculture element, three (38 percent) a food element, and two (25 percent) a public health element. Only three comprehensive plans (23 percent) contained a stand-alone agriculture element, but none contained a stand-alone food element. Several, however, did contain a stand-alone public health element (five, or 38 percent; see Table 18).

TABLE 18. ALIGNMENT WITH GENERAL PLAN CHARACTERISTICS				
	Comprehensive Plans		Sustainability Plans	
Plan Characteristic	# of plans	% of plans	# of plans	% of plans
Updated Plan	8	62	0	0
Original Plan	5	38	8	100
Agriculture Element	3	23	3	38
Food Element	0	0	3	38
Public Health Element	5	38	2	25
Vision	9	69	6	75
Guiding Principles	11	85	6	75
Goals, clearly marked	12	92	7	88
Objectives, clearly marked	4	31	5	63
Policies, clearly marked	9	69	1	13
Policies, tied to goal	11	85	7	88
Implementation	12	92	8	100
Implementation, tied to policies	7	54	5	63
Evaluation	2	15	7	88
Indicators	2	15	2	25
Monitoring	2	15	2	25

Plan Framework

The included components and structure of the plans varied considerably. Most plans exhibited components of a traditional strategic planning framework: Vision, Guiding Principles, Goals, Objectives, and Policies.

The majority of comprehensive plans (11 or 85 percent) contained three to four components. Only one comprehensive plan and one sustainability plan, however, exhibited all five components (South Gate and Baltimore, respectively). For the most part, the structure of plan components was clear except for the comprehensive plans of Davidson, North Carolina, and Victoria, Minnesota, and the sustainability plan of Winston-Salem (see Table 19).

TABLE 19. ALIGNMENT WITH TRADITIONAL STRATEGIC PLANNING FRAMEWORK		
Number of Components	Number of Comprehensive Plans	Number of Sustainability Plans
5 (100%)	1	1
4 (80%)	5	3
3 (60%)	6	2
2 (40%)	1	1
1 (20%)	0	0
0 (0%)	0	1

Most plans contained clearly marked vision statements (69 percent of comprehensive plans, 75 percent of sustainability plans), guiding principles (85 percent comprehensive plans, 75 percent sustainability plans), and goals (92 percent comprehensive plans, 88 percent sustainability plans). While the majority of comprehensive plans and sustainability plans included policy statements that were tied to specific goals (85 percent of comprehensive plans and 88 percent

of sustainability plans), these statements were only clearly marked in 69 percent of the comprehensive plans and one sustainability plan (Baltimore). Most comprehensive and sustainability plans exhibited characteristics of internal consistency between plan components—the vision, goals, policies, and implementation were clearly linked and mutually reinforcing—with the exception of two comprehensive plans (El Mirage and Victoria) and one sustainability plan (Winston-Salem).

The majority of comprehensive plans included a section about implementation (92 percent); however, only half (seven, or 54 percent) included specific mechanisms to implement the policies outlined in the plan. Even fewer plans addressed evaluation and monitoring; Marin County and Sacramento, California, were the only plans that clearly addressed this plan component. Both included specific methods, such as indicators or performance measures, to evaluate the success of the plan in achieving its goals, objectives, and policies, and a monitoring approach to track progress in achieving them. All

sustainability plans addressed implementation, and five (63 percent) included specific mechanisms to implement the policies outlined in the plan. While seven (88 percent) sustainability plans addressed evaluation, only two (25 percent) plans (Philadelphia and San Francisco) included specific indicators or benchmarks to monitor success of the plan. For more information, see Tables 20 and 21.

Food Components

The **vision statement** is typically included in the beginning of a comprehensive plan and identifies the broad social, economic, and environmental values of a community. The statement includes language on what the community wants to become and hopes to look like in the future. Only two comprehensive plans (Blendon Township, Ohio, and Victoria) and one sustainability plan (Philadelphia) explicitly mentioned food in their vision statements.

Guiding themes are broad principles established by the community. They often crosscut and connect social, economic, or environmental aspects of a community and provide direction for achieving the community's vision. Six (46 percent) comprehensive plans and five (63 percent) sustainability plans addressed food in one or more guiding themes.

According to Berke et al. (2006), **goals** are "broad expressions of the desired future conditions of a community," **objectives** are "tangible, measurable outcome leading statement[s] that lead to the achievement of the goal," and **policies** are "statements of actions or requirements judged to be necessary to achieve planning goals and objectives . . . [and] aimed more directly at what government can do to attain goals." Among comprehensive plans, King County included the most food-related components in its comprehensive plan, followed by Kings County; Davidson; Marin County; South Gate; San Diego; and Sacramento. The municipalities of Austin, Texas; Victoria; and Laguna Hills, California, included five or fewer food-related components in their plans. Only one community (El Mirage) did not include any explicit references to food in its plan goals, objectives, or policies. This plan was not removed from the study because it identifies several food-related implementation mechanisms to implement nonfood policies and achieve nonfood goals of the plan.

The number of food-related goals, objectives, or policies ranged from 47 (King County) to 0 (El Mirage). Most communities (62 percent and 85 percent, respectively) included at least one goal or policy that explicitly addressed an aspect of the food system. Only two communities (Davidson and Victoria included food-related statements that were not clearly identifiable as goals, objectives, or policies. (See Table 22 for more information.)

TABLE 20. COMPREHENSIVE PLAN STRUCTURE

Jurisdiction	Austin, TX	Davidson, NC	El Mirage, AZ	Blendon Township, OH	King County, WA	Kings County, CA	Laguna Hills, CA	Marin County, CA	Sacramento, CA	San Diego, CA	South Gate, CA	South Jordan, UT	Victoria, MN	Total	Percent
Updated	1	1	0	0	1	1	0	1	1	1	0	0	1	8	**62**
Original Plan	0	0	1	1	0	0	1	0	0	0	1	1	0	5	**38**
Agriculture Element	0	0	0	0	1	0	0	1	0	0	0	0	1	3	**23**
Food Element	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Public Health Element	1	0	0	0	0	1	0	1	1	0	1	0	0	5	**38**
Vision	0	1	1	1	0	0	1	1	1	1	1	0	1	9	**69**
Guiding Principles	1	1	1	1	1	0	1	1	1	0	1	1	1	11	**85**
Goals	1	1	1	1	1	1	1	1	1	1	1	1	0	12	**92**
Objectives	1	0	0	0	0	1	0	0	1	0	1	0	0	4	**31**
Policies	1	0	1	0	0	1	1	1	0	1	1	1	1	9	**69**
Policies, tied to goal	1	1	0	1	1	1	1	1	1	1	1	1	0	11	**85**
Implementation	1	1	1	1	1	1	1	1	1	1	1	0	1	12	**92**
Implementation, tied to policies	0	0	1	1	0	1	1	1	1	0	1	0	0	7	**54**
Evaluation	0	0	0	0	0	0	0	1	1	0	0	0	0	2	**15**
Indicators	0	0	0	0	0	0	0	1	1	0	0	0	0	2	**15**
Monitoring	0	0	0	0	0	0	0	1	1	0	0	0	0	2	**15**
Total	7	5	6	6	5	7	7	12	11	5	9	4	5		
Percent	**50**	**36**	**43**	**43**	**36**	**50**	**50**	**86**	**79**	**36**	**64**	**29**	**36**		

Among sustainability plans, San Francisco included 67 goals, objectives, or policies that explicitly address an aspect of the food system, followed by Philadelphia (19 components), and Portland-Multnomah County, Oregon (15). All the sustainability plans in the sample included at least one goal, objective, or policy that explicitly addressed food. Two plans did not include any food-related goals (Doral, Florida, and Portland-Multnomah County), and two plans did not include any food-related policies (Henderson and San Francisco). (See Table 23 for more information.)

Plan goals are often measured for their level of comprehensiveness. Comprehensive goals typically have spatial and social dimensions specifying whether or not they address an entire geographic area and all groups within a community. Truly comprehensive goals will aim to address both spatial and social dimensions. Most comprehensive plans included comprehensive, as opposed to narrow, food goals. While King County included the most number of food goals out of all the comprehensive plans, only two of its 21 goals (9.5 percent) addressed spatial dimensions and only one goal (4.8 percent) addressed a social dimension. The food goals of Marin County, Sacramento, and South Gate addressed both spatial and social dimensions. All of the sustainability plans that contained food goals addressed spatial dimensions. However, only Cleveland and San Francisco addressed social dimensions (see Figure 20).

TABLE 21. SUSTAINABILITY PLAN STRUCTURE

Jurisdiction	Baltimore, MD	Cleveland, OH	Doral, FL	Henderson, NV	Philadelphia, PA	Portland-Multnomah, OR	San Francisco, CA	Winston-Salem, NC	Total	Percent
Updated	0	0	0	0	0	0	0	0	0	**0**
Original Plan	1	1	1	1	1	1	1	1	8	**100**
Agriculture Element	0	1	1	0	0	1	0	0	3	**38**
Food Element	1	0	0	0	0	1	1	0	3	**38**
Public Health Element	0	0	0	1	0	0	1	0	2	**25**
Vision	1	1	1	1	1	1	0	0	6	**75**
Guiding Principles	1	1	1	1	1	1	0	0	6	**75**
Goals	1	1	1	1	1	1	1	0	7	**88**
Objectives	1	1	0	1	0	1	1	0	5	**63**
Policies	1	0	0	0	0	0	0	0	1	**13**
Policies, tied to goal	1	1	1	1	1	1	0	1	7	**88**
Implementation	1	1	1	1	1	1	1	1	8	**100**
Implementation, tied to policies	1	1	1	0	1	0	1	0	5	**63**
Evaluation	1	1	0	1	1	1	1	1	7	**88**
Indicators	0	0	0	0	1	0	1	0	2	**25**
Monitoring	0	0	0	0	1	0	1	0	2	**25**
Total	10	9	7	8	9	9	9	3		
Percent	**71**	**64**	**50**	**57**	**64**	**64**	**64**	**21**		

Plan policies are often evaluated based on several criteria: (1) Are they tied to a goal? (2) Are they specific, as opposed to being vague or too general? (3) Are they measureable? (4) Do they include a time frame? and (5) are they action oriented?

Most of the comprehensive plans' food-related policies were clearly tied to goals, with the exception of El Mirage (which did not include any food goals), King County, and Victoria. All but two of the sustainability plans' food-related policies were clearly tied to goals. Fewer of these food policies (for both comprehensive and sustainability plans), however, were considered specific, measurable, or action oriented. Specific policies are linked to specific conditions and action-oriented policies use active verbs such as *adopt, require, develop, and will versus encourage, promote,* and *should*. For example, a specific, action-oriented policy states, "*Adopt* a procurement policy to increase purchases of locally grown, fresh foods." In contrast, a general, nonaction-oriented policy states, "*Encourage* the purchase of local food."

Not one comprehensive plan included a time frame as a component of its food policies, and only three sustainability plans (Baltimore; Portland-Multnomah County, and Winston-Salem) addressed a time frame in their plans' food policies.

TABLE 22. NUMBER OF GOALS, OBJECTIVES, OR POLICIES THAT EXPLICITLY ADDRESS AN ASPECT OF THE FOOD SYSTEM IN COMPREHENSIVE PLANS

Jurisdiction	Goals	Objectives	Policies	Not Clear	Total
Austin, TX	0	1	4	0	5
Davidson, NC	1	0	0	25	26
El Mirage, AZ	0	0	0	0	0
Blendon Township, OH	1	0	6	0	7
King County, WA	21	2.5	23.5	0	47
Kings County, CA	6	8	16	0	30
Laguna Hills, CA	0	0	2	0	2
Marin County, CA	6	0	18	0	24
Sacramento, CA	3	0	14	0	17
San Diego, CA	4	0	14	0	18
South Gate, CA	1	4	18	0	23
South Jordan, UT	0	0	9	0	9
Victoria, MN	0	0	2	3	5

TABLE 23. NUMBER OF GOALS, OBJECTIVES, OR POLICIES THAT EXPLICITLY ADDRESS AN ASPECT OF THE FOOD SYSTEM IN SUSTAINABILITY PLANS

Jurisdiction	Goals	Objectives	Policies	Not Clear	Total
Baltimore, MD	1	0	7	0	8
Cleveland, OH	2	0	7	0	9
Doral, FL	0	0	9	0	9
Henderson, NV	1	3	0	0	4
Philadelphia, PA	2	4	13	0	19
Portland-Multnomah, OR	0	2	13	0	15
San Francisco, CA	6	61	0	0	67
Winston-Salem, NC	1	0	6	0	7

Overall, the comprehensive plans of Sacramento, Blendon Township, San Diego; Marin County, and Davidson included the most specific, measurable, and action-oriented food policies. In general, the food policies included in the sustainability plans were more specific and action oriented than those included in the comprehensive plans, with Baltimore, Portland-Multnomah County and Cleveland including the most specific, measurable, and action-oriented food policies. Both Baltimore and Portland-Multnomah County included time frames for more than 90 percent of their food policies. In terms of the quality of food policy language, Baltimore's food policies scored the highest. All seven food polices were tied to a goal, were measureable, and included a time frame. Most (93 percent) were specific and 71 percent were action oriented (see Appendix F). For more information, see Figure 21.

A breakdown of the number of food-related goals, objectives, or policies in each comprehensive and sustainability plan appears in Figure 22.

Principles of a Healthy, Sustainable Food System

Planners, public health professionals, dietitians, and nurses all call for healthier, more sustainable food systems. There are several areas where the plans consistently embraced and advanced the *Principles of a Healthy, Sustainable Food System*.

Figure 20. Food goal comprehensiveness score (*sustainability plan)

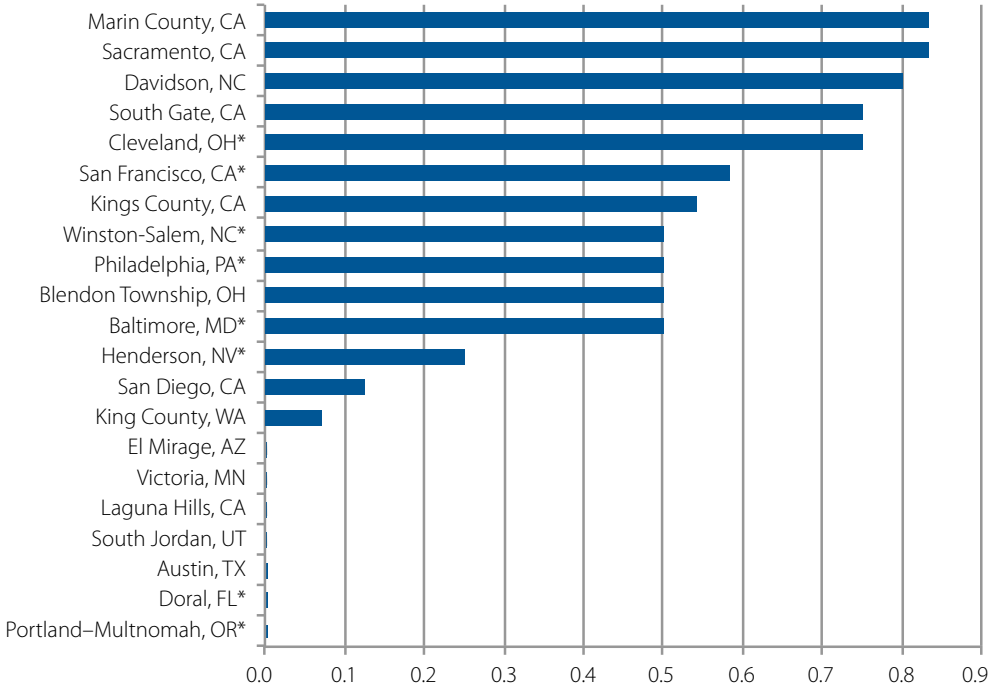


Figure 21. Food policy quality score (*sustainability plan)

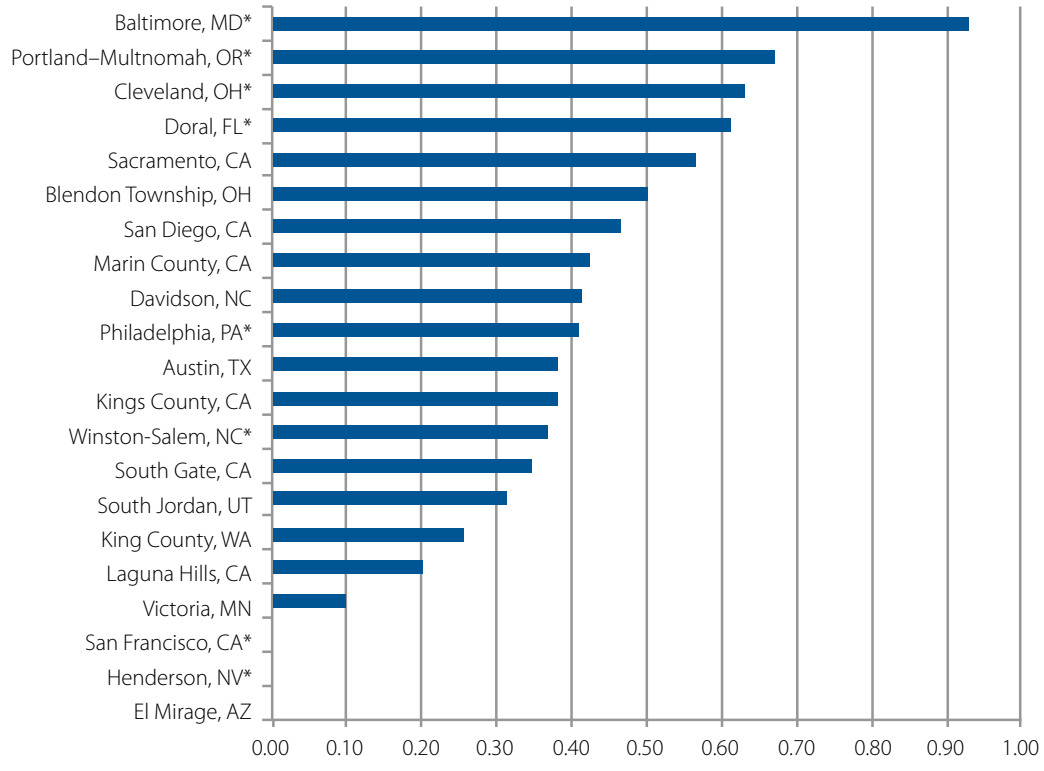
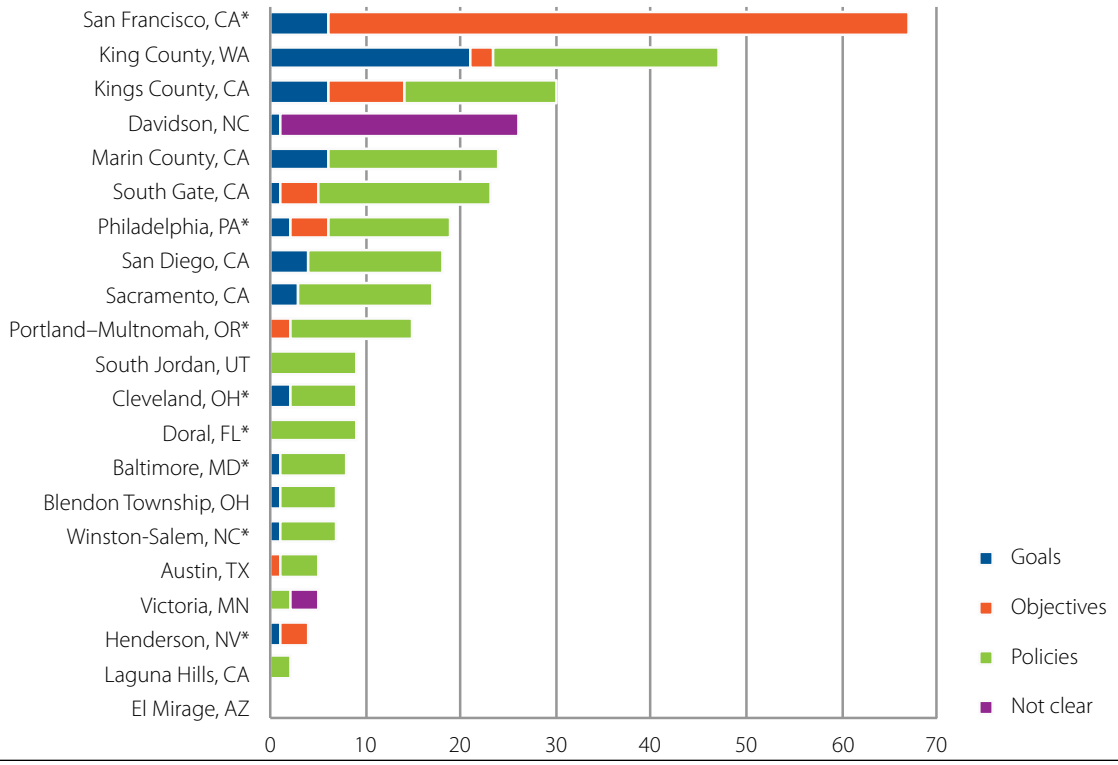


Figure 22. Number of food components by plan (*sustainability plan)



The majority of plans promoted one or more of these food principles in their vision statements, guiding themes, goals, or objectives. However, only one comprehensive plan (Victoria) and one sustainability plan (Portland-Multnomah County) addressed food in its vision statement. Victoria's vision statement indirectly addresses the *sustainable* food principle in its vision statement: "Establish and maintain high quality, inclusive neighborhoods, sustainable agri-business and a vibrant business community." Portland-Multnomah County, on the other hand, more explicitly addresses the *healthy, sustainable, resilient,* and *economically balanced* food principles and indirectly addresses the *fair* food principle: "The Portland region has prepared for a changed climate, making infrastructure more resilient, developing reliable supplies of water, food and energy and improving public health services. Policies, investments and programs are in place to protect the residents most vulnerable to climate change and rising energy prices."

Almost half of the comprehensive plans (six) and half of the sustainability plans (four) in our sample included an explicit reference to at least one of the food principles in one or more guiding themes. All of the six comprehensive plans addressed the *sustainable* food principle, four addressed *health*, three addressed *fairness*, and one addressed *economically balanced*. King County, South Jordan (Utah), and Victoria addressed three food principl es in their guiding themes. Not one comprehensive plan in our sample addressed the *resilience, diverse,* or *transparent* food principles in its guiding themes. Three of the four sustainability plans addressed *health* or *sustainability*, and two addressed *economically balanced*. Henderson generally addressed *diversity* and Portland-Multnomah County explicitly addressed *fairness* in one of its three guiding themes that addressed food.

Figure 23 illustrates the extent to which plans referenced the food principles in goals or objectives. Results are mixed, with some plans including several goals and objectives that collectively addressed all or most of the food principles, while others only addressed one or two, and some failed to address any at all.

The examples below demonstrate how counties and municipalities addressed the food principles as a guiding theme or principle. Many of these examples use language that emphasizes the role of food in supporting livability, sustainability, or health.

King County, Washington (Guiding Theme: Health, Equity, Environmental, and Social Justice)
Food is as essential to our health and well-being as air and water. For example, King County is experiencing a rise in the rate of obesity, and at the same time, an increase in food insecurity and malnutrition. Both can be caused by lack of access to adequate amounts of nutritious food, and both can lead to the same thing—a diminished quality of life that ends with premature death due to diet-related chronic disease. King County plays an important role in guiding and supporting system improvements that will result in King County residents eating local, healthy food. King County supports food systems that are ecologically and economically sustainable and that improve the health of the county's residents.

Marin County, California (Guiding Principles #6: Protect our agricultural assets)
We will protect agricultural lands and work to maintain our agricultural heritage. We will support the production and marketing of healthy, fresh, locally grown food.

Baltimore (Guiding Theme: Greening)
Long before modern engineering created air conditioning, sewer systems, and water and air purification technology, nature provided similar services through shade trees, grass, wetlands, and forests. Practicing good stewardship of our natural world improves the ability of future generations to eat fresh food, breath clean air, drink healthy water, and enjoy open space.

Henderson, Nevada (Guiding Theme: Environmental Health)
We recognize that by caring for the health of our environment, we are safe guarding our own health and the health of future generations. We now have greater choices in the products that we use, the foods that we eat, and the cars we drive, reducing the health risks associated with pollutants that affect us all.

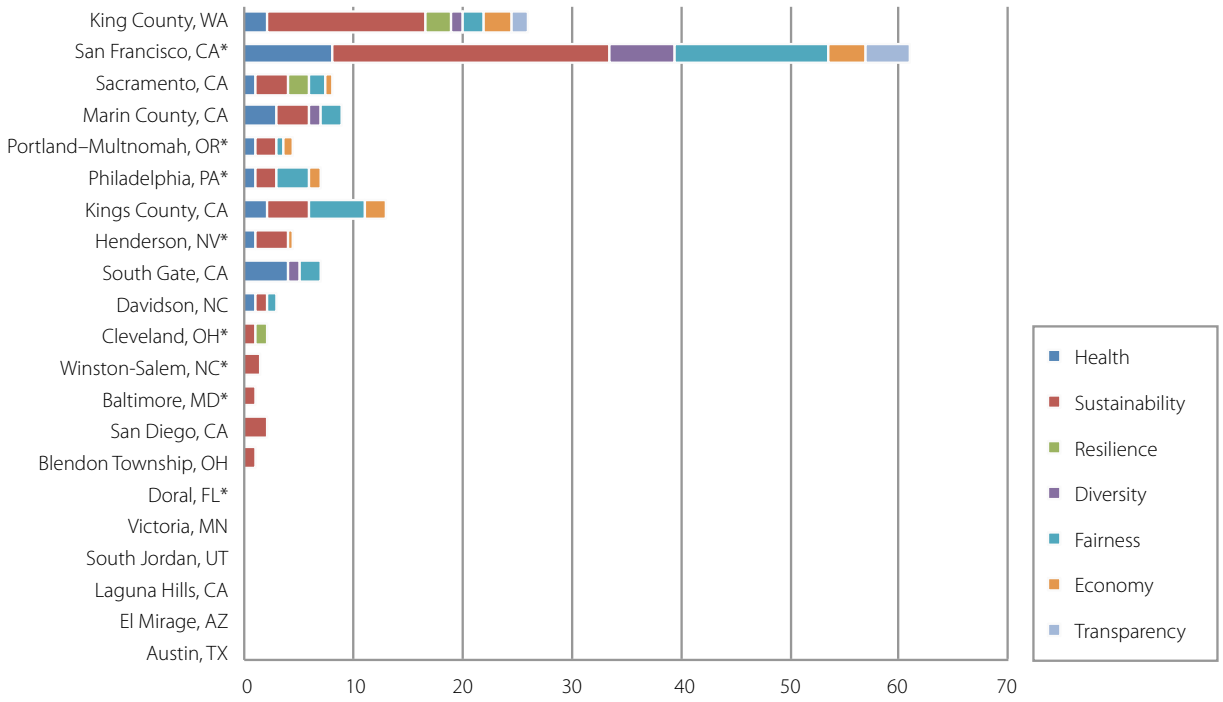
There are several areas where the communities consistently embraced characteristics of a healthy, sustainable food system in the development of plan goals and objectives. Seven comprehensive and seven sustainability plans include goals or objectives that address the need for sustainable food systems that conserve, protect, and regenerate natural resources, landscapes or biodiversity. Six comprehensive plans and four sustainability plans include goals or objectives that call for supporting the physical and mental health of all farmers, workers, and eaters and account for public health impacts across the entire food system. And six comprehensive plans and three sustainability plans included goals or objectives that call for fair and just food systems that provide equitable physical access to affordable food that is health promoting and culturally appropriate and support fair and just conditions for all farmers, workers, and eaters.

Only King County's plan included goals or objectives that addressed all seven of the principles in its comprehensive plan. While Austin's comprehensive plan includes one food-related objective ("Discourage development in the areas of greatest environmental or agricultural value."), it does not directly or explicitly address any of the food principles. (Note: the comprehensive plans of Victoria, Laguna Hills, El Mirage, and South Jordan, and the sustainability plan of Doral, only contain food-related policies, not food-related goals or objectives, and therefore could not be compared to the food principles.)

Food System Topics

All the comprehensive plans, except El Mirage's, addressed the food topics of food access and availability, urban agriculture, and food retail in a plan goal, objective, or policy. Fewer comprehensive plans addressed the food topics of food processing, distribution, waste, marketing and advertising, community food assistance, and federal food assistance. Among sustainability plans, all addressed urban agriculture, and all but one addressed food retail and food waste. Only two sustainability plans address community food assistance, and only one addressed food processing and federal food assistance.

Figure 23. Number of goals or objectives that explicitly address food principles (*sustainability plan)



The topic of rural agriculture was addressed more times than any other food topic in the sample of comprehensive plans. The top five cited food topics in the comprehensive plans included rural agriculture (addressed 123 times), food access and availability (51 times), urban agriculture (45), food retail (37), and local food sourcing (30) in plan goals, objectives, or policies. The topics of community food assistance and federal assistance were only addressed four times and one time, respectively. On average, the topic of rural agriculture was addressed 9.5 times per plan, while food access and availability was addressed 3.9 times per plan, urban agriculture 3.5 times per plan, food retail 2.8 times per plan, and local food sourcing 2.3 times per plan. This is due, in part, to the three county plans included in our study: those of King County, Kings County, and Marin County. Collectively, these three plans accounted for 81 of the 123 times rural agriculture was addressed. When these plans were removed from the calculation, rural agriculture was addressed on average 4.2 times per plan. (See Figures 24 and 26)

Of the 51 times the topic of food access and availability was addressed, South Gate's plan accounted for 13 (25 percent) of these mentions, followed by King County, and Marin County (seven, or 14 percent each), Kings County (6.5, or 13 percent), Sacramento (4.5 or 9 percent), and Davidson (four, or 8 percent). Of the 45 times the topic of urban agriculture was addressed, 8.5 (19 percent) were in San Diego's plan; and seven (16 percent) in both Davidson's and South Jordan's. And of the 37 times the topic of food retail was addressed, nine (24 percent) were in South Gate's plan; nine (24 percent) in King County's; 5.5 (15 percent) in Davidson's; and four (11 percent) in Kings County's. (See Figures 24 and 26)

Conversely, the topic of urban agriculture was addressed more times than any other food topic in the sample of sustainability plans. This is most likely the case because all sustainability plans in our sample were from municipalities, as opposed to counties. Additionally, sustainability plans focus more on ecological, social, and economic urban issues, of which urban agriculture touches on all three, than on comprehensive plans (Hodgson et al. 2011). The top five cited topics included: urban agriculture (addressed about 61 times), food retail (29 times), local food sourcing (27 times), food access and availability (21 times), and food education (17.5 times). Food waste was cited 16.5 times, while rural agriculture, community food assistance, food distribution, federal food assistance, and food processing were addressed between one time and seven times. The issue of food marketing and advertising was not addressed by any of the plans. On average the topic of

Figure 24. Composition of food system topics in comprehensive plans

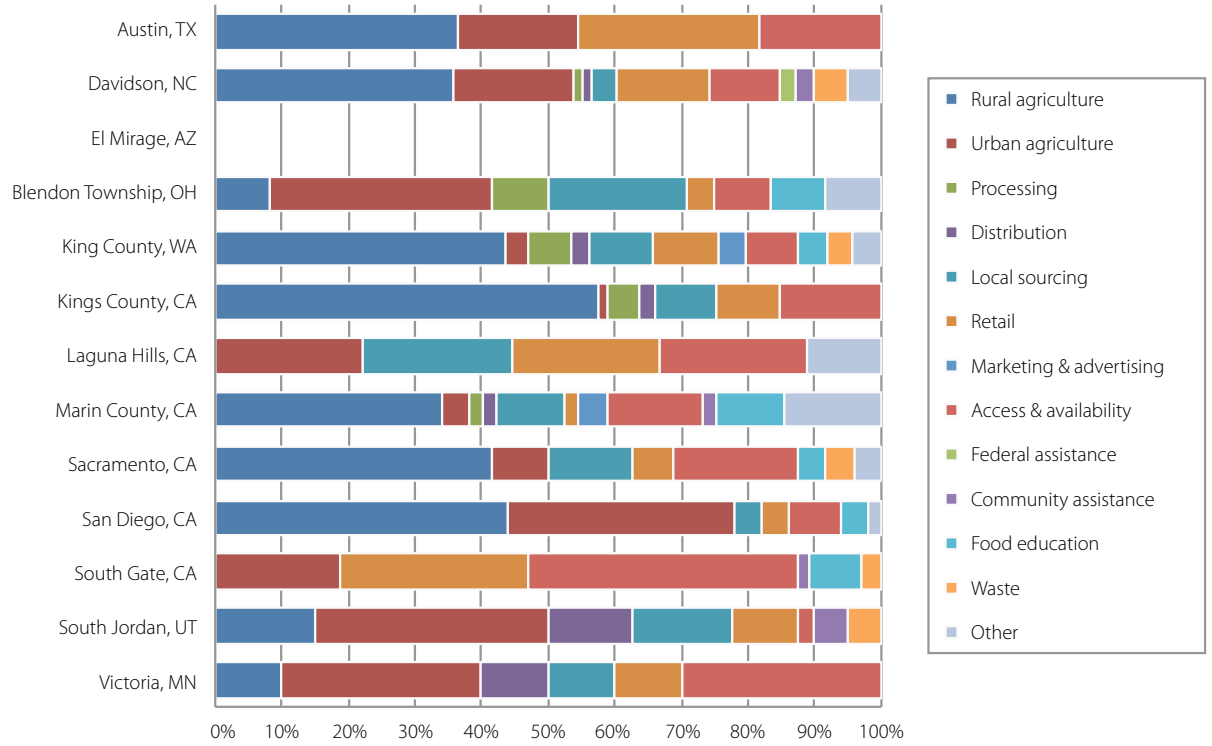


Figure 25. Composition of food system topics in sustainability plans

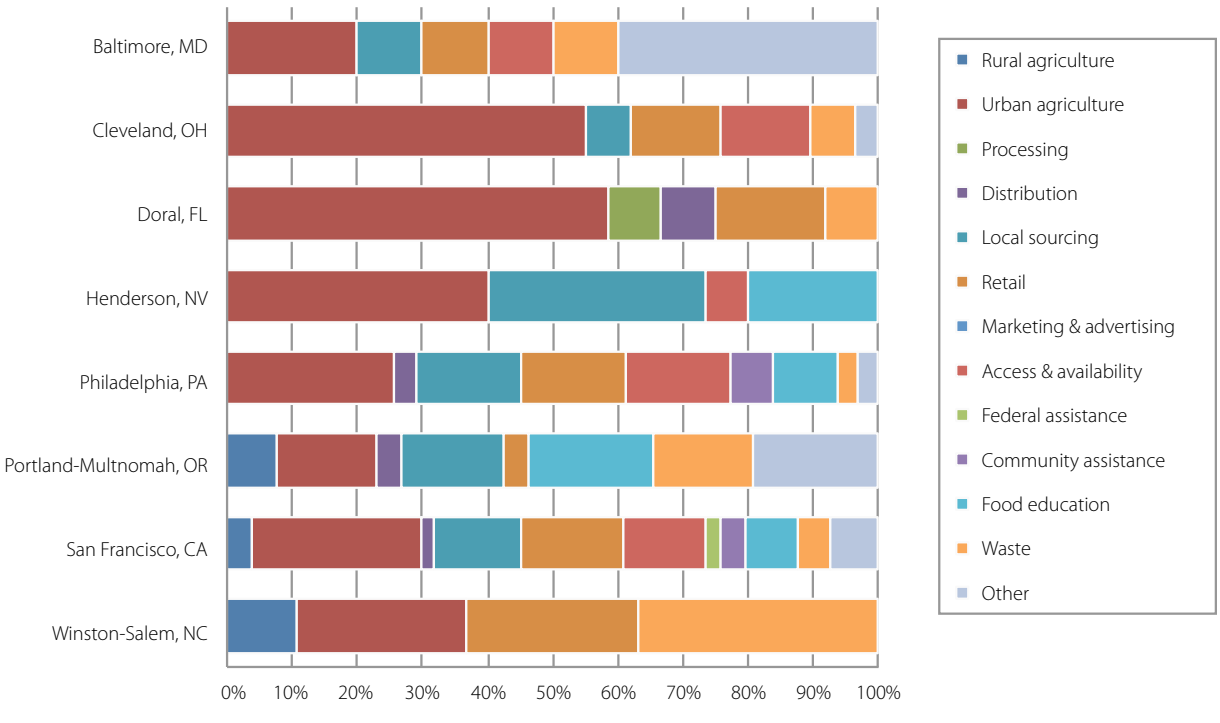


Figure 26. Top 5 cited food topics in comprehensive plans, by number of times

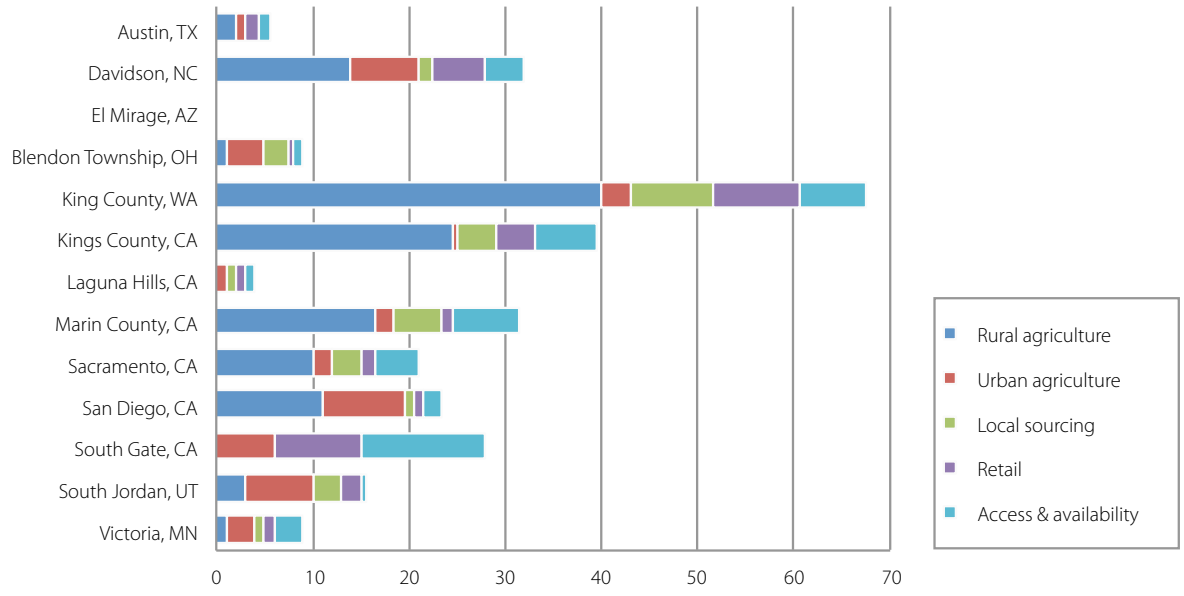
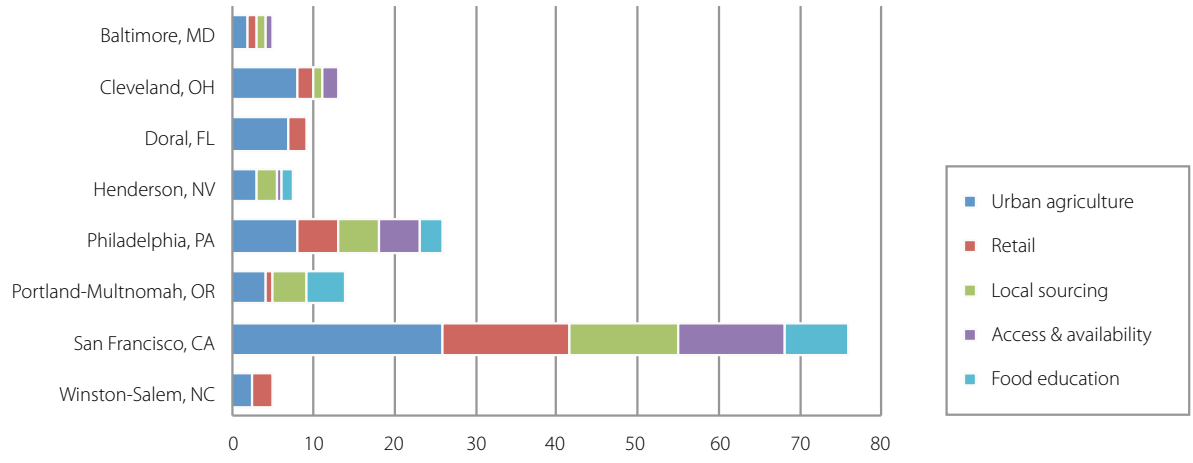


Figure 27. Top 5 cited food topics in sustainability plans, by number of times



urban agriculture was addressed 7.6 times per plan, while food retail, local food sourcing, and food access and availability were addressed 3.6, 3.4 and 2.7 times, respectively. (See Figures 25 and 27)

The topics of urban agriculture, food retail, and food access and availability were addressed the most by the sustainability plans of San Francisco and Philadelphia. San Francisco addressed these topics 26, 15.5, and 13 times, respectively. Philadelphia addressed these topics eight, five, and five times, respectively (see Figures 25 and 27).

The food system topic composition of individual comprehensive and sustainability plans varied considerably (see Figures 24 and 25). Three comprehensive plans (those of Davidson, King County, and Marin County) addressed 11 of the 12 food

system topics in at least one plan goal, objective, or policy. Laguna Hills addressed only five food topics, Austin only four. Among sustainability plans, San Francisco's addressed 10 of the 12 food system topics; Philadelphia addressed eight; and Portland-Multnomah County addressed seven. Five of the sustainability plans addressed either five topics (Doral, Cleveland, and Baltimore) or four topics (Winston–Salem and Henderson).

Food System Strategies

The food system strategy composition (of both comprehensive plans and sustainability plans) varied considerably by type of local government (county, municipality, or municipality-county), and by type of plan (comprehensive or sustainability). This is due in part to the inherent differences of government structure, geographic context, demographic and social differences, and other factors.

Some plans addressed a variety of strategies, while others only addressed a few. Among comprehensive plans, King County addressed the most number of food system strategies (76 percent), followed by Kings County, Sacramento, South Gate, and Marin County. Among sustainability plans, Portland-Multnomah County addressed the most (48 percent), followed by Philadelphia, Doral, and Baltimore. (See Table 24).

TABLE 24. FOOD SYSTEM STRATEGY COMPOSITION (*SUSTAINABILITY PLAN)

Jurisdiction	Total Number of Food Strategy Categories	% of Categories Addressed
King County, WA	19	76
Kings County, CA	15	60
Sacramento, CA	13	52
San Francisco, CA*	12	48
Portland-Multnomah, OR*	12	48
South Gate, CA	12	48
Marin County, CA	12	48
Philadelphia, PA*	11	44
South Jordan, UT	11	44
Doral, FL*	9	36
Davidson, NC	9	36
Baltimore, MD*	7	28
Victoria, MN	6	24
San Diego, CA	6	24
Blendon Township, OH	6	24
Cleveland, OH*	5	20
Winston-Salem, NC*	4	16
Henderson, NV*	4	16
Laguna Hills, CA	3	12
Austin, TX	3	12
El Mirage, AZ	0	0

Not surprisingly, the rural agriculture-related strategies were referenced most out of all the strategies in the comprehensive plans (30 percent), while urban agriculture-related strategies were referenced the most in the sustainability plans (see Figures 28 and 29). The top five cited food system strategies in comprehensive plan goals, objectives or policies included

In addition to including general goals related to farmland preservation, **King County, Washington**, includes several policies to expand opportunities for local farms and food production as a means to enhance the rural economy (King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, Pp.age 3–62).

The agriculture and open space section of the **Kings County, California**, comprehensive plan addresses the need to provide adequate housing for farmers and farm employees:

Land Use Goal B4. Housing within agricultural designated areas are primarily intended for the purposes of those engaged in farming, and for seasonal farm employee housing.

- LU OBJECTIVE B4.1 Allow the permitting and construction of on-site farm employee housing uses that are incidental to an existing commercial farming operation.
    - LU Policy B4.1.1: Base the number of agricultural housing units permitted per farm on the nature, intensity, and employment needs of the agricultural use of that farming operation.
    - LU Policy B4.1.2: Require agricultural employee housing to be located on site in a manner that minimizes the effect on or loss of productive agricultural land and its productivity, but not to the detriment of the farm employee housing occupants.
- LU OBJECTIVE B4.2. Support nonprofit organizations in their efforts to provide safe and adequate housing for farm employees.
    - LU Policy B4.2.1: Assist local agencies such as the Kings County Housing Authority in developing programs for financing and building farm employee housing, as indicated in the Housing Element.
    - LU Policy B4.2.2: Develop County specifications for temporary seasonal dormitory housing, mobile homes, and recreational vehicle "parks" for temporary farm employees and migrant workers.

Beyond the counties in our sample, **Sacramento, California**, identified the important role municipalities play in preserving farmland in neighboring jurisdictions. Sacramento's plan includes one goal and five policies to address this issue: [Sacramento: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.2, Pp. 2–316 to 2–317]

GOAL ER 4.2. Growth and Agriculture. Support preservation and protection of agricultural lands and operations outside of the city for their value for open space, habitat, flood protection, aesthetics, and food security by working with surrounding jurisdictions.

- ER 4.2.1 Protect Agricultural Lands. The City shall encourage infill development and compact new development within the existing urban areas of the city in order to minimize the pressure for premature conversion of productive agricultural lands for urban uses.
- ER 4.2.2 Permanent Preservation. The City shall work with the County, Natomas Basin Conservancy, and other entities to protect and permanently preserve a one-mile buffer outside of the current city limits as of adoption of the General Plan to preserve viable agricultural activities and as a community separator between Sutter and Sacramento Counties and along the Sacramento River.
- ER 4.2.3 Coordinate to Protect Farmland. The City shall continue to work with County and other adjacent jurisdictions to implement existing conservation plans to preserve prime farmland and critical habitat outside the city.
- ER 4.2.4 Development Adjacent to Agriculture. The City shall require open space or other appropriate buffers for new development abutting agricultural areas to protect the viability of existing agricultural operations outside of the city and ensure compatibility of uses with residents in adjacent areas. (RDR)
- ER 4.2.5 Homeowner Notification. The City shall require that purchasers of homes located in the vicinity of agricultural operations be provided notification of such activities by way of their deeds and/or escrow documentation.

Victoria, Minnesota's comprehensive plan includes a policy action that calls for the need to support sustainable agriculture businesses: "Encourage sustainable agri-business by reducing conflict between agricultural and adjacent uses, improving the economic viability of agriculture, and making connections between farmers and the local market."

San Francisco's sustainability plan also addresses the need to "create, support and promote regional sustainable agriculture." The plan includes four long-term objectives, three short-term (five-year) objectives, and 12 actions to achieve this goal. (See Appendix H).

South Jordan, Utah, included a policy action in its comprehensive plan to encourage local food production: "Policy E-1.26. Encourage local family food production to further regional 'locavore' (eating food grown locally and in season) food system independence."

Figure 28. Food system strategy composition of comprehensive plans

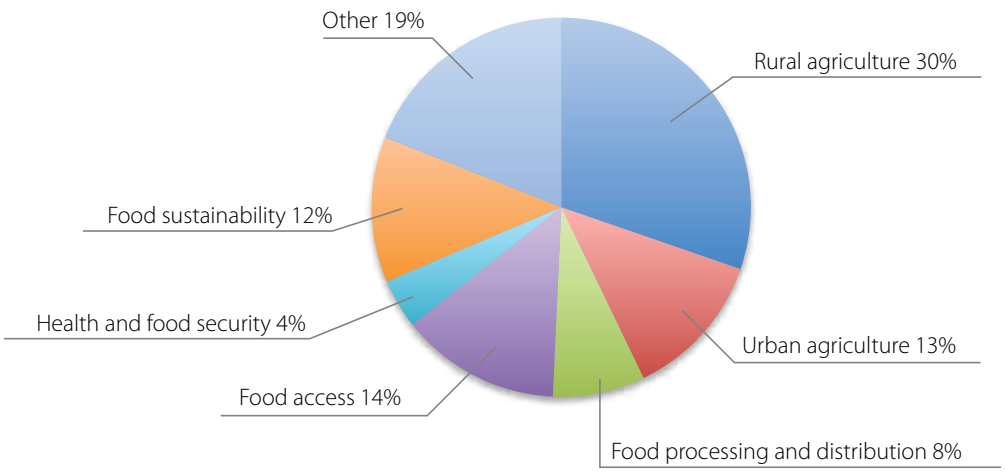


Figure 29. Food system strategy composition of sustainability plans

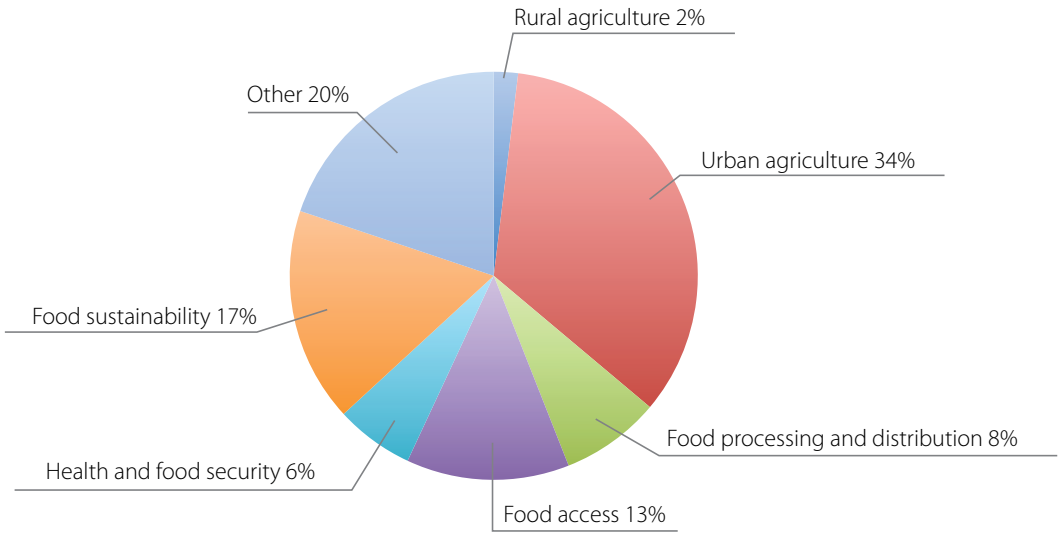
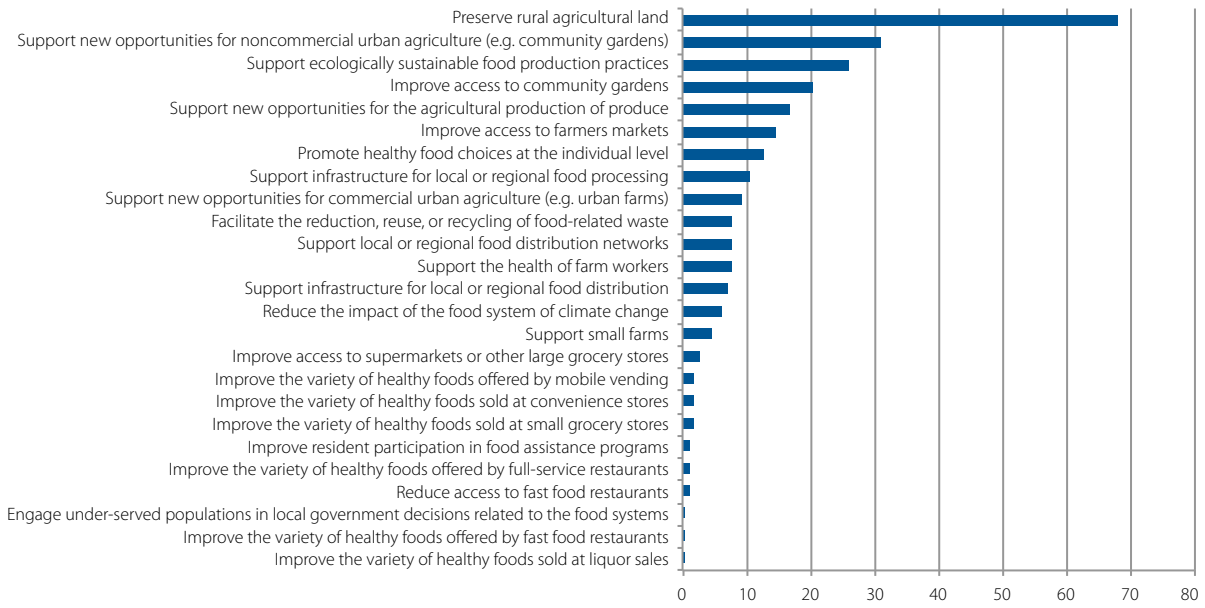


Figure 30. Food system strategy composition of comprehensive plans



(1) preserving rural agricultural land, (2) supporting new opportunities for noncommercial urban agriculture, (3) supporting ecologically sustainable food production practices, (4) improving access to community gardens, and (5) supporting new opportunities for the agricultural production of produce. More than 51 percent of all the comprehensive plans food-related goals, objectives, or policies explicitly referenced these five strategies.

The top five cited food system strategies in sustainability plan goals, objectives, or policies included (1) support new opportunities for noncommercial urban agriculture, (2) support new opportunities for commercial urban agriculture, (3) facilitate the reduction, reuse or recycling of food-related waste, (4) support ecologically sustainable food production practices, and (5) improve access to farmers markets. Over 53 percent of all the sustainability plans food-related goals, objectives or policies explicitly referenced these five strategies. Figures 30 and 31 provide a breakdown of the number of plan goals, objectives, or policies that explicitly address each food system strategy.

A few jurisdictions included a general food system goal or objective that directly or indirectly touched on all the various food system strategies. For example, Blendon Township includes a general food goal in its comprehensive plan: "Support a sustainable food system." Davidson also includes a general food goal in its comprehensive plan: "Promote production of, access to, and consumption of local foods." San Francisco's sustainability plan includes two general food system goals: (Goal 1) Increase individual, public and private-sector participation in a sustainable food system; and (Goal 2) Establish and coordinate a community-based policy and educational program to achieve a sustainable food system. Furthermore, San Francisco's plan identifies the need to establish a food policy council as a method for developing and implementing food policies: "Short-Term Objective 2-A-1. A regularly convened food-policy council that promotes public and private solutions to the barriers to and deficiencies of food access for any group of San Franciscans has been established."

Baltimore's sustainability plan also includes a general food system goal: "establish Baltimore as a leader in sustainable, local food systems." As a main strategy to achieve this goal, the sustainability plan calls for the implementation of Baltimore's Food Policy Task Force recommendations. (See Strategy E, Appendix F)

Figure 31. Food system strategy composition of sustainability plans

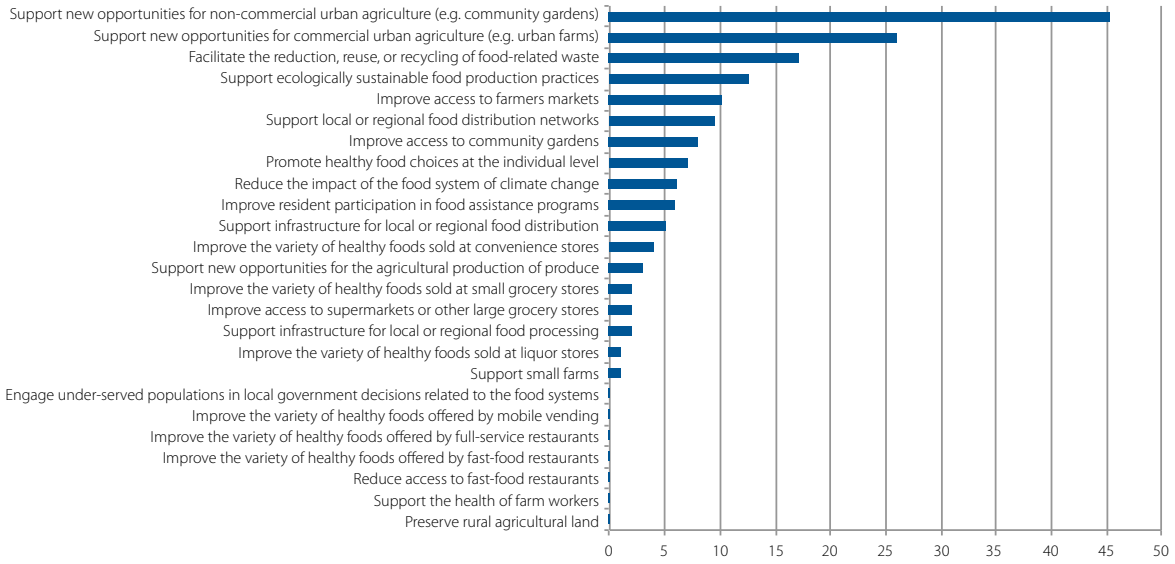
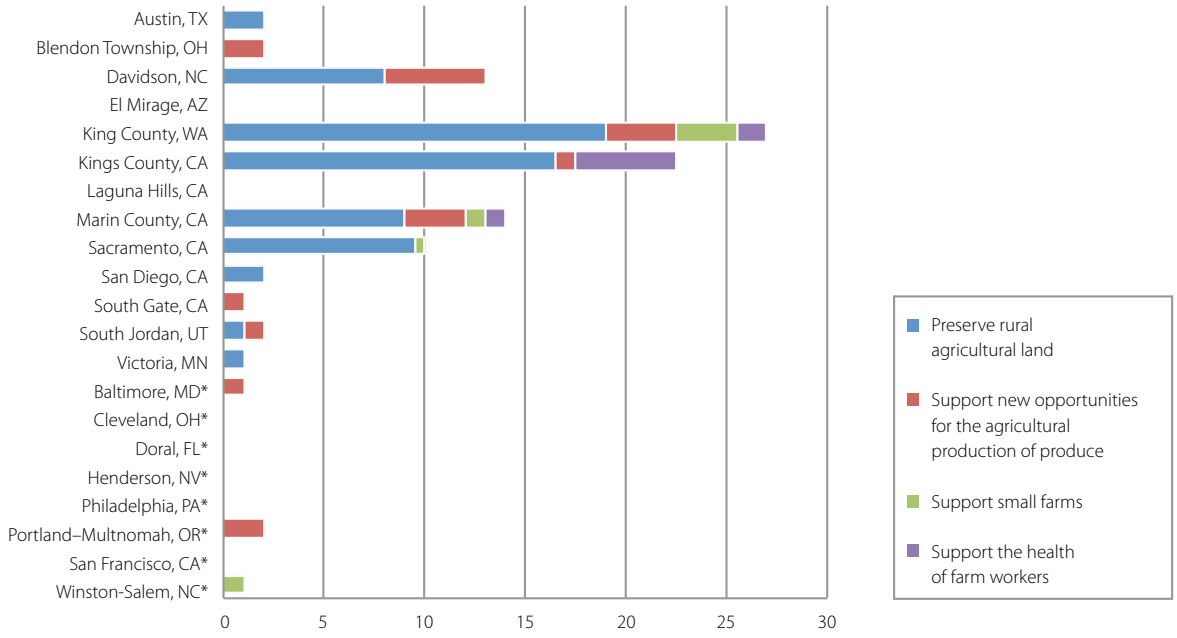


Figure 32. Rural agriculture strategies (*indicates jurisdiction has a sustainability plan)



Rural Agriculture Strategies

Not surprisingly, the county comprehensive plans included in our sample contained a greater number of rural agriculture-related food system strategies than the municipal comprehensive plans. The majority of identified strategies focused on preserving agricultural land. Nine of the comprehensive plans in our sample included a goal or policy to address an aspect of farmland preservation. King County's and Kings County's comprehensive plans alone contained 19 and 16.5 goals, objectives, or policies that are related to farmland preservation, respectively. (See Figure 32) For example, Kings County included a policy that calls for the "long-term preservation and sustainability of regional farmland as a significant source of locally grown healthy food sources that are beneficial to residents of the County" (Kings County, General Plan, Community

Health, Health and Safety Element, Policy B1.2.1). Both Marin County and King County included several plan components calling for the protection and preservation of agricultural land and resources, including soil, water, and forage (Marin County: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, Pp. 2–157).

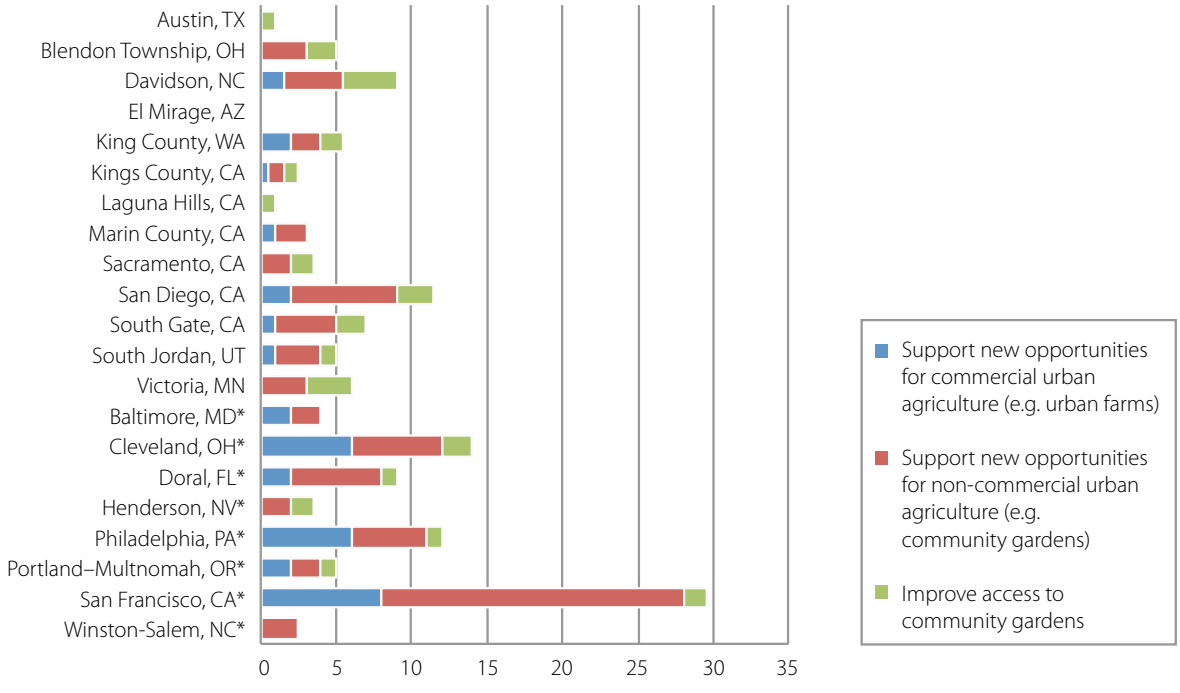
Urban Agriculture Strategies

Most of the comprehensive plans, with the exception of El Mirage's, explicitly addressed at least one urban agriculture strategy. The comprehensive plans of Blendon Township, Davidson, King County, San Diego; South Gate, and South Jordan included five or more goals, objectives, or policies that explicitly addressed the need to support urban agriculture. Most of the sustainability plans, with the exception of Winston-Salem's explicitly addressed two or more urban agriculture strategies. The sustainability plans of Cleveland, Philadelphia, and San Francisco included 10 or more goals, objectives, or policies that explicitly addressed the need to support urban agriculture. (See Figure 33).

As part of its food access goal, South Gate's comprehensive plan includes one objective and four policy actions to support local food production:

- *Objective HC 5.4: Provide opportunities for community gardens and local food production.*
  - *P.1 The City will support the use of public and private vacant lots, including school yards, for community gardens, as feasible or appropriate.*
  - *P.2 The City will strive for community gardens to be evenly distributed throughout the City.*
  - *P.3 Residents will be allowed to grow food (fruits and vegetables) in rear yards so long as there are not significant negative impacts to adjacent property owners.*
  - *P.4 New residential and non-residential buildings will be encouraged to use "green roofs," which allow for growing plants, stormwater retention, and reduced heat island effect.*

Figure 33. Urban agriculture strategies (*indicates jurisdiction has a sustainability plan)



San Francisco's sustainability plan included an overarching goal related to urban food production: "maximize food and agricultural production within the City itself" (San Francisco Sustainability Strategy, Food and Agriculture, Goal 5). The plan outlines eight long-term objectives, seven short-term (five-year) objectives, and 17 actions to achieve this goal. (See Appendix H)

Baltimore's sustainability plan includes a similar goal—"increase the percentage of land under cultivation for agricultural purposes"—and four policy actions to achieve the goal:

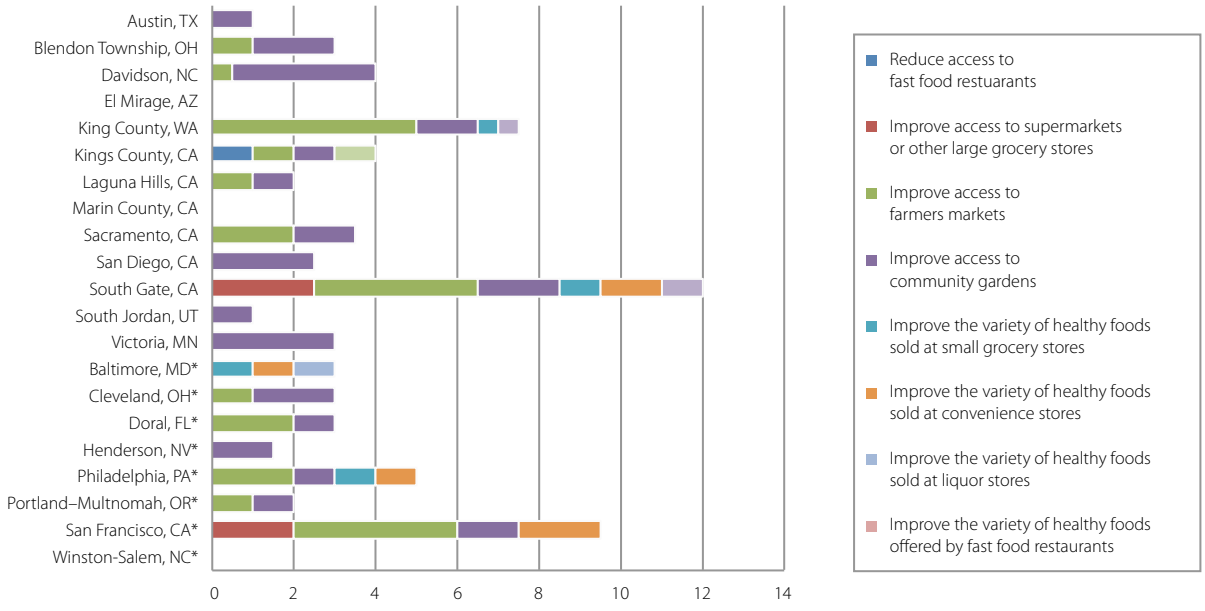
1. *Modify zoning regulations to accommodate urban agricultural production and sales.*
2. *Increase the number of City farms and gardens in parks, on vacant lots, school grounds, and other appropriate and available areas.*
3. *Promote community gardening for food production through programs such as the existing Master Gardener Urban Agriculture Program.*
4. *Develop incentives and support for urban farm enterprises.*

[Baltimore: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy A.]

Food Access Strategies

South Gate's comprehensive plan and San Francisco's sustainability plan included the greatest number and variety food access strategies in their plan goals, objectives, and policies. South Gate's plan included 12 goals, objectives, or policies that addressed six of the nine food access strategies; and San Francisco's plan included 9.5 that addressed four of the nine strategies. The top two cited food access strategies among both comprehensive and sustainability plans were "improve access to farmers markets" and "improve access to community gardens." King County, South Gate, Baltimore, and Philadelphia included a goal, objective, or policy to "improve the variety of healthy foods sold at small grocery stores." South Gate and San Francisco had the only plans to address the need to "improve access to supermarkets or other large grocery stores" as a food access goal, objective, or policy. Only South Gate and Kings County addressed the need to "reduce access to fast-food restaurants" and "improve the variety of healthy food sold at liquor stores" in its plan. And only Kings County addressed the need to "improve the variety of healthy foods offered by full-service restaurants" in its plan. Not one

Figure 34. Food access strategies (*indicates jurisdiction has a sustainability plan)



Both Cleveland's and Doral, Florida's sustainability plans focus solely on urban agriculture. **Doral's** plan identifies urban agriculture as an important sustainability strategy due to its economic, environmental, health, and social co-benefits. The plan includes 10 guiding principles, of which one is dedicated to city agriculture:

> Guiding Principle: City Agriculture: bring back community agriculture
>
> Definition of City Agriculture: For the purposes of this plan, City Agriculture refers to the growing, processing and distribution of food and animal husbandry. City agriculture is directly tied to a community's sustainable development through, economic, environmental, health and social benefits.
>
> Action Strategies:
> 1. Facilitate the creation of a farmers market
> 2. Allow farmers markets in commercial zoning districts
> 3. Create a specification in the landscape code that city gardens are to be counted as open space
> 4. Allow the raising of up to six hens to be permitted as a Special Exception Use in single family residential zoning districts
> 5. Create a goal in the Land Use Element of the Comprehensive Plan to support the growing, processing and distribution of food and animal husbandry
> 6. Allow urban gardens in all zoning districts
> 7. Set space aside for community gardens in the City's parks
> 8. Create an "Adopt-a-garden" program to enable local residents to develop gardens on vacant land and public park.
> 9. Encourage and promote composting to both avoid yard and food waste going into landfills and providing a natural fertilizer for gardens

Cleveland's plan identifies urban agriculture as an important strategy for the productive reuse of vacant property. The plan includes seven policy recommendations (and the relevant city government department) to reuse vacant property for urban agriculture purposes:

1. Provide permanent support for local food production. Prioritize agricultural land uses in the city through the creation of a new land use category for urban agriculture to aid in long-term planning and land security for urban farmers and community gardeners; revise Urban Garden District zoning classification as appropriate (Cleveland City Planning Commission).
2. Establish a goal that every Cleveland resident will be within a minimum ½-mile radius of a community garden or market garden (ideally within a ¼-mile). This will increase local food security, reinforce neighborhood relationships, beautify vacant lots, and promote local entrepreneurship (Cleveland City Planning Commission, Ohio State University Extension, Cleveland Botanical Garden, Community Development Corporations).
3. Integrate permanent garden space in model block/neighborhood planning.
4. Establish strategies for controlling use and new models for holding land (i.e. re-zone to urban garden district, transfer ownership of land to community land trust, long term land leasing with ability to fence and secure) (Cleveland City Planning Commission, Community Development Dept., Cleveland Land Bank, Community Development Corporations).
5. Develop policies and practices within the Cleveland Water Department that streamline farmers and gardeners access to water. Establish water rates that incentivize and promote agricultural uses (Cleveland Water Department, Community Development Department, Economic Development Department).
6. Explore new ways of bringing water to sites including maximizing the use of rainwater runoff from adjacent building roofs, leaving water lines to properties after demolition of buildings, etc. (Cleveland Water Department, Community Development Department, Economic Development Department).
7. Explore potential for a municipal composting facility and community composting projects(Community Development Department, Cleveland Office of Sustainability, Department of Parks, Recreation and Properties).

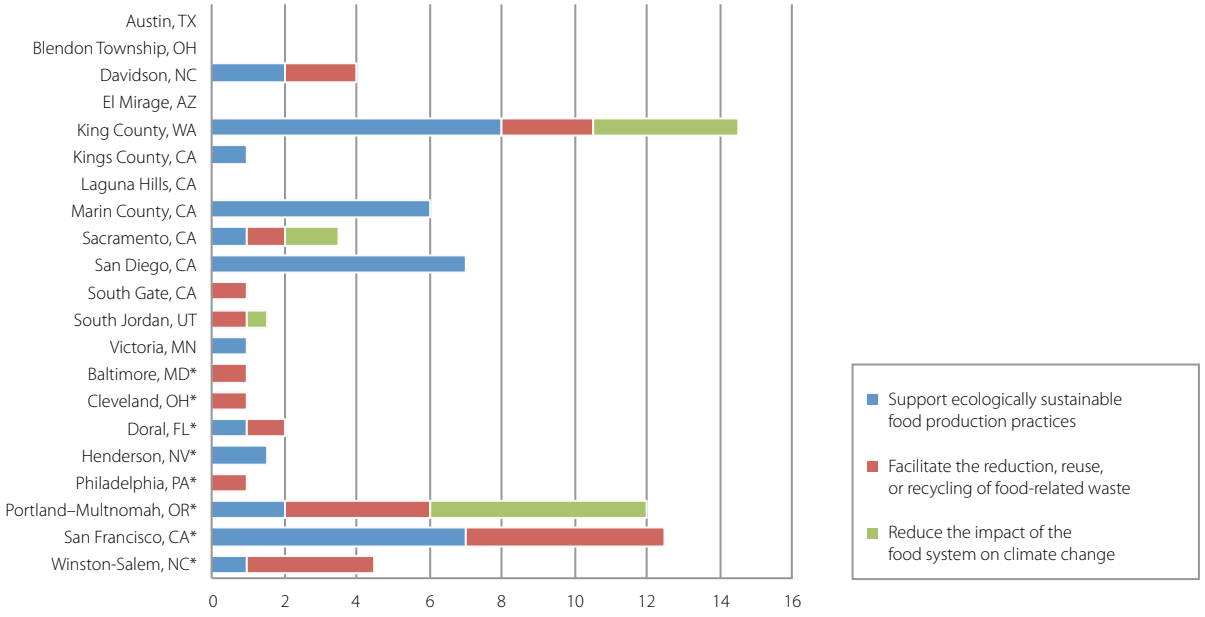
[Cleveland: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendations 1–7.]

comprehensive or sustainability plan addressed the need to "improve the variety of healthy foods offered by fast-food restaurants." (See Figure 34)

Food Sustainability Strategies

About half of the comprehensive plans and a little over half of the sustainability plans included one or more goals, objectives, or policies that explicitly address the need to "support ecologically sustainable food production practices." Not surprisingly, the sustainability plans in our sample referenced the food waste strategy more than the comprehensive plans. Only King County and Portland-Multnomah County referenced the need to "reduce the impact of the food system on climate change" in their plans. (See Figure 35)

Figure 35. Food sustainability strategies (*indicates jurisdiction has a sustainability plan)



San Francisco's sustainability plan included one goal related to food production and food waste practices: "recycle all organic residuals, eliminate chemical use in agriculture and landscaping and use sustainable practices that enhance natural biological systems throughout the City." [San Francisco Sustainability Strategy, Food and Agriculture, Goal 6]. The plan identifies three long-term objectives, three short-term objectives, and 10 policy actions to achieve the goal. (See Appendix H)

King County addresses the reuse of agricultural byproducts to create agricultural inputs like energy and compost. Policy R-661 in King County's plan states: "Support the development of innovative technologies to process dairy and other livestock waste to reduce nutrients and create other products such as energy and compost." [King County Comprehensive Plan, Sustaining Agriculture and Farming, R-661, Pp. 3–58]

Portland-Multnomah County's sustainability plan focuses solely on climate change. As a result, the majority of its food-related components focus on food choice, local food production, and food waste.
Philadelphia's sustainability plan calls for the reduction of food waste and the growth of composting as a food recycling strategy. The plan includes two policy strategies under the environmental goal to reduce Philadelphia's environmental footprint. (See Appendix G)

South Gate, California's Healthy Communities Element includes one overarching food access goal, four objectives, and 14 policies:

Goal HC 5: Safe, convenient access to healthy foods for all residents

- Objective HC 5.1: Encourage safe, convenient opportunities to purchase fresh fruits, vegeTables and healthy foods in all neighborhoods.
    - P.1 The attraction and retention of high quality grocery stores and other healthy food purveyors should be pursued as an economic development strategy for the City. Healthy food outlets include full-service grocery stores, regularly-held farmer's markets, fruit and vegeTable markets, and convenience stores or corner stores that sell a significant proportion of healthy food.
    - P.2 The City, to the extent possible, will seek to increase city-wide access to healthy food choices, such that every residential parcel is within ¼ -mile of a healthy food outlet.
    - P.3 The City should expand access to certified farmers markets. This includes working to expand the hours of the existing farmer's market, pursuing new farmers markets in transit-accessible locations, supporting expanded transit service to bring residents to and from the famer's markets, and allowing farmers markets on public property at minimal cost to the vendors.
    - P.4 Partnerships between local merchants and farmers markets to increase the availability of healthy food choices in South Gate's stores will be supported and encouraged by the City.

- Objective HC 5.3: Avoid concentrations of unhealthy food retailers and liquor stores within the City.
    - P.1 The City will encourage LAUSD, ELAC and others to provide healthy food choices within schools and to minimize the sale of carbonated beverages, processed foods, and foods containing partially hydrogenated oils (e.g., transfats).
    - P.2 New drive-through restaurants should be discouraged from locating near public and private schools.
    - P.3 The City will avoid concentrations of liquor stores in all areas of the City

Kings County, California's Health and Safety Element includes one1 objective and five policies to improve food access within the county:

HS OBJECTIVE B1.2. Encourage and facilitate the provision of healthy eating options within community commercial core areas and increase County resident access to locally grown fresh produce.

- HS Policy B1.2.1: Support long term preservation and sustainability of regional farmland as a significant source of locally grown healthy food sources that are beneficial to residents of the County.HS Policy B1.2.2: Support the establishment of farmers markets, community gardens and other commercial sales venues within community districts to provide increased availability of fresh fruits and vegeTables.
- HS Policy B1.2.3: Encourage the establishment of restaurants in community districts that serve locally grown foods and products.
- HS Policy B1.2.4: Discourage the over concentration of fast food eateries, liquor and convienence stores in community district core areas.
- HS Policy B1.2.5: Support strategies that capitalize on the mutual benefit and connection between rural economies as food producers and urban economies as processors and consumers.

Marin County, California's comprehensive plan includes one goal and three policies in its **Natural Systems and Agricultural Element** and one goal and two policies in its socioeconomic element related to community food security and food access, respectively. (See Appendix E)

San Francisco's plan includes a goal "to ensure access by all people at all times to enough nutritious, affordable, safe and culturally diverse food for an active, healthy life. [San Francisco Sustainability Strategy, Food and Agriculture, Goal 3] The plan includes seven long-term objectives, seven short-term (five-year) objectives, and 14 actions to achieve this goal. (See Appendix H)

Baltimore's sustainability plan includes a sub-goal and several supporting policies to "increase demand for locally produced and healthy foods by schools, institutions, supermarkets, and citizens." (See Appendix F) [The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy C]

Food Processing and Distribution Strategies

Several plans did not reference any of the food processing or distribution strategies: Austin, Davidson, Laguna Hills, San Diego, South Gate, Baltimore, Cleveland, Henderson, and Winston-Salem. A few plans, however, included goals, objectives, or policies to support all three food processing or distribution strategies: King County, Kings County, Marin County, Sacramento, and Portland-Multnomah County. King County included six plan components to "support infrastructure for local or regional food processing"; and two each to "support infrastructure for local or regional food distribution" and "support local or regional food distribution networks." San Francisco's sustainability plan included the greatest number of plan components to "support local or regional food distribution networks." (See Figure 36) The plan includes several goals that indirectly address food distribution, and several policy actions that directly address food distribution. Three policy actions in particular highlight San Francisco's commitment to support local food distribution:

- *Long-Term Objective 3-G Organic growers provide direct farm-to-buyer service for 15 percent of produce buyers.*
- *Short-Term Objective 3-G-1 Organic growers provide direct farm-to-buyer service for 5 percent of produce buyers.*
- *Policy Action 3-C-1-a. Create a system for distribution of wholesale nutritious, affordable and safe food to corner stores which provides financing for inventory, capital items and technical assistance.*
- *Policy Action 3-F-1-f. Promote organic delivery services. For example, use posters at all farmers markets and advertise in phone books.*

The Food and Agriculture element of **Portland-Multnomah County, Oregon's** sustainability plan identifies two objectives and eight supporting policy actions to reduce the combined climate impact of the city of Portland and Multnomah County.:

2030 OBJECTIVE 14. Reduce consumption of carbon-intensive foods.

Actions to be completed before 2012

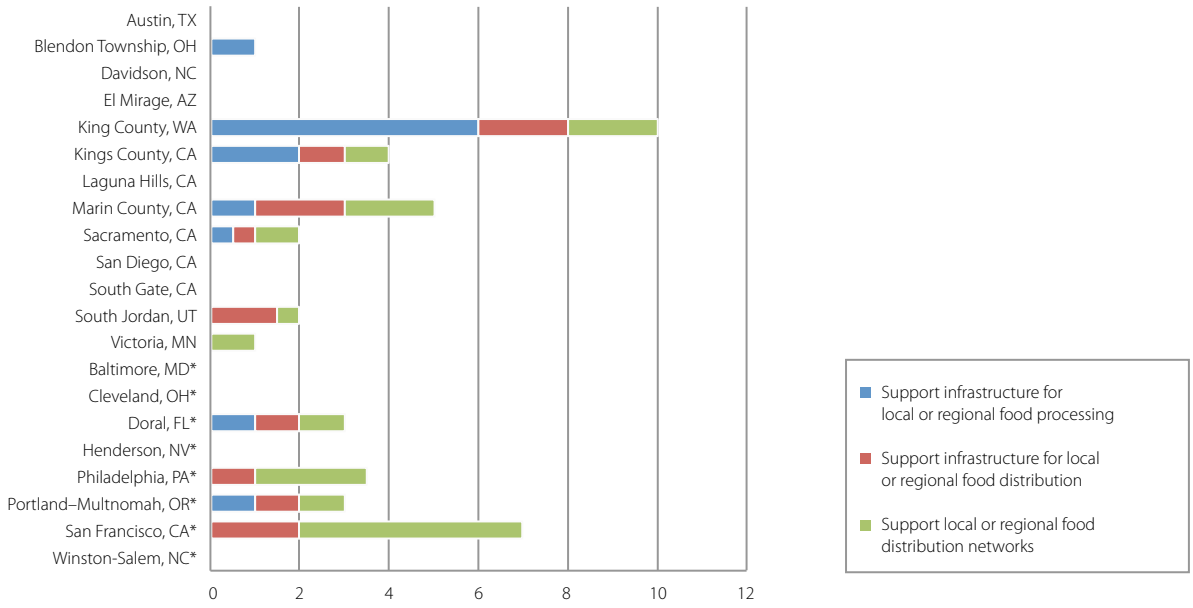
- Include food choice as a component of the public engagement campaign (Objective 16) that inspires the community to live a climate friendly lifestyle.
- Create City and County partnerships with healthcare, schools and other organizations to promote healthy, low-carbon diets.

2030 OBJECTIVE 15. Significantly increase the consumption of local food.

Actions to be completed before 2012

- Integrate sustainable food system issues, and where practical, quantitative goals and metrics, into planning processes, including the City's Portland Plan and the Multnomah Food Initiative.
- Identify and implement City and County strategies to encourage local food production and distribution, including providing incentives and removing regulatory obstacles.
- Develop policy and provide programmatic resources to significantly increase the percentage of home-grown and locally sourced food, including the support of farmers markets and community supported agriculture; the use of public and private land and rooftops for growing food; promoting fruit and nut trees as options for the 33,000 yard trees to be planted as part of the Grey to Green initiative; and develop or facilitate 1,000 new community garden plots.
- Provide educational opportunities for residents to gain skills in organic gardening, fruit production, animal husbandry, food preservation and cooking, and affordable, healthy eating.
- Multnomah County to work to reestablish funding to the Oregon State University Extension Service.
- Establish quantitative metrics for consumption of regionally sourced food.

Figure 36. Food processing and distribution strategies (*indicates jurisdiction has a sustainability plan)



- *Short-Term Objective 1-D-1. An infrastructure that allows and encourages all food related establishments to donate excess food to food programs that assist those in need has been established.*

King County's Sustaining Agriculture and Farming section of its comprehensive plan included several policies to address food processing and distribution. For example:

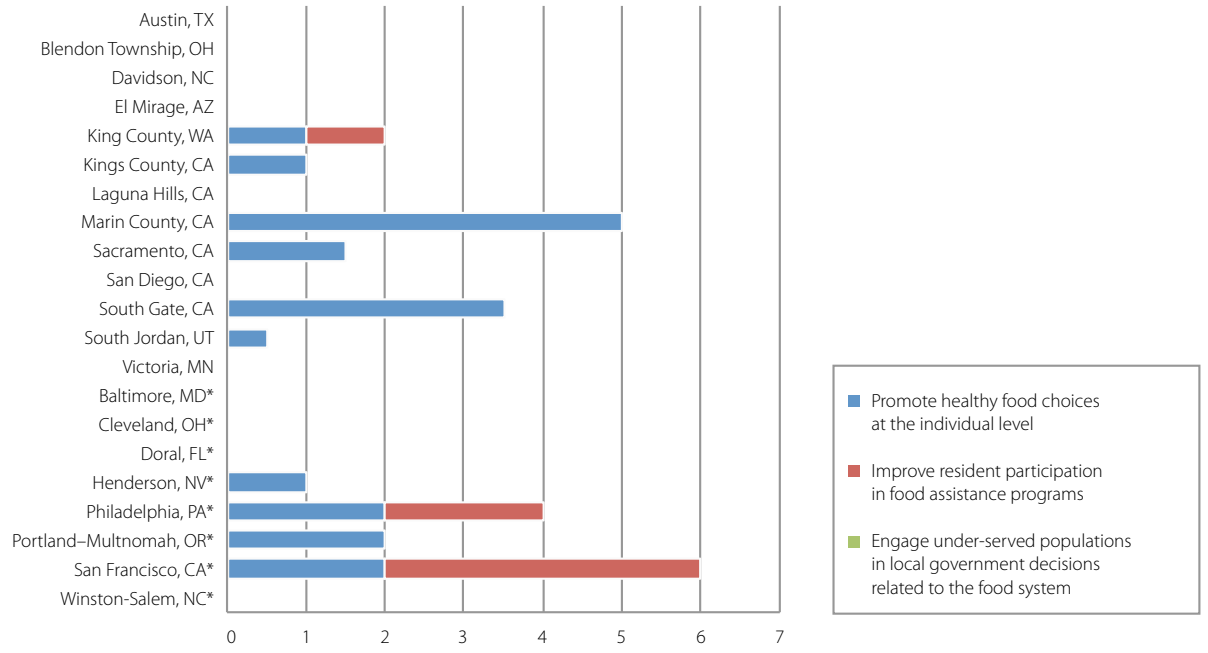
- *R-659 Agricultural processing, packing and direct sales are considered agricultural activities and should be allowed at a size and scale appropriate to the zone in which they are operating. King County shall work with local and state health departments to develop regulations supporting these activities.*
- *R-660 King County supports the processing and packaging of farm products from crops and livestock, and will continue to work with farmers, ranchers, cities, neighboring counties, and other interested parties to address the infrastructure and regulatory needs to promote sales to consumers, institutions, restaurants, and retail enterprises.*
- *R-661 King County supports innovative technologies to process dairy and other livestock waste to reduce nutrients and to create other products such as energy and compost in the Agriculture and Rural zoning classifications.*
- *R-622 The county should develop incentives that support local food production and processing to reduce energy use, increase food security and provide a healthy local food supply.*

South Jordan includes a food production policy action in its comprehensive plan: "E-1.28—Re-evaluate ordinances that regulate where and how locally grown produce can be sold or distributed to the public."

Individual Health and Food Security Strategies

Only six comprehensive plans and four sustainability plans addressed the need to "promote healthy food choices at the individual level." Far fewer (one comprehensive plan and two sustainability plans) addressed the need to "improve resident participation in food assistance programs." Not one comprehensive or sustainability plan in our sample included a goal, objective, or policy to "engage underserved populations in local government decisions related to the food system." (See Figure 37)

Figure 37. Individual health and food security strategies (*indicates jurisdiction has a sustainability plan)



As part of its food access goal, San Francisco includes several objectives and policy actions to improve resident participation in food assistance programs:

- *Long-Term Objective 3-F. Federal food programs, including Food Stamps, School Lunch and Breakfast, Child Care Food, Summer Food, and the Special Supplemental Food Program for Women, Infants and Children (WIC), are fully utilized.*
- *Short-Term Objective 3-F-1 Participation in Food Stamps, the School Breakfast Program and the Summer Food Program has increased by 25 percent.*
- *Policy Action 3-F-1-a. Conduct effective outreach and promotion for the federal food programs.*
- *Policy Action 3-F-1-b. Teach eligibility workers in other public and private benefits programs serving low-income people about the federal food programs and how to enroll their clients in them.*
- *Policy Action 3-F-1-c. Open and operate offices at convenient locations across the city where applicants can enroll.*
- *Policy Action 3-F-1-d. Promote the use of volunteers to solicit and counsel applicants for the programs.*
- *Policy Action 3-F-1-e. Speed up the processing of applications.*

South Gate identifies an objective and several policy actions to promote healthy eating:

◆ *Objective HC 5.2: Encourage and support healthy eating habits and healthy eating messages.*
  - *P.1 The City should provide healthy food options at all municipal buildings and at city events where food is made available by the City.*
  - *P.2 The City should explore partnering with the local school districts to create or implement educational programs for kids about healthy eating, such as edible school yards and healthy cooking classes.*
  - *P.3 The City should encourage local employers to provide healthy food options for employees in vending machines and at private events.*

Equity

Considering the major inequities in the food system, the evaluation tool identified whether or not the food system-related plan components explicitly addressed the needs of two underserved populations: low-income and minority

groups. Only five comprehensive plans included a food-related component that explicitly addressed the needs of low-income groups. San Francisco's and Philadelphia's sustainability plans were the only sustainability plans to explicitly address food systems equity.

Among both comprehensive and sustainability plans, only Austin's comprehensive plan included at least one food-related component that indirectly targeted at the needs of minority populations: "Expand services to dependent groups. Ensure that the elderly, young, homeless, indigent and handicapped have access to such essential services as food, clothing, safety, health, housing, transportation, recreation and companionship." Austin also identifies the need to improve access to community gardens and other healthy food resources in low-income neighborhoods: "Appropriate municipal facilities and properties should be made available for various community purposes. Undeveloped municipal property in low income neighborhoods could be made available for such purposes as community gardens. A community food marketing cooperative could be established to augment community gardens."

Philadelphia's sustainability plan identifies equity as a central component of sustainability. The overarching equity goal states that Philadelphia will deliver more equitable access to healthy neighborhoods. Equitable access to food is a major component of this goal. The plan identifies a target to "Bring Local Food within 10 Minutes of 75 Percent of Residents." In order to achieve this target, the plan calls for the creation of 86 additional local food outlets by 2015. The plan lists four sub-goals and 11 policy actions to achieve this goal. [see Appendix G]

Implementation

In addition to plan goals, objectives, and policies, specifying how policies will be implemented and how goals and objectives will be met, is an essential part of quality local level plans (Berke and Godschalk 2009). The evaluation tool identified in each plan's policies included concrete implementation mechanisms or actions (such as a regulatory measure, standard, funding decision, program, or partnership) judged to be necessary to achieve plan goals and objectives. The tool also categorized the type of implementation mechanism or action used by each plan, and determined if each plan specified an implementation schedule or timeline, where funding would come from, and the roles and responsibilities of different local government staff and departments in implementing each policy.

A little more than half of the comprehensive plans in our sample (seven, or 54 percent) included implementation mechanisms or actions in their plan to achieve plan goals and objectives. However, only three plans (23 percent) included one implementation mechanism per policy (Blendon Township, Laguna Hills, and Marin County). Several plans did not mention how they were going to implement each policy and achieve the goals outlined in the plan. For more information see Table 25. Marin County included an "implementation program" section for each component of its comprehensive plan. (See Appendix E)

To achieve its food and agriculture related plan goals, Sacramento's comprehensive plan identifies that it will:

1. amend the Parks and Recreation Master Plan to promote community gardens in both new growth and infill development areas.
2. establish land-use restrictions such as agricultural conservation easements to protect the land for agricultural use in perpetuity.

Blendon Township includes an implementation table in its plan, which outlines the various implementation mechanisms for each goal of the plan:

Not surprisingly, most comprehensive plans (seven, or 54 percent) specified that they would implement plan food policies through land-use and zoning regulations. For example, South Gate outlined several land-use-related mechanisms to implement the food access goal:

Action HC 1: Review City codes and ordinances for their impact on health. Following adoption of the General Plan, the Community Development Department and other relevant departments will review the City's existing codes and ordinances (including the Zoning Code and the Building Code) and make recommendations on how they can be improved to create more positive health outcomes in the City. Topics that should be addressed include:

- *Location of fast food restaurants and liquor stores.*
- *Standards and regulating mechanisms to limit concentrations of liquor stores.*
- *Allowances to grow food on parcels within the City.*
- *Allowances to operate farmers markets on parcels within the City.*

Action HC 2: Create a land development review checklist.
Develop or adopt a land development review checklist to ensure that projects enhance public health outcomes. The checklist should address topics such as the pedestrian environment, building siting, access to transit, access to parks, proximity to healthy food sources and proximity to existing or potential sources of pollution (such as freeways and land uses that use hazardous materials).

TABLE 25. FOOD SYSTEM-RELATED IMPLEMENTATION MECHANISMS AND ACTIONS: COMPREHENSIVE PLANS

Jurisdiction	Implementation Mechanisms	Ratio Implementation Mechanism to Goal	Ratio Implementation Mechanism to Policy
Austin, TX	0	0.0	0.0
Davidson, NC	0	0.0	0.0
El Mirage, AZ	8	0.0	0.0
Blendon Township, OH	6	6.0	1.0
King County, WA	0	0.0	0.0
Kings County, CA	2	0.0	0.1
Laguna Hills, CA	3	0.0	1.5
Marin County, CA	27	4.5	1.5
Sacramento, CA	4	1.3	0.3
San Diego, CA	0	0.0	0.0
South Gate, CA	5	5.0	0.3
South Jordan, UT	0	0.0	0.0
Victoria, MN	0	0.0	0.0

Other popular methods to implement food-related policies outlined in the plan included educational, economic development, or environmental strategies. For example, South Gate's comprehensive plan recommended the development of healthy food guidelines for city buildings:

Action HC 3: Create guidelines for healthy food at city buildings and events. Develop guidelines for the types of foods that should be served at city-sponsored events and in City vending machines. At minimum, the guidelines should require that there are healthy food options available.

GOAL F: SUPPORT A SUSTAINABLE FOOD SYSTEM FOR BLENDON TOWNSHIP, OH	
Policy Action	**Implementation Mechanism**
Action 31: Establish a farmers market Access to fresh food leads to better eating habits and a healthier community. Farmers markets connect producers and consumers of local foods.	A farmers market could be located in the parking lot of Glengary Shopping Center, Sunbury Plaza or the Blendon Township Complex. A farmers market could be supported through Community Supported Agriculture, where customers buy a share of a farm's harvest and receive food throughout the season. This arrangement gives farmers capital up-front and enables consumers to receive a variety of fresh food.
Action 32: Revise zoning regulations to allow community gardens Currently, zoning regulations do not allow community gardens on lots smaller than one acre.	The Franklin County Economic Development and Planning Department should pursue an amendment to permit community gardens on these smaller lots with reasonable regulations to protect public health and neighborhood stability.
Action 33: Identify and convert underutilized sites to community gardens Community gardens are self-maintained by members of a neighborhood and community organizations. They build self-reliance, a sense of community and support local food systems.	Franklin County, Blendon Township, and neighborhood organizations should collaborate to identify and acquire properties for community gardens.
Action 34: Support the transition of yards, window boxes and rooftops into food production areas Urban gardening creates independence from corporate food systems, fosters community involvment and gets people closer to the natural environment.	The Franklin County Economic Development and Planning Department will provide information on resources to start gardens and education on urban gardening practices.
Action 35: Provide information to connect producers and consumer of local foods Locally grown food is often difficult to find and usually only available in farmers markets.	Connecting local producers and consumers will increase access to locally grown foods and the economic vitality of local farming initiatives.
Action 36: Support local food production and processing enterprises	Franklin County has recently funded the Growing Entrepreneurs Initiative. The initiative will develop and expand food service enterprises by providing training, technical assistance and loans to income-eligible residents. The initiative gives entrepreneurs access to the Ohio State University Food Industries Center for product development and marketing training. Participants work with local grocers, farmers markets and other distributors in selling their product. Information should be provided to Blendon Township to inform residents of this opportunity for entrepreneurship.

South Gate's plan also included an economic strategy to implement the food access related policy actions:

Action HC 5: Develop a business attraction strategy to bring more healthy food choices to the City. The City's Economic Development Director will develop a program of incentives to locate, establish and expand new and maintain existing grocery stores and other healthy food purveyors. Part of this strategy will be to strive, to the extent possible, for an equal distribution of healthy food stores throughout the City.

Very few plans included health, transportation, solid waste, or water-related implementation strategies. Not a single comprehensive plan in our sample included a housing or energy reduction/efficiency strategy to implement plan food policies. Marin County included the greatest variety of implementation action types, 63 percent, or seven, types in its plan to achieve food-related goals. (See Appendix E)

Less than a third of comprehensive plans in our sample (four, or 31 percent) outlined a schedule or timeline to implement plan policies and achieve plan goals. Laguna Hills, Marin County, and Sacramento included an implementation schedule and timeline for 100 percent of their food-related implementation actions; whereas El Mirage only indicated this information for 12.5 percent of its plan's food-related implementation actions. Fewer than half (six, or 46 percent) indicated the roles and responsibilities of various local government staff and agencies in the implementation of the food policies. Laguna Hills, Marin County, and Sacramento included role and responsibility information for 100 percent of their food-related implementation mechanisms. Blendon Township, South Gate, and El Mirage included this information for 83 percent, 40 percent, and 38 percent of their plan's food-related implementation actions, respectively. Only three (23 percent) plans indicated where funding would come from to implement the food policy actions of the plan. Both Marin County and Laguna Hills included funding information for 100 percent of their food-related implementation mechanisms; Sacramento did not include this information, and El Mirage only included it for one implementation mechanism.

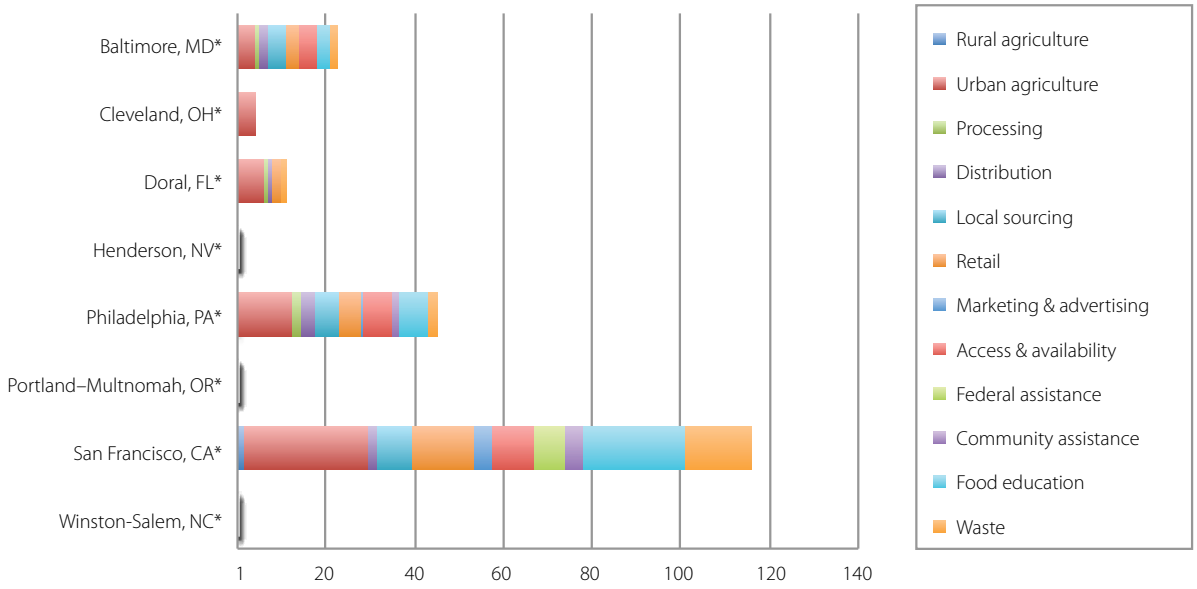
More than half of the sustainability plans in our sample (five, or 63 percent) included implementation mechanisms or actions in their plan to achieve plan goals and objectives. San Francisco specified 82 actions, followed by Philadelphia (22), Baltimore (10), Doral (six), and Cleveland (five). However, only two sustainability plans (Baltimore and Philadelphia), included at least one implementation mechanism per plan policy. Three sustainability plans did not indicate how they are going to implement their plans' policies and achieve their goals. San Francisco categorized its plan's implementation actions based on time: long term, short term, 10 year, and five year. For every goal, San Francisco specified approximately 13.7 actions the local government could take to achieve the goal. For more information see Table 26.

TABLE 26. FOOD SYSTEM-RELATED IMPLEMENTATION MECHANISMS AND ACTIONS: SUSTAINABILITY PLANS

Jurisdiction	Implementation Mechanisms	Ratio Implementation Mechanism to Goal	Ratio Implementation Mechanism to Policy
Baltimore, MD	10	10.0	1.4
Cleveland, OH	5	2.5	0.7
Doral, FL	6	0.0	0.7
Henderson, NV	0	0.0	0.0
Philadelphia, PA	22	11.0	1.7
Portland-Multnomah, OR	0	0.0	0.0
San Francisco, CA	82	13.7	0.0
Winston-Salem, NC	0	0.0	0.0

Exactly half of the sustainability plans (four) included implementation actions related to food distribution, food retail, and food waste. More than half (five, or 63 percent) addressed urban agriculture in one or more plan implementation action.

Figure 39. Food system-related implementation actions in sustainability plans



Only one sustainability plan (San Francisco), addressed rural agriculture and federal food assistance. Only three plans (Baltimore, Philadelphia, and San Francisco) included implementation actions to improve food access and availability. Philadelphia's and San Francisco's plans addressed the greatest number of food system topics in their implementation actions: 10 and 11 respectively. (See Figure 39 and Appendix G and H)

The majority of sustainability plans (75 percent) also specified that they would implement food-related policies with land-use and zoning regulations. Other popular methods to implement food-related policies outlined in the plan included waste (63 percent) and educational (50 percent) strategies. Very few plans included housing, parks and recreation, transportation, or water-related strategies to implement food policies in the plan. Three plans included a wide variety of implementation action types in their plans. San Francisco included 10 different types of implementation strategies; both Baltimore and Philadelphia included seven. (See Appendix F and G)

Only two sustainability plans (Baltimore and San Francisco) outlined a schedule or timeline to implement their plans' food-related policies. Baltimore included an implementation schedule for 100 percent of its food-related implementation actions, whereas San Francisco only included this information for some. Half of the sustainability plans indicated the roles and responsibilities of various government staff and agencies in the implementation of food-related policies. Baltimore, Cleveland, and Doral included role and responsibility information for 100 percent of their plans' food-related implementation actions; Philadelphia included this information for 82 percent. Only three sustainability plans (Baltimore, Cleveland, and Doral) indicated where funding would come from to implement the food policy actions of the plan. Baltimore and Cleveland included this information for 100 percent of their plans' food-related implementation actions; Doral included this information for 89 percent. For each food-related implementation action, Baltimore listed the time frame, strategy type, funding source, and lead partners. (See Appendix F)

Evaluation and Monitoring

The monitoring and evaluation of implementation efforts and changes to community conditions is an essential last step of the planning process. This step includes tracking and assessing how well a community is implementing and adopting

TABLE 27. MARIN COUNTYWIDE PLAN: FOOD SYSTEM INDICATORS, BENCHMARKS, AND TARGETS

Indicator	Benchmark	Target
Acres preserved with agricultural easements.	28,377 acres preserved in 2000.	Increase by 25,000 acres by 2010 and by 12,500 additional acres by 2015.
Acres of land farmed organically.	357 acres in 2000.	Increase by 1,500% by 2010 and 1,700% by 2015.
Annual sales of identified Marin farmers markets: Civic Center, Downtown San Rafael, Novato, and Fairfax.	$9,860,000 in 2005.	Increase annual sales 10% by 2010 and 15% by 2015.
Number of servings of fruits and vegetables consumed daily by children.	53% of children ate five or more servings of fruit and vegetables in the day prior to the survey.	Percentage of children eating 5 or more servings of fruit and vegetables per day increases 10% by 2020.

plan policies, the degree to which changes in the community are consistent with the plan, and the degree to which the community achieves its goals and objectives. Monitoring and evaluation enable a local government to determine the success of the plan in shaping and impacting social, economic, and environmental changes to a community over time. In order to monitor and evaluate progress in achieving plan goals, local governments need to develop indicators or quantifiable and measurable social, economic, and environmental characteristics of a community that can be tracked over time. By collecting baseline information about these indicators and setting targets to be achieved by a specific date for each indicator, a local government can measure progress in achieving its goals.

Only two comprehensive plans addressed evaluation and monitoring (Marin County and Sacramento). Both of these jurisdictions specified methods for evaluating the success of the plan in achieving its goals and objectives and implementing its policies, developed indicators and targets for measuring progress over time, and included a monitoring approach to track achievement. Sacramento uses a Livability Index that tracks such measures as the number of certified farmers markets under the Complete Neighborhoods index item. Marin County developed four indicators and established benchmarks and targets for each to monitor and evaluate the plan's progress in achieving its goals. These metrics are included Table 27.

With the exception of Doral all the sustainability plans in our sample addressed evaluation and monitoring. However, only Philadelphia and San Francisco developed indicators and set targets to monitor progress in achieving plan goals. As mentioned previously, Philadelphia established a target to "Bring Local Food within 10 Minutes of 75 Percent of Residents." [Philadelphia: Greenworks Philadelphia, Equity, Target 10]. As part of its climate action plan the city of Portland and Multnomah County, established benchmarks and targets to measure change in food waste recovery: 64 percent of generated food waste recovered; 75 percent of generated food waste will be recovered by 2015. [Portland, Oregon: Climate Action Plan, 2030 Objective 11, p. 48]

San Francisco's short- and long-term objectives serve as quantifiable and measurable targets, but the plan also includes three food and agriculture indicators:

- Number of public agricultural gardens.
- Quantity of food and agricultural residuals recycled.
- Number of school, vocational, and community education and training programs about sustainable agriculture and nutrition.

Food Access Sector Score

To better understand the degree to which jurisdictions in our sample comprehensively addressed and integrated explicit food access sector references (as opposed to other aspects of the food system) throughout their plans, we assigned a food access score to each. This score takes into account whether or not the plan explicitly addresses food access[12] in its vision, guiding principles, goals, objectives, policies, and implementation actions; the type of food access topics, principles, and statements addressed by these plan components; and the type of food access implementation actions included in the plan. Scores range from 0 (plan does not address food access) to 100 (plan comprehensively addresses all the food access-related metrics[13] included in the evaluation form). Of the comprehensive plans in our sample, South Gate scored the highest, with a score of 57, followed by King County (43), and Kings County, Blendon Township, and Marin County, with scores of 38. South Gate's plan included a separate element on healthy communities, which could explain its focus on food access. Of the sustainability plans, San Francisco scored the highest, with a score of 62 (which could be attributed to the fact that San Francisco's plan included a separate food and agriculture element) followed by Philadelphia's sustainability plan, with a score of 52, and Baltimore (33). (See Table 28)

Food System Score

Since all sectors of a community's food system—production, processing, distribution, consumption, and waste recovery—as well as a community's political, social, and economic environment impact food access (Raja et al. 2008), we assigned

TABLE 28. FOOD ACCESS, FOOD SYSTEM & FOOD LANGUAGE QUALITY SCORES

Jurisdiction	Food Access Score	Food System Score	Food Language Quality Score
Comprehensive Plans			
Austin, TX	10	10	19
Blendon Township, OH	24	30	50
Davidson, NC	38	36	61
El Mirage, AZ	5	6	0
King County, WA	43	57	16
Kings County, CA	38	39	46
Laguna Hills, CA	19	17	10
Marin County, CA	38	**60**	63
Sacramento, CA	29	43	**70**
San Diego, CA	19	20	29
South Gate, CA	**57**	36	55
South Jordan, UT	29	31	16
Victoria, MN	19	23	5
Sustainability Plans			
Baltimore, MD	33	33	**71**
Cleveland, OH	24	21	69
Doral, FL	19	27	31
Henderson, NV	14	20	13
Philadelphia, PA	52	47	45
Portland-Multnomah, OR	29	44	33
San Francisco, CA	**62**	**56**	29
Winston-Salem, NC	5	13	43

TABLE 29. PLAN IMPLEMENTATION & EVALUATION SCORES		
Jurisdiction	**Implementation Score**	**Evaluation Score**
Comprehensive Plans		
Austin, TX	0	0
Blendon Township, OH	46	0
Davidson, NC	0	0
El Mirage, AZ	16	0
King County, WA	0	0
Kings County, CA	3	0
Laguna Hills, CA	100	0
Marin County, CA	100	100
Sacramento, CA	57	100
San Diego, CA	0	0
South Gate, CA	17	0
South Jordan, UT	0	0
Victoria, MN	0	0
Sustainability Plans		
Baltimore, MD	100	33
Cleveland, OH	68	33
Doral, FL	64	0
Henderson, NV	0	33
Philadelphia, PA	63	100
Portland-Multnomah, OR	0	33
San Francisco, CA	0	100
Winston-Salem, NC	0	33

each plan a food system score. This score takes into account the total possible number of food system principles, topics, and strategies that could be addressed by each plan's vision, guiding themes, goals, objectives, policies, and implementation actions. Scores range from 0 (the plan does not address any food system principles, topics, or strategies) to 100 (the plan comprehensively addresses a wide range of food system principles, topics, and strategies). The top scoring comprehensive plans included Marin County, which scored 60 out of 100, followed by King County (57), Sacramento (43), and Kings County (39). The top-scoring sustainability plans included San Francisco (56), followed by Philadelphia (47), Portland-Multnomah County (44), and Baltimore (33). (See Table 28)

Food Language Quality Score

The language used to describe plan goals, objectives, and policies, and how each plan component mutually reinforces the others, are important factors to the overall quality of a plan (Edwards and Haines 2009; Berke et al. 2006). High-quality plans include goals and policies that are clear, internally consistent, action-oriented, specific, and mandatory (Edwards and Haines 2009; Berke et al. 2006). To assess the quality of the food-related plan language, we assigned a food language score to each plan. This score takes into account the spatial and social comprehensiveness of goals; the internal consistency between goals, objectives, and policies; the specificity and measurability of objectives and policies; the inclusion of a time frame for objectives and policies; and the action-orientation of policies. Scores range from 0 (food-related goals are not spatially or socially comprehensive; food-related objectives and policies are not specific, clear, measurable, or action oriented; and food-

related plan components are not internally consistent) to 100 (food-related goals are spatially and socially comprehensive; food-related objectives and policies are specific, clear, measurable and action oriented; and food-related plan components are internally consistent). The top scoring comprehensive plans in our sample included Sacramento, with a score of 70, followed by Marin County (63); Davidson, (61); and South Gate (55). The top scoring sustainability plans included Baltimore, with a score of 71 Cleveland (69), and Philadelphia (45). (See Table 28)

Figure 40. Composite score: comprehensive plans

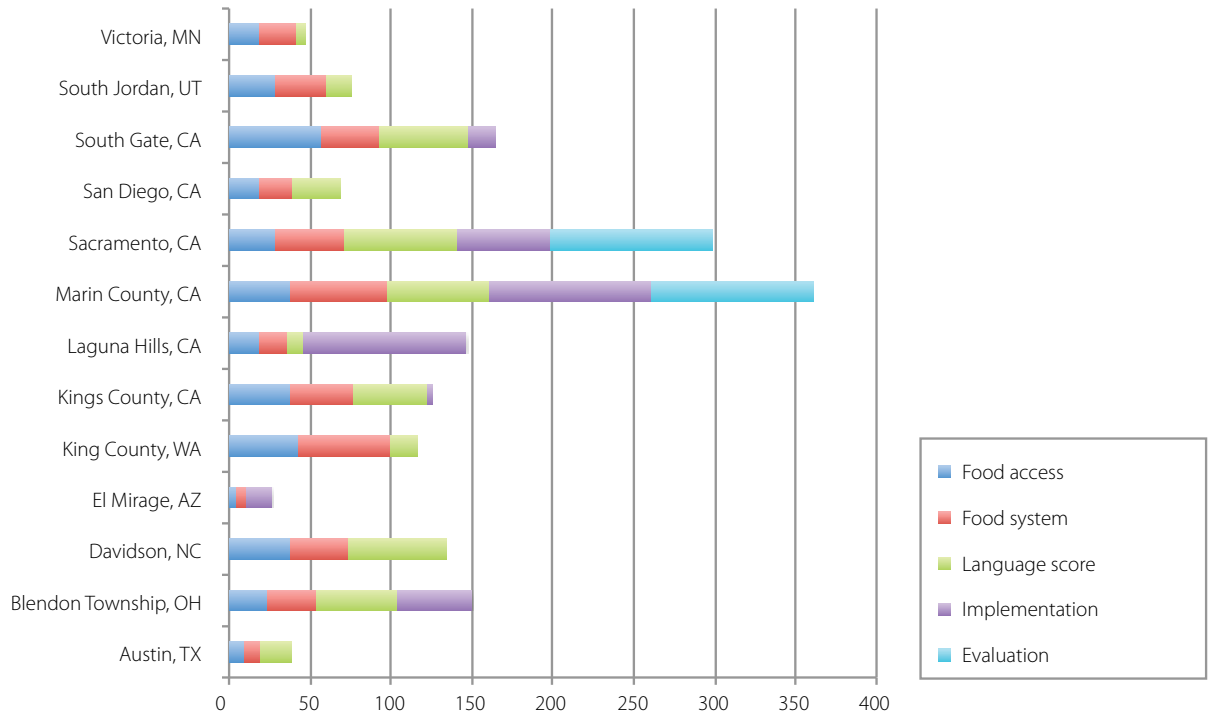
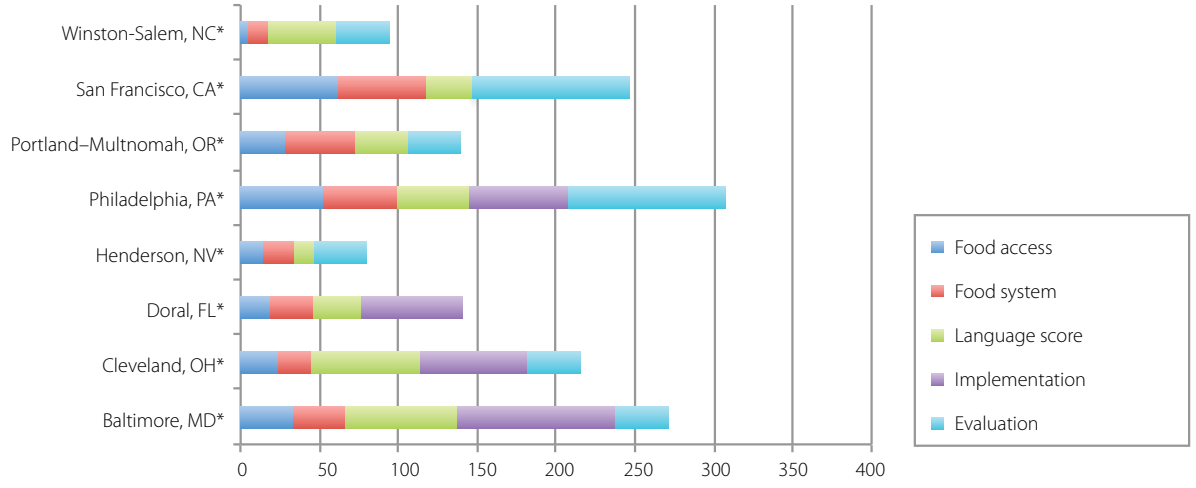


Figure 41. Composite score: sustainability plans



Implementation and Evaluation Scores

Because plan implementation, monitoring, and evaluation are such important, but often overlooked, components of the planning process, we assigned an *implementation and evaluation score* to each plan in our sample. The purpose of these scores was to compare plan quality between plans as it related to implementation and evaluation. It was beyond the scope of the project to measure how the plan was actually implemented or evaluated on the ground. Because the legal frameworks for comprehensive and sustainability plans are very different, we did not compare comprehensive plans to sustainability plans. The implementation score takes into account the ratio of implementation action to policy (or the number of food-related implementation actions per plan policy), as well as the percentage of food-related implementation actions that explicitly address implementation schedule, funding, and roles/responsibilities. The evaluation score takes into account whether or not the plan addresses monitoring and evaluation for the food-related components of the plan, the development of indicators and targets for measuring progress over time, and the inclusion of a monitoring approach to track progress in achieving plan goals. Scores can range from 0 (plan does not address implementation or evaluation) to 100 (plan addresses all components of implementation or evaluation). Of the comprehensive plans in our sample, Laguna Hills and Marin County received an implementation score of 100, followed Sacramento (57) and Blendon Township (46). Both Marin County and Sacramento received an evaluation score of 100. The rest did not address evaluation and therefore received an evaluation score of 0. Of the sustainability plans, Baltimore received an implementation score of 100, followed by Cleveland (68), Doral (64), and Philadelphia (63). Both Philadelphia and San Francisco received an evaluation score of 100. The remaining sustainability plans in our sample received an evaluation score of 33, with the exception of Doral, which did not address evaluation and received a score of 0. (See Table 29)

Overall Score

To better assess and compare overall plan quality, we assigned an *overall score* to each plan that equals the sum of the food access, food system, language quality, implementation, and evaluation scores. Because implementation and evaluation are essential pieces of quality plans, the score is important to understanding the *potential* impact each plan can have in achieving plan goals and objectives. While the quality of a plan's components does not guarantee the plan will have an impact and achieve its goals and objectives, plans "should reflect the highest quality of thought and practice" in order to achieve their full potential (Berke and Godschalk 2009). Good plans "fit the particular needs and concerns of a local community and [are] of high quality in content and format" (Berke et al. 2006). Therefore, this score takes into account the quality of food access and system components and the quality of implementation and evaluation components. This score equals the average of the food access, food system, language quality, implementation, and evaluation scores, and ranges from 0 to 100. The highest scoring comprehensive plan was Marin County's comprehensive plan, with an average score of 72 out of 100, followed by Sacramento (60). (See Figure 40) The highest scoring sustainability plan was Philadelphia, with a score of 62, followed by Baltimore (54) and San Francisco (49). (See Figure 41)

Conclusion

The basis for all plans is information, or an understanding of community need. Both the survey and evaluation components of this study highlighted an important gap in community food planning: the lack of data to inform the planning process. The plan evaluations revealed that a lack of resources, staff capacity, and insufficient access to information posed real barriers to gathering sufficient data and creating a factual base about the community food system. Establishing meaningful benchmarks and targets for assessing plan impact is near impossible without sufficient baseline data.

Overall, the plans in our sample included clearly marked food components, and consciously linked the food-related issues, goals, and policies within the plan. The quality of plan language varied within and across plans. Very few plans included spatial and social dimensions to plan goals. High-quality goals speak to community values, problems, and aspirations. Goals are meant to be developed with the public and guide the process of plan making. Many of the identified food-related goals in this study were aspirational in nature. While aspirational goals are important, so are goals that speak to the need to alleviate a local problem. With respect for the need to improve food access equity, these types of "need" goals were largely missing from the sample of plans.

Objectives, or intermediate, measureable steps or standards toward attaining a goal, were rarely used by the plans in our sample. Because objectives are specific and are typically based on benchmarks, they require a degree of understanding, knowledge, and measurable data about existing conditions. Since very few jurisdictions in our sample collected baseline food systems data, it is understandable why objectives were largely absent from their plans.

Some plans included clear, specific, and action-oriented food policies, but also included vague and non-action-oriented policies. With vagueness come tradeoffs. Vague policies may be easier to adopt, because they are less binding; however, their lack of specificity and action-orientation may create problems in the usefulness and effectiveness of the plan in creating on the ground community change.

Few comprehensive plans explicitly called out equity considerations in access to healthy, affordable foods, particularly among low-income and minority groups. Even the sustainability plans, which lend themselves to addressing equity more explicitly because the topic is part of typical sustainability planning frameworks, failed to comprehensively tackle the community issue of food access disparities. Improving food access through community gardens and farmers markets were popular strategies in the majority of plans in our sample, but few addressed the need to improve food retail options and reduce access to unhealthy sources of food. The plans focused more on the positive, healthy pieces of the food-access equation, rather than the negative, unhealthy issues.

Very few plans indicated how the local government would implement the food-related policies of the plan. When plans did address implementation, they often lacked specific implementation actions that were tied to each food related policy. Even fewer plans established benchmarks and targets to evaluate progress in meeting plan goals.

More counties than municipalities in our sample made explicit connections between food access and food production. This may be due in part because agricultural activities are more common in rural areas than urban areas, and increased attention is being made to food access issues in rural areas. Very few municipalities addressed supermarket and grocery store development, healthy corner stores, institutional purchasing, food processing infrastructure needs, transit access, fast-food restaurant density, commercial food vending and licensing, and other issues related to food availability and access.

Evaluating plan language is important to understand the quality of plans as policy documents, but does not provide any insight to the plan-making process. As a third phase in this study, the research team conducted interviews with key stakeholders. The next section provides an overview of the outcomes of these interviews, including lessons learned about the plan development and implementation process.

PART 3: THE PLANNING PROCESS

The process of developing, adopting, implementing, and evaluating local plans is equally as important as the plan itself. Plan making provides an opportunity for a range of stakeholder groups, individual citizens, and elected and appointed officials to actively participate in the development of a community vision and long-range goals for the future of a community (Berke et al. 2006). To better understand how and why municipalities and counties explicitly integrated food access and other food system components into their comprehensive or sustainability plan, the research team conducted semistructured, key informant phone interviews with local government planners and other stakeholders from 15 out of the 21 sample of selected plans,[14] including El Mirage, Arizona; Blendon Township, Ohio; Davidson, North Carolina; South Jordan, Utah; Victoria, Minnesota; Austin, Texas; Kings County, California; Marin County, California; Sacramento, California; South Gate, California; Doral, Florida; Philadelphia; Henderson, Nevada; Baltimore; Cleveland; and Portland-Multnomah County, Oregon.

The purpose of these interviews was to examine and explore the:

- Reasons for addressing food access and food system issues in the plan;
- Goal and policy development, adoption, and implementation processes, including the reasons for inclusion of some goals and policies and not others, and the opportunities and barriers faced by each community in the planning process;
- Role of governmental and nongovernmental individual and group stakeholders involved in the food access planning process (including horizontal relationships within the governmental agencies responsible for comprehensive planning and implementation, and vertical partnerships with other individuals, groups, and organizations in the public health, nutrition, or food security fields); and
- Preliminary impact of these goals and policies on food access disparities and other aspects of the food system.

Key-informant interview questions focused on seven areas of the planning process: plan development, stakeholder engagement, assessment of existing conditions, plan adoption, plan implementation, plan evaluation, and plan impact on food access and other aspects of the local food system. (See Appendix I) This section identifies common themes and lessons learned by 15 of the 21 local governments in the process of developing, implementing, and evaluating the food-related components of their comprehensive or sustainability plans.

The local context varies considerably from community to community and greatly impacts the steps that planners and local governments take to create healthier, more sustainable local food systems. However, the common themes and lessons learned outlined in this section point to critical aspects of the food system planning process.

Plan Development and Stakeholder Engagement

While there is a range of reasons why food access and other aspects of the food system are addressed in the comprehensive or sustainability plan, many of the local governments interviewed stressed the importance of involving diverse stakeholders from within and outside local government in the local food planning process. According to key informants, public interest, political awareness, intergovernmental collaboration, and nongovernmental organization involvement are very important to elevating food access and other food system issues as important issues that should be addressed in the local planning process.

Public Interest and Participation

According to key informants, public participation was an important part of the planning process, often driving the inclusion of food system and food access goals in the plan. In some cases, the public's concern about specific food issues, such as the need for a grocery store or community garden, caused the local government to take notice and include food as a topic area in the planning process. In other cases, the public engagement step in the planning process identified food as an issue area. Regardless, the majority of key informants saw public involvement as valuable.

Several reasons contributed to the inclusion of food access goals, objectives, and policies in South Gate's comprehensive plan. While foundation funding, nongovernmental organization support, and local health department involvement paved the way for the development of a health element in the plan, poor access to healthy food was raised as a major issue prior to the planning process. City residents complained that an identical chain supermarket in an adjacent city had healthier offerings than the chain supermarket in South Gate. The city council took note of these complaints and the demand for healthier options, and reached out to the supermarket management to address disparities in fresh food access across store locations. This experience not only increased political officials' awareness of food access disparities in South Gate, but also contributed to the inclusion of food access issues in the South Gate General Plan 2035. After taking note of the public's concern for food access throughout the city, political officials recognized that food access was an important equity and health topic that needed to be addressed by the city's comprehensive plan.

In Blendon Township, the public expressed an interest in food access, particularly through community gardens and farmers markets, prior to the development of the comprehensive plan. In South Jordan, public interest in food systems and food access became an extension of a particular interest in permitting backyard chickens, especially on smaller urban lots. In both cases, a growing public interest, as well as the presence of local food advocates and champions for local food production, distribution, and consumption, resulted in such plan policies as supporting a sustainable food system, encouraging community gardens, and the sharing of excess garden produce.

The majority of jurisdictions indicated that consumers represented the bulk of food system stakeholders who engaged in public participation activities. Representatives from food production sectors were occasionally represented (such as individuals who operated family farms) but representatives from food retail, processing, distribution, and waste recovery sectors rarely participated, in part because they were not actively invited to participate by the local government. In jurisdictions where a FPC or other type of food coalition existed, these sectors were more likely to participate in the planning process. Cleveland, Baltimore, and Portland-Multnomah County all have active FPCs or coalitions, which are made up of stakeholders from every sector of the food system. All three cities actively engaged their respective FPCs or coalitions in the planning process. Representatives of these food groups provided each city with firsthand knowledge of the challenges faced by different food system stakeholders.

Key informants were candid about public participation strategies they utilized and how effective public outreach appeared to be. The most successful examples of public input were instances in which the public was actively engaged in a creative, hands-on way. In South Gate, the city held three public workshops to inform the development of the healthy communities element of the comprehensive plan. One of these workshops focused on access to healthy, affordable foods. Using a community mapping exercise as a strategy for public engagement, workshop organizers gave participants a map of the city and asked them to assess the availability of healthy and unhealthy food choices in different neighborhoods. Outcomes of the community assessments identified several nutrition priorities for the city, including the creation of farmers markets, support for local markets and grocery stores to provide more healthy food options, and limits on drive-through restaurants and liquor stores, especially around schools.

As an initial step in the planning process, before the county had even committed to developing the plan, Marin County staff held a series of public workshops over the course of a year to solicit feedback from the community about sustainability, housing, transportation, health, and other issues. The result of these workshops, combined with efforts of an advisory group made up of 50 key stakeholders in the community, was a key trends and issues document that was used as the basis for developing the countywide plan. A few members of the area FPC, a permaculture educator, an ecoliteracy expert, and a cattle rancher all served on the workgroup. In addition, the county specifically recruited representatives of typically underrepresented communities (e.g. youth, Vietnamese, and Hispanic populations) to serve on the workgroup, and attended the meetings of specific community groups to solicit additional feedback about community issues and needs. Marin County staff stressed the important of not relying solely on public workshops for community input, but rather using a multistrategy approach to actively engaging the public in the planning process.

In El Mirage, city staff hired a theater group, called Theater Simple, to conduct outreach related to general aspects of the comprehensive plan. Using a technique called *Park Bench* to solicit feedback from the public about their urban environment, Theater Simple staff set up interview sites at various areas around the city, and invited passersby to sit down and chat with them about their community: the local history, wish lists for their community in the future, what made the community work or fall apart, what tied a neighborhood together, and how the city could become a better place. All the interviews were recorded and edited to create a series of four Internet podcasts.

In addition to engaging the general public, other partners participated in the planning process and lent their food system and food access expertise at various stages. Such partners include community foundations, local and national nonprofit organizations, and a variety of local government departments (e.g. Parks and Recreation, Economic Development, Community Development, Water/Public Works, Housing and Redevelopment Authority) and municipal or county local health departments (LHD). Not only did these partners provide expertise, they also provided financial support on occasion and increased the capacity of local government through staff support.

Nongovernmental Organizations

Nongovernmental organizations (NGO) have strong and direct connections to stakeholders, particularly farmers and other food producers, food retailers, and underserved and marginalized populations. By partnering with key NGOs, local governments can more actively engage representatives of these populations to ensure that their specific health, nutrition, economic, education, and social needs are addressed in the planning process.

In some communities, the influence of well-organized NGOs, rather than the direct participation of the general public, was the driving factor for the local governments' food system planning efforts. Baltimore and Philadelphia are both home to several influential NGOs, including the Center for a Livable Future in Baltimore and The Food Trust and the University of Pennsylvania in Philadelphia. Over the course of several years, these organizations conducted many research and policy studies about food access equity concerns in their respective communities. These influential studies provided the justification to policy makers and local government staff for why they should explicitly explore food access as a societal problem and develop goals and policies to address it. In the case of both cities, NGO stakeholder involvement in plan working groups seemed to contribute more to the development of food-related components in the plan than did direct public involvement in the process.

In other cases, NGO involvement provided a unified voice for disparate issues identified by the public. For example, in Marin County, Slide Ranch director Ross Hubertson approached one of the plan developers and invited the planner to Slide Farm (an educational, nonprofit farm) to learn about the connections between ecology and the food system. Hubertson's outreach encouraged plan developers to think more broadly about food systems in Marin County, namely that local Marin County-grown food is not simply organic but part of broader food security concerns. Many of the food access and health components in Sacramento's comprehensive plan have an emphasis on complete, walkable neighborhoods. This approach primarily stems from the involvement of Terry Duarte, executive director of Walk Sacramento and a former WIC coordinator to whom plan developers reached out early in the planning process. Public Health Law and Policy, a national NGO located in the Los Angeles region, played an important role in leading the public participation component of South Gate's comprehensive plan, leading workshops and facilitating other community events.

Political Support

While initial political awareness of food systems issues was not the driving factor for the local government's food access and food system planning efforts, in many of the interviewed communities, it reinforced and mutually supported the public's and NGOs' interest and involvement in the issues and helped garner additional, internal support from other local government departments.

For example, Philadelphia has several very active nongovernmental food organizations in the city (e.g., Food Trust, Common Market, Reinvestment Fund). These organizations have been working on food issues for years and therefore had critical

momentum to draw from that was external to government. As a result of their interest in food access and equity, coupled with their efforts to connect local farmers to local markets, they helped make food a priority in the sustainability planning process. However, the sustainability plan would not have been possible without support from Philadelphia's Mayor Michael Nutter. In his 2008 inaugural address, Mayor Nutter pledged to make Philadelphia the greenest city in America. As a result, he established the Mayor's Office of Sustainability and charged it with leading the development of a sustainability plan. Shortly after that, in the same year, Mayor Nutter created the Philadelphia Food Charter and FPC "to increase access through such initiatives as expanding the number of farmers markets and creating more working gardens; encouraging commercial agriculture; and integrating local food into anti-hunger programs."

In addition to support from the mayor, Philadelphia's local health department has a long history of working on food access issues. Philadelphia's sustainability plan, Greenworks Philadelphia, provided the perfect medium to support both the ongoing efforts of local nonprofits and the health department, as well as the newly adopted food charter and newly created FPC. In the initial concept development for the plan, the Mayor's Office of Sustainability decided to take a comprehensive approach to sustainability. Instead of focusing solely on climate change, staff approached climate change from a sustainable development framework. Therefore, the office decided to focus on five areas (energy, environment, equity, economy, and engagement), and address access to food as one of several equity issues. The city believed that all residents should have access to healthy environments and that open spaces and other amenities should be geographically well distributed. As a result, urban agriculture and food access were included as important components of the equity element of the plan.

Local Health Department

While the local planning department or the office of sustainability of interviewed jurisdictions often led the integration of food system issues into the local comprehensive and sustainability plans, actively engaging other local government departments was essential to analyzing existing conditions, developing plan language, and implementing the food components of local level plans. In many cases, the municipal or county LHD was instrumental in ensuring that food access issues were explicitly addressed by the comprehensive or sustainability plan. Not only did they provide access to obesity, overweight, chronic disease, and eating behavior-related data, but they also assisted the planning department in the development of plan language and implementation strategies to achieve plan goals. Communities that partnered with their LHD also had more success in implementing the food access and healthy eating-related components of the plan. They were able to leverage LHD funding to not only implement LHD programs and projects, but also coordinate planning and health efforts to improve food access.

In Marin County, the health and human services department helped draft the public health element of the comprehensive plan. In Sacramento, public health officials advocated for including food in the comprehensive plan and played a key role in pre-planning visioning meetings. As a result, the plan emphasizes food as a component of overall healthier living (including walkable neighborhoods, access to recreation and open space, and access to public transit). In both Baltimore and Philadelphia, the LHD was a major partner in the planning process and played an important role in ensuring food access issues were addressed by the plan. The Philadelphia Health Department's existing agenda around healthy food access was the backbone of food access components in the city's sustainability plan. After securing a multimillion dollar grant from the U.S. Department of Health and Human Services, the LHD created two new staff positions: healthy communities coordinator and food policy coordinator. Planners filled both positions in an effort to connect risk factors for obesity—access to healthy food and physical activity opportunities—to the built environment.

Baltimore's Food Policy Task Force, an interim food systems stakeholder group, was initiated and co-coordinated by the planning department and health department to provide a list of food policy recommendations to the city council. This group paved the way for the food systems components of the sustainability plan, including a strategy that called for the implementation of task force recommendations.

In jurisdictions where the health department was not actively involved in plan development, the comprehensive plan

or sustainability plan focused more on supporting agriculture production and local food procurement rather than food access. The LHD in El Mirage played a minimal role in the comprehensive planning process. Its food-related goals focused on downtown development that would ease zoning restrictions for locating grocery stores as well as land-use goals for protecting or encouraging alternative forms of agriculture (such as solar farms or other high-tech agriculture) on lands that primarily grow food for animals.

Conversely, in communities where the LHD was the main partner, such as Philadelphia, the food components of the plan did not typically connect food access goals to local food production and procurement goals. Baltimore's sustainability plan however, is a good example of how the two issues of local food procurement and food access can be addressed simultaneously and mutually support each other.

Other Local Government Departments and Work Groups

In the local comprehensive and sustainability planning processes, other local government departments played an instrumental role in integrating food system or food access components in the plan. These included parks and recreation, economic development, community development, and housing.

A number of jurisdictions noted that various parcels of government-owned land are controlled through the local parks department and that involving the department was essential when picking locations for community gardens and even farmers markets—whether in parks or on other property such as municipal parking lots. Blendon Township noted that the community and economic development department was essential for support in accessing Community Development Block Grant funds while El Mirage coordinated with its economic development department to help identify vacant downtown commercial areas as part of efforts to attract a grocery store to the area. The Philadelphia Mayor's Office of Sustainability actively involved the redevelopment authority and the parks department in the sustainability planning process, as they manage most of the city-owned vacant property.

Additionally, such departments as water and public works were valuable resources for providing access to water sources for community gardens or urban agriculture projects and for helping to craft water use-related policies. In Cleveland, the water and public works department played a key role in drafting a water access policy for community and market gardens. In the case of Kings County, the housing authority is identified as a partner in implementing farm worker and aging farmer housing goals, including the development of programs that fund and build housing for farm workers.

Local government work groups, created for the development of the plans, provided an ideal platform for harnessing public input and actively engaging a wide variety of local government departments. The majority of local governments included in our sustainability plan sample established a local government work group. These work groups were composed of local government department representatives and helped to facilitate internal planning processes. But many work groups also held representatives from different community groups and from across different sectors. This helped to ensure that local NGOs were more fully integrated in the planning process.

For example, Philadelphia, Cleveland, and Baltimore engaged the health, planning, and sustainability sectors, as well as economic development, community development, parks and recreation, public services, and others in the development of their sustainability plans. City employees from almost every city department, local and national nonprofit organizations, and civic and business leaders, including the Mayor's Sustainability Advisory Board, made up Philadelphia's Sustainability Working Group, to provide input and feedback on the development and implementation of Greenworks Philadelphia. Each of these stakeholders represented the interests of different segments of the larger population.

With support and funding from the Surdna Foundation, Neighborhood Progress, Inc., collaborated with the city of Cleveland and Kent State University's Cleveland Urban Design Collaborative to convene a 30-member work group, including representatives from the city planning commission, division of water, brownfields redevelopment division, the community development department, and the building and housing department, as well as various community and

nonprofit organizations and institutions such as the Trust for Public Land, Green City Blue Lake Institute, Metroparks, Ohio State University Extension, ParkWorks, etc. This work group provided multiple organizations, groups, and city staff who had been working on these issues for the last five to 20 years with a platform to influence the sustainability planning process.

Baltimore's Office of Sustainability established several work groups, but also engaged community residents through community workshops, a youth event, and a sustainability forum. Each work group focused on a different aspect of sustainability (energy, air, water, green infrastructure, built environment, transportation, and waste); and consisted of two sustainability commissioners, five to 10 non-commissioners with expertise in the respective resource areas, and any citizens who were interested in contributing. They were staffed by individuals from relevant city government agencies including planning, transportation, parks and recreation, housing and community development, and public works. The work groups were responsible for gathering information about existing programs, establishing a vision for a sustainable Baltimore in the context of their resource issue, identifying goals and benchmarks, and establishing some programmatic priorities.

In addition to these work groups, the Baltimore's Office of Sustainability recruited 30 "sustainability ambassadors," or a diverse mix of interested citizens who were trained by professional facilitators, to attend previously scheduled community meetings to give brief presentations about sustainability and gather feedback about the sustainability planning process. By focusing on previously scheduled community meetings, the sustainability ambassadors were able to reach more than 550 people that may have not been engaged in the planning process otherwise.

The office of sustainability also initiated a strategy to gather feedback about the plan and new ideas for sustainability from Baltimore's youth and adult leaders of youth development organizations. A youth advisory group, consisting of 15 to 20 young people from public and private schools, led a one-day event, Greenscape 2008, at a local high school. This event incorporated a variety of educational, hands-on, and entertainment activities to gather feedback from local children and adolescents. Over 150 young people between the ages of three and 24 attended, as well as volunteers from area colleges and universities. By incorporating art, music, education, and entertaining activities, the event provided an opportunity for Baltimore's youth to raise their concerns and provide meaningful feedback to city officials. As a final phase of Baltimore's community engagement strategy, the office of sustainability developed and led a sustainability forum to inform the general public about the sustainability planning process, including recommendations of the sustainability planning work groups and the feedback gained from community engagement efforts.

Although transportation plays an important role in food distribution and food access, the local and regional transportation departments were not readily engaged in the development of food system components of the comprehensive or sustainability plans in our study. Only one municipality, Philadelphia, indicated that the transportation department was only peripherally involved in the development of food goals, objectives, and policies. However, the Philadelphia sustainability plan heavily impacted the region's transportation authority's sustainability planning process. Sep-tainable: the Route to Regional Sustainability, Southeastern Pennsylvania Transportation Authority's sustainability plan, is one of the first in the country to explicitly address the role of public transportation in improving food access.

Philanthropic Organizations

While funding from local and national philanthropic organizations was not essential to the development of food system components in comprehensive or sustainability plans, several local governments received financial assistance from local foundations to support community engagement efforts and food assessment studies, pay for staff time, or to develop food stakeholder groups.

For example, Cleveland received funding from the Surdna Foundation to lead a vacant property reuse study that formed the foundation of the Cleveland sustainability plan. A grant from Kaiser Foundation funded the preparation of the Healthy Community Element for South Gate's comprehensive plan. It was prepared in conjunction with Raimi and Associates, the Los Angeles County Department of Public Health, ChangeLab Solutions (formerly Public Health Law and Policy), and the Transportation Land Use Collaborative. The public health components of Marin County's comprehensive plan were

financially supported by Kaiser Permanente and the California Endowment. And Kings County received funding from the California Endowment and a Central California Regional Obesity Prevention grant.

Baltimore's sustainability planning process was supported by several foundations, including the Annie E. Casey Foundation. Philadelphia's sustainability plan received financial support from the William Penn Foundation. And Victoria received funding from a Blue Cross Blue Shield grant for active community planning. While foundation funding provided the financial assistance necessary for a more robust planning process for each of these communities, they did not rely solely on grant funding to implement the plan. Instead, they leveraged foundation funds to attract additional funding to continue their community's planning efforts.

Assessment of Existing Conditions

Rich data from a wide variety of sources ensure that food system plan development aligns with the particular needs of a given community and informs the development of individual plan goals. Existing data were often utilized to bolster plan goals and justify the need for including food goals. In addition to land-use data, many food system components drew upon census data, public health data, and natural resources data.

Many municipalities and counties interviewed noted the importance of using a variety of data sets but often relied heavily on a single data set or anecdotal information. Lack of planning staff and resources were cited as reasons for difficulty with collecting quantifiable and robust data from across many fields. In nearly all cases, data informed the creation of plan goals but were not directly translated into metrics or other forms of monitoring.

Most municipalities noted that assessment of existing conditions was primarily conducted by reviewing ordinances and land-use restrictions or by revisiting assessments that had already been conducted. In a couple of cases, municipalities and counties drew on data collected from an FSA that a local FPC had conducted or a Health Impact Assessment that a LHD had conducted. In Marin County, community needs assessment data that are regularly collected every two years by the LHD informed plan development, as did historical agriculture records.

In addition to land-use data and various assessments already conducted, many municipalities and counties noted that the LHD was an invaluable source of data for a range of particular food system and food access issues. LHD often track data ranging from eating patterns and nutrition to obesity rates and even the location of food deserts. In the case of South Gate, data from the Los Angeles County Department of Public Health regarding air quality, chronic disease, respiratory disease, toxic substances, and food access, all helped inform food system and food access plan goals. Additionally, census data were used for developing food access components, as was the case in Davidson, which also used Davidson Green Print, a soil-mapping program.

Very few local governments in our sample conducted research and collected new data for the planning process because the data-collection process is often time intensive and expensive. Therefore, engaging key stakeholders early in the process can assist planners in collecting sufficient information and data to analyze opportunities and challenges within the food system. Both Baltimore and Cleveland actively partnered with their local university to overcome this barrier. They leveraged the expertise, interest, and time of university researchers to track and analyze food system characteristics of the community. Baltimore partnered with the Center for a Livable Future at John Hopkins University to identify and map food deserts within the city. These detailed maps, and associated data, provided the justification needed for the city to actively address food access as serious community issue and concern, and provided the baseline data to track and monitor change in the issue over time.

The Cleveland partnered with Kent State University's Cleveland Urban Design Collaborative to map greenspace (including existing and proposed parks, greenways, paths, and trails), soil types, land cover types (impervious surfaces, vegetation, buildings, etc.), waterbeds, culverted or buried streams, riparian areas and buffers, headwater areas, lead contamination, food deserts, existing community and market gardens, and other characteristics of the city. These maps identified not only

the location of existing urban agriculture sites, but also disparities in access to these local food production amenities. Results from this assessment led to the development of a citywide goal that "every Cleveland resident will be within a minimum ½-mile radius of a community garden or market garden."

Local universities did not play as prominent a role in data collection for comprehensive plans as they did for sustainability plans. Rather, local universities, often Land Grant Universities, played a more discrete role, often consulting on particular topics such as agricultural land conditions. In Davidson, Cariboos County extension agents held an advisory role in which plan developers solicited their feedback on various plan ideas. In Marin County, the University of California Cooperative Extension has been identified as a valuable area resource alongside other area groups such as the Marin Agricultural Land Trust for information about agricultural preservation and conservation.

Other Plans, Policies, Programs, and Projects

The existence of other food access-related plans, policies, programs, and projects in a given community's broader region helped to either validate efforts to address food access in the plan or provide inspiration and guidance for developing food access strategies. In many cases, food access efforts under way within a geographic region informed plan developers' and area partners' understanding of what was possible and complimented any data collection or research efforts.

Few key informants identified other local plans or policy documents in their jurisdiction that addressed food access. Sacramento noted that its Sustainability Master Plan, which also addresses food access, was spearheaded by former mayor Heather Fargo; Victoria noted that the Carver County Public Health department was also a recipient of a Blue Cross Blue Shield grant that let them develop a stand-alone health chapter for its comprehensive plan.

However, many municipalities and counties noted food system-related programs or projects in the area, some of which were operating at the state or regional level, that influenced the planning process:

- Austin noted that the city planning department is participating in an obesity strategic planning initiative and that the Austin school district is currently working on community gardens as part of farm-to-school efforts. At the regional level, the Capital Area Council of Governments is involved in local economic development, tracking and producing data about health.
- Blendon Township identified the Growing Entrepreneurs Initiative—a small-business assistance program for food entrepreneurs that provides training, technical assistance, and loans to income-eligible residents—as a valuable area program that receives funding from Franklin County and gives food entrepreneurs access to the Ohio State University Food Industries Center. Also, in neighboring Columbus, the Columbus Public Health Department is launching a program called the "Creating Healthy Communities Network."
- In Davidson, the Charlotte-Mecklenburg FPC recently conducted an assessment and found 62,000 people living in food deserts in Charlotte, North Carolina.
- Kings County noted that the area NGO, Food Link, an organization that distributes free fruits and vegetables, has been conducting parallel food access efforts while the California Center for Physical Activity, and ChangeLab Solutions both offer many educational resources.
- El Mirage noted that Arizona State University is in the process of planning community gardens and has offered technical assistance to residents on growing produce through its Cooperative Extension Service.
- Sacramento identified the Rural-Urban Connections Project, an initiative of the Sacramento Area Council of Governments, as an important project in the region that makes rural economies more sustainable, helps preserve open space and contain sprawl, and connects urban areas with the needs and issues in the surrounding region.
- South Gate noted that the Southern California Association of Governments is putting together a panel on healthy communities elements.
- South Jordan indicated that Salt Lake County officials recently held a meeting where they unveiled a plan to designate portions of county parks as community gardens.

- Victoria noted that Minnesota has a Statewide Health Improvement Program that has helped with other area health efforts.

Plan Adoption

In general, municipalities and counties experienced few or no hurdles when adopting food system and food access components of their plans, and they detailed a number of strategies they felt contributed to a smooth adoption process. Most commonly, key informants noted the importance of keeping top decision makers informed of plan development, especially revisions to plan goals or plan language. Ensuring that funding was available for target goals was cited as another strategy for easy plan adoption, as was drawing on an understanding of local conditions.

Of the few hurdles key informants noted, crafting language that would not be viewed as overly political or too ambitious sometimes slowed the planning process, though was ultimately overcome. Both Henderson and El Mirage cited the dry southwestern climate as an interim barrier to the development of local food production goals. However, both cities overcame these barriers by addressing water and irrigation concerns head-on. For some Henderson government staff the term "urban agriculture" brought visions of water intensive, large-scale agriculture to mind. To address this skepticism, city planners educated these staff members on the role of small-scale neighborhood food production and specific agriculture techniques to conserve water.

Plan Implementation

For a number of reasons, implementing food access components proved difficult for many municipalities and counties. The most common barriers to plan implementation were lack of resources (staff, funding, or information), lack of coordination with other government agencies or area NPOs, and lack of direction or clear action steps to achieve plan goals. In many cases, municipalities and counties that struggled with implementation had less direct coordination with area nonprofits and other government agencies throughout the preplanning process. Exceptions to this were municipalities and counties that identified very specific goals at the outset of planning.

Most commonly, a lack of planning staff and funding was cited as a barrier to implementation. Despite examples in which a LHD, other government agencies, or area NPOs worked directly with planning staff during preplanning stages, these entities were not often utilized for implementation in equal measure. Exceptions to this were situations in which other government agencies or NPOs were relied on for very specific tasks, such as relying on a parks department to site farmers markets or community gardens. In the case of Victoria, the municipality worked with a private tree farm to locate a farmers market on its land. The land was already designated as an agricultural use, which helped speed up implementation time.

Many local government planners also expressed frustration over how to implement complicated food access goals, especially goals that intertwined with other plan components. In smaller municipalities where plan developers felt very knowledgeable about local conditions, implementation was fairly straightforward and did not rely on articulated implementation strategies. In Blendon Township, implementation of a farmers market was incredibly quick thanks to inclusion of the goal in preplanning stages, unanimous support in the community, and local knowledge.

Some exceptional examples of plan implementation involved the inclusion of clear, prioritized implementation strategies within the plan. Baltimore's sustainability plan included detailed implementation information for each policy strategy, including:

- the type of strategy (policy, operational, education, partnership, planning, legislative, or advocacy);
- prioritizing the strategy as high, medium or low, establishing a time frame for implementing the strategy (ongoing, short term, mid term, or long term),
- the funding source for each strategy;
- the lead implementation partner (either a local government department, nonprofit organization, or other entity), and;

- the co-benefits of the strategy with other public health, economic development, resource conservation, pollution prevention, greening, solid waste, and transportation implementation strategies.

When local government funding for implementation was not available, many municipalities and counties leveraged other existing federal funds such as Neighborhood Stabilization grants, Communities Putting Prevention to Work (CPPW) funds and CDBG grants to focus on projects that offer social, economic, and health co-benefits (such as community gardens). For example, Blendon Township had been using a Neighborhood Stabilization Program to demolish blighted buildings in target areas, and community gardens had long been considered as a way to repurpose the newly vacant land. Plan developers recognized that many of the target communities were considered low- to moderate-income and that as such qualified for CDBG funding through the Community and Economic Development Department. After identifying the Blendon Township Senior Center as a potential site, the township then moved forward on applying for, and securing, CDBG funds to install a community garden. Shortly after Cleveland's sustainability plan was adopted in 2008, the City of Cleveland and Neighborhood Progress Inc. leveraged Neighborhood Stabilization Program 1 funds to fund 56 pilot projects to test and implement the reuse strategies outlined in the plan. Of the 56 funded projects, 13 were community gardens; 12 were market gardens; three were vineyards; and two were orchards.

Both Baltimore and Philadelphia included a range of goals and policies to comprehensively address food access and other aspects of the food system. Implementation of these components was heavily dependent on federal and philanthropic funding sources. In the case of Philadelphia, the public health department was awarded a multimillion dollar CPPW grant from the U.S. Department of Health and Human Services to reduce obesity by improving access to healthy affordable foods and opportunities for physical activity. As a result, many of the funded implementation strategies are very health-focused. A few implementation programs are explained below:

- **Farmers Markets**. With the Food Trust as a partner, the health department is working to bring farmers markets to underserved neighborhoods. It started four new markets in 2010, and added six new markets in 2011, for 10 additional markets altogether.
- **Healthy Corner Store Program.** With funding from the CPPW grant, the health department established the Healthy Corner Store initiative, which has allowed for a large expansion of Philadelphia's corner store program. Six hundred stores have signed up to join the program and commit that they will carry four new healthy products that they haven't carried before.
- **Healthy Carts Pilot Program.** Also funded through the CPPW grant, the health department established the Healthy Carts program. Modeled after New York City's Green Carts Program, the Healthy Carts program brings healthy-food carts to underserved neighborhoods by helping small businesses with the permitting process and fees, providing them with electronic benefit transfer machines to accept food stamp benefits, and helping them to develop business plans.

In the case of Baltimore, implementation of food-related goals was dependent on initial foundation dollars and the creation of a dedicated food policy position in the office of sustainability. In order to move forward with the strategies outlined in the sustainability plan, members of the food policy task force realized that the city needed a dedicated staff position for food policy. A member of the task force pitched the idea of creating a new food policy staff position to over nine local foundations. Several foundations came together to provide limited seed funding for the position, with the hope that the new food policy director would be able to find funding to support the position within two years. Within one year of being hired by the city, the new food policy director was so successful in leveraging both private and public funding for the implementation of many food-related regulations and programs that the city decided to fully support (both financially and administratively) the position in its office of sustainability. Two of the first actions of the food policy director were to establish a food policy advisory committee and create another food-related staff position. Collectively, these three entities make up the Baltimore Food Policy Initiative, an intergovernmental collaboration between the office of sustainability, department of planning, and health department. The initiative provides an umbrella for all food-related projects, policies, and partnerships. The food policy advisory committee was formed as an advisory group to the food policy director to help with the

implementation of the sustainability plan strategies and the corresponding food policy task force report recommendations. The committee consists of 55 members that represent stakeholders and leaders in Baltimore's food production, distribution, and consumption system. As a result of this three-pronged implementation approach, the city of Baltimore has been successful in implementing many of its plan goals and policy actions. The examples below highlight a few innovative projects, programs, and policies that have been implemented by Baltimore since its sustainability plan was adopted:

- Conducted a farmers market assessment to identify barriers to operations, and opportunities for improvement. Included farmers market operators and vendors in the assessment process. Reviewed farmers market permitting process.
- Streamlined farmers market permitting process and removed barriers for development of new farmers markets.
- Developed a farmers market permitting process guide for new farmers markets that provides a step-by-step guide for how to get a zoning permit and health permit for new farmers markets.
- Required all farmers markets, including new farmers markets, to accept SNAP benefits as payment.
- Located new farmers markets in food desert areas.
- Conducted an assessment of local government owned land suitable for urban agriculture. Based suitability criteria on location of land, land size, agronomic characteristics, economic development activity, community issues, and need.
- Identified qualified farmers through a request for qualifications process that assesses farmer capacity and experience, including how it will benefit city residents, cost estimate and economic feasibility, and participation by minority- or women-owned businesses. Issued five-year leases (with year-year notice to vacate) to qualified farmers for $100 per year with no taxes on nonprofit farms.
- Provided tax breaks to for-profit farms.

In many other cases, municipalities and counties focused on low-hanging fruit, such as regulatory, policy, and administrative review and reform. Some key informants identified such low-hanging fruit as improving access to food via transit routes and identifying new farmers market locations. A number of key informants identified other low-hanging fruit, such as zoning incentives for inclusion of grocery stores in new mixed use development projects or community gardens in new affordable housing development projects, zoning changes to allow residential chickens, zoning changes to allow community gardens as a permitted use, and zoning changes that allow urban agriculture as a vacant property reuse strategy.

Other particular examples of regulatory and policy review and reform include:

- El Mirage is in the process of developing a form-based zoning code for the entire city which will allow a mixture of land uses, including agricultural.
- Kings County recently updated a zoning ordinance that previously did not allow community gardens and farmers markets in residential zones.
- Doral was successful in adopting a farmers market ordinance, a community garden ordinance, and a regulation to permit agricultural uses under power lines. The farmers market ordinance permits farmers markets on private property in commercial and industrial district on Fridays, Saturdays, or Sundays. The community garden ordinance allows community and private gardens on private and public land for single-family homes and town houses on individual lots with certain design and aesthetic considerations. Doral is in the process of promoting the use of public lands for gardens, particularly open space lands dedicated for park use, and developing an ordinance to allow up to six hens as a special exception use in single-family residential districts.
- As an outcome of its sustainability plan, Henderson updated its development code to include a sustainability section. All new development larger than one acre must now meet certain criteria for sustainability. Developers are given a list of sustainability development options that they can pick and choose from to acquire enough points to meet the sustainability criteria. Community gardens are included as one aspect of this point system. Developers are given "community garden credit" if they dedicate 10 square feet per dwelling unit or 20 percent of the project as space for a community garden.
- Cleveland adopted several policies to support urban agriculture, including a water access policy, a chicken and

beekeeping ordinance, and an urban garden zoning district. The city also revised its zoning code to define urban agriculture, create a new category for commercial urban agriculture, and allow urban agriculture in residential districts.

- Sacramento adopted an ordinance to permit gardening as a principal permitted use on vacant land and an ordinance to permit egg-laying hens in city limits. The city also changed its landscaping ordinance to allow the growing of fruits and vegetables in front yards.
- South Jordan amended its zoning code to permit community gardens as viable open space alternatives; and passed an ordinance to allow chicken keeping in residential areas. The city is also currently working with the Salt Lake County parks department to develop community gardens; and rewriting the farm animal ordinance to consider other animals like alapacas, llamas and bees.
- Victoria used a combination of incentives, including a Tax Increment Financing (TIF) agreement, to secure a local, family-owned grocery store in Victoria. Residents had been vocal about wanting a grocery store in the community and Victoria seized the opportunity to sell two parcels of formerly blighted land that abutted other parcels to Fresh Seasons Market. The arrangement marked the first time Victoria had utilized TIF incentives for a food-related development and has commented that it would be eager to do it again.

Plan Evaluation

Monitoring and evaluation are essential parts of any planning process. For food systems planning in particular, monitoring and evaluation provides the opportunity to examine and reinforce the connection between food access and local conditions, such as new possibilities for sustainable food production and human nutrition.

However, most municipalities and counties interviewed noted a number of reasons that prevented food access components from being formally monitored and evaluated. Informal mechanisms and anecdotal information were often relied on as substitutes for more formal metrics or reports, especially in smaller communities where key informants felt that changes to the built, natural, and social environment were very obvious when they occurred.

Common causes for lack of formal monitoring and evaluation included lack of resources (specifically lack of planning staff time), and lack of information to guide the development of appropriate measurements and tracking tools. In addition, many key informants indicated that plan components were often aspirational in nature, instead of quantifiable. This made it difficult to assess baseline conditions and track changes over time.

Funding and good baseline data proved to be essential components of an evaluation and monitoring strategy. Additionally, establishing manageable metrics (such as number of farmers markets from year to year) was an important aspect that encouraged municipalities and counties to begin monitoring.

Monitoring and evaluation strategies varied considerably. Davidson's comprehensive plan separates targets into "short-term recommendations" and "ongoing initiatives." Blendon Township produces annual reports, which highlight, among other things, the number of vendors enrolled at the farmers market. Sacramento produces annual reports that review the findings of the annual Community Survey, details the Livability Index, and reviews implementation programs and development activity. The report defines the Livability Index as addressing the "three 'Es' of sustainability: environment, economy, and equity" and comprises 14 items, of which food access targets have been identified within four items. Examples include total annual attendance at major arts and cultural venues (including farmers markets) and number of certified farmers markets.

Marin County produces yearly progress reports that review the entire comprehensive plan and tracks nearly all of their comprehensive plan elements, goals, and policies through their interactive website (http://marin.visiblestrategies.com). Within the three element categories (Built Environment, Socioeconomic, Natural Systems & Agriculture) eight high-level topics have been displayed alongside a score and are color-coded to indicate how well each topic is progressing. For

example, under the topic of Agricultural Systems, agriculture and food strategies are being tracked through three indicators: acres of land farmed organically, acres preserved with agricultural easements, and annual sales at Marin County farmers markets. Each indicator notes the date of most recently collected data.

Both Baltimore and Philadelphia produce yearly annual reports to monitor and track progress in achieving plan goals. The 2009 and 2010 annual reports for Baltimore's sustainability plan have been more qualitative in nature, but the 2011 annual report took more of a quantitative approach to evaluating the success of the plan. Each of the 10 food policy task force recommendations (addressed by Baltimore's sustainability plan) includes key priorities, short-term, mid-term and long-term outcomes, with indicators for each. The partnership with the university has been essential to Baltimore's success in implementation and evaluation of the plan. In partnership with Johns Hopkins Center for a Livable Future, the Baltimore Food Policy Initiative created a food desert map to identify a resident's distance to supermarkets, areas of poverty, vehicle availability, and the quality and availability of healthy food in all food stores. Key informants stressed that this map is essential to defining the areas of greatest need and tracking progress in eliminating food deserts. This map has been used to better inform policy recommendations that aim to improve the overall food environment in Baltimore. In addition to this map, the food policy director is tracking the number of changes to existing policies and the number of new policies that are developed to achieve the plan goals.

Philadelphia established 15 targets to track the success in meeting the sustainability planning goals and implementing the various related initiatives; Target 10 addresses food access. (See Appendix G) The Office of Sustainability hired a company to build a database for all 150 of its plan goals. With the database, the city can track the progress on each initiative. However, key informants noted that not all the food initiatives are measureable. For example, the city can easily track the number of farmers markets, but is finding difficulty in evaluating the success of other aspirational goals, like "foster school based efforts." Because some initiatives are measurable and others are not, the 2010 and 2011 annual reports include both quantitative and qualitative information on the progress of the plan.

Plan Impact

Including food access and other food system components in a comprehensive or sustainability plan impacts the planning process, and those engaged in it, in a number of ways. Key informants noted some common results of including food system components in their comprehensive or sustainability plan, including a number of results related to increased local government knowledge of food system issues in their community, increased understanding of how food system issues relate to other local government systems, greater awareness of how existing policies and regulations impact food access, and increased appreciation for the public's food system and food access concerns.

In addition, some municipalities and counties viewed the food components of their comprehensive or sustainability plan as an opportunity to support and reinforce other food system planning efforts in the community. For example, Baltimore's sustainability plan includes a strategy to support the recommendations of the food policy task force. The sustainability plan was later adopted as an element of the comprehensive plan and influenced the zoning code rewrite. Philadelphia's sustainability plan reinforces the city's food charter and the regional food systems planning efforts of the Delaware Valley Regional Planning Commission. Cleveland used its sustainability plan as a starting point for influencing regional sustainability planning efforts.

In addition to increasing awareness, key informants noted that including food access components in the plan helped to legitimize food access issues among elected officials and government staff and also created an opportunity to form new partnerships with LHDs and other government agencies. For example, Blendon Township, Sacramento, and Baltimore established FPCs to solidify partnerships developed as part of the planning process and to ensure future collaboration and input from a diverse range of food system stakeholders in the plan implementation process.

Other examples of impact included review and reform of administrative procedures, regulations, and policies, including

zoning codes. Many municipalities and counties noted that including food access components in the plan was an opportunity to integrate food access considerations into places where food goals hadn't previously been found, for example in economic development strategies or in parks and open space elements. In many cases, these changes produced tangible results such as being able to actively recruit grocery stores, allow community gardens or backyard chickens, and protect farmland from development.

Finally, one of the most prominent aspects of including food access and food system components in a plan was the ripple effect it had on other planning processes within and outside the municipality or county. Philadelphia's sustainability plan not only increased attention and awareness of food as a sustainability and equity issue, but also influenced other plans and policies to include food access language and goals. Key informants stressed that the comprehensive plan update, zoning code rewrite, 18 district plans, regional transportation sustainability plan, health department food access and built environment work, and parks and recreation department work on food were all heavily influenced by the food components of the sustainability plan. Although Cleveland's climate action plan focuses on reducing the carbon emissions of food and agriculture, rather than food access, the plan helped institutionalize food as a government issue and led to additional food access, food justice, and other food work in the city. Key informants explained that the climate action plan contributed to the inclusion of food issues in other plans and policies, particularly vision PDX (Portland's community wide vision), The Portland Plan (the city's comprehensive plan update), and the zoning code rewrite.

Doral's sustainability plan led to the inclusion of a green element in the comprehensive plan update. The city is in the process of overhauling the entire land development code to implement action strategies listed in the green master plan.

Often the efforts of one municipality were very evident to others and in many cases food access concerns or demands from the public followed their witnessing food access developments in surrounding municipalities or towns. In the case of Blendon Township, residents asked for a farmers market because they saw surrounding towns with them; conversely, when the township used CDBG funds to develop a community garden, a nearby municipality applied the idea to a Healthy Corner Store Initiative and worked to secure CDBG funds for it.

Lessons Learned

The final questions of the interviews asked key informants to describe the lessons they learned from the process of planning for food access and food systems in their jurisdiction. Overall, key informants found that including food access and other food system components in the plan was a valuable experience and had a positive impact on future planning efforts. Among jurisdictions with new comprehensive plans, as opposed to plan updates, key informants frequently commented that the process of developing the food system components of the plan increased their awareness of the connections between the food system and other areas of local government. Because of these connections, plan developers became aware of the specific health, nutrition, economic, educational, and social needs related to food in the area. When asked what planners in other jurisdictions could learn from their experience with planning for food access, key informants commented that planners in general play an important role in food systems planning on account of their experience and expertise with other built, natural, and social systems.

Key informants further elaborated that food systems and food access work does not happen in a vacuum, but rather through the cooperation of various government agencies and area NGOs. For municipalities and counties that were more experienced with food access components in comprehensive plans, key informants took away from the process the importance of reaching out to area partners (local officials and NGOs) early in the planning process and keeping those partners engaged throughout. Of particular mention was working with the LHD, whether at the local level or county/regional level.

Many key informants noted the value of including the public during preplanning stages through public input sessions. It was noted that smooth plan adoption and quicker implementation of associated regulatory changes was the result of such public buy-in, as well as the buy-in of elected officials and the ability to keep plan goals manageable. Key informants

commented that plans can be aspirational, which captivates the public as well as elected officials, but that overly visionary plans can sometimes languish in the implementation phase. Many noted that their experience with including food access components in the plan reinforced the importance of balancing aspirational goals with realistic goals.

Conclusion

Results from the survey, plan evaluations, and key informant interviews suggest that considerable variation exists in how local governments are addressing food access issues and connecting them to the greater community-based food system. Some municipalities and counties are embracing the complexity of food access and directly connecting this food systems issue to social, ecological, and economic aspects of planning practice. Other local governments are only addressing very specific aspects of food access, such as access to farmers markets or access to community gardens. Perhaps this is due in part to the fact that food systems planning lacks a clear, concise, and widely used planning framework. Unlike the planning topic of food systems, smart growth has strong traction within the planning field. The 10 basic principles of smart growth[15] were developed by the Smart Growth Network and are prevalent in planning literature and supported by federal agencies, such as the U.S. Environmental Protection Agency.[16] While current APA publications offer useful guidance to the planning profession on how to plan for food access and the greater community food system, they fail to provide a list of succinct principles that can serve as the foundation for food systems planning frameworks.

While not intended to fill this void, the *Principles of a Healthy, Sustainable Food System* offer a potential planning framework or, at a minimum, a starting place to devise a planning approach that fits the community's needs. For this reason, this study used them to assess how comprehensive and sustainability plans are advancing the foundational elements of healthy, sustainable food systems. Not surprisingly, very few of the plans in our sample comprehensively addressed all facets of a healthy, sustainable food system. Of course, differences in geographic, political, and community context influence the degree to which each principle is applicable to different jurisdictions, but food is essential to the well-being of people and communities in all contexts. More explicit guidance that draws on the collective knowledge of food system planning practitioners and academics is needed to thrust food systems into the mainstream of planning practice.

Another important weakness identified by this study is the lack of external linkages to other plans. As evidenced by the results of the key informant interviews, both the comprehensive and sustainability plans have the potential for influencing subsequent planning efforts. The sustainability plans of Philadelphia and Baltimore significantly influenced the several additional planning efforts to address food access, such as the regional transportation plan and comprehensive plan in Philadelphia, and the comprehensive plan in Baltimore. These external linkages to other plans however, are not being made explicit within the plans themselves.

Understanding the connections between existing local and regional level plans, as well as their potential impact on future plans, is an important exercise for local and regional governments. Because food systems are complex and are not confined to jurisdictional boundaries, the linkages between and within local, regional, and even state contexts are crucial to food system planning efforts.

The plan evaluations and key informant interviews presented here offer rich and varied examples of how local governments are planning for food access and the community-based food system. The next and final section of this report provides a brief discussion of the state of food systems planning practice in the United States, offers recommendations for local governments wishing to expand or begin to plan for food systems, and provides suggestions for future planning research.

PART 4: DISCUSSION, RECOMMENDATIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

In APA's Policy Guide on Community and Regional Food Planning and other seminal food planning publications (e.g., Raja et al. 2008), authors call on planners to expand their repertoire of planning topics. The policy guide identified food as a "puzzling omission because, as a discipline, planning marks its distinctiveness by being comprehensive in scope and attentive to the temporal dimensions and spatial interconnections among important facets of community life." And Raja et al. 2008 suggested that planners would be "negligent" if they failed to "overlook [the planning profession's] role in removing barriers that limit people's access to healthful foods."

Great progress has been made within the planning profession in the past four years to elevate food systems as a mainstream-planning topic. APA established the Planning and Community Health Research Center, published a new report on the role of local governments in supporting urban agriculture (Hodgson et al. 2011), participated in several roundtables with other national organizations and federal agencies, and coauthored the *Principles of a Healthy, Sustainable Food System*. Other organizations and institutions have supported food systems planning as an essential component of sustainability planning, such as the National League of Cities, the U.S. Department of Housing and Urban Development, the U.S. Environmental Protection Agency, the Centers for Disease Control and Prevention, the Funders Network for Smart Growth and Livable Communities, the Sustainable Agriculture and Food Systems Funders Network, and many others.

The results of this study, while limited in their focus on two types of local level plans, provide a snapshot of planning practice in the United States and point to some of the strengths and weaknesses of the planning profession in its efforts to more holistically plan for food access and the community-based food system. This research also identifies the opportunities and challenges faced by municipalities and counties of varying sizes, economies, political frameworks, and locations in supporting food access equity through comprehensive and sustainability planning processes.

This final section of the report provides specific recommendations to local governments wanting to holistically plan for food access and the larger community-based food system, and offers suggestions for future planning research.

Planning for Food Access and the Community-Based Food System: 10 Key Recommendations

The steps that planners and local governments take to improve food access and the community-based food system depend largely on particular local and regional contexts, including differences in location, political framework, community need, state requirements, and other factors. However, the results of this study offer insights about a variety of strategies local governments can use to effectively and holistically plan for healthier, more sustainable local and regional food systems.

The following recommendations are based on specific themes that emerged throughout this research study and draw upon the experiences of 25 local governments included in the plan evaluation component of this study. These recommendations are based on a snapshot of planning practice in the United States and should not be construed as exhaustive or definitive.

As a complement to these recommendations, Appendix J provides examples of innovative plan language for vision statements, goals, and policies; Appendix K offers action items and implementation mechanisms used to carry out these goals and policies; and Appendix L outlines data collection and assessment tools to monitor and evaluate changes in the local food system over time. These examples come from plans identified in the survey portion of this study, as well as those identified during key informant interviews and by advisory committee members as being innovative food system plans, policies, and programs from other municipalities, counties, and regional planning organizations in North America.

1. Partner with and include a cross-section of local government department staff.

Most, if not all, local government departments play a role in supporting healthy, sustainable local food systems. They do this by assisting in the development of plan goals, objectives, and policies, but also by implementing key food-related policies, programs, and projects and monitoring and tracking change in the food system over time. Local governments can effectively engage all municipal and county departments in one of two ways: 1) develop a cross-appointed,

intergovernmental food systems policy staff position that works with leaders in each department; and 2) develop an intergovernmental food systems working group. Each local government department plays a critical role in the food systems planning process. The **local planning department** can lead and facilitate a food systems planning process and coordinate the efforts of all other city departments. The **local health department** can contribute on issues related to chronic disease and obesity, nutrition, environmental health, occupational health for food system workers, food retail, food access, social equity, food justice, food security, and food assistance. The **community development and housing departments** can contribute to the integration of food production opportunities and food retail businesses in new or existing developments and provide adequate housing and other community resources for food system workers, particularly seasonal and migrant farm employees. The **economic development department** can contribute to the development of food system employment opportunities (such as food production, processing, distribution, and retail businesses), provide economic incentives for food-related businesses, provide financial incentives and tax relief for food system infrastructure, and develop local food procurement policies for government-owned facilities. The **parks and recreation department** can coordinate efforts to utilize city-owned land for the development of farmers markets, farm stands, food production, and composting sites; support the development of neighborhood food hubs; and offer food educational programs. The **local public school district** can collaborate with the local public health department to initiate and facilitate farm to school, school garden, and food system educational programs. The solid waste department can establish a food waste education, composting, and curbside collection program. The water or public works department can collaborate with the planning department to develop programs or policies to ensure that urban agriculture projects have access to uncontaminated water.

2. Establish a FPC, coalition, or network of food system stakeholders.

Many of the local governments included in our study either already had a FPC (or other organized network of food system stakeholders), or formed a similar entity as an outcome of the food components of their comprehensive or sustainability plan to assist with plan implementation. FPCs (and similar entities) are essential to facilitating coordination, communication, and collaboration among food system stakeholders within and outside of local government. If such an entity already exists within the local government or region, including it in the planning process adds significant value to not only the development of the plan, but also the implementation and evaluation of food policy actions. Creating linkages between FPC recommendations and local level plans can politically legitimize and reinforce the work of FPCs.

3. Actively engage food-related nonprofit organizations in the planning development and implementation process.

Nonprofit organizations have strong and direct connections to stakeholders that are often absent from planning conversations, particularly farmers and other food producers, food retailers, and underserved and marginalized populations. By partnering with key nonprofits, local governments can more actively engage representatives of these populations to ensure that their specific health, nutrition, economic, education, and social needs are addressed in the planning process. Nonprofits also serve as valuable partners in the development and implementation of food-related programs to achieve plan goals.

4. Partner with local foundations to support community engagement, food assessment activities, and long-term coordination.

Financial and staff resources are needed for community engagement strategies that actively target a representative sample of the entire population (including marginalized and vulnerable groups) and that utilize hands-on, creative methods and solicit meaningful feedback and ideas from the public. Food system assessments and other related studies can also be time intensive and require a degree of research expertise. Furthermore, fostering meaningful and lasting relationships among local government staff, FPCs, and NGOs requires leadership and a sustainable funding source. Partnering with local foundations can leverage financial support to cover the start-up costs of these initial and long-term steps in the food system planning process.

5. Collaborate with a land grant university, university, or college to collect and analyze food access and systems data at baseline and over time.
Good baseline data are essential to fully understanding existing conditions and evaluating and monitoring change over time. When a local government does not have the staff capacity or expertise to collect baseline information related to food access and other food system characteristics, they can partner with a land grant university or other public or private academic institution with research expertise. Land grant universities are historically involved with agricultural, nutrition, and health research, education, and outreach. State and regional level extension programs can provide local governments with a wealth of knowledge, data, and other information related to rural agriculture, as well as urban agriculture, food distribution, food marketing, and food retail. Public or private academic institutions have access to financial and staff resources that may be unavailable to local governments. As a result, they have the capacity to undertake long-term food systems research studies. Partnering with colleges and universities in the planning process can also provide valuable learning experiences for undergraduate and graduate students.

6. Coordinate food systems efforts so that they are mutually supportive and mutually reinforcing.
Local comprehensive and sustainability plans are not the only type of plan, policy document, or other strategic government initiative that can include food access and food system-related goals, objectives, and policies. Food charters, stand-alone food system plans, urban agriculture plans, regional long-range plan, transportation plan, zoning code rewrite, climate action plan, public health assessments and plans, and FPC recommendations can also support a healthy, sustainable local food system. Explicit connections are made between local government plans, policies, and initiatives, and can mutually reinforce food system efforts and ensure that they are institutionalized in the local government planning and policy making framework.

7. Use food-related actions to achieve open space, transportation, land use, economic development, housing, natural resource, and solid waste goals of local level plans.
Food-related policies, programs, and projects can be used to not only support food system goals, but also to achieve a variety of other nonfood goals. For example, adopting policies that enable the conversion of vacant land to urban agriculture can assist local governments in achieving open space preservation, walkability, and public health goals. Developing programs to support grocery store development in existing neighborhoods near existing transit stations can contribute to economic development, walkability, reduction of greenhouse gas emissions, and public health goals.

8. Evaluate how existing local policies inhibit or support food access and other aspects of the local food system during the plan development process.
The process of plan development can lead to a better understanding of how existing policies and regulations impact food access. Local planning departments can collaborate with other agencies and the FPC to conduct a municipal or county food and agriculture policy assessment to identify opportunities and barriers to meeting food and agriculture goals.

9. Clearly identify strategy type, time frame, funding source(s), lead agency or organization role and responsibilities, and co-benefits for each plan implementation action.
Identifying strategy type, time frame, funding source(s), lead agency or organization role and responsibilities, and co-benefits for each plan implementation action provides a framework for ensuring plan components are effectively implemented. The local planning department can partner with other local government agencies, leading nonprofit organizations, academic institutions, and others to determine the most effective type of strategy (policy, operational, education, partnership, planning, legislative, advocacy, standards) to achieve each food-related goal; decide on a time frame for implementation (e.g., ongoing, short term, mid term, or long term); determine how the food-related implementation steps will be funded (e.g., capital funds, city funds, state funds, federal funds, existing program funds, private funds, grant funds); and determine the appropriate agency or organization to take the lead on implementing the plan strategy (e.g., planning, health, parks and recreation, transportation, economic development, housing, public works, or sustainability department; FPC; local college or university; etc.).

10. When crafting plan goals and policies, balance and mirror aspirational goals with measurable objectives, indicators, and targets to enable effective plan monitoring and evaluation over time.
Plan goals are often aspirational in nature. Therefore, in the absence of measurable objectives, indicators, and targets, local governments will struggle to evaluate progress in achieving the goals. The early stage of the plan development process is the ideal time to develop these evaluation metrics. When funding is limited, local governments can establish simple metrics or partner with a local academic institution to develop more robust metrics. For example, if the goal is to establish new farmers markets in underserved areas, the local government can keep track of the number of new farmers markets in specific neighborhoods already identified as low income. If the goal is to utilize city-owned property for the development of new community gardens and urban farms, the local government can keep track of acres of city-owned property converted to urban agriculture sites.

Opportunities for Future Research and Next Steps

One study of comprehensive and sustainability plans cannot capture the full spectrum of the planning profession's efforts to plan for food access and the community-based food system. Rather, this study has evaluated the comprehensive and sustainability plan as one expression of ongoing efforts to promote and develop food systems planning. By comparing plans, and the plan development process that supports them, interesting trends and lessons learned have emerged that have applicability for many who are involved in food access and community-based food systems efforts.

Given the focus of the study, other local and regional plans, such as strategic food policy plans, transportation plans, economic development plans, and regional long-range plans were outside the scope of this project. These include plans such as the Metropolitan Chicago Go to 2040 Regional Plan, Metropolitan Planning Area Council of Boston's MetroFuture Plan, Regional Food System Plan of the Northeast Vermont Development Association, Eat Here: Greater Philadelphia's Food System Plan, Transforming the Oakland Food System: A Plan for Action, Food Works: A Vision to Improve NYC's Food System, Regional Food Systems Strategic Plan for Vermont's Northeast Kingdom, Iowa Corridor Food & Agriculture Coalition Food System Plan, Multnomah Food Action Plan, Waterloo Community Food Systems Plan| Food For All, Calgary Food System Assessment and Action Plan, North Okanagan Food System Plan, Northeast Ohio Local Food System Assessment and Plan, Central Ohio Local Food Assessment and Plan, and Metro Vancouver's Regional Food System Strategy.

Because the survey was only distributed to APA members, not all local governments in the United States were included in the survey sample. And finally, the survey was conducted in 2010; since then, more local comprehensive and sustainability plans have been adopted that may incorporate food access and other food systems issues. For example, at the time of the survey, several plans had not been developed or adopted, such as Philadelphia's new comprehensive plan update, Portland's comprehensive plan, and Austin's comprehensive plan.

The evaluation component of this study focused solely on plan quality and the plan development process. The key informant interviews only scratched the surface on the plan implementation and impact evaluation efforts of communities.

As a result of the limitations of this study, more research is needed to examine:

1. The impact food-related comprehensive and sustainability plan components have on actual changes to food access equity and other aspects of the local food system
The only way to know whether a planning approach to food access actually improves food access is to examine the consequences of planning efforts. APA and other organizations should begin to track, monitor, and assess the outcomes of not only the food-related components of comprehensive and sustainability plans, but also the various other types of plans: strategic food policy plans, neighborhood and community plans, FPC plans, transportation plans, economic development plans, regional plans, etc. There is a need to compare and contrast these food systems planning approaches and the impacts they have on the community food system.

2. The impact state planning requirements have on local and regional food planning and implementation efforts

Plans not tied down by legal requirements (like sustainability plans) may inspire more creativity and more adaptive approaches, but have limited impact on food policy change. There is a need to review state legislation requirements to better understand the statutory frameworks of these plans and how state legislation impacts the capacity of local governments to facilitate implementation of food-related plan policies.

3. The influence political context, climate, and structure have on the development and implementation of food access and system policies

With diversity in local government context comes diversity in plan development, implementation, and impact. Future research should focus on how differences in local government context and capacity impact food-related plan outcomes.

4. The linkages, consistency, and reinforcement between food components of various local government plans, including, but not limited to, comprehensive plans, sustainability plans, stand-alone food plans, transportation plans, and regional long-range plans

Coordinating local level plans with other plans at the local, regional, and state levels, also referred to as horizontal and vertical integration, can help identify gaps and ensure explicit connections across different plans. Such coordination also may encourage regular communication and coordination of actions of various levels of government. Future research should examine the relationships between plans and their overall impact on community-based food systems.

5. The various food-related plan goals, policies, and implementation actions and their impact on achieving plan goals in local and regional food systems plans

This study has started to inventory food-related plan goals, policies, and implementation actions, but there is a need to more comprehensively inventory these components, particularly in other types of local and regional plans.

6. Innovations in food systems planning occurring in other parts of the world, such as Canada, Australia, and Europe

A better understanding of these countries efforts and lessons learned can assist and expand food systems planning practice in the United States. The Global Planners Network, for example, presents an opportunity to further explore food systems, as a missing, but essential, topic in mainstream planning practice.

CONCLUSION

This study demonstrates that while individual municipalities and counties have made much progress in integrating food issues into both traditional and emerging planning frameworks, there is still a long way to go before food is considered equally important as shelter, transportation, housing, and jobs. Local governments are in the position to greatly influence changes to the local and regional food systems. Some aspects of the food system may be directly out of their control, such as the federal farm bill, but other aspects are within the purview of local planning efforts. Local governments control how land is used—whether for residential, commercial, or public purposes; where amenities are located; the design and mix of homes and businesses; the transportation connections between neighborhoods, employment, and amenities, like food sources; and access to and affordability of public goods and services. They also influence opportunities for social interaction and sense of place and address social and health equity, economic opportunity, and ecological resilience. All these factors (and more) are connected in one way or another to the food system.

Local level plans have the potential to address community need, establish long-term goals, and develop an approach to achieve community goals. Some plans, however, are of better quality than others. Local level plans hold great promise in providing a roadmap for how local governments can guide food policy development and implementation. Unlike the efforts of individual local government departments—such as health, economic development, planning, public works, engineering, or transportation—both comprehensive and sustainability plans can coordinate and facilitate food planning efforts between local government agencies and departments. As a result, complicated topics such as food access can be more holistically addressed.

As the food systems planning field evolves, it is important to understand how and why some sectors advance more than others, and offer guidance on how to more holistically plan for the entire food system. A holistic approach has the opportunity to comprehensively analyze and advance food access equity. Rather than focusing on just one food system sector (such as food access), plans can examine the myriad factors within other food system sectors including processing, production, and distribution sectors as well as barriers in the political, social, and economic spheres.

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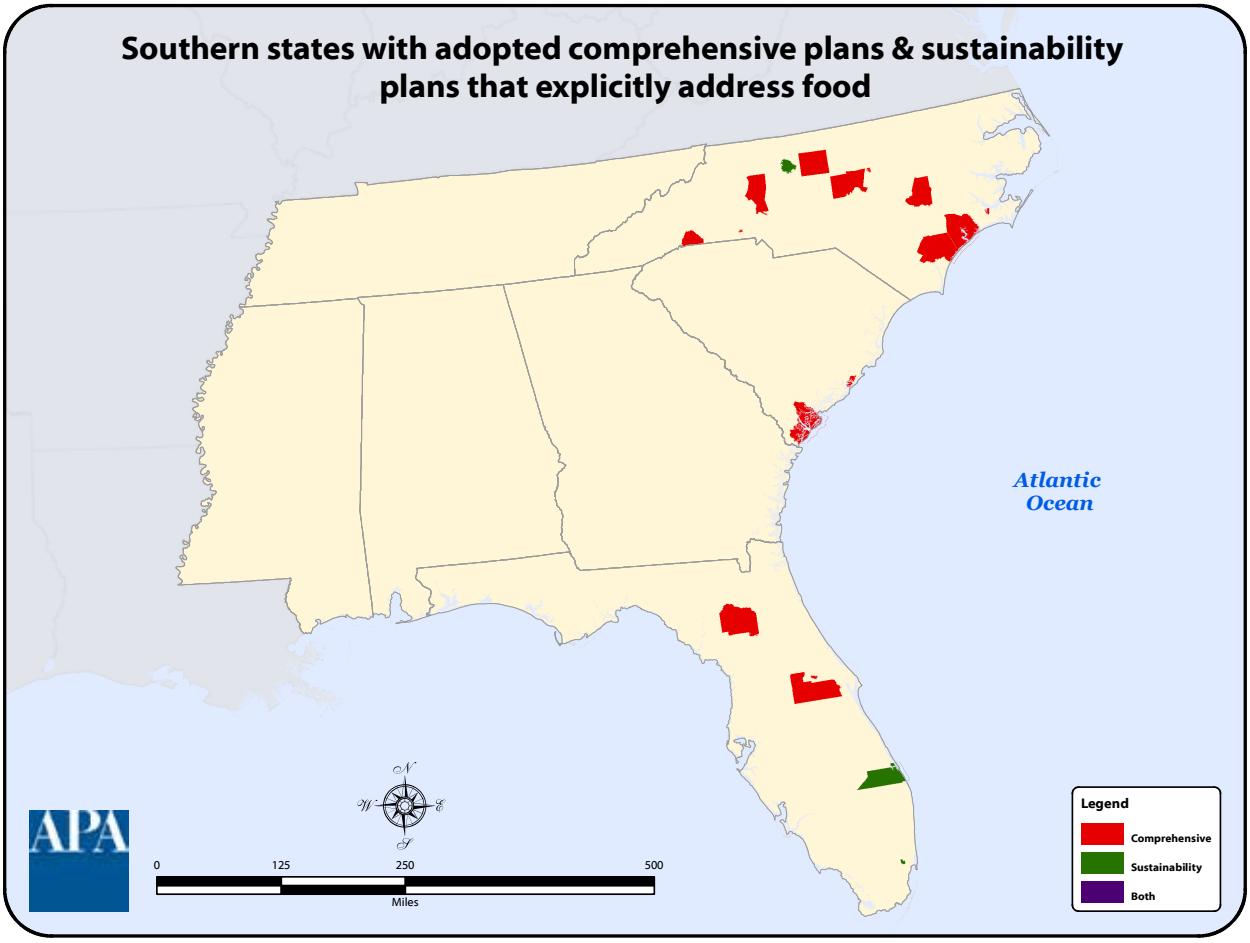
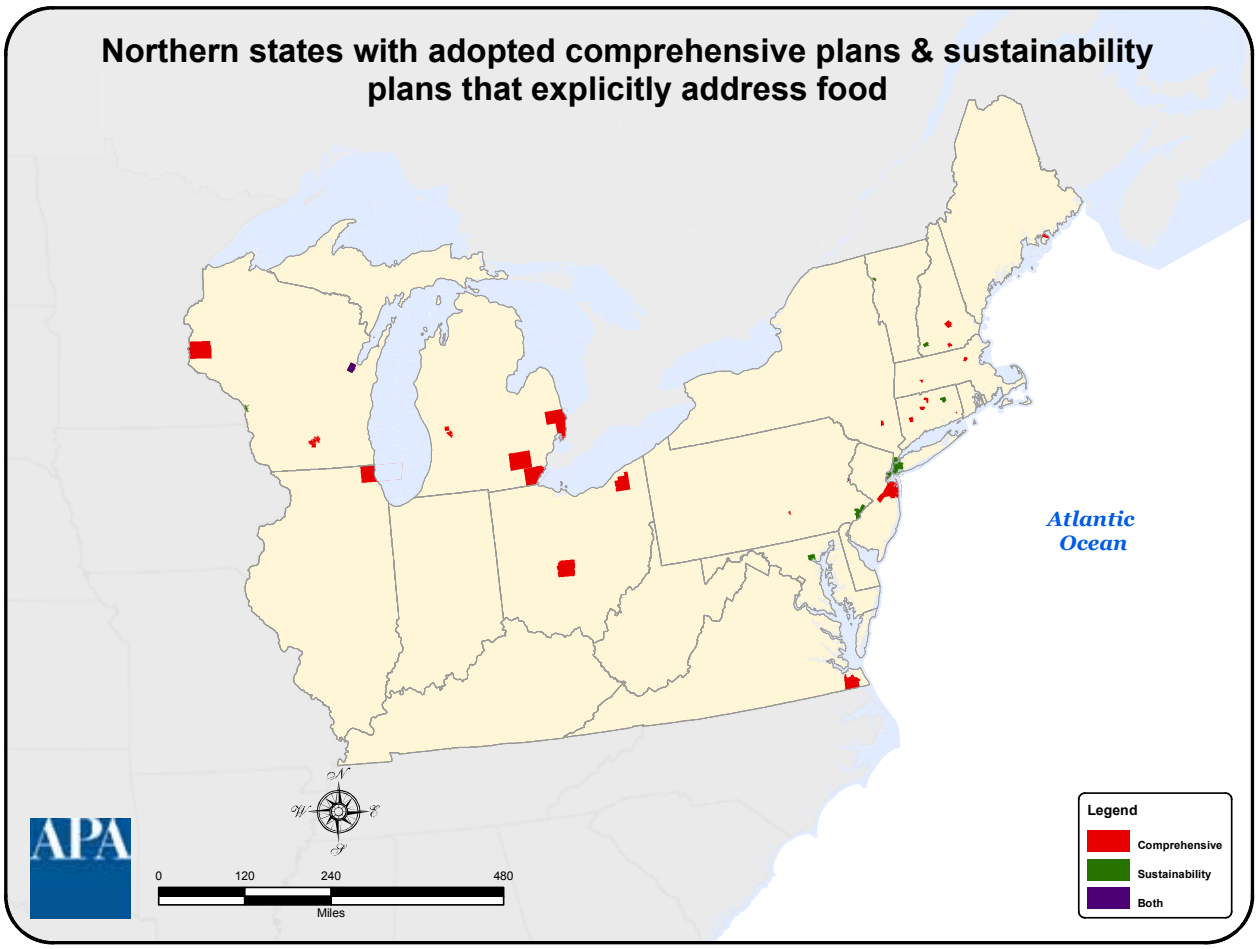
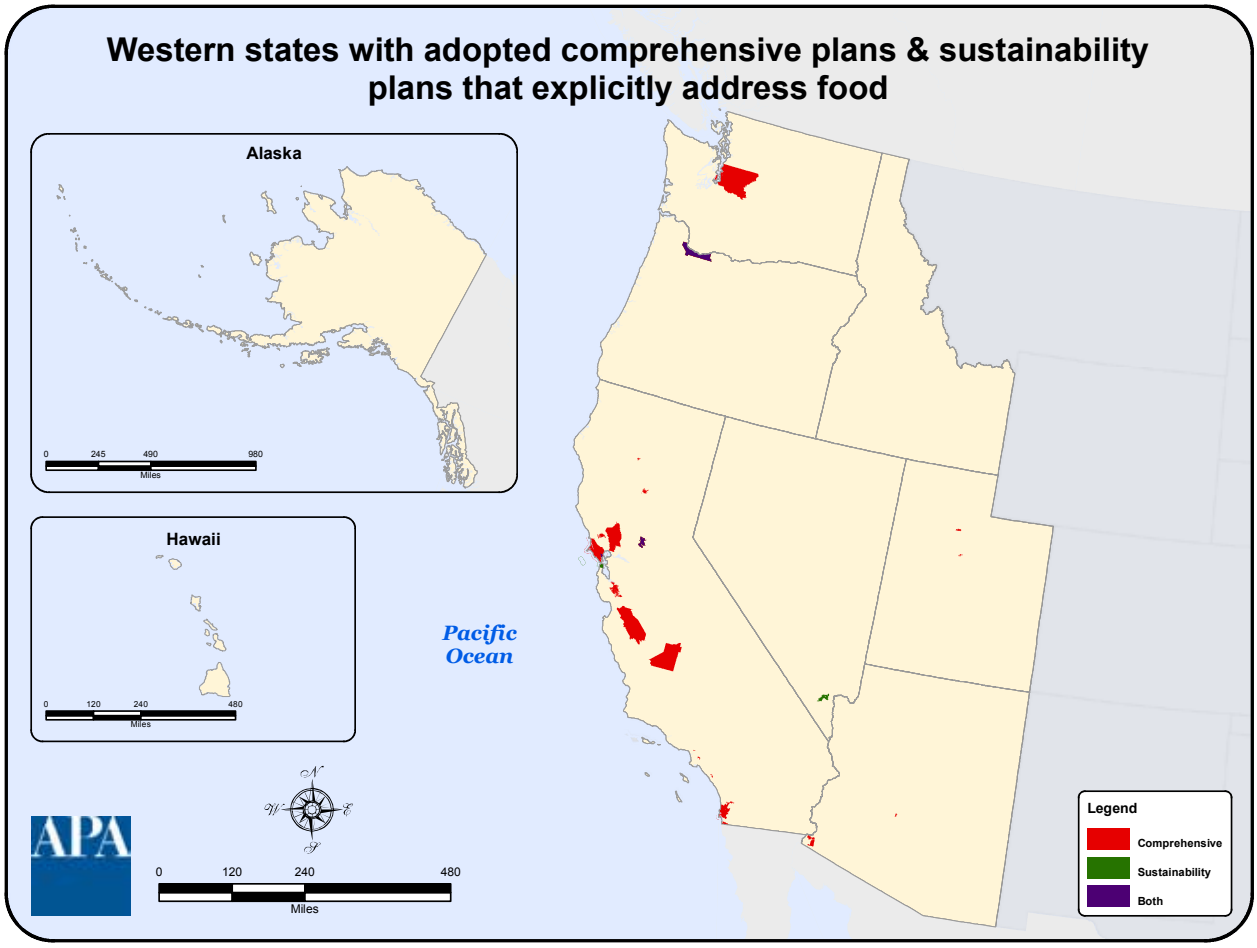
LIST OF TABLES AND FIGURES

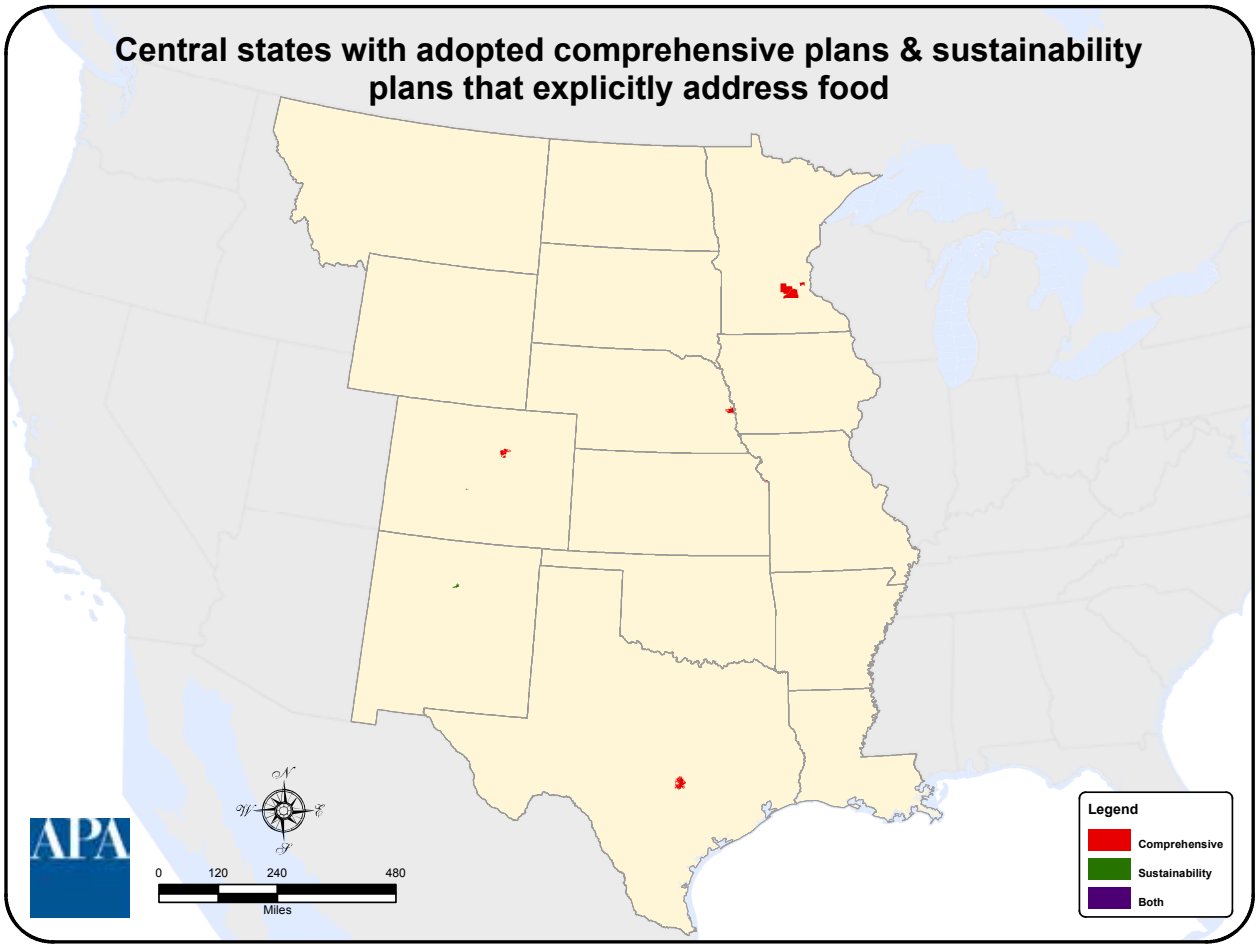
APPENDIX

Appendix A. Regional Geographic Breakdown of all the Adopted Comprehensive and Sustainability Plans




Northern states with adopted comprehensive plans & sustainability plans that explicitly address food
Atlantic Ocean
APA
0
120
240
480
Miles
Legend
Comprehensive
Sustainability
Both


Western states with adopted comprehensive plans & sustainability plans that explicitly address food
Alaska
0 245 490 980
Miles
Hawaii
0 120 240 480
Miles
Pacific Ocean
APA
N
W
E
S
0 120 240 480
Miles
Legend
Comprehensive
Sustainability
Both


Central states with adopted comprehensive plans & sustainability plans that explicitly address food
APA
0
120
240
480
Miles
Legend
Comprehensive
Sustainability
Both

Appendix B1: Adopted Comprehensive Plans: Food System Topics

ADOPTED COMPREHENSIVE PLANS: FOOD SYSTEM TOPICS															
Jurisdiction	**State**	**Rural agriculture**	**Urban agriculture**	**Food processing**	**Food distribution**	**Food retail**	**Food marketing**	**Food access & availability**	**Food assistance**	**Food consumption**	**Food waste**	**None of the above**	**Other**	**Number of Topics**	**% of Topics**
El Mirage	AZ		1	1			1		1					4	40
Yuma City	AZ	1			1									2	20
Anderson	CA	1	1					1						3	30
Chico	CA	1	1	1	1						1			5	50
Emeryville	CA							1		1				2	20
Kings County	CA	1	1			1	1	1						5	50
Laguna Hills	CA		1											1	10
Marin County	CA	1		1				1			1		1	4	40
Napa County	CA	1		1				1						3	30
Novato	CA											1	1	0	0
Sacramento	CA		1		1	1		1			1			5	50
San Benito	CA	1	1	1	1			1		1	1		1	7	70
San Diego	CA	1	1			1		1			1			5	50
San Jose	CA	1	1	1	1	1		1			1			7	70
San Rafael	CA					1					1			2	20
Santa Rosa	CA													0	0
South Gate	CA		1			1	1	1		1			1	5	50
Aurora	CO													0	0
Salida	CO													0	0
Farmington	CT	1												1	10
Mashatucket Pequot Tribal Nation	CT							1			1			2	20
Windsor	CT	1				1								2	20
Woodbury	CT	1												1	10
Alachua County	FL	1	1	1	1	1	1	1			1			8	80
Orange County	FL							1					1	1	10
Winter Springs	FL		1											1	10
Lake County	IL		1		1	1	1	1						5	50
Concord	MA	1	1											2	20
Easthampton	MA	1												1	10
Bar Harbor	ME	1						1			1			3	30
Alpine Township	MI	1				1								2	20
Monroe County	MI	1		1	1	1		1			1			6	60
St. Clair County	MI	1	1	1	1	1	1	1						7	70
Washtenaw County	MI	1	1					1						3	30
Saint Paul	MN							1						1	10
Scott County	MN	1						1						2	20
Victoria	MN	1	1			1		1						4	40
Parkville	MO							1						1	10
Bessemer City	NC	1												1	10
Chatham County	NC	1												1	10
Davidson	NC	1	1					1		1	1			5	50
Guilford County	NC	1											1	1	10
Havelock	NC													0	0
Iredell County	NC													0	0
Morrisville	NC					1								1	10
Onslow County	NC	1												1	10
Pender County	NC	1						1						2	20
Polk County	NC	1					1	1	1	1				5	50
Wayne County	NC	1	1	1	1		1							5	50
Omaha	NE	1	1			1	1	1	1	1	1			8	80
Concord	NH													0	0
Milford	NH	1				1								2	20
Monmouth County	NJ	1				1	1						1	3	30
Marlborough	NY	1											1	1	10
Franklin County	OH	1	1			1		1						4	40
Geauga County	OH	1		1										2	20
Gresham	OR													0	0
Multnomah County	OR	1	1	1	1									4	40
East Pennsboro Township	PA											1		0	0
Easton	PA		1	1	1	1		1	1					6	60
Beaufort County	SC	1		1										2	20
Mount Pleasant	SC												1	0	0
Santaquin City	UT	1	1		1	1								4	40
South Jordan	UT	1	1			1					1		1	4	40
Chesapeake	VA	1												1	10
King County	WA	1			1	1		1			1			5	50
Fitchburg	WI													0	0
Madison	WI													0	0
St. Croix County	WI	1												1	10

Appendix B2: Adopted Sustainability Plans, Food System Topics

ADOPTED COMPREHENSIVE PLANS: FOOD SYSTEM TOPICS															
Jurisdiction	**State**	**Rural agriculture**	**Urban agriculture**	**Food processing**	**Food distribution**	**Food retail**	**Food marketing**	**Food access & availability**	**Food assistance**	**Food consumption**	**Food waste**	**None of the above**	**Other**	**Number of Topics**	**% of Topics**
Sacramento City	CA							1						1	10
San Francisco	CA	1	1	1	1	1		1	1	1	1			9	90
San Rafael	CA					1		1			1			3	30
Mansfield	CT	1												1	10
Doral	FL		1			1								2	20
Martin County	FL	1												1	10
Baltimore	MD		1					1						2	20
Winston-Salem	NC	1	1			1		1						4	40
Keene	NH		1	1	1			1						4	40
Santa Fe	NM		1								1		1	2	20
Henderson	NV		1			1					1			3	30
New York City	NY					1								1	10
Portland and Multnomah County	OR	1	1	1	1		1	1	1	1	1			9	90
Easton	PA													0	0
Philadelphia	PA		1			1	1	1		1				5	50
Burlington	VT													0	0
La Crosse Wisconsin	WI	1	1					1						3	30

Appendix C1: Adopted Comprehensive Plans, Food System Strategies

ADOPTED COMPREHENSIVE PLANS: FOOD SYSTEM STRATEGIES

Jurisdiction	State	Preserve rural agricultural land	Support new opportunities for the agricultural production of produce (i.e. fruit, vegetables)	Support ecologically sustainable food production practices	Support the health of farm workers	Support small farms	Support new opportunities for commercial urban agriculture (e.g. urban farms)	Support new opportunities for non-commercial urban agriculture (e.g. community gardens)	Support infrastructure for local or regional food processing	Support infrastructure for local or regional food distribution	Support local or regional food distribution networks	Reduce access to fast food restaurants	Improve access to supermarkets or other large grocery stores	Improve access to farmers' markets	Improve access to community gardens	Improve the variety of healthy foods sold at small grocery stores	Improve the variety of healthy foods sold at convenience stores	Improve the variety of healthy foods sold at liquor stores	Improve the variety of healthy foods offered by fast food restaurants	Improve the variety of healthy foods offered by full-service restaurants	Improve the variety of healthy foods offered by mobile vending	Promote healthy food choices at the individual level	Improve resident participation in food assistance programs	Facilitate the reduction, reuse or recycling of food-related waste	Reduce the impact of the food system on climate change	Engage under-served populations in local government decisions related to the food system	None of the above	Other (please specify)	Number of Goal Statements	% of Goal Statements	Food Access & Availability Goal Statements	%	Healthy Foods	%	Urban Agriculture	%	Local and Regional Food Production	%	Healthy Retail	%	Healthy Eating	%
El Mirage	AZ		1				1	1	1	1				1	1														7	28	2	50	0	0	3	100	5	50	0	0	0	0
Yuma City	AZ	1	1																										2	8	0	0	0	0	0	0	2	20	0	0	0	0
Anderson	CA		1				1	1						1															4	16	1	25	0	0	2	67	3	30	0	0	0	0
Chico	CA	1	1					1	1	1	1			1	1									1					9	36	2	50	0	0	2	67	6	60	0	0	0	0
Emeryville	CA																											1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kings County	CA	1	1	1	1	1		1	1			1	1	1	1				1	1		1							14	56	4	100	3	38	2	67	7	70	2	33	1	50
Laguna Hills	CA		1					1					1	1	1														5	20	3	75	0	0	2	67	2	20	0	0	0	0
Marin County	CA	1	1	1		1		1	1	1				1								1		1		1			11	44	1	25	1	13	1	33	7	70	0	0	1	50
Napa County	CA	1	1	1	1	1																							5	20	0	0	0	0	0	0	5	50	0	0	0	0
Novato	CA																											1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sacramento	CA	1	1	1			1	1					1	1	1									1	1				10	40	3	75	0	0	3	100	5	50	0	0	0	0
San Benito	CA	1	1	1	1	1			1	1				1										1	1				10	40	1	25	0	0	0	0	7	70	0	0	0	0
San Diego	CA	1	1	1				1						1	1									1					7	28	2	50	0	0	2	67	4	40	0	0	0	0
San Jose	CA	1	1			1	1	1	1	1	1		1	1	1	1	1							1	1				15	60	3	75	2	25	3	100	8	80	2	33	0	0
San Rafael	CA							1						1										1				1	3	12	1	25	0	0	1	33	1	10	0	0	0	0
Santa Rosa	CA																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Gate	CA							1				1	1	1	1	1	1	1		1								1	9	36	4	100	4	50	2	67	1	10	4	67	0	0
Aurora	CO																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salida	CO																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Farmington	CT	1																											1	4	0	0	0	0	0	0	1	10	0	0	0	0
Mashatucket Pequot Tribal Nation	CT	1	1	1																									3	12	0	0	0	0	0	0	3	30	0	0	0	0
Windsor	CT	1	1	1		1		1		1				1															7	28	1	25	0	0	1	33	6	60	0	0	0	0
Woodbury	CT	1																										1	1	4	0	0	0	0	0	0	1	10	0	0	0	0
Alachua County	FL	1	1	1			1	1	1	1			1	1	1	1	1						1		1	1			15	60	3	75	3	38	3	100	7	70	2	33	1	50
Orange County	FL	1				1		1			1																		4	16	0	0	0	0	1	33	4	40	0	0	0	0
Winter Springs	FL							1							1													1	2	8	1	25	0	0	2	67	1	10	0	0	0	0
Lake County	IL		1			1	1	1	1																				5	20	0	0	0	0	2	67	5	50	0	0	0	0
Concord	MA	1	1	1		1		1						1	1														7	28	2	50	0	0	2	67	5	50	0	0	0	0
Easthampton	MA	1	1	1											1														4	16	1	25	0	0	1	33	3	30	0	0	0	0
Bar Harbor	ME	1	1			1				1														1	1				6	24	0	0	0	0	0	0	4	40	0	0	0	0
Alpine Township	MI	1	1			1					1			1															5	20	1	25	0	0	0	0	4	40	0	0	0	0
Monroe County	MI	1	1	1		1		1	1	1	1			1											1				10	40	1	25	0	0	1	33	8	80	0	0	0	0
St. Clair County	MI	1	1	1		1	1	1	1	1	1			1	1														11	44	2	50	0	0	3	100	9	90	0	0	0	0
Washtenaw County	MI	1	1			1				1				1															5	20	1	25	0	0	0	0	4	40	0	0	0	0
Saint Paul	MN																											1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott County	MN	1	1	1		1				1																			5	20	0	0	0	0	0	0	5	50	0	0	0	0
Victoria	MN	1	1	1		1		1						1	1														7	28	2	50	0	0	2	67	5	50	0	0	0	0
Parkville	MO							1						1	1														3	12	2	50	0	0	2	67	1	10	0	0	0	0
Bessemer City	NC	1	1			1		1						1															5	20	1	25	0	0	1	33	4	40	0	0	0	0
Chatham County	NC	1	1	1		1																							4	16	0	0	0	0	0	0	4	40	0	0	0	0
Davidson	NC	1	1				1	1			1			1	1							1	1	1		1			11	44	2	50	2	25	3	100	5	50	0	0	2	100
Guilford County	NC	1																										1	1	4	0	0	0	0	0	0	1	10	0	0	0	0
Havelock	NC																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iredell County	NC																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morrisville	NC											1																	1	4	1	25	0	0	0	0	0	0	0	0	0	0
Onslow County	NC	1				1								1															3	12	1	25	0	0	0	0	2	20	0	0	0	0
Pender County	NC	1	1	1		1	1	1	1																				7	28	0	0	0	0	2	67	7	70	0	0	0	0
Polk County	NC	1	1			1																1							4	16	0	0	1	13	0	0	3	30	0	0	1	50
Wayne County	NC	1	1	1		1	1	1	1	1	1				1														10	40	1	25	0	0	3	100	9	90	0	0	0	0
Omaha	NE	1	1	1		1	1	1		1	1		1	1	1	1	1		1	1		1		1		1			18	72	3	75	5	63	3	100	8	80	4	67	1	50
Concord	NH																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milford	NH	1				1																							2	8	0	0	0	0	0	0	2	20	0	0	0	0
Monmouth County	NJ	1	1			1			1	1	1			1															7	28	1	25	0	0	0	0	6	60	0	0	0	0
Marlborough	NY	1	1			1																						1	3	12	0	0	0	0	0	0	3	30	0	0	0	0
Franklin County	OH	1	1			1					1			1	1														6	24	2	50	0	0	1	33	4	40	0	0	0	0
Geauga County	OH	1	1	1		1			1	1	1																		7	28	0	0	0	0	0	0	7	70	0	0	0	0
Gresham	OR																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multnomah County	OR	1	1						1	1																			4	16	0	0	0	0	0	0	4	40	0	0	0	0
East Pennsboro Township	PA																											1		0	0	0	0	0	0	0	0	0	0	0	0	0
Easton	PA						1	1	1	1	1		1	1	1	1	1								1		1			12	48	3	75	2	25	3	100	5	50	2	33	0	0
Beaufort County	SC	1	1	1		1	1	1			1			1															8	32	1	25	0	0	2	67	7	70	0	0	0	0
Mount Pleasant	SC	1									1																		2	8	0	0	0	0	0	0	2	20	0	0	0	0
Santaquin City	UT	1	1	1	1								1	1															6	24	2	50	0	0	0	0	4	40	0	0	0	0
South Jordan	UT	1	1				1	1						1	1									1	1				8	32	2	50	0	0	3	100	4	40	0	0	0	0
Chesapeake	VA	1																											1	4	0	0	0	0	0	0	1	10	0	0	0	0
King County	WA	1	1						1	1				1															5	20	1	25	0	0	0	0	4	40	0	0	0	0
Fitchburg	WI																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
Madison	WI																												0	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Croix County	WI	1		1																									2	8	0	0	0	0	0	0	2	20	0	0	0	0

Appendix C2: Adopted Sustainability Plans: Food System Strategies

ADOPTED COMPREHENSIVE PLANS: FOOD SYSTEM TOPICS

JURISDICTION	STATE	PRESERVE RURAL AGRICULTURAL LAND	SUPPORT NEW OPPORTUNITIES FOR THE AGRICULTURAL PRODUCTION OF PRODUCE (I.E. FRUIT, VEGETABLES)	SUPPORT ECOLOGICALLY SUSTAINABLE FOOD PRODUCTION PRACTICES	SUPPORT THE HEALTH OF FARM WORKERS	SUPPORT SMALL FARMS	SUPPORT NEW OPPORTUNITIES FOR COMMERCIAL URBAN AGRICULTURE (E.G. URBAN FARMS)	SUPPORT NEW OPPORTUNITIES FOR NON-COMMERCIAL URBAN AGRICULTURE (E.G. COMMUNITY GARDENS)	SUPPORT INFRASTRUCTURE FOR LOCAL OR REGIONAL FOOD PROCESSING	SUPPORT INFRASTRUCTURE FOR LOCAL OR REGIONAL FOOD DISTRIBUTION	SUPPORT LOCAL OR REGIONAL FOOD DISTRIBUTION NETWORKS	REDUCE ACCESS TO FAST FOOD RESTAURANTS	IMPROVE ACCESS TO SUPERMARKETS OR OTHER LARGE GROCERY STORES	IMPROVE ACCESS TO FARMERS' MARKETS	IMPROVE ACCESS TO COMMUNITY GARDENS	IMPROVE THE VARIETY OF HEALTHY FOODS SOLD AT SMALL GROCERY STORES	IMPROVE THE VARIETY OF HEALTHY FOODS SOLD AT CONVENIENCE STORES	IMPROVE THE VARIETY OF HEALTHY FOODS SOLD AT LIQUOR STORES	IMPROVE THE VARIETY OF HEALTHY FOODS OFFERED BY FAST FOOD RESTAURANTS	IMPROVE THE VARIETY OF HEALTHY FOODS OFFERED BY FULL-SERVICE RESTAURANTS	IMPROVE THE VARIETY OF HEALTHY FOODS OFFERED BY MOBILE VENDING	PROMOTE HEALTHY FOOD CHOICES AT THE INDIVIDUAL LEVEL	IMPROVE RESIDENT PARTICIPATION IN FOOD ASSISTANCE PROGRAMS	FACILITATE THE REDUCTION, REUSE OR RECYCLING OF FOOD-RELATED WASTE	REDUCE THE IMPACT OF THE FOOD SYSTEM ON CLIMATE CHANGE	ENGAGE UNDER-SERVED POPULATIONS IN LOCAL GOVERNMENT DECISIONS RELATED TO THE FOOD SYSTEM	NONE OF THE ABOVE	OTHER (PLEASE SPECIFY)	NUMBER OF GOAL STATEMENTS	% OF GOAL STATEMENTS	FOOD ACCESS & AVAILABILITY	%	HEALTHY FOODS	%	URBAN AGRICULTURE	%	LOCAL AND REGIONAL FOOD PRODUCTION	%	HEALTHY RETAIL	%	HEALTHY EATING	%
Sacramento City	CA		1			1	1	1	1	1			1	1	1															10	40	3	75	0	0	3	100	6	60	0	0	0	0
San Francisco	CA	1	1	1		1							1	1	1									1	1			1			10	40	3	75	2	25	1	33	4	40	0	0	2	100
San Rafael	CA							1						1												1					3	12	1	25	0	0	1	33	1	10	0	0	0	0
Mansfield	CT	1	1	1		1								1																	5	20	1	25	0	0	0	0	4	40	0	0	0	0
Doral	FL		1				1	1						1	1																5	20	2	50	0	0	3	100	3	30	0	0	0	0
Martin County	FL	1	1	1																											3	12	0	0	0	0	0	0	3	30	0	0	0	0
Baltimore	MD						1	1	1	1																1	1				6	24	0	0	0	0	2	67	4	40	0	0	0	0
Winston-Salem	NC		1				1	1						1	1																5	20	2	50	0	0	3	100	3	30	0	0	0	0
Keene	NH	1	1	1					1					1																	5	20	1	25	0	0	0	0	4	40	0	0	0	0
Santa Fe	NM			1			1	1	1	1	1				1											1	1			1	9	36	1	25	0	0	3	100	6	60	0	0	0	0
Henderson	NV							1					1	1	1									1		1					6	24	3	75	1	13	2	67	1	10	0	0	1	50
New York City	NY					1	1	1		1			1	1																	6	24	2	50	0	0	2	67	4	40	0	0	0	0
Portland and Multnomah County	OR	1	1	1	1	1					1			1	1								1			1	1			11	44	2	50	1	13	1	33	6	60	0	0	1	50
Easton	PA																													0	0	0	0	0	0	0	0	0	0	0	0	0	0
Philadelphia	PA						1	1			1			1		1	1													6	24	1	25	2	25	2	67	3	30	2	33	0	0
Burlington	VT																													0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Crosse	WI					1		1							1															3	12	1	25	0	0	2	67	2	20	0	0	0	0

Appendix D. Food System Metrics

FOOD SYSTEM PRINCIPLES	
1.	**Health Promoting.** Supports the physical and mental health of all farmers, workers and eaters. Accounts for the public health impacts across the entire lifecycle of how food is produced, transformed, distributed, marketed, consumed, and disposed.
2.	**Sustainable.** Conserves, protects, and regenerates natural resources, landscapes and biodiversity. Meets our current food and nutrition needs without compromising the ability of the system to meet the needs of future generations.
3.	**Resilient.** Thrives in the face of challenges, such as climate change and its effect on food production, increased pest resistance, and declining, increasingly expensive water and energy supplies.
4.	**Diverse.** Size and Scale—includes a diverse range of food production, transformation, distribution, marketing, consumption, and disposal practices, occurring at diverse scales, from local and regional, to national and global. Geography—considers geographic differences in natural resources, climate, customs, and heritage. Culture—appreciates and supports a diversity of cultures, socio-demographics, and lifestyles. Choice—provides a variety of health promoting food choices for all.
5.	**Fair.** Supports fair and just communities and conditions for all farmers, workers, and eaters. Provides equitable physical access to affordable food that is health promoting and culturally appropriate.
6.	**Economically Balanced.** Provides economic opportunities that are balanced across geographic regions of the country and at different scales of activity, from local to global, for a diverse range of food system stakeholders. Affords farmers and workers in all sectors of the system a living wage.
7.	**Transparent.** Provides opportunities for farmers, workers and eaters to gain the knowledge necessary to understand how food is produced, transformed, distributed, marketed, consumed, and disposed. Empowers farmers, workers and eaters to actively participate in decision-making in all sectors of the system.
FOOD SYSTEM TOPICS	
1.	rural agriculture (e.g. small- and large-scale dairy, livestock, factory farms/CAFOs, poultry, fruit and vegetable production in rural and metropolitan areas)
2.	urban agriculture (e.g. urban farming; community, school or backyard gardens; poultry; bees; small livestock)
3.	processing (e.g. community/commercial kitchens, canneries, butcheries and other food processing facilities or infrastructure)
4.	distribution (e.g. dry and cold storage facilities and warehouses, transportation and delivery routes, networks)
5.	local sourcing
6.	retail (e.g. supermarkets, grocery stores, corner stores, convenience stores, cafeterias, restaurants, dining halls, fast food and formula restaurants, farmers' markets, roadside farm stands, vending machines, mobile vending, and other food vending)
7.	marketing and advertising (e.g. commercial advertisements, menu labeling, food labeling, media campaigns)
8.	access & availability (e.g. physical and economic ability of consumers to obtain safe, nutritious and culturally appropriate food in the home, school, worksite and neighborhood settings)
9.	federal assistance (e.g. EBT, TEFAP, WIC)
10.	community assistance (e.g. food banks, food pantries, meals on wheels, soup kitchens)
11.	food education (e.g. health, nutrition, culinary and cooking promotion and education)
12.	waste (e.g. backyard composting, municipal curbside composting, edible food waste recovery)

FOOD SYSTEM STRATEGIES	
1.	Preserve rural agricultural land
2.	Support new opportunities for the agricultural production of produce (i.e. fruit, vegetables)
3.	Support ecologically sustainable food production practices
4.	Support the health of farm workers
5.	Support small farms
6.	Support new opportunities for commercial urban agriculture (e.g. urban farms)
7.	Support new opportunities for non-commercial urban agriculture (e.g. community gardens)
8.	Support infrastructure for local or regional food processing
9.	Support infrastructure for local or regional food distribution
10.	Support local or regional food distribution networks
11.	Reduce access to fast food restaurants
12.	Improve access to supermarkets or other large grocery stores
13.	Improve access to farmers' markets
14.	Improve access to community gardens
15.	Improve the variety of healthy foods sold at small grocery stores
16.	Improve the variety of healthy foods sold at convenience stores
17.	Improve the variety of healthy foods sold at liquor stores
18.	Improve the variety of healthy foods offered by fast food restaurants
19.	Improve the variety of healthy foods offered by full-service restaurants
20.	Improve the variety of healthy foods offered by mobile vending
21.	Promote healthy food choices at the individual level
22.	Improve resident participation in food assistance programs
23.	Facilitate the reduction, reuse or recycling of food-related waste
24.	Reduce the impact of the food system on climate change
25.	Engage under-served populations in local government decisions related to the food system

Appendix E. Marin Countywide Plan

GUIDING PRINCIPLES *(page 13)*

6. Protect our agricultural assets.
We will protect agricultural lands and work to maintain our agricultural heritage. We will support the production and marketing of healthy, fresh, locally grown food.

12. Support public health, safety, and social justice.
We will live in healthy, safe communities and provide equal access to amenities and services. We will particularly protect and nurture our children, our elders, and the more vulnerable members of our community.

The Natural Systems and Agricultural Element

AGRICULTURE AND FOOD *(page 182)*

Goal AG-1 Preservation of Agricultural Lands and Resources. Protect agricultural land by maintaining parcels large enough to sustain agricultural production, preventing conversion to non-incompatible uses, and prohibiting that are -term agricultural production. Preserve important with long soils, agricultural water sources, and forage to allow continued agricultural production on agricultural lands.

Policies
- AG-1.1 to 1.13

Implementing Programs
- AG-1.a to AG-1.t

Goal AG-2 Improved Agricultural Viability. Enhance the viability of farms, ranches, and agricultural industries.

Policies
- AG-2.1 to 2.11

Implementing Programs
- AG-2.a to AG-2.n

Goal AG-3 Community Food Security. Increase the diversity of locally produced foods to give residents greater access to a healthy, nutritionally adequate diet.

Policies
- **AG-3.1** Support Local Food Production. Promote local food production in agricultural zoning districts, as well as on appropriate urban and suburban lands.
- **AG-3.2** Promote Local and Organic Food. Increase consumer appreciation of, and access to, locally produced and organic food and agricultural products.
- **AG-3.3** Enhance Food Security Education

Implementing Programs
- **AG-3.a** Encourage Community Gardens. Allow community gardens on County property that is underutilized or where such use would complement current use, and amend the Development Code to require space for on-site community gardens in new residential developments of 10 units or greater. Work with community-based

organizations to manage such gardens using ecologically sound techniques and to provide on-site water if available (find more information at www.communitygarden.org).

- **AG-3.b** Provide Community Education. Provide community education regarding organic and other ecologically sound techniques of farming and the benefits of its produce. Raise awareness of farmers' market dates and times.
- **AG-3.c** Promote Edible Landscaping. Encourage fruit trees or other edible landscaping when possible in new development and when renewing planting on County property where appropriate. Include the replacement of irrigated ornamentals with drought-resistant edible plants, as appropriate.
- **AG-3.d** Use Locally Grown and/or Organic Foods in County Services. Develop and adopt a food policy and procurement program that incorporates organic and locally grown foods into cafeteria services, the jail, and County-sponsored events.
- **AG-3.e** Promote Organic Food in Schools. Support school programs, including on-site gardens, that incorporate organic foods into school meals.
- **AG-3.f** Support Local Groups. Support the efforts of local groups such as the Marin Food Policy Council that make recommendations and support forums addressing sustainable food systems.

Indicator Monitoring

Nonbinding indicators, benchmarks, and targets* will help to measure and evaluate progress. This process will also provide a context in which to consider the need for new or revised implementation measures.

* Many factors beyond Marin County government control, including adequate funding and staff resources, may affect the estimated time frame for achieving targets and program implementation.

INDICATORS	BENCHMARKS	TARGETS
Acres preserved with agricultural easements.	28,377 acres preserved in 2000.	Increase by 25,000 acres by 2010 and by 12,500 additional acres by 2015.
Acres of land farmed organically.	357 acres in 2000.	Increase by 1,500% by 2010 and 1,700% by 2015.
Annual sales of identified Marin farmers' markets: Civic Center, Downtown San Rafael, Novato, and Fairfax.	$9,860,000 in 2005.	Increase annual sales 10% by 2010 and 15% by 2015.

Program Implementation

The following table summarizes responsibilities, potential funding priorities, and estimated time frames for proposed implementation programs. Program implementation within the estimated time frame* will be dependent upon the availability of adequate funding and staff resources.

* 1Time frames include: Immediate (0–1 years); Short term (1–4 years); Med. term (4–7 years); Long term (over 7 years); and Ongoing.

PROGRAMS	RESPONSIBILITY	POTENTIAL FUNDING	PRIORITY	TIME FRAME
AG-3.a – Encourage Community Gardens.	CDA, Agricultural Commissioner, UCCE-FA, DPW, MCOSD	Existing budget	Low	Ongoing
AG-3.b – Provide Community Education.	UCCE-FA, Agricultural Commissioner, CBO's	Existing budget and may require additional grants or revenue*	Medium	Ongoing
AG-3.c – Promote Edible Landscaping.	CDA, Agricultural Commissioner, UCCE-FA, MCOSD	Existing budget	Low	Ongoing
AG-3.d – Use Locally Grown and/or Organic Foods in County Services.	Cultural Services, Agricultural Commissioner, UCCE-FA	Existing budget and may require additional grants or revenue*as well as Incentive Payments to Growers	High	Ongoing
AG-3.e – Promote Organic Food in Schools.	UCCE-FA, Agricultural Commissioner, Marin Food Policy Council, CBO's	Existing budget and may require additional grants or revenue*	Medium	Ongoing
AG-3.f – Support Local Groups.	Agricultural Commissioner, CBO's UCCE-FA	Existing budget and may require additional grants or revenue*	Medium	Ongoing

*Completion of this task is dependent on acquiring additional funding. Consequently, funding availability could lengthen or shorten the time frame and ultimate implementation of this program.

The Built Environment Element

PUBLIC FACILITIES AND SERVICES *(page 402)*

Goal PSF-4 Efficient Processing and Reduced Landfill Disposal of Solid Waste. Minimize, treat, and safely process solid waste materials in a manner that protects natural resources from pollution while planning for the eventual reuse or recycling of discarded material to achieve zero waste.

Implementing Programs

- **PFS-4.l Food Waste Collection Program.** The County should actively promote a curbside food waste collection program by integrating this measure into bid specifications.

Program Implementation

PROGRAMS	RESPONSIBILITY	POTENTIAL FUNDING	PRIORITY	TIME FRAME
PFS-4.I – Food Waste Collection Program.	CDA, Solid Waste JPA	Will require additional grants or revenue*	Medium	Ongoing / Long term

*Completion of this task is dependent on acquiring additional funding. Consequently, funding availability could lengthen or shorten the time frame and ultimate implementation of this program.

The Socioeconomic Element

PUBLIC HEALTH *(page 540)*

GOAL PH-1 Reduced Rates of Obesity, Eating Disorders, and Chronic Disease Such as Heart Disease and Breast Cancer. Improve individual and community health through prevention, screening, education, and treatment strategies regarding nutrition and physical activity related health issues.

Policies

- **PH-1.1 Promote Nutrition Education and Access to Healthy Foods.** Provide affordable healthy foods, and fresh, locally grown fruits and vegetables in schools and other public places.
- **PH-1.3 Promote Healthy Environments.** Provide school and community environments and policies that foster healthy lifestyles and behavior.

Implementing Programs

- **PH-1.a Implement Policies That Promote Healthy Eating and Physical Activity.** Advocate and support policies that do the following: encourage sound nutrition, physical activity, and education programs in all schools, senior centers, and community-based organizations; work with local vendors and agricultural forums to develop access to and availability of affordable, quality, locally grown foods for schools and the community, especially for individuals with limited income or at risk of disease; promote organizational policies around providing healthy food options at meetings, in vending machines, and food concessions, and providing opportunities to engage in physical activity; support land use policies, zoning, and conditional use permit regulations to control the location and density of food and physical activity choices, including sidewalks, safe routes to schools, parks, gardens, etc., to promote healthier communities; advocate and support policies that restrict the availability, accessibility, placement, and promotion of low-nutrient-dense foods.
- **PH-1.b Increase Access to Healthy Foods/Beverages.** Support neighborhood-oriented, specific sources of healthful foods, such as farmers' markets and local outlets. Support food banks, pantries, and other sources that help provide federal food assistance to low income residents so that all families, seniors, schools, and community-based organizations are able to access, purchase, and increase intake of fresh fruits, vegetables, and other nutritious foods.
- **PH-1.e Support School and Community Physical Fitness and Nutrition Education Programs.** Develop and sustain the Marin Nutrition Wellness and Physical Activity Collaborative, comprising schools, community groups, and organizations that can help implement and support school- and community-based nutrition and physical fitness programs and policies. Develop a strategic plan around funding and support for sustainable programs.
- **PH-1.f Provide Reliable Information, Training, and Technical Assistance.** Support schools, senior centers, and community organizations in efforts to develop and implement nutrition and physical education standards and policies.

Indicator Monitoring

INDICATORS	BENCHMARKS	TARGETS
Number of servings of fruits and vegetables consumed daily by children.	53% of children ate five or more servings of fruit and vegetables in the day prior to the survey.	Percentage of children eating 5 or more servings of fruit and vegetables per day increases 10% by 2020.

Program Implementation

PROGRAMS	RESPONSIBILITY	POTENTIAL FUNDING	PRIORITY	TIME FRAME
PH-1.a – Implement Policies That Promote Healthy Eating and Physical Activity.	H&HS, Schools; Community Partners	Existing budget and may require additional grants or revenue*	High	Ongoing
PH-1.b – Increase Access to Healthy Foods/Beverages.	H&HS, Agriculture Commissioner, Farm Advisor	Existing budget and may require additional grants or revenue*	High	Ongoing
PH-1.e – Support Schooland Community Physical Fitness and Nutrition Education Programs.	H&HS, Community Partners	Existing budget and may require additional grants or revenue*	High	Ongoing
PH-1.f – Provide Reliable Information, Training, and Technical Assistance.	H&HS	Existing budget	High	Ongoing

*Completion of this task is dependent on acquiring additional funding. Consequently, funding availability could lengthen or shorten the time frame and ultimate implementation of this program.

Appendix F: Baltimore Sustainability Plan

Greening Goal 2
Establish Baltimore as a leader in sustainable, local food systems

Strategy A. Increase the percentage of land under cultivation for agricultural purposes

1. Increase the amount of food production within Baltimore City through a variety of approaches.
2. Modify zoning regulations to accommodate urban agricultural production and sales.
3. Increase the number of City farms and gardens in parks, on vacant lots, school grounds, and other appropriate and available areas.
4. Promote community gardening for food production through programs such as the existing Master Gardener Urban Agriculture Program.
5. Develop incentives and support for urban farm enterprises.

Timeframe: Mid-term
Strategy Type: Policy/Operations Changes
Funding: Grant Programs; City, State and Federal Funds; Partnerships
Lead Partners: DPR, DoP, Parks and People, Cooperative

Strategy B. Improve the quantity and quality of food available at food outlets

Implement innovative models and invigorate existing ones that improve the quantity and quality of food available at food outlets. These efforts can be aided through the use of food mapping to link food outlets to local farmers. Successful models to consider for expansion to underserved areas of the community include the Baltimore Healthy Stores model, farmers markets, and Baltimore's unique heritage of Arrabers.

Timeframe: Mid-term
Strategy Type: Partnerships
Lead Partners: Private Sector, MD Department of Agriculture, DoP, Johns Hopkins University

Strategy C. Increase demand for locally-produced, healthy foods by schools, institutions, supermarkets, and citizens.

Work with existing initiatives such as Baltimore City Public School System's Fresh Start Farm and MD Hospitals for a Healthy Environment to increase purchasing of local, organic food. This effort can be facilitated by a mapping resource to help institutions and supermarkets identify what local farms are interested in direct marketing. Developing a consumer campaign on the benefits of eating and buying food locally can help spur demand for such products.

Timeframe: Mid-term
Strategy Type: Education/Marketing
Funding: Private sector; Grant Programs; City Funds
DoH, BCPSS, Maryland Hospitals for
a Healthy Environment, Chesapeake

Sustainable Business Alliance, Other
Leading Partners: Institutional Partners

Strategy D. Develop an urban agriculture plan

Develop a plan that will promote healthy, local, and, where possible, organic food production and food professions and include multiple stakeholders currently involved in food production and job training. The plan should identify the predicted demand for urban farmed food and recommend location and distribution of urban agricultural institutions. It could also identify the best distribution of existing food networks and identify gaps that need to be filled.

Timeframe: Short-term
Strategy Type: Policy/Operations, Partnerships
Funding: Grant Programs
Lead Partners: DPR, Civic Works, Parks and People, City Schools, Cooperative Extension, Urban Agriculture Task Force

Strategy E. Implement Baltimore Food Policy Task Force recommendations related to sustainability and food

1. Promote and expand farmers markets
2. Support urban agriculture
3. Expand healthy food retailing in food deserts
4. Develop a targeted marketing campaign to encourage healthy eating among all Baltimoreans
5. Support research on food deserts and collaboration with policy makers
6. Support a central kitchen model for schools
7. Improve the food environment around schools & recreation centers
8. Support street vending of healthy foods
9. Promote and expand community supported agriculture
10. Create healthy food zoning requirement or incentives

Utilize the work of the Baltimore Food Policy Task Force which is charged with reviewing food issues throughout the city. The group is scheduled to produce a report mid-2009 with a series of recommendations to increase access to and demand for healthy, nutritious food.

Timeframe: Short-term
Strategy Type: Policy/Operations
Funding: TBD (will depend on recommendations)
Lead Partners: DoH, DoP, Local Institutions

Strategy F. Compile local and regional data on various components of the food system

Create a mapping resource for those working on local food and agriculture programs. Map will include information on local farms and agricultural institutions, processing facilities, distributors, farmer's markets, community gardens, supermarkets, hospitals, schools, restaurants, zoning and easements, economic census data, and nutritional health data. This will be used to identify additional land available for agriculture, help link suppliers and consumers, and identify geographical areas with insufficient access to fresh, healthy food.

Timeframe: Short-term
Strategy Type: Partnership
Funding: Private Sector
Lead Partners: DoP, Johns Hopkins Center for a Livable Future

Appendix G: Greenworks Philadelphia

Equity Goal: Philadelphia Delivers More Equitable Access To Healthy Neighborhoods

Target 10: Bring Local Food within 10 Minutes of 75 Percent of Residents

To help bring local food within a 10 minute walk of 75 percent of residents, Greenworks Philadelphia calls for the creation of 86 additional local food outlets by 2015.

Initiative 1

Increase access to fresh food

- To increase this access citywide, Greenworks Philadelphia calls for the creation of 59 food-producing gardens, 12 farms and 15 farmers' markets in Philadelphia

Initiative [1], Strategy A

Expand the Number of Neighborhood Farmers' Markets

- The Mayor's Office of Sustainability will work with non- and for-profit partners to target communities that have little or no access to fresh, healthy food, working, for example, with community development corporations to foster neighborhood interest in farmers' markets. This work may also involve the City providing on-site amenities needed by farmers, including nearby parking for their trucks and access to water.

Initiative [1], Strategy B

Publicize Local Food-Source Efforts

- An on-line inventory of community gardens, urban farms, farm stands and other sources of fresh food will be created, with a printed version available at neighborhood libraries and recreation centers so that Philadelphians can find the nearest fresh-food location.
- The Mayor's Office of Sustainability will combine this publicity work with an on-line Web tool that presents an inventory of land available for food-growing or gardening. The effort will be modeled after London's Capitol Growth strategy (www.capitalgrowth.org), which connects land owners willing to allow their parcels to be used for growing food (including city-owned parcels) with people and organizations that are looking for land for growing food or creating gardens.

Initiative [1], Strategy C

Provide Technical Assistance

- The Mayor's Office of Sustainability will work with academic, business and non-profit partners to connect communities and citizens with technical assistance and how-to guides for would-be farmers.
- It will also support the establishment of neighborhood-based gardening centers for residents interested in gardening and food-growing techniques. Information and supplies for food production and necessary products, such as seeds, organic pest-management programs, tools, organic fertilizers, books, classes and pots would be provided. The Horticultural Center in Fairmount Park could serve as a hub of this activity and make technical assistance available to citizens who want to grow and produce their own food.

Initiative [1], Strategy D

Leverage Vacant Land

- City agencies, such as the Commerce Department, the PWD, the Redevelopment Authority and the Department of Public Health will work with the Mayor's Office of Sustainability to create a clear, transparent process for developing vacant land into community gardens or commercial-scale farms.
- The Mayor's Office of Sustainability will also explore the use of City-owned spaces and City equipment to facilitate getting supplies to people who want to grow food locally. This planning work will address such barriers as zoning, irrigation and liability insurance as well.

- As a starting point for similar future activities, the Redevelopment Authority has asked for proposals from local organizations and commercial companies to develop temporary greenhouse structures on some of the land it owns. These greenhouses will grow fruits and vegetables, plants for green roofs and flowers for commercial sale.

Initiative [1], Strategy E

Foster School-Based Efforts

- Greenworks Philadelphia supports the work of such organizations as the Food Trust, which partners with local schools to improve the quality of food served in cafeterias, create school gardens and promote healthy food choices.
- The Mayor's Office of Sustainability will also encourage and assist local schools interested in creating on-site gardens.

Initiative [2]

Create demand for locally grown foods

- To increase demand for locally grown food, Greenworks Philadelphia supports local food-purchasing programs that have been created by Philadelphia's many hospitals and universities as well as nascent efforts to promote food-based economic development projects.
- The Mayor's Office of Sustainability will promote the use of CSA buying clubs, especially in neighborhoods without access to fresh food from other sources.
- It will also use the Delaware Valley Regional Planning Commission's supply-chain analysis that maps the region's food distribution network. This analysis demonstrates how to connect Philadelphia to the region's food producers and processors, so that food access might be increased in all city neighborhoods.

Initiative [2], Strategy A

Foster Commercial Farming

- In order to create more opportunities for economic growth using commercial farming, Greenworks Philadelphia recommends that 12 commercial agriculture projects be established in the city over the next 8 years. In order to do this, the Mayor's Office of Sustainability, in partnership with other City departments and external organizations, will help develop the infrastructure necessary to support urban farming. This infrastructure includes distribution facilities, agricultural supply centers, reliable water sources and processing facilities. Greenworks Philadelphia also proposes that a new zoning designation be created in the city to allow commercial farming.

Initiative [2], Strategy B

Encourage Distribution of Healthy Food in Neighborhood Stores

- The Mayor's Office of Sustainability will work with the Department of Public Health to explore whether neighborhood grocery stores should be required to stock a certain amount of fresh and local produce (products grown within a 100-mile radius of Philadelphia) and reduce the amount of soda product sold in relation to square footage of the store. Larger grocery stores could be required to purchase a certain dollar amount per square foot of local product and limit the amount of products with high-fructose corn syrup stocked per square foot.

Initiative [2], Strategy C

Support Food Cooperative Expansion

- The City will continue to support and encourage the growth and expansion of food co-ops in neighborhoods by considering special financing and development incentives. Doing so will allow these stores time to build membership, adjust their business models so that they adapt to local preferences and create a demand for their products and programs. Since coops provide multiple community-development benefits in addition to the products they sell, supporting their expansion as part of neighborhood public health efforts makes sense.

Initiative [3]

Entrepreneurship and workforce development opportunities and needs

Initiative [3], Strategy A

Create an Urban Agriculture Workforce Strategy to Grow Green Jobs

- The Mayor's Office of Sustainability will work with Philadelphia's Workforce Investment Board and colleges and technical schools to promote urban agriculture as a vocation, creating urban agriculture and food workforce job training programs. Youth workforce training dollars available to urban agriculture businesses could be used as well so that students could learn urban agriculture and entrepreneurship skills.
- The Mayor's Office of Sustainability will also connect would be urban agriculture entrepreneurs with local university resources to help them start their own businesses.

Initiative [3], Strategy B

Support Green Kitchen Development

- Greenworks Philadelphia supports the creation of "green kitchens" at community development corporations and other local organizations. Green kitchens teach farm-to-table cooking techniques, encouraging entrepreneurship and better nutrition among program participants.

Initiative [4]

Combating hunger and more immediate needs

Initiative [4], Strategy A

Integrate Anti-Hunger Efforts into Food and Urban Agriculture Goals

- In order to work toward and meet aggressive targets to increase Philadelphia's food security, Greenworks Philadelphia supports the anti-hunger policy platform (www.hungercoalition.org) recently released by Philadelphia's anti-hunger, nutrition and sustainable-food organizations.
- The Mayor's Office of Sustainability and the Public Health Department will convene advocates regularly to develop an action plan to reduce hunger and to promote an anti-hunger agenda in Harrisburg and Washington.

Environment Goal: Philadelphia Reduces Its Environmental Footprint

Initiative [1], Strategy 11

Composting

- To reduce the amount of food sent to landfills, Greenworks Philadelphia and the Streets Department welcome the efforts of local urban farming and other horticultural groups to encourage more food-waste composting. Larger-scale neighborhood composting sites could also be created to help restaurants and institutions dispose of waste. The resulting soil could be sold or distributed to local gardeners.

Initiative [2], Strategy 2

Reducing Solid Waste

- Another proposal to ban restaurants and fast-food outlets from using Styrofoam containers is also being considered by City Council.

Appendix H. San Francisco Sustainability Plan

SF Environment

Sustainability Plan for San Francisco
October 1996

Food and Agriculture

Drafting group

- Lynn Bagley, Marin Farmers Market
- Ocean Berg, Ti Couz Restaurant
- Ed Bolen, California Food Policy Advocates
- Ruth Brinker, Fresh Start Farms
- Maradee Davis, University of California at San Francisco, Department of Epidemiology
- Elliott Donnelley, Garden Project
- Carrie Durkee, International Society of Culture and Ecology
- David Frieders, San Francisco Agriculture, Weights and Measurements Department
- Ken Hecht, California Food Policy Advocates
- Claudia Hung, Solid Waste Management Program
- Janet Jacobs, [Recorder}, San Francisco resident
- Sibella Kraus, San Francisco Public Market Collaborative; Center for Urban Education About Sustainable Agriculture
- Brian Lease, San Francisco League of Urban Gardeners
- Sylvie Le Mer, Ti Couz Restaurant
- Diane Mintz [Co-Facilitator]
- Caleb Lefkowitz, San Francisco resident
- Jack Macy, Solid Waste Management Program
- Mohammed Nuru, San Francisco League of Urban Gardeners
- Molly O'Malley, San Francisco School District
- Sonya Ondish, Ti Couz Restaurant
- Shelley Stump, [Co-Facilitator], California Judicial Council
- Isabel Wade, [Coordinator], Commission on San Francisco's Environment; Urban Resource Systems

Introduction

Food and agriculture are critical components of a sustainability plan even for a dense, highly urbanized city such as San Francisco. Historically, large urban centers like Paris, Shanghai, and Mexico City have generated much of the food needed by city residents. Many cities in developing countries still continue to produce significant quantities of their own food within a 25-mile circle of the city center. Since most people worldwide will live in cities by the turn of the century, it is imperative, when planning for sustainability, that all cities consider the production, marketing and distribution of food, as well as the recycling of food wastes, within their boundaries and bioregions.

San Francisco has a dramatic influence on regional agriculture. More than 5,000 food-related businesses purchase enormous quantities of fresh food to meet the demand of a discriminating clientele comprised of residents, regional day workers, and visitors. Significant institutional purchasing decisions about food are made at schools, grocery stores, city and non-profit shelters, the city jail, and so on. Using locally grown, organic food instead of shipping over long distances food grown with pesticides and chemical fertilizers will have a major impact on the country's energy budget (the energy used to transport food), regional water quality and wildlife preservation, regional land use, and last (but not least) public health. San Francisco can make city policies that encourage sustainable agriculture, and private institutions and individuals can also make food-related choices that greatly influence many aspects of long-term sustainability.

In addition to food purchases, there are local opportunities for greater food production. There is still a surprisingly large

For more information please visit SFEnvironment.org or call 415-355-3700.
SFEnvironment is a department of the City & County of San Francisco.

Appendix I. Key Informant Interview Questions

Outline of Key Informant Interview Questions

Planning for Food Access: A National Scan and Evaluation of Local Plans
http://www.planning.org/research/foodaccess/

A. Plan Development
Why was food access included in the plan? What was the origin of local interest in food access? What opportunities and barriers did you face in including these components into the plan?

B. Stakeholders
What role did Governmental Stakeholders (local government departments and regional, state, and federal government agencies) and Non-Governmental Stakeholders (non-governmental organizations, groups, or individuals) play in the creation of the food access components?

C. Assessment/Existing Conditions
What types of data were used to support or inform the development of the food access components of the plan? Has anyone conducted a community food assessment or food system assessment?

D. Plan Adoption
What hurdles had to be overcome to adopt the plan? Were other food access related goals, objectives, or policies removed before the plan was adopted, or did any food access components cause a delay in the adoption process?

E. Plan Implementation
What food access components are being implemented? What local government departments or NGOs are leading their implementation?

F. Evaluation
How is the effectiveness of the food access components of the plan being measured and evaluated?

G. Impact
How has the plan improved food access disparities in your jurisdiction? What administrative and regulatory/ procedural changes have been made as a result to improve food access within your jurisdiction?

H. Other Plans, Policies, Programs, & Projects
What other local plans or policy documents in your jurisdiction address food access?

I. Final Thoughts
What have been the most important and innovative achievements with respect to food access in your jurisdiction? How could your jurisdiction improve its food access efforts? What can other planners learn from your jurisdiction's experience with planning for food access?

Appendix J. Examples of Plan Language: Vision, Guiding Principles, Goals, and Policies

While geographic differences, political context, and other social, economic and environmental factors highly influence the development of plan language, the examples listed below provide a starting point for local governments who are interested in planning for food access and the greater community food system. The original intent of each example has been maintained, however some language has been modified to improve the quality of the plan language. The examples are organized by the components of a traditional, strategic planning framework: (1) vision, (2) guiding principles (3) goals, and (4) policies.

Plan Vision

The vision statement is typically included in the beginning of a comprehensive plan and identifies the broad social, economic, and environmental values of a community. The statement includes language on what the community wants to become and hopes to look like in the future. Listed below are several concise and comprehensive examples of food system visions from various local and regional level plans across North America.

Concise Vision for a Healthy, Sustainable Food System

Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system emphasizes, strengthens, and makes visible the interdependent and inseparable relationships between individual sectors (from production to waste disposal) and characteristics (health-promoting, sustainable, resilient, diverse, fair, economically balanced, and transparent) of the system.

Example #2 *(King County Comprehensive Plan, Introduction, page 5)*
Food is as essential to our health and well-being as air and water. We support food systems that are ecologically and economically sustainable and that improve the health of all residents.

Example #3 *(Vancouver Food Charter, Preamble)*
In a food-secure community, the growing, processing and distribution of healthy, safe food is economically viable, socially just, environmentally sustainable and regionally based.

Comprehensive Vision for a Sustainable and Resilient Food System

Example #1 *(The Delaware Valley Regional Planning Commission's Eating Here: Food System Plan)*
[The municipality or county] envisions a sustainable and resilient food system in which:

- Stakeholders maintain open communication and personal connections and forge collaborative and cooperative partnerships.
- Soil, water, and other natural resources are sustained, replenished, and regenerated.
- Farmland is treasured, preserved, and available in a variety of scales and places, from rural to urban, and places in between.
- Farming is a recognized, respected, and profiTable occupation; and both current and new farmers have access to affordable land and diverse markets.
- Food and farming are cornerstones of a healthy regional economy, with adequate resources and support for business development and entrepreneurship.
- Diversity and innovation are encouraged and rewarded in the variety of crops grown, different farming practices, successful business models, and increased consumer choices.
- Food and farmworkers everywhere have decent and fair working conditions and earn a living wage.
- People have access to, can afford to buy, and know how to cook healthy food that is culturally appropriate, nourishing, and produced in ways that respect the environment and the producers.
- All of these goals can be met while being adapTable over time to changes in land, population, energy, and climate.

Example #2 *(Vancouver Food Charter)*
[The municipality or county] is committed to a just and sustainable food system that

- contributes to the economic, ecological, and social well-being of our city and region;
- encourages personal, business and government food practices that foster local production and protect our natural and human resources;
- recognizes access to safe, sufficient, culturally appropriate and nutritious food as a basic human right for all [municipal or county] residents;
- reflects the dialogue between the community, government, and all sectors of the food system;
- celebrates [the municipality or county's] multicultural food traditions.

Guiding Principles
Guiding principles are broad themes established by the community. They often crosscut and connect social, economic, or environmental aspects of a community and provide direction for achieving the community's vision. Listed below are several examples of food related guiding principles from various local and regional level plans across North America.

Health
Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system supports the physical and mental health of all farmers, workers and eaters; and accounts for the public health impacts across the entire lifecycle of how food is produced, transformed, distributed, marketed, consumed, and disposed.

Example #2 *(Portland/Multnomah Co, OR – Climate Action Plan)*
Create Healthier Residents. Walkable neighborhoods, fresh foods and clean air means healthier, more active residents. The "health dividend" is potentially vast in financial terms and invaluable in its contribution to quality of life.

Social Equity & Justice
Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system supports fair and just communities and conditions for all farmers, workers, and eaters; and provides equiTable physical access to affordable food that is health promoting and culturally appropriate

Example #2 *(Portland/Multnomah Co, OR – Climate Action Plan)*
Improve Social Equity: Disparities among our residents can be reduced by ensuring that the communities most vulnerable to climate change are given priority for green jobs, healthy local food, energy-efficient homes and affordable, efficient transportation. We can also improve equity if we ensure that impacted communities are included in the implementation of the Climate Action Plan items in a meaningful and engaging way.

Example #3 *(Vancouver Food Charter, Principles)*
Food is a basic human right. All residents need accessible, affordable, healthy, and culturally appropriate food. Children in particular require adequate amounts of nutritious food for normal growth and learning.

Economy/Economic Development
Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system provides economic opportunities that are balanced across geographic regions of the country and at different scales of activity, from local to global, for a diverse range of food system stakeholders; and affords farmers and workers in all sectors of the system a living wage.

Example #2 *(Vancouver Food Charter, Principles)*
Locally-based food systems enhance Vancouver's economy. Greater reliance on local food systems strengthens our local and regional economies, creates employment, and increases food security.

Example #3 *(Portland/Multnomah Co, OR – Climate Action Plan)*
Save Money. Using less energy in our homes, buildings, and vehicles means lower energy and transportation bills for residents, business and government. Likewise, home-grown food saves on grocery bills. The savings from reduced health-care costs of a healthy, active community are potentially most significant of all.

Example #4 *(Portland/Multnomah Co, OR – Climate Action Plan)*
Food and agriculture are central to the economic and cultural vitality of the community, with backyard gardens, farmers' markets, and community gardens productive and thriving. A large share of food comes from farms within the region, and residents eat a healthy diet, consuming more locally grown grains, vegeTables, and fruits.

Ecological Health/Resiliency
Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system conserves, protects, and regenerates natural resources, landscapes and biodiversity; and meets our current food and nutrition needs without compromising the ability of the system to meet the needs of future generations.

Example #2 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system thrives in the face of challenges, such as climate change and its effect on food production, increased pest resistance, and declining, increasingly expensive water and energy supplies.

Example #3 *(Vancouver Food Charter, Principles)*
A whole-system approach to food protects our natural resources, reduces and redirects food waste, and contributes to the environmental stability and well-being of our local, regional, and global communities.

Example #4 *(Portland/Multnomah Co, OR – Climate Action Plan)*
The region has prepared for a changed climate, making infrastructure more resilient, developing reliable supplies of water, food and energy and improving public health services. Policies, investments, and programs are in place to protect the residents most vulnerable to climate change and rising energy prices.

Celebration & Heritage
Example #1 *(Vancouver Food Charter, Principles)*
Sharing food is a fundamental human experience. Food brings people together in celebrations of community and diversity.

Example #2 *(Marin County, CA – Countywide Plan)*
Protect our agricultural assets: We will protect agricultural lands and work to maintain our agricultural heritage. We will support the production and marketing of healthy, fresh, locally grown food.

DIVERSITY
Example #1 *(Principles of a Healthy, Sustainable Food System, 2010)*
A healthy, sustainable food system includes a diverse range of food production, transformation, distribution, marketing, consumption, and disposal practices, occurring at diverse scales, from local and regional, to national and global; considers geographic differences in natural resources, climate, customs, and heritage; appreciates and supports a diversity of cultures, socio-demographics, and lifestyles; and provides a variety of health promoting food choices for all.

Collaboration And Participation
Example #1 *(Vancouver Food Charter, Principles)*
Sustainable food systems encourage civic engagement, promote responsibility, and strengthen communities. Community food security improves when local government collaborates with community groups, businesses, and other levels of government on sound food system planning, policies and practices.

Example #2 *(Principles of a Healthy, Sustainable Food System, 2010)*
Provides opportunities for farmers, workers and eaters to gain the knowledge necessary to understand how food is produced, transformed, distributed, marketed, consumed, and disposed. Empowers farmers, workers and eaters to actively participate in decision-making in all sectors of the system.

Plan Goals

Plan goals are "broad expressions of the desired future conditions of a community" and are often measured for their level of comprehensiveness. Comprehensive goals typically have a spatial and social dimension. In other words, they specify whether or not they address an entire geographic area and all groups within a community. Truly comprehensive goals will aim to address both the spatial and social dimensions. Some of the following plan goal examples have been modified or altered to be more comprehensive.

System-Wide

Increase individual, public and private sector participation in a sustainable food system. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 1]*

Ensure access by all people at all times to enough nutritious, affordable, safe and culturally diverse food for an active, healthy life. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 3]*

Maximize food and agricultural production within the city. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 5]*

Recycle all organic residuals. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 6]*

Eliminate chemical use in agriculture and landscaping. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 6]*

Use sustainable practices that enhance natural biological systems throughout the city. *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 6]*

Build a sustainable, reliable, equiTable, and resilient local food system. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, R-672, page 3-62]*

Production

Expand opportunities for local farms and enhance the rural economy. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, page 3-62]*

Preserve and sustain regional farmland as a significant source of locally grown healthy food sources that are beneficial to residents of the County. *[Kings County, CA, General Plan, Community Health, Health and Safety Element, Policy B1.2.1]*

Rural Agriculture

Protect and preserve agricultural land and resources, including soil, water, and forage. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, pg 2-157]*

Protect and preserve agricultural lands and operations outside of the city for their value for open space, habitat, flood protection, aesthetics, and food security by working with surrounding jurisdictions. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.2, page 731]*

Preserve the region's farmland while supporting and revitalizing developed areas. *[DVRPC Eating Here: Food System Plan, page 39]*

Reduce energy use and greenhouse gas emissions in food production. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, page 3-62]*

Urban Agriculture

Increase the percentage of land under cultivation for agricultural purposes. *[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy A.]*

Increase the number of city farms and gardens in parks, on vacant lots, school grounds, and other appropriate and available areas. *[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy A.]*

Every resident lives within at least ¼ mile radius of a community garden or market garden. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 2.]*

Provide opportunities for community gardens and local food production. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.3, pg. 287]*

Processing & Distribution

Provide food processing, packaging and distribution opportunities for local food growers and business.

Strengthen local and regional food distribution networks.

Develop incentives that support local food production and processing to reduce energy use, increase food security and provide a healthy local food supply. *[King County, R-622]*

Transportation

Improve motorized and non-motorized transportation options to increase utilization of and access to markets. *[Homegrown Minneapolis, Recommendation #33]*

Retail

Create demand for locally grown foods *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 2]*

Increase demand for locally produced and healthy foods by schools, institutions, supermarkets, and citizens. *[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy C.]*

Improve the quantity and quality of food available at food outlets. *[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy B.]*

Improve geographic availability of supermarkets in underserved areas. *[Recommended Community Strategies and Measurements to Prevent Obesity within the United States: Implementation and Measurement Guide, CDC 2009, http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf]*

- Measure: The number of full-service grocery stores and supermarkets per 10,000 residents located within the three largest underserved census tracts within the jurisdiction.
- Example: Healthy Food and Financing Initiative (look at California example)

Protect existing and establish additional farmers' markets to increase access to healthy, local, affordable, and culturally appropriate foods, encourage community-building, support local agriculture and economic development, and promote agritourism. http://www.nplanonline.org/sites/phlpnet.org/files/Establishing_Land_Use_Protections_for_Farmers_Markets_FINAL_WEB_20091203.pdf

Access

Provide convenient access to healthy food for all residents *[Philadelphia, PA: Philadelphia2035: The Citywide Vision Objective 1.1.4.]*

Safe, convenient access to healthy foods for all residents *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, pg. 286]*

Safe, convenient opportunities to purchase fresh fruits, vegeTables and healthy foods in all neighborhoods. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.1, pg. 286]*

Increase citywide access to healthy food choices so that all residents live within ¼ mile of a healthy food outlet. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.1, Policy P.2 pg. 286]*

Avoid concentrations of unhealthy food retailers and liquor stores within the city. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.3, pg. 287]*

Increase the diversity of locally produced foods to give residents greater access to a healthy, nutritionally adequate diet.

Increase public awareness about the importance of locally produced and organic food and agricultural products. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-3.3, pg 2-169]*

Increase food security for all residents. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-3.3, pg 2-169]*

Provide affordable, healthy foods, and fresh, locally grown fruits and vegeTables in schools and other public places. *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Policy PH-1.1, page 540]*

All Portlanders have equiTable access to public resources such as public transportation, bike and walking paths, community gardens and access to locally-grown, healthful food. *[Portland, OR: visionPDX, page 19]*

Increase the local, healthy food served at City-controlled facilities. *[Homegrown Minneapolis Recommendations, #28]*

Make local foods more available in communities that have not historically had good access to healthy foods. *[Homegrown Minneapolis Recommendations, #47]*

Improve access to healthy, safe, and affordable food for all residents, especially those with low incomes. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, page 3-62]*

Prevent the over concentration of fast food eateries, liquor and convenience stores in community district core areas. *[Kings County, CA, General Plan, Community Health, Health and Safety Element Policy B1.2.4]*

Consumption

Increase demand for locally-produced, healthy foods by schools, institutions, supermarkets, and citizens. *[Baltimore Sustainablility Plan, Greening, Goal 2, Strategy C]*

Create demand for locally grown foods *[Greenworks Philadlephia, Equity, Target 10, Initiative 2]*

Encourage and support healthy eating habits and healthy eating messages. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.2]*

Significantly increase the consumption of local food. *[Portland, OR: Climate Action Plan, 2030 Objective 15, page 53]*

Disposal

Reduce landfill disposal of food waste. *[Marin County, CA: Marin Countywide Plan, Built Environment Element, Public Facilities and Services, Goal PSF-4]*

Divert food waste from landfills. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, page 3-62]*

Plan Policies

Plan policies are "statements of actions or requirements judged to be necessary to achieve planning goals" and are often evaluated based on several criteria: (1) are they tied to a goal? (2) are they specific, as opposed to being vague or too general? and (3) are they action-oriented? The following plan policy examples were modified to meet these criteria.

System-Wide

Establish quantitative metrics for consumption of regionally sourced food. *[Portland, OR: Climate Action Plan, 2030 Objective 15, Action vi, page 53]*

Enhance coordination between all food system stakeholders, ranging from the private sector to the public sector, from local food advocates to hunger relief organizations, from farmland preservation coordinators to economic development agencies, in order to collaborate on solutions for the evolving food system. *[DVRPC Connections: The Regional Plan for a Sustainable Future, published in December 2009]*

Create City and County partnerships with healthcare, schools, and other organizations to promote healthy, low-carbon diets. *[Portland, OR: Climate Action Plan, Food and Agriculture, 2030 Objective 14, Action ii, page 52]*

Integrate sustainable food system issues, and where practical, quantitative goals and metrics, into planning processes, including the [municipality's or county's] comprehensive plan, neighborhood plans, and other strategic and functional plans. *[City of Portland, OR and Multnomah County, OR: Climate Action Plan 2009, Food and Agriculture, 2030 Objective 15, Action i, page 53]*

Food Production

Pay farmers for the ecosystem services they provide, such as carbon sequestration and groundwater recharge. *[DVRPC Eating Here: Food System Plan, page 38]*

Capitalize on the mutual benefit and connection between rural economies as food producers and urban economies as processors and consumers. *[Kings County, CA – 2035 Kings County General Plan, Health & Safety Element, Community Health, HS Policy B1.2.5, page HS-46]*

Enhance the viability of small-scale agricultural producers by addressing infrastructure needs including warehousing, distribution and cold storage. *[King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 3]*

Maintain agricultural production as the principal use on agricultural lands by limiting residential development, preventing conversion to non-agricultural uses, and prohibiting uses that are incompatible with long-term agricultural production. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, Policy AG-1.1, pg 2-157]*

Facilitate agricultural conservation easements, land conservation and farmland security zone contrast, and transfer of development rights between wiling owners when used to preserve agricultural lands and resources. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, Policy AG-1.2, pg 2-158-9]*

Prohibit non-agricultural buildings, impermeable surfaces, or other non-agricultural uses on soils classified by the Natural Resources Conservation Service as prime farmland soils or farmlands soils of statewide importance. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, Policy AG-1.10, pg 2-158]*

Maintain sustainable water supplies through water conservation, collection, treatment and reuse strategies and small-scale agricultural diversification. *[Marin County, CA: Marin Countywide Plan, Natural Systems & Agriculture Element, 2.10 Agriculture and Food, AG-1, Policy AG-1.12, pg 2-157]*

Require infill development and compact new development within the existing urban areas of the city in order to minimize the pressure for premature conversion of productive agricultural lands for urban uses. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.2, Policy ER 4.2.1, page 732]*

Work with adjacent jurisdictions to implement existing conservation plans to preserve prime farmland and critical habitat outside the city. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.2, Policy ER 4.2.3, page 732]*

Require open space or other appropriate buffers for new development abutting agricultural areas to protect the viability of existing agricultural operations outside the city and ensure compatibility of uses with residents in adjacent areas. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.2, Policy ER 4.2.4, page 732]*

Build relationships with rural and peri-urban partners to provide educational and marketing opportunities for new farmers; support preservation and increased access to farmland; develop food systems infrastructure to link rural and urban producers and consumers. *[Homegrown Minneapolis Recommendation #46]*

Forge partnerships between land trusts, public agencies, and future farmers to increase food production on protected lands within the region. *[DVRPC Connections: The Regional Plan for a Sustainable Future, published in December 2009]*

Facilitate local food production and distribution in rural, suburban, and urban areas through supportive land use ordinances. *[DVRPC Connections: The Regional Plan for a Sustainable Future, published in December 2009]*

Maintain affordable land for farmers through a range of potential innovations and new business models. These include addressing the retirement needs of farmers, identifying opportunities to transition preserved land into food production, and creating investment vehicles for long-term agricultural production on preserved land. *[DVRPC Eating Here: Food System Plan, page 35]*

Allow the permitting and construction of on-site farm employee housing uses that are incidental to an existing commercial farming operation. *[Kings County, CA – 2035 Kings County General Plan, Land Use Element, Agriculture Open Space, LU Objective B4.1, page LU-33]*

Support nonprofit organizations in their efforts to provide safe and adequate housing for farm employees. *[Kings County, CA – 2035 Kings County General Plan, Land Use Element, Agriculture Open Space, LU Objective B4.2, page LU-33]*

Assist local agencies such as the Kings County Housing Authority in developing programs for financing and building farm employee housing, as indicated in the Housing Element. *[Kings County, CA – 2035 Kings County General Plan, Land Use Element, Agriculture Open Space, LU Policy B4.2.1, page LU-33]*

Allow for the provision of a retiring farmer to retain their homesite, the creation of additional home sites for immediate family members who are actively engaged in a family farming operation on the same land, and creation of agriculturally related farm financing parcels. *[Kings County, CA – 2035 Kings County General Plan, Land Use Element, Agriculture Open Space, LU Objective B4.3, page LU-33]*

Urban Agriculture

Protect property owners rights to keep and maintain farm animals (horses, cattle) in designated portions of the City through land development regulations. *[South Jordan, UT – General Plan, Land Use Element, Policy LU-2.4, Page 6]*

Increase local food production through zoning designations that permit urban agriculture as-of right in strategic locations and allow for roof-top gardening. *[Philadelphia, PA: Philadelphia2035: The Citywide Vision Objective 1.1.4.d.]*

Overcome barriers created by zoning, irrigation issues and liability insurance in relationship to use of vacant land, equipment, and volunteers for local food production and distribution *[Philadelphia, PA: Philadelphia Food Charter, Recommendation 11.]*

Utilize school grounds and facilities as green spaces, community gardens, playgrounds and other physical activity resources for neighborhoods with little or no other access to green spaces. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, Element 4, Thriving Educated Youth, Policy T-21]*

Develop policies, guidelines, and partnerships to support affordable land ownership and/or affordable long-term leases for small enterprise urban agriculture on various types of land and rooftops. *[Homegrown Minneapolis Recommendations]*

Expand and promote existing City-sponsored small business financing opportunities and training/business development services to entrepreneurs interested in small-scale urban agriculture. *[Homegrown Minneapolis Recommendations]*

Support the development of facilities to support urban agriculture-related food aggregation, processing, distribution, food storage, and food waste management. *[Homegrown Minneapolis Recommendations]*

Identify additional policies and incentives to encourage the establishment of new green roofs and the adaptation of existing roofs for food production. *[Homegrown Minneapolis Recommendations, #23]*

Identify policies and incentives to encourage/require developers to include space for food production and distribution and composting in new developments. *[Homegrown Minneapolis Recommendations, #24]*

Develop neighborhood-level capacity, education, and tools to increase food production. [Homegrown Minneapolis Recommendations, #45] AND Support expanded access to tools and small food production equipment for small enterprise urban ag. *[Homegrown Minneapolis Recommendations, #57]*

Allow a limited number of smaller farm animals (i.e. chickens) on smaller sized residential lots with standards that will minimize impact on neighborhood properties, i.e. prohibiting roosters. *[South Jordan, UT – General Plan, Environmental/ Sustainability Element, Food Production Policy E-1.31, page 6]*

Expand and promote existing City-sponsored small business financing opportunities and training/business development services to entrepreneurs interested in small-scale urban agriculture. *[Homegrown Minneapolis, Recommendation #20]*

Develop new options for temporary or permanent repurposing of unimproved rights-of-way for public uses such as pedestrian and bikeways, community gardens, rain gardens, park spaces or neighborhood habitat corridors. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, Element 2, Healthy Connected City, 5-Year Action Plan, Action Number 123.]*

For additional examples of model plan language related to urban agriculture, see http://www.nplanonline.org/sites/phlpnet.org/files/Urban_Ag_SeedingTheCity_FINAL_20111021.pdf.

Economic Development

Incorporate farming and food into economic development policies and funding programs in recognition of the fact that the food system accounts for 10 to 30% of all economic activities within the region. *[DVRPC Connections: The Regional Plan for a Sustainable Future, published in December 2009]*

Strengthen antitrust laws in agribusiness and other food businesses to ensure a competitive and fair marketplace with diverse consumer choices. *[DVRPC Eating Here: Food System Plan, page 64]*

Support the creation of food infrastructure and food-related green jobs in production, processing, storage, distribution, and waste management. *[Vancouver Greenest City Action Plan, Goal 10, Local Food, Action 2, page 67]*

Advocate for food issues at regional, state, and national levels. *[Vancouver Greenest City Action Plan, Goal 10, Local Food, Action 5, page 67]*

Processing

Develop incentives to support local food production and processing to reduce energy use, increase food security, and prove a healthy local food supply. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-662, page 3-58]*

Work with farmers, ranchers, neighboring jurisdictions, and other interested parties to address the infrastructure and regulatory needs to process and package farm products from crops and livestock. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-660, page 3-59]*

Support the development of innovative technologies to process dairy and other livestock waste to reduce nutrients and create other products such as energy and compost. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-661, page 3-58]*

Allow agricultural processing, packing and direct sales at a size and scale appropriate to the zone in which they operate. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-659, page 3-58]*

Work with local and state health departments to develop regulations to support agricultural processing, packing and direct sales. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-659, page 3-58]*

Provide incentives for agricultural practices that maintain water quality, protect public health, protect fish and wildlife habitat, protect historic resources, maintain flood conveyance and storage, reduce greenhouse gas emissions, control noxious weeds, and prevent erosion of valuable agricultural soils while maintain the functions needed for agricultural production. *[King County, WA - King County Comprehensive Plan, Sustaining Agriculture and Farming, R-663, page 3-59]*

Develop options and incentives to encourage entrepreneurs to invest in food production processing facilities that can serve the jurisdiction or region. *[King County Comprehensive Plan, The Rural Economy, ED-503d, page 9-16]*

Distribution

Provide incentives for the production, distribution and procurement of foods from local farms. [Recommended Community Strategies and Measurements to Prevent Obesity within the United States: Implementation and Measurement Guide, CDC 2009, http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf]

Review, and revise when necessary, City regulations in order to provide a hospiTable regulatory environment for local foods operations including farmers' markets; home, community, and school gardens; restaurants; on-site and industrial composting; and year-round food production, processing, aggregation, and distribution efforts. *[Homegrown Minneapolis Recommendations]*

Re-evaluate ordinances that regulate where and how locally grown produce can be sold or distributed to the public. *[South Jordan, UT – General Plan, Environmental/Sustainability Element, Food Production Policy E-1.28, page 6]*

Transportation

Maximize multimodal access to fresh food by encouraging grocery stores, healthy corner stores, and outdoor markets at key transit nodes and within transit-oriented development zones. *[Philadelphia, PA: Philadelphia2035: The Citywide Vision Objective 1.1.4.a.]*

Coordinate to open farmers' markets at the busiest stations in the system. *[Philadelphia, PA: Philadelphia2035: The Citywide Vision Objective 1.1.4.a.1.]*

Identify opportunities to incorporate open spaces suiTable for new farmers' markets into larger development projects. *[Philadelphia, PA: Philadelphia2035: The Citywide Vision Objective 1.1.4.a.2.]*

Connect transportation services and land use planning with food access. *[DVRPC Eating Here: Food System Plan, 68]*

Retail/Sales/Marketing

Plan for current and future farmers markets by guaranteeing land tenure for markets. *[King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 4]*

Identify potential farmers' market sites on public property, including parks, schools, colleges and universities, and other institutions; on private property, including hospitals and commercial centers; and, where feasible, on streets using temporary street closures. *[PHLP, http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets]*

Require [jurisdiction]-sponsored farmers' market programs to give priority to establishing new farmers markets in neighborhoods without a currently operating farmers' market and that have a lack of access to fresh produce. *[PHLP, http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets]*

Work with and encourage school boards to offer locally grown foods in school breakfast and lunch programs and to allow schools to host farmers' markets on weekends or after school hours. *[PHLP, http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets]*

Provide venues for farmer's markets, particularly in areas that lack access to fresh and healthy foods, and encourage serving locally grown and organic foods at City public facilities. (RDR/PI) (page pdf 730) *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.1, Policy ER 4.1.1, page 730]*

Require neighborhood corner stores and markets to stock X amount of fresh and local fruits and vegeTables grown within a 100-mile radius of the municipality or county. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 2, Strategy 2, Encourage Distribution of Healthy Food in Neighborhood Stores, pg. 54.]*

Equity

Reform immigration policies to recognize the importance and needs of temporary agricultural workers. Ensure that farmworkers can anonymously file complaints of employer misconduct, attack abuses associated with labor contractors, and improve labor law compliance and communication. [DVRPC Eating Here: Food System Plan, 65]

Promote programs and strategies, especially cooperative solutions that create better living conditions for farm laborers, including improved labor housing, living wages, affordable healthcare, and human services for workers and their families. *[DVRPC Eating Here: Food System Plan, 69]*

Local Procurement

Set responsible purchasing policies that reflect equity along the value chain—from the producer to the shelf. *[DVRPC Eating Here: Food System Plan, 74]*

Access

Attract and retain high quality grocery stores and other healthy food purveyors (full-service grocery stores, farmers markets, fruit and vegeTable markets, and convenience stores or corner stores that sell a significant proportion of healthy food) as an economic development strategy. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.1, Policy P.1 pg. 286]*

Provide healthy food options at all municipal buildings and at city events where food is made available by the city. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.2, Policy P.1 pg. 287]* and *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Implementing Program PH-1a, page 540.]*

Prevent new fast food restaurants from locating near public or private schools. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.3, Policy P.2 pg. 287]*

Provide healthy food choices within schools and eliminate the sale of carbonated beverages, processed foods and foods containing transfat. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.3, Policy P.1 pg. 287]*

Control the location and density of fast food restaurants and other food retailers that promote low-nutrient-dense foods. *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Implementing Program PH-1b, page 540.]*

Restrict the availability, accessibility, placement, and promotion of low-nutrient-dense foods. *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Implementing Program PH-1b, page 540.]*

Expand access to healthy, affordable food by supporting the viability of grocery stores, local markets and community gardens in neighborhood centers. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, Element 2, Healthy Connected City, Policy H-15]*

Retain and attract grocery stores and markets in underserved neighborhoods. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, page 136]*

Provide access to locally grown and organic foods to Sacramento residents as a means of supporting local farmers, keeping agricultural lands in production, promoting sustainable agricultural practices, reducing energy expended on food transport, and preserving Sacramento's agricultural heritage. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Environmental Resources, Agriculture, Goal ER 4.1, page 730]*

Restrict availability of less healthy foods and beverages in public service venues/local government facilities. *[Recommended Community Strategies and Measurements to Prevent Obesity within the United States: Implementation and Measurement Guide, CDC 2009, http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf]*

Provide incentives to food retailers to locate in and/or offer healthier food and beverage choices in underserved areas. *[Recommended Community Strategies and Measurements to Prevent Obesity within the United States: Implementation and Measurement Guide, CDC 2009, http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf]*

Create community gardens, farmers' markets, produce stands and other similar community-based food growing projects to provide and improve access to healthy food for all residents. *[King County, WA - King County Comprehensive Plan, Promoting Public Health in the Rural Area for All, R-517, page 3-38]*

Collaborate with other organizations to develop programs that increase the ability of shoppers to use electronic forms of payment at farmers markets and farm stands. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, R-673, page 3-62]*

Examine the equiTable distribution of access to food in areas for seniors, low-income residents, and those with disabilities. *[King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 6]*

Ensure that [the majority or %] of residents live within a five-minute walk of a basket of fresh produce [need to define]. *[Vancouver Greenest City Action Plan, Goal 10, Local Food, page 67, http://vancouver.ca/greenestcity/]*

Expand the number of low-income CSA models to increase fresh food access in low-income areas, while fairly compensating farmers for their products. *[DVRPC Eating Here: Food System Plan, Page 75]*

Reduce the amount of soda product sold in relation to square footage of the store. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 2, Strategy 2, Encourage Distribution of Healthy Food in Neighborhood Stores, pg. 54.]*

Education

Provide reliable nutrition and food systems information, training and technical assistance to schools, community organizations, and other facilities. *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Implementing Program PH-1f, page 540.]*

Integrate all aspects of Farm to School programs into a robust and comprehensive education program. OR Integrate curricula on gardening, nutrition, and food systems into existing school curricula. *[DVRPC Eating Here: Food System Plan, Page 61]*

Disposal

Encourage neighborhoods, religious and social groups, and other organizations to promote the sharing of 'excess' garden produce during the growing season. *[South Jordan, UT – General Plan, Environmental/Sustainability Element, Food Production Policy E-1.29, page 6] http://www.sjc.utah.gov/pdf/GeneralPlan/Environmental.pdf*

Incentivize on-farm composting, including produce and carcasses. [*King County, WA – Acting Food Policy Council of Seattle/ King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 5]*

Support the expansion/development of a composting infrastructure in the [municipality, county or region] to ensure access to affordable sources of compost for home, community, and school gardens, and urban agriculture enterprises. *[Homegrown Minneapolis Recommendation #42]*

Appendix K. Examples of Plan Implementation Strategies

In addition to plan goals and policies, specifying how policies will be implemented, and how goals will be achieved is an essential part of quality local level plans. Implementation strategies specify the type of strategy to be used (such as regulations, standards, funding decisions, programs, or partnerships judged to be necessary to achieve plan goals). While it is not always feasible, local governments should also include information for each implementation strategy related to timeframe, funding source, lead partner responsibilities, and co-benefits. Listed below are a few innovative implementation strategy examples from local and regional level plans across North America. For the purpose of this report, some of these examples have been modified or altered.

System-Wide

Develop a [municipal or county] food strategy to coordinate all aspects of the food system. *[Vancouver, BC: Greenest City Action Plan, Goal 10, Local Food, Action 1, page 67.]*

Establish a Food Policy Council comprised of diverse, regional stakeholders to advise and guide the municipality or county's efforts while providing momentum to efforts already underway *[Philadelphia, PA: Philadelphia Food Charter, Recommendation 3.] AND [King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 8] AND [San Francisco Sustainability Plan]*

Implement the recommendations of the food policy council:

1. Promote and expand farmers markets
2. Support urban agriculture
3. Expand healthy food retailing in food deserts
4. Develop a targeted marketing campaign to encourage healthy eating among all Baltimoreans
5. Support research on food deserts and collaboration with policy makers
6. Support a central kitchen model for schools
7. Improve the food environment around schools & recreation centers
8. Support street vending of healthy foods
9. Promote and expand community supported agriculture
10. Create healthy food zoning requirement or incentives

- WHEN: short-term
- HOW: policy, operations, partnerships
- FUNDING: dependent on recommendations
- WHO: food policy council, department of health, department of planning

[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy E.]

Create a mapping resource for those working on local food and agriculture programs. Map will include information on local farms and agricultural institutions, processing facilities, distributors, farmers' markets, community gardens, supermarkets, hospitals, schools, restaurants, zoning and easements, economic census data, and nutritional health data. This will be used to identify additional land available for agriculture, help link suppliers and consumers, and identify geographical areas with insufficient access to fresh, healthy food.

- WHEN: short-term
- HOW: partnership
- FUNDING: private sector
- WHO: Planning, University

[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy F.]

Create model "food enterprise zone" incentives for urban food production, value-added and food processing, and healthy food retail conversions. [DVRPC Eating Here: Food System Plan, page 51] (Note: Food enterprise zones are areas identified as lacking access to healthy food that could have incentives such as permissible zoning in place to attract healthy-food retail and other food businesses. These zone incentives can be more effective when combined with incentives for food production, processing, and distribution facilities. Food enterprise zones can be created in urban, suburban, or rural communities that have limited access to healthy food, or in places strategically located near complementary industries, such as storage, warehousing, and wholesale market operations.)

Develop neighborhood food resource hubs or neighborhood food networks (NFNs) — partnerships of individuals, businesses and community organizations that focus on elements of the neighborhood food system including small-scale growing, processing, distribution, and composting activities — to improve residents' access to the seeds, tools, education, and connections needed to grow, process, consume, and dispose of food successfully. Coordinate NFNs by creating an overarching network of NFN leaders that encourages shared learning. *[Home Grown Minneapolis Recommendations, http://www.gardeningmatters.org/]*

Organize regional food celebrations and community events to enjoy and learn about our regional food assets. *[DVRPC Eating Here: Food System Plan, page 59]*

Production

Develop technical assistance programs or market-based solutions that enable farmers to protect natural resources. *[DVRPC Eating Here: Food System Plan, page 37]*

Create a specialized program to reduce the barriers of entry for new food entrepreneurs and new, beginning, and minority farmers, and encourage value-added activities. Examples include training programs and revolving loan, micro-loan, and low-interest loan funds. *[DVRPC Eating Here: Food System Plan, page 44]*

Establish a farm health connection program, composed of a coalition of health providers, for migrant and seasonal farmworkers. The program will develop targeted outreach, assess the unmet healthcare needs, and establish the foundation for federally qualified healthcare centers specifically for migrant and seasonal workers. Serivces will range from dental vouchers to primary care. *[DVRPC Eating Here: Food System Plan, 69 (State of Vermont, Department of Health, Agency of Human Services, Vermont2010 Healthy Workers Program: Report to the Legislature on Act 61, Section 44 and 45)]*

Develop a municipal ordinance for on-farm labor housing. The ordinance will define the permitted and conditional uses and will outline a process for review and compliance of standards. *[DVRPC Eating Here: Food System Plan, 69 (County of Burlington, New Jersey, Model Ordinance: Farm Labor Housing, Draft prepared by American Farmland Trust for Burlington County Farmland Preservation Program, administered by Burlington County Agricultural Development Board, 2010.)]*

Urban Agriculture

Develop an urban agriculture plan that will promote healthy, local and, where possible, organic food production and food professions and include multiple stakeholders currently involved in food production and job training. The plan should identify the predicted demand for urban-farmed food and recommend location and distribution of urban agricultural institutions, and also identify the best distribution of existing food networks and identify gaps that need to be filled.

- WHEN: short-term
- HOW: policy, operations, partnerships
- FUNDING: grant
- WHO: civic works, parks and recreation, school district, cooperative extension, food policy council, planning)

[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy D.] – see Minneapolis Urban Ag Plan

Develop an overarching policy framework that establishes a citywide vision and support for urban agriculture (i.e. urban food production and distribution); inventories public and private land available and suiTable for urban agriculture or food distribution; and makes readily available land more accessible for these purposes. *[Homegrown Minneapolis Recommendations, #25]*
Create an on-line inventory of community gardens, urban farms, and other sources of fresh food. Provide a printed version in neighborhood libraries and recreation centers. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 1, Strategy 2, Publicize Local Food-Source Efforts, pg. 52.]*

Create an on-line web tool of public and private land available for food growing and gardening to connect landowners with people and organizations looking for land to grow food. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 1, Strategy 2, Publicize Local Food-Source Efforts, pg. 52.]* – See www.capitalgrowth.org

Create an online "match-making" service to connect people seeking land with property owners. [Homegrown Minneapolis, Recommendation #55, Yards to Gardens (www.y2g.org)]

Create a clear, transparent process for developing vacant land into community gardens or commercial-scale farms. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 1, Strategy 4, Leverage Vacant Land, pg. 52.]*

Create a new land use category for urban agriculture to aid in long-term planning and land security for urban farmers and community gardeners. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 1.]*

Create an urban agriculture workforce strategy to grow green jobs. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 3, Strategy 1, pg. 55.]*

Create an urban agriculture and food workforce job-training program. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 3, Strategy 1, pg. 55.]*

Develop web-based resources that provide a one-stop-shop for information about urban agriculture enterprise development, City regulations/policies, business development services and other resources. *[Homegrown Minneapolis Recommendation #31]*

Establish tax incentives for private landowners to lease land to urban farmers, including creating an agricultural tax status for private land use for urban agriculture purposes. *[Homegrown Minneapolis, Recommendation #41]*

Create infrastructure to support urban gardening and farming and large-scale local food sourcing, including distribution facilities, agricultural supply centers, and a reliable, economical water source and processing facilities. *[Philadelphia, PA: Philadelphia Food Charter, Recommendation 6.]*

Conduct a water access study to explore news ways of bringing water to urban agriculture sites including maximizing the use of rainwater runoff from adjacent building roofs, leaving water lines to properties after demolition of buildings, etc. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 6.]*

Develop a policy to streamline farmers and gardeners access to water. Establish municipal water rates that incentivize and promote agricultural uses. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 5.]*

Develop distribution facilities, agricultural supply centers, reliable water sources and processing facilities to support urban farming. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 2, Strategy 1, Foster Commercial Farming, pg. 54.]*

Integrate permanent community garden space in neighborhood planning. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 3.]*

Modify zoning regulations to accommodate urban agricultural production and sales. *[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy A.] [Doral, FL: City of Doral Green Master Plan: Green Design for a Sustainable Future, Green Principle 8, City Agriculture, Action Strategy 6.]*

Modify zoning regulations and building standards to permit rooftop food production in residential and non-residential buildings. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.4, Policy P.4 pg. 287]*

Develop standards and guidelines for community gardens and urban agriculture sites on public lands to ensure transparency, continuity of use, and community benefit. *[Philadelphia, PA: Philadelphia2035: The Citywide Vision, Objective 1.1.4.e.] [Doral, FL: City of Doral Green Master Plan: Green Design for a Sustainable Future, Green Principle 8, City Agriculture, Action Strategy 7.]*

Develop and adopt urban agriculture design guidelines that provide developers with overall guidance on how to design urban agriculture as private and common outdoor space; how to co-locate it with other amenities such as covered outdoor space, children's' play areas, community kitchen or park; and how to design appropriate support facilities such as water access, storage, composting, lighting and hoop houses. *[Vancouver, BC, http://vancouver.ca/ctyclerk/cclerk/20090120/documents/p2.pdf]*

Processing & Distribution

Create a "healthy/sustainable food" public-private fund that finances small enterprise urban agriculture as well as food distribution, storage, processing, retail, food waste management enterprises, etc. *[Homegrown Minneapolis, Recommendation #39]*

Develop a food-related incubator to assist the development of local food businesses, and a central food hub that can provide space for the assembly, storage, and distribution of food from local farms and the processing and development of local food products. *[Vancouver, BC: Greenest City Action Plan, Goal 10, Local Food, Action 2, page 67.]*

Develop a food value chain, or a business network coordinates food producers, distributors, and sellers to achieve common financial and social goals. The key business practices of food value chain should include:

- Recruiting producers and developing producer networks
- Identifying, branding, and marketing differentiated farm products
- Managing infrastructure to transform, pack, and transport farm products
- Negotiating with buyers to secure a fair return for the producers

[USDA AMS, Moving Food Along the Value Chain: Innovations in Regional Food Distribution, http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=stelprdc5097504]

Create a food business development center and provided municipal start-up funds, such as matching loans at a two percent interest, and access to technical assistance tailored to the individual needs of each business venture for businesses based in [the municipality or county]. *[Homegrown Minneapolis Business Development Center, www.minneapolismn.gov/cped/ba/cped_homegrown_business_center, AND Guide to Starting a Local Food Business in Minneapolis – www.minneapolismn.gov/www/groups/public/@health/documents/webcontent/convert_258630.pdf]*

Transportation

Expand access to farmers markets by expanding the hours of existing farmers markets, establish new farmers markets in transit accessible locations, expand transit service to bring residents to ad from farmers markets, and allow farmers

markets on public property at minimal cost to the vendors. *[South Gate, CA: South Gate General Plan 2035, Chapter 7, Healthy Community Element, Goal HC 5, Objective HC 5.1, Policy P.3 pg. 286]*

Retail

Adopt zoning regulations that establish farmers' markets as a permitted use in appropriate locations. *[PHLP, http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets]*

Develop a consumer campaign on the benefits of eating and buying food locally.

- WHEN: mid-term
- HOW: education, marketing
- FUNDING: city funds, grant program, private sector
- WHO: department of health, NGOs, cooperative extension, food policy council, department of economic development
- CO-BENEFITS: health, economic development

[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy C.]

Develop and adopt a food policy and procurement program that incorporates organic and locally grown foods into cafeteria services, the jail, and County-sponsored events. *[Marin County, CA]*

Adopt a procurement policy to increase purchases of locally grown, fresh foods. *[King County Comprehensive Plan, Rural Legacy Area and Natural Resource Lands, Agriculture and the Food System, R-673, page 3-62]*

Develop and implement a local food procurement plan to make local food available in community centers, parks, neighborhood houses, and other *[municipal/county]-run facilities. [Vancouver, BC: Greenest City Action Plan, Goal 10, Local Food, Highest Priority Action 3, page 66.]*

Access

Develop a farm-to-institution program or work with existing farm-to-institution programs for local schools and hospitals.

- WHEN: mid-term
- HOW: education
- FUNDING: city funds, grant program, private sector
- WHO: department of health, hospital organization, school district, cooperative extension, food policy council, department of economic development
- CO-BENEFITS: health, economic development

[Baltimore, MD: The Baltimore Sustainability Plan, Chapter 7: Greening, Strategy C.]

Retain and recruit grocery stores and other sources of healthy food (e.g., farmers markets and small market farms) as key components of neighborhood centers by creating/expanding the Healthy Retail Initiative to support and encourage owners of existing small markets and convenience stores to provide healthy, affordable and culturally-relevant food, especially in underserved neighborhoods. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, Element 2, Healthy Connected City, 5-Year Action Plan, Action 108] Partners BPS, Multnomah County]*

Create 1,000 community garden plots, focusing in areas accessible to neighborhood hubs and higher density housing, by pursuing opportunities to repurpose publicly-owned land and through public-private partnerships. *[Portland, OR: The Portland Plan, Recommended Draft, March 2012, Element 2, Healthy Connected City, 5-Year Action Plan, Action 109] Partners PP&R, SUN]*

Develop an action plan to reduce hunger and promote an anti-hunger agenda. *[Philadelphia, PA: Greenworks Philadelphia, Equity, Target 10, Initiative 4, Strategy 1, pg. 56.] – see www.hungercoalition.org*

Develop and sustain a wellness and physical activity collaborative, comprising of schools, community groups, and organizations that can help implement and support school- and community-based nutrition and physical fitness programs and policies. Develop a strategic plan around funding and support for sustainable programs. *[Marin County, CA: Marin Countywide Plan, Socioeconomic Element, Goal PH-1, Implementing Program PH-1e, page 540.]*

Facilitate the implementation and evaluation of a citywide Electronic Benefits Transfer (EBT) and/or Farmers Market Nutrition Program (FMNP) system that will allow residents to use food stamps at any farmers' market or farm stand in the city. *[Homegrown Minneapolis Recommendations, #29]*

Creating a healthy food zone around schools by regulating the location of fast food restaurants (and mobile food vendors) http://www.nplanonline.org/sites/phlpnet.org/files/nplan/HealthyFoodZone_Ordinance_FINAL_091008.pdf

Increasing access to fresh produce by creating a permit program for sidewalk produce vendors http://www.nplanonline.org/sites/phlpnet.org/files/nplan/Produce%20Cart%20Ordinance_FINAL_20100222.pdf

Conduct a farmers' market assessment to identify barriers to operations, and opportunities for improvement and streamline the farmers' market permitting process by creating a step-by-step guide for new farmers' markets on how to get a zoning permit and health permit for new farmers' markets. Ensure that the assessment and streamlining process:

- Includes farmers' market operators and vendors in the assessment process.
- Reviews farmers' market permitting process.
- Removes barriers for development of new farmers' markets.

[Language based on key informant interviews with city staff from Baltimore, MD]

Require all farmers' markets, including new farmers' markets, to accept SNAP benefits as payment. *[Language based on key informant interviews with city staff from Baltimore, MD]*

Maximize food assistance programs and create more incentives for participants to obtain healthy foods by:

- Expanding the outlets authorized to redeem Supplemental Nutrition Assistance Program (SNAP) benefits, particularly those outlets with options for affordable healthy food located in underserved neighborhoods.
- Expanding Electronic Benefits Technology capacity at farmers' markets and other fresh food outlets.
- Incentivizing the use of SNAP benefits to purchase healthy food by offering additional value.

[DVRPC Eating Here: Food System Plan, Page 54]

Develop a comprehensive disaster preparedness plan to ensure safe access to food and water to residents during natural disaster or other emergency situations. *[King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 7]*

Develop municipal, or county nutrition standards and labeling requirements for food that is served at cafeterias and in vending machines in publicly owned or managed facilities. *[DVRPC Eating Here: Food System Plan, Page 54]*

Amend the zoning code to include definitions for specific food retail types (including large grocery store, small grocery store, neighborhood market, and convenience store), and increase access to fresh food by allowing small grocery stores as a permitted use in all the city's commercial zoning districts. *[Santa Rosa, CA, http://ci.santa-rosa.ca.us/departments/communitydev/Pages/GroceryStore_GPA.aspx]*

Adopt an urban agriculture overlay district to allow the development of urban agriculture on [municipal or county]-owned properties in low-income areas of the [municipality or county], which would allow [the municipality or county] to target the provision of greater access to fresh fruits and vegeTables in underserved areas.

Establish financial and zoning incentives for developers seeking to construct new or renovate existing retail space for full-service grocery stores in specific, low-income neighborhoods. In exchange for providing 30% of retail space for perishable foods and 8% of retail space for fresh produce, food retail developers in pre-determined, low-income neighborhoods would be allowed additional floor space, taller buildings and less parking in residential, commercial and mixed-use zoning districts than regular grocery store developers. *[New York, New York FRESH Program, http://www.nyc.gov/html/misc/html/2009/fresh.shtml]*

Adopt an ordinance to limit the use of restrictive covenants, so that abandoned food retail sites can be used for new food retail development. *[Chicago, IL, http://www.metroplanning.org/news-events/article/3293]*

Develop a virtual supermarket program to increase access to healthy foods for low-income residents with low vehicle / low internet access by providing them an opportunity to place and receive grocery orders at their local library and elementary school without paying a delivery fee. *[Baltimore, MD: Baltimarket, http://baltimarket.org/]*

Create a healthy carryout program to increase promotion and availability of healthy food options in a way that is cost-effective for vendors. *[Baltimore, MD: Baltimore Healthy Carryouts, http://baltimorecity.gov/Government/AgenciesDepartments/Planning/BaltimoreFoodPolicyInitiative/PublicMarkets.aspx]*

Develop a healthy food vending program to provide healthy food in low-income communities. The program will provide cart owners with electronic benefit transfer (EBT) machines to accept food stamps, business training, and food safety training to operate municipally-sanctioned fresh produce stands in low-income communities. *[Philadelphia, PA: Healthy Carts, http://foodfitphilly.org/eat-healthy/healthy-carts/]*

Provide additional vending permits, beyond the municipal or county permit cap, to vendors that sell only raw fruits and vegeTables in pre-determined food desert areas. *[New York City Green Carts Program, http://www.nyc.gov/html/doh/html/cdp/cdp_pan_green_carts.shtml]*

Develop a healthy corner store program to improve healthy food options in small convenience stores, bodegas, or other small stores. *[Philadelphia, PA: Healthy Corner Stores Program, http://foodfitphilly.org/eat-healthy/healthy-corner-stores/]*

Develop an incentive or double value redemption program to increase the purchasing power of federal food assistance in supporting healthy food purchases at farmers' markets and other healthy food retail outlets. *[Minneapolis, MN: Market Bucks, www.minneapolismn.gov/www/groups/public/@health/documents/webcontent/wcms1q-068667.pdf; Philadelphia, PA: Philly Food Bucks, DVRPC Eating Here: Food System Plan, page 66]*

Develop a mini farmers' market program to bring food to areas with reduced access and increase awareness of farmers' markets, and provide resources for the early stage start up and promotion of mini markets in [the municipality or county]. *[Homegrown Minneapolis Recommendation #47]*

Disposal

Develop a [regional, county, or municipal] gleaning program to collect excess food from area farms and community gardens, and distribute the food to area food providers, such as food banks, pantries, and soup kitchens. *[DVRPC Eating Here: Food System Plan, page 68, New Jersey Farmers Against Hunger and Philabundance]*

Implement a mandatory commercial food waste collection program. *[Portland, OR: Climate Action Plan, 2030 Objective 11, Action i, page 48]*

Develop a municipal composting facility. *[Cleveland, OH: Reimagining a More Sustainable Cleveland, Policy Recommendation, Urban Agriculture, Recommendation 7.]*

Develop a municipal or county food waste collection program for all single-family and multi-family residences in the jurisdiction. *[Marin County, CA: Marin Countywide Plan, Built Environment Element, Goal PSF-4, PFS-4.1]*

Provide weekly curbside collection of food waste, other compostable materials and recycling. Shift standard residential garbage collection to every other week. *[Portland, OR: Climate Action Plan, 2030 Objective 12, Action i, page 49]*

Examine successful food recovery and food waste removal programs and develop pilot programs on a jurisdiction-wide level. *[King County, WA – Acting Food Policy Council of Seattle/King County, Support and Recommendations for the 2008 King County Comprehensive Plan, page 4]*

Develop a food waste-recycling program. *[Sacramento, CA: Sacramento 2030 General Plan, March 2009, Utilities, Solid Waste, Goal U 5.1, 2, Policy U 5.1.13, page 649]*

Start or expand gleaning programs that harvest local food from farmers and help feed the food insecure. *[DVRPC Eating Here: Food System Plan, Page 66]*

Appendix L. Examples of Plan Evaluation and Monitoring Strategies

In order to evaluate progress in achieving food-related plan goals, local governments need to track and monitor characteristics of the food system over time. There are several key ways a municipality or county can collect information about their food system. First, they can develop indicators or quantifiable and measurable social, economic, and environmental characteristics of a community that can be tracked over time. Local governments should collect relevant food system data at the outset of the planning process to inform the development of food-related goals and policies, but also at specific points in time after the adoption and implementation of the plan. By collecting baseline information about these indicators and setting targets to be achieved by a specific date for each indicator, a local government can measure progress in achieving its goals. Table X provides examples of indicators and targets used or developed by municipalities and counties across North America and other leading non-profit and research organizations. Listed below are examples of the data collection methods of a few local governments in North America.

TABLE L1. FOOD SYSTEM INDICATORS, MEASURES, BENCHMARKS AND TARGETS

INDICATOR	MEASURE	BENCHMARKS	TARGETS
Public Health [Healthy People 2020]	Percent of adult population that is obese, obesity measured by body-mass index (U.S. Centers for Disease Control and Prevention)	X% of adult population is obese or overweight	Fewer than 30% of adult population is obese in 2020 Fewer than 25% of adult population is obese or overweight in XXXX year
Healthy Eating [Marin County, CA]	Number of servings of fruits and vegetables consumed daily by children.	X percent of children ate five or more servings of fruits and vegeTables in the day prior to the survey in 2010.	Percentage of children eating five or more servings of fruit and vegetables per day increases 5 % by XXXX year and 10% by XXXX year.
Healthy Eating [Marin County, CA]	Annual fruit and vegeTable sales of farmers' markets	X dollars in 2010	Increase annual sales 10% by XXXX year and 15% by XXXX year.
Farmland Preservation [Marin County, CA]	Acres of growing space used for organic, local food production	X acres in 2010	Increase X% by 2015 and X% by 2020.
Farm Profitability [DVRPC]	Number of farms reporting net gains ("Net gains" are defined as farm sales outweighing expenses, without including government payments. United States Department of Agriculture's (USDA) Census of Agriculture and USDA's 2008 Organic Production Survey)	X number of farms reporting net gains	X number of farms reporting net gains in XXXX year

TABLE L1. FOOD SYSTEM INDICATORS, MEASURES, BENCHMARKS AND TARGETS			
INDICATOR	**MEASURE**	**BENCHMARKS**	**TARGETS**
Food Access	Number of [farmers' markets, full-service grocery stores, fresh food markets, or healthy corner stores] located at key transit nodes and within transit-oriented development zones.	X number of farmers markets	Increase X% by 2015 and X% by 2020.
Food Access	Percent of residents within ¼ mile of a community garden.	X percent of residents	75% of residents in XXXX year 100% of residents in XXXX year
Food Access [Vancouver]	Percent of residents within a 5-minute walk of fresh produce.	X percent of residents	75% of residents in XXXX year 100% of residents in XXXX year
Food Access [Seattle]	One community garden per 2,500 households	X number of community gardens per 2,500 households	X number of community gardens per 2,500 households in XXXX year
Food Access [PHLP]	One community garden of no Fewer than 1 acre for every 2,500 households	1 community garden for every XXXX households	1 community garden for every XXXX households in XXXX year
Food Access [Portland, OR: The Portland Plan, Recommended Draft, March 2012]	Percent of residents who live within a half-mile of a store or market that sells healthy, affordable food	X percent of residents	75% of residents in XXXX year 100% of residents in XXXX year
Healthy Food Access [PHILATool]	Ratio of healthy food sources to fast food outlets	X healthy food sources per X fast food outlets	X healthy food sources per X fast food outlets in XXXX year
Urban agriculture	Square feet of land zoned to permit urban agriculture as of right	X square feet of land	X square feet of land in XXXX year
Food Assistance	Percent of fresh food vendors accepting federal food assistance	X percent of fresh food vendors accepting federal food assistance	50% of fresh food vendors accepting federal food assistance in XXXX year 100% of fresh food vendors accepting federal food assistance in XXXX year

TABLE L1. FOOD SYSTEM INDICATORS, MEASURES, BENCHMARKS AND TARGETS			
INDICATOR	**MEASURE**	**BENCHMARKS**	**TARGETS**
Healthy Food Purchases [DVRPC]	Percent of household expenditure spent on fruits and vegeTables compared to percent of household expenditure spent on other food at home (process, prepared or frozen foods) (The U.S. Centers for Disease Control and Prevention (CDC) collects household expenditure data to estimate what Americans purchase and eat)	X percent of household expenditures on fruits and vegeTables X percent of household expenditures spent on other food at home	X% increase in household expenditures on fruits and vegetables AND X% decrease in household expenditures spent on other food at home by XXXX year
Food Systems Education *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 1, Long-Term Objective 1-C and 5-Year Plan Objective 1-C-1]*	Percent of schools with a sustainable food/agricultural and nutrition curriculum at every grade level	X percent of schools with a sustainable food/agricultural and nutrition curriculum at every grade level	5-year target: 25% 10-year target: 50%
Food Systems Education *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture Indicator]*	Number of school, vocational and community education and training programs about sustainable agriculture and nutrition	X number of school, vocational and community education and training programs about sustainable agriculture and nutrition	5-year target: 25% 10-year target: 50%
Local Food Procurement *[San Francisco, CA: Sustainability Plan for San Francisco 1996, Food and Agriculture, Goal 4, Long-Term Objective 4-B and 5-Year Plan Objective 4-B-1]*	Percent of local produce purchased by government and government institutions	X percent of local produce purchased by government and government institutions	5-year target: 25% 10-year target: 50%
Farmers' Market Access *[Recommended Community Strategies and Measurements to Prevent Obesity within the United States: Implementation and Measurement Guide, CDC 2009]*	Total annual number of farmer-days at farmers markets per 10,000 residents within a local jurisdiction	X annual number of farmer-days at farmers markets per 10,000 residents within a local jurisdiction	X annual number of farmer-days at farmers markets per 10,000 residents within a local jurisdiction in XXXX year

TABLE L1. FOOD SYSTEM INDICATORS, MEASURES, BENCHMARKS AND TARGETS			
INDICATOR	**MEASURE**	**BENCHMARKS**	**TARGETS**
Local Food System Assets *[Vancouver Greenest City Action Plan, Goal 10, Local Food, page 69]*	Number of Food Assets (resources, facilities, services or spaces that strengthen the city's food system: neighborhood food hubs, community kitchens, farmers markets, community produce stands or mini-markets, food scraps composting facilities, community garden plots, urban orchards, urban farms	Percent Increase in Number of Food Assets	Increase by 100% by XXXX year
Food Waste Recovery *[Portland, OR: Climate Action Plan, 2030 Objective 11, page 48]*	Percent of generated food waste recovered	X percent of generated food waste recovered	50% of generated food waste recovered in XXXX year 75% of generated food waste recovered in XXXX year

Land Capacity Analysis

The City of Minneapolis, as part of their Urban Agriculture Policy Plan conducted a land capacity analysis to explore the potential conflict of using public land for urban agriculture uses verses promoting its redevelopment. The analysis identified and mapped vacant land (both public and private owned), surplus land, and land demand. *[Minneapolis, MN: Urban Agriculture Policy Plan, Chapter 4: Issues and Opportunities, page 34-39]*

Food Asset Mapping

As part of the Homegrown Minneapolis project, the City of Minneapolis conducted a food asset assessment and created a food system asset map to identify the number and locations of food assets throughout the community, including: fresh food outlets, grocery stores, healthy corner stores carrying fresh fruits and vegeTables, farmers markets (mini-markets, municipal markets, public markets), food producing community gardens, community kitchens, wholesale food businesses, mobile food vendors, food pantries, CSA drop-off locations, food co-ops, soup kitchens, and meal delivery programs. In addition to these food assets, the City of Minneapolis also mapped grocery store location, poverty concentration, and bus network data to identify inequities across the system. *[Minneapolis, MN: Homegrown Minneapolis, Mapping of 2011 Food System Data]*

Equal Access to Healthy Food Sources Analysis

As part of the City of Minneapolis' Urban Agriculture Policy Plan, the City conducted an analysis of geographic proximity and transportation access to healthy food sources (farmers' markets, existing community gardens, and full-service grocery stores) by mapping the location of healthy food sources and other socio-demographic, land use, transportation, and health data, including: population density, population change, location of public transportation network; poverty concentration; concentration of people of color; obesity; and car ownership. *[Minneapolis, MN: Urban Agriculture Policy Plan, Chapter 4: Issues and Opportunities, page 40-47]*

Food System Study

The Delaware Valley Regional Planning Commission conducted an evaluation and analysis of the regional food supply. The study included a food stakeholder analysis, and; an in-depth analysis of agricultural resources and production trends, natural resources constraints, the origins and destinations of food imports and exports, and the economic significance of the food economy. The study served as the baseline for establishing indicators to measure the region's progress and formed the

foundation for the regional food plan. *[Greater Philadelphia Food System Study http://www.dvrpc.org/reports/09066A.pdf]*

Food System Stakeholder Analysis

As part of its regional food study, the Delaware Valley Regional Planning Commission conducted a Food System Stakeholders Analysis to identify and analyze who is doing what, and where, and how stakeholders interact with each other. The analysis identifies the key stakeholders, policymakers, and other individuals who are actors and experts in various food system areas, including: farmers; processors and manufacturers; distributors; food retailers, restaurateurs, and purchasers; nonprofit organizations (including institutions); government employees and elected officials; support businesses (such as suppliers or insurance providers); professional organizations; and interested citizens. *[Delaware Valley Regional Planning Commission's Greater Philadelphia Food System Study, http://www.dvrpc.org/reports/09066A.pdf]*

Food Access Assessment & Mapping

The cities of Baltimore, Cleveland, Philadelphia, and Portland conducted baselines assessments of food access within their respective jurisdictions. These assessments included the collection and mapping of data such as distance to supermarkets, farmers markets, community gardens, corner stores, fast-food restaurants and other pre-defined food stores; poverty concentration; vehicle availability' quality and availability of health food sold; socioeconomic characteristics; and health outcomes. Baltimore focused on mapping of food deserts, which they define as "an area where the distance to a supermarket is more than ¼ mile, the median household income is at or below 185% of the Federal Poverty Level, over 40% of households have no vehicle available, and the average Healthy Food Availability Index score for supermarkets, convenience and corner stores is low (measured using the Nutrition Environment Measurement Survey)." In partnership with Johns Hopkins Center for a Livable Future, the city of Baltimore created a food desert map highlighting access to healthy food based on resident's distance to supermarkets, poverty (measured relative to the Federal Poverty Level), vehicle availability, and the quality and availability of healthy food in all food stores. These maps define the areas of greatest need and track progress of food access throughout the city. *[Baltimore, MD: 2012 Baltimore City Food Environment Map Methodology, http://baltimorecity.gov/Portals/0/agencies/planning/public%20downloads/Food%20Desert%20Methodology%20Brief.pdf; Cleveland, OH: Reimagining a More Sustainable Cleveland; Philadelphia, PA: Philadelphia Vision 2035; Portland, OR: The Portland Plan Background Report, Food Systems Infrastructure]*

Healthy Food Assessment

Baltimore conducted a food assessment of its 6 public markets to determine what types of prepared foods are available in each market; what types and how many food vendors are in each market; what types of food preparation equipment was used by vendors; and how healthier items could be introduced based on the type of prepared food vendor. *[Baltimore, MD: Healthy Food Assessment: Baltimore's Public Markets, http://baltimorecity.gov/Portals/0/agencies/planning/public%20downloads/Recent%20Food%20Assessment.pdf]*

Health Indicator & Assessment Tool

In partnership with the City Planning Commission, the Philadelphia Department of Public Health developed a tool that measures the city's progress towards each objective of the city's comprehensive plan. By establishing 71 measurable indicators, each tied to a specific objective, and incorporating demographic data from the US Census and local data on health outcomes, the tool will be used to assist planners, decision-makers, and the public in understanding the connections between the built environment and public health, and how the city is improving health outcomes over time. *[Philadelphia, PA: PHILA Tool: The Planning and Health Indicator List & Assessment Tool]*

Health Assessment

As part of measuring existing conditions for the comprehensive planning process, the city of South Gate in partnership with the Los Angeles County Department of Public Health conducted an assessment of overall health. Data considered in this assessment included rates of obesity, death rates from diabetes, consumption of unhealthy foods, physical activity rates, injuries and fatalities from traffic collisions, access to healthcare, rates of poverty and unemployment, and rates of adult asthma, childhood asthma and chronic respiratory illness. *[South Gate General Plan, Chapter 7, Health, pages 270-275]*

ENDNOTES

1 Resources include but are not limited to land, water, soil, and seeds.

2 Food assets include community or individual food production opportunities (e.g., private and community gardens), community kitchens, and food pantries and food banks.

3 Food retail outlets include farmers markets and stands, public markets, mini or pocket markets, sit-down and take-out restaurants and cafeterias, supermarkets, grocery stores, convenience stores, and other small stores that sell food to consumers.

4 Sustainable development is defined as "a dynamic process in which communities anticipate and accommodate the needs of current and future generations in ways that reproduce and balance local social, economic, and ecological systems, and link local actions to global concerns" (Bereke and Conroy 2000).

5 These topics included: rural agriculture, urban agriculture, food processing, food distribution, food marketing, food retail, food access and availability, food assistance, food consumption, and food waste.

6 Groups and government agencies listed in the survey as answer choices included: local planning, health, environmental planning, economic development, housing, engineering, agriculture, public works, or public safety agency/department; local planning commission, board of health, food policy council of coalition, cooperative extension, school board, public health and planning advisory committee, bicycle and pedestrian advisory committee; community residents, community based organization(s), university, or college.

7 See introduction.

8 These principles are listed in the introduction of the report.

9 See www.census.gov/geo/www/us_regdiv.pdf.

10 See www.census.gov/geo/www/us_regdiv.pdf.

11 The reliability score is a measure of inter-rater reliability, or the number of coder agreement for items divided by the total number of items. According to the literature, a score in the range of 80 percent is generally considered acceptable (Miles and Huberman 1994).

12 The food access score is the number of food access plan components (vision, guiding principles, goals, objectives, policies, and implementation actions) that address the following: (1) the fairness principle; (2) the food system topics of availability and assistance, federal assistance, and community assistance; and (3) the food strategies related to urban agriculture; access to fast food restaurants, supermarkets, farmers markets, community gardens; and healthy food sold at small grocery stores, convenience stores, liquor stores, fast-food restaurants, full-service restaurants, and mobile vending. For a full list of all the food system metrics, including the ones referenced here, see Appendix D.

13 The fairness principle; the food system topics of availability and assistance, federal assistance, and community assistance; and the food strategies related to urban agriculture; access to fast-food restaurants, supermarkets, farmers markets, community gardens; and healthy food sold at small grocery stores, convenience stores, liquor stores, fast-food restaurants, full-service restaurants, and mobile vending. For a full list of all the food system metrics, including the ones referenced here, see Appendix D.

14 Several of the jurisdictions in our sample did not respond to interview requests.

15 See www.smartgrowth.org/why.php.

16 See www.epa.gov/dced/about_sg.htm.