PAS MEMO

Community Food System Assessments

By Kara Martin, AICP, and Tammy Morales

With the exception of rural planners who focused on the loss of farmland, planners have not historically considered food as part of their scope. It was not until the beginning of this century that planners started addressing the many ways in which municipal planning affects food production and delivery and a community's access to healthy food.

In the mid-2000s a tool was developed to identify communities faced with food access challenges, particularly as a result of built environment factors. Known as the "food desert" tool, this mapping analysis overlaid two datasets: proximity to a supermarket and low-income areas. The areas that fell outside of a distance measure (e.g., one mile in urban areas) where a significant portion of the population was low-income was considered a "food desert." Unfortunately this simplistic tool falls short of truly identifying and understanding the complexity of food access issues a community may face.

In contrast to the food desert approach, *a community food system assessment* provides a more comprehensive tool to identify the assets and barriers for a community's food system. Conducted at the neighborhood, city, or even regional level, this assessment tool offers a systems approach that provides planners with ways to identify issues and solutions, engage the community, and inform policy making.

This *Memo* addresses the limitations of the food desert concept and provides guidance for planners on conducting a community food system assessment. Examples of assessments, resources, and a case study on Buffalo, New York, demonstrate how various communities have used this tool.

Planners and Food Systems

In 1999, Kami Pothukuchi and Jerry Kaufman published their seminal article, "The Food System: A Stranger to the Planning Field," in the *Journal of the American Planning Association* (Pothukuchi and Kaufman 2000). The article brought to light the role planners can play in a community's food system. Planners help build healthy communities — focusing on the basic life essentials (water, air, shelter, and food) and the interconnections among sectors such as land use and transportation — and have the professional expertise and interdisciplinary perspective to address and integrate food system issues into

their daily practice.

Since this article's publication, food systems planning has increasingly gained legitimacy within the planning field. There are ever-increasing numbers of peer-reviewed and professional publications on this topic; food system planning courses are now taught at planning schools; conference presentations and tracks feature food systems planning; and municipalities are adopting food system comprehensive plan policies, ordinances, and resolutions.

Planners are trained to think systemically about how their communities work and bring valuable data collection and analysis skills to the process, often serving as liaisons between the community and local government. With these skills they can see where resources may be disconnected and can provide valuable insight about how to plan for healthy communities.

The Food Desert Trap

In the past decade, research has shifted the perception that diet-related conditions such as obesity and diabetes are solely a result of an individual's decisions and actions. Studies have shown that external factors, such as the built environment, have direct impacts on the healthy eating options available to an individual (California Center for Public Health Advocacy, PolicyLink, and UCLA Center for Health Policy Research 2008; Mikkelsen and Chehimi 2007; Bell et al. 2014). The type and prevalence of food retailers nearby (supermarkets, convenience stores, fast-food restaurants) influence both an individual's health as well as broader health disparities (e.g., rates of diabetes among adults and children) within the community as a whole.

In 2006, the now-popularized term "food desert" was coined in a report that overlaid health and socioeconomic data onto land-use data — location of large grocery stores — to map out areas with limited food access (Mari Gallagher Research and

Figure 1. This map highlights several indicators including seven types of food retailers, retailers accepting SNAP and/ or WIC benefits and a network analysis of three distance measures from supermarkets. This map is one of a series that considers additional indicators such as poverty rates, fast-food restaurants, schools, and land use. (Credit: Kara Martin)
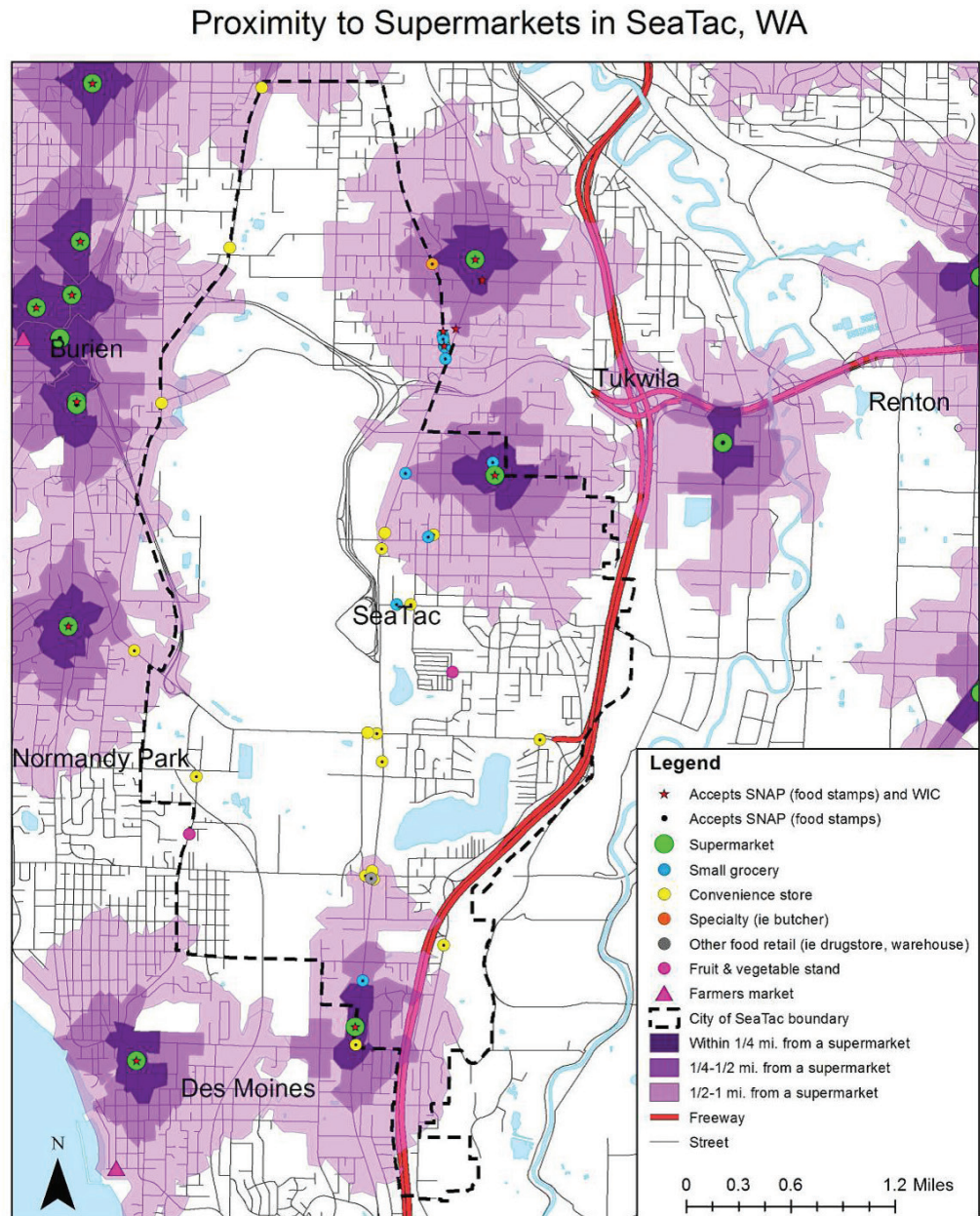
Consulting Group 2006). The report's key findings identified areas or neighborhoods with no grocery stores or far distances to such stores and labeled these areas "food deserts." These areas were typically home to low-income, minority communities that also faced economic challenges in accessing affordable food to meet their daily nutritional needs.

The term caught on in the popular media, and officials began considering the concept in making policy and funding decisions. At a national level, the U.S. Department of Agriculture developed a "Food Desert Locator" using national datasets to assist state policy makers and planners looking at food access at the local level. This mapping tool did not itself provide a comprehensive means for identifying whether or not a community faces challenges in accessing healthy foods, however (Raja, forthcoming).

The USDA tool (and the initial 2006 food desert analysis)

was limited to mapping two components that may impact a community's food access: proximity to a supermarket or large grocery store (one mile for urban areas and 10 miles for rural) and household income levels. However, it fell short of considering other key, potentially stronger, influences. Economic, social, cultural, and policy systems; other food infrastructure in addition to retail; and other built environment factors (i.e., transportation networks) are just as critical in assessing a community's food system. Further criticism of the "food desert" concept was its focus on the corporate supermarket model as the solution rather than community-based economic development strategies and efforts, such as farmer's markets, cooperatives, or mobile markets.

The following example illustrates the shortcomings of this limited approach. When applying the food desert tool to a large-
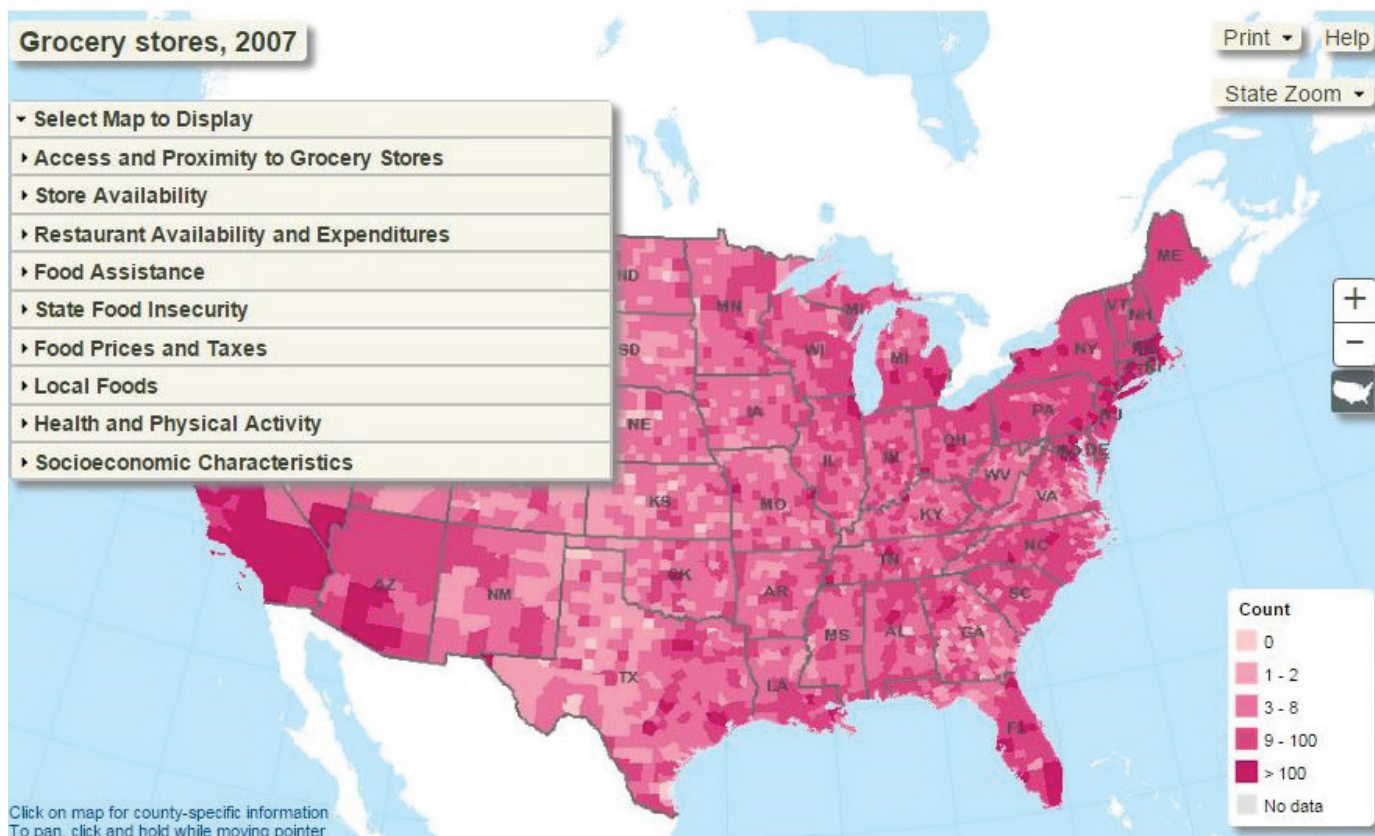
Figure 2. USDA Food Environment Atlas. Once limited to showing supermarket locations and income levels, the revamped tool now includes a broad range of measures.

ly low-income community with significantly high obesity rates in SeaTac, Washington, researchers identified only two supermarkets, resulting in a "food desert" diagnosis for the community. However, a **closer analysis** revealed over a dozen small ethnic grocery stores providing access to culturally appropriate foods typically not available in supermarkets (Martin 2011; see Figure 1). These stores represent important food access points within a diverse community where more than 70 languages are spoken. As a result of this more detailed analysis, the community is identifying more appropriate food access strategies rather than spending resources to attract a supermarket to the community, a best practice often prescribed for "food desert" communities.

Thus, while the popular term "food desert" has increased awareness of food access issues, especially among the general public, the shortcomings of this approach have limited its effectiveness as a way to discuss a complex set of issues, including the national obesity epidemic and its impacts on low-income populations and communities of color. The term has been losing traction: In 2013, USDA renamed its tool the **Food Environment Atlas** (Figure 2) and revamped it to include more than 200 measures of the food environment (USDA ERS 2015).

Likewise, community food system assessment considers a wider range of indicators including both barriers and opportu-

nities while involving the community throughout the process. The following sections describe this tool and how planners can put it to use.

The Community Food System Assessment

A *community food system assessment* provides a clear picture of the food system resources, assets, challenges, and opportunities in a community. An assessment provides a solid grounding in the existing conditions of food access, food production and consumption, and food-related industry and employment. An assessment also includes important information about the community's own priorities.

In its 2007 policy guide **Community and Regional Food Planning**, APA states, "The American Planning Association, its Chapters and Divisions, and planners support food systems that are socially equitable and just" (American Planning Association 2007, General Policy #5). A community food system assessment allows planners and the community to make significant steps in this area, offering a systems approach to examining an array of food system issues and assets.

Furthermore, community food system assessments emphasize community participation throughout the assessment process to find solutions based on community assets and

resources (Pothukuchi et al. 2002). They allow communities to better understand the connection between policy decisions and food access, which promotes better long-term planning and policy making.

Along these lines, a good place to start an assessment is to be clear about what question(s) the community wants answered. For example, the questions "What are the barriers to food access in this neighborhood?" and "How do we increase production for local farmers?" may lead to very different assessments. This work provides an opportunity for community residents, businesses, and other stakeholders to share their perspectives on identifying their goals and how best to reach them.

Some examples of food access indicators include:

- *Food environment*: types and prevalence of food retailers; foods available at schools, hospitals, and day cares; availability of culturally appropriate foods; availability of community resources such as Summer Meals Programs and nutrition/cooking classes, community gardens, or Farm-to-School efforts
- *Built environment*: transit availability and time-travel access; pedestrian mobility (e.g., sidewalk availability and conditions, topography)
- *Economic factors*: food prices; availability of supplemental food assistance programs (i.e., SNAP and WIC) at retailers and client participation rates; vehicle ownership
- *Social and cultural characteristics*: socioeconomic characteristics such as poverty, demographics, and shopping norms and preferences
- *Health*: obesity and diabetes rate of adults and youth; food insecurity rates; consumption of fresh fruits and vegetables

Food system assessments allow planners to understand how food intersects with comprehensive planning, economic development, transportation, waste management, and more. Indeed, planners can use these assessments to help local governments understand how best to create a community food "infrastructure" (Raja, forthcoming).

How to Conduct an Assessment
This section outlines the key steps to conducting an assessment. Planners, community members, faith organizations, or other community groups can all play a lead or supportive role (i.e., providing data) in how the assessment is performed. Regardless of who is the assessment lead, there are several steps that community food system assessments commonly follow.

Form an Assessment Team
One of the initial steps is forming an assessment team or committee to advise and support the lead entity conducting the assessment. The team should include organizations or individuals that bring understanding of the various food sectors as well as community knowledge and perspective. While each team member brings to the table their own area of knowledge and
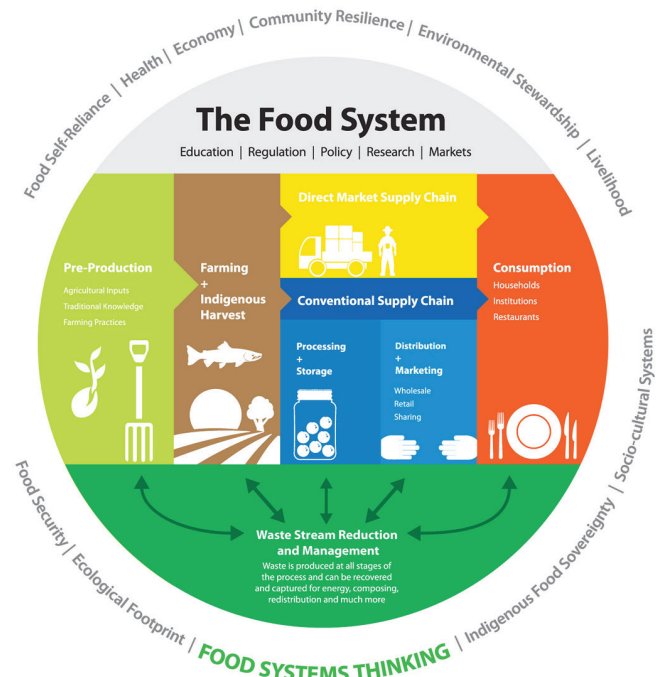

Figure 3. The Institute for Sustainable Food Systems at Kwantlen Polytechnic University (www.kpu.ca/isfs) developed a food system image for the Southwest British Columbia Bioregion Food System Design and Planning Project. (Credit: Institute for Sustainable Food Systems)

expertise, the food system framework may be a relatively new concept for the group.

It is worth spending time discussing what a food system is and coming to a common, agreed-upon definition from the onset. For example, a statewide assessment conducted in Iowa described the food system as follows: "For the purposes of this report, Iowa's food system is segmented into five distinct sectors. These food system sectors are interconnected; that is, actions in one sector create consequences in other sectors. These complex processes influence economic, environment, health and social outcomes" (Tagtow and Roberts 2011).

Visual aids are also a useful tool. The Institute for Sustainable Food Systems at Kwantlen Polytechnic University developed a food system image for the Southwest British Columbia Bioregion Food System Design and Planning Project (see Figure 3).

Scope the Assessment
Determining the assessment's priorities and scope is a critical early step. Community food system assessments vary in scale, focus, and community context. Prior to any data collection and analysis, the assessment team should determine the assessment's goals and objectives. Consider the following:

- *What are the community issues or priorities the assessment will address?* Is the focus specifically on food access issues? Access issues may include limited retail options

selling affordable fresh foods; challenges in getting to and from food retailers due to lack of vehicle ownership, poor walking conditions, or little transit availability; limited retail options to purchase culturally appropriate foods; or limited opportunities to grow food in the community. Or is the focus broader, looking at a range of food-related issues such as farmland conservation and food waste? Perhaps an issue has already emerged that is driving the assessment to take place and there is need to investigate further. Or, perhaps there is little known about the community food system warranting a broad exploration. Develop a clear set of guiding questions.

- *What are the boundaries of the assessment community? Is the focus on a neighborhood?* A specific socioeconomic or cultural population? Or are jurisdictional boundaries such as the county, city, or school district more appropriate?
- *What resources are available to conduct the assessment?* That is, how much funding and time is available? What existing data is available and what analysis is required? Community participant research needs should also be considered. The guiding questions may need to be refined as you determine the resources available.

Collect Data

The indicators listed earlier in the article provide examples of the range of food access data that planners or community members could collect. Based on the scope of questions the assessment desires to address, expanding to a broader set of indicators may be required. For example, if there is interest in assessing the local farming sector, data collection could also include crop variety and sales, land farmed, farmland preserved, market outlets and distribution channels for producers, and other related information.

The USDA's Food Environment Atlas provides examples of some datasets disaggregated at the local level that include a wide range of food store types available (supermarkets, convenience stores, fast-food restaurants), vehicle ownership and several distance measures to closest food stores, participation and eligibility rates of various food assistance programs (e.g., school free and reduced lunch programs), and local food vendors and programs (e.g., farmers markets, farm-to-school programs). Local public agency datasets may provide more details regarding what's happening on the ground and paint a more accurate picture. For example, in addition to having health data (e.g., obesity rates), local public health departments have records for food service providers and retailers due to their roles in administrating food safety licensing for businesses. These secondary data sources provide insight into existing conditions of a community's food system and provide fruitful community conversation-starters to better understand the issues and opportunities at hand.

Get Community Input

Data collection does not stop with the secondary data sources noted above. Community food system assessments, particularly in contrast to the food desert tool, emphasize participatory research to increase community awareness and understanding of the local food system. In this way, they build community capacity to understand food-related issues. The community should be involved throughout all assessment stages— planning, data collection and analysis, findings and recommendation development, and sharing the results.

Assessments have used traditional community input tools such as surveys and focus groups, with topics addressing issues such as household shopping patterns and behavior or perceptions of the food environment. A variety of newer tools are now being used as part of these efforts, including the following:

- *Photovoice projects*: participants take photos and develop narratives to express their point of view on a given research theme or question
- *Community kitchen or meal events*: participants prepare a meal together (or the meal is provided by a host organization) and discuss a given research theme or question in a setting less formal than a focus group
- *Market basket surveys:* participants survey the availability, quality, and cost of a predetermined list of food items at community food stores
- *Walking audits*: participants use a survey tool to assess the conditions and share their perspectives on the built environment (e.g., walking from home to the nearest food store)

Completing the Assessment

The data collected needs to be pulled together and analyzed. One common approach is to present the findings by the various food sectors studied (e.g., production, processing, distribution, consumption, waste, etc.). This helps identify issues and opportunities at the sector level, though consideration should also be given to cross-sector issues and opportunities. The findings will inform and support the stakeholders in identifying recommendations and next steps.

Make Policy Recommendations

An assessment can provide a rich source of information and data to guide policy decisions around land use, transit, economic development, nutrition, and public health. The Buffalo, New York, case study below provides examples of city policy recommendations that were identified as a result of an assessment.

There are a wide range of food system policies communities are adopting. The Growing Food Connections Policy Database and the John Hopkins Center for a Livable Future's Food Policy Resource Tool each provides a searchable database of policies such as plans and ordinances on various food system topics (e.g., urban agriculture, healthy food retail).

Using the Community Food Assessment Tool to Inform Planning: Buffalo, New York

This case study from Buffalo, New York, demonstrates how planners can work with community members to address food insecurity. By recognizing the city's role in building communi-

Community Food System Assessments Examples and Resources

There are a number of helpful resources available to help planners learn more about community food system assessments. The examples and resources below highlight a variety of approaches, geographic scale, stakeholders involved, and data sources and methods.

APA's Food Interest Group is also an opportunity to connect with and learn from a network of planners interested in and working on food systems issues.

Sample Assessments:
Columbia River Gorge 5-County Community Food Assessment (Washington and Oregon): www.gorgegrown.com/project/cfa.cfm

Cultivating Resilience: A Food System Blueprint that Advances the Health of Iowans, Farms and Communities: www.farmlandinfo.org/sites/default/files/Cultivating_Resilience_Iowa_Blueprint_1.pdf

Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland, Oregon: www.emoregon.org/pdfs/IFFP/IFFP_N-NE_Portland_Food_Assessment_full_report.pdf

A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan: http://oaklandfoodsystem.pbworks.com/w/page/7498248/FrontPage

Food for Thought: Groundwork for the King County Food and Fitness Initiative (Delridge and White Center communities in King County, Washington): www.seattle.gov/DPD/cs/groups/pan/@pan/documents/web_informational/p2233882.pdf

Healthy, Fresh, Local Food: An Action Plan for Increasing Availability and Access in Beaufort County, NC: www.carolinafarmstewards.org/beaufortcountyactionplan/

Additional Resources:
North Carolina State University Cooperative Extension Service's Community Food Assessment Resources: https://localfood.ces.ncsu.edu/community-food-assessment/

What's Cooking in Your Food System? A Guide to Community Food Assessment: www.downtowndevelopment.com/pdf/whats_cooking.pdf

ty food infrastructure, planners can help shift the focus from community projects to longer-term policy and land-use issues that advance systemic changes.

The Massachusetts Avenue Project (MAP) is a community organization based in the West Side neighborhood of Buffalo, New York. Since the early 1990s the organization has been focused on revitalizing the West Side. One issue identified in the community was food insecurity, or the lack of access to nutritious, affordable, culturally appropriate food (Potukuchi et al. 2002, 5).

As the lack of food security became increasingly apparent, MAP began focusing on ways to address this challenge. It developed community gardens and began managing programs to support youth development and entrepreneurship, but determined that a neighborhood food system assessment would help them develop a stronger plan for their work. In 2003, MAP staff sought help from the University of Buffalo's Department of Urban and Regional Planning to conduct the assessment in partnership with the community (Raja et al. 2014).

The assessment looked at existing economic and social conditions, compared the availability and cost of food in the West Side with other neighborhoods, and reported residents' and food businesses' perspectives on food security in their neighborhood (Almeida et al. 2004). It concluded that four strategies were needed to strengthen the community food system:

- Enhance local food production through sustainable land-use planning
- Promote food-based economic development
- Increase transportation access to food
- Promote youth development through food-based projects
- Below are the highlights of the assessment's findings.

Social Conditions
The assessment began with an analysis of the existing conditions of food security. It examined the economic and social conditions in the neighborhood, the types of food retailers, and the availability, freshness, and cost of food in West Side stores compared with stores in surrounding neighborhoods.

This portion of the assessment also gave residents and business owners the opportunity to share their perspectives on food security. The planning students conducted focus groups with youth, senior citizens, immigrant communities, and others to learn about food choices and the quality of food available in the neighborhood.

Researchers found that food access in West Side was limited. While residents were poorer than residents in other city neighborhoods, food prices in the neighborhood were higher than in other areas. Demand for emergency food programs such as food banks and soup kitchens was increasing in the neighborhood.

Land Use
Next the assessment reviewed existing land use to understand the current zoning and the amount of land available for local food production. The assessment made note of vacant

city-owned parcels, both residential and commercial, that could be used for community gardens, food processing sites, or food co-op locations. Researchers also reviewed the city's comprehensive plan for guidance on allowable food system enhancements.

The assessment concluded that while Buffalo's comprehensive plan from 2003 did not explicitly address the food system, many of the goals identified in the plan required that a sustainable community food system be in place. Elements around neighborhood revitalization; public safety; and social, environmental, and economic equity could all be supported with community gardens or urban agriculture projects. The city's greenway plan sought preservation of greenspace and other green infrastructure. Finally, the comprehensive plan's "Building on Assets" priority identified a regional strategy for "Healthy, viable, sustainable core cities, financially sustainable governments, agricultural land retained and developed for agricultural purposes, and continued attention to environmental issues in all areas" (City of Buffalo 2006). As the assessment report states, "A community food system connects urban and rural areas, capitalizes on the region's strong agricultural assets, and ensures agricultural land is kept for agricultural purposes" (Almeida et al. 2004, 34).

Economic Impact

The assessment also reviewed the economic impact of food-based businesses, from manufacturing to wholesale and retail to food service. Researchers found these businesses are significant drivers of the regional economy.

Several initiatives in the City of Buffalo support food-based economic development projects that provide technical assistance and other resources to food entrepreneurs. These programs help generate new economic activity by supporting job creation and small-business development in the food processing sector. The assessment identified food manufacturing as particularly appealing because the employment multiplier is greater than for retail. For example, for every bread manufacturing job created, another 0.62 jobs are created in the local economy (Almeida et al. 2004, 34).

Transportation

The location of stores and the transportation options available to residents can have a dramatic effect on food access. The West Side community food system assessment reviewed transit maps and vehicle ownership rates, and conducted focus groups with residents to determine how they traveled to food retailers. They found that seniors in their community walked to the neighborhood corner store rather than taking a bus to the larger grocery. The proximity and the transportation cost savings were both given as reasons for this decision, despite a preference for shopping at a supermarket (Almeida et al. 2004, 51).

The assessment also found that 47 percent of seniors in the community did not have a vehicle. A "bus chaining" analysis made clear that more frequent bus service with better access to grocery stores is a priority for these residents (Almeida et al. 2004, 54).

MAP's Growing Green program promotes health and wellness for Buffalo's youth through urban agriculture, food business development, and skills training. (Credit: Flickr photo by Mark Hogan (CC BY-SA 2.0).)

Youth Development

In 2003, 35.9 percent of Buffalo's West Side community was made up of youth ages 19 and younger (Almeida et al. 2004, 59). Many local and national organizations support the young people of West Side and Buffalo through training and education programs, particularly around gardening. Growing Green is one such program run by MAP. The program focuses on promoting health and wellness through urban agriculture, food business development, and skills training.

The assessment found that the youth education and development programs are important resources for the young people in the community. These programs offer youth job skills, connections to their community, and commitment to improving their neighborhoods. Increasing participation rates and expanding programming could support food security and community health.

Assessment Recommendations

The planning team made numerous recommendations to the City of Buffalo to guide resources toward creating a more robust community food system and enhancing food security. The recommendations included:

- Assigning a food systems planner to the planning department
- Promoting food-based development as part of the city's economic development program
- Recognizing community gardens as permissible uses in all zoning categories
- Prioritizing quality, price, and variety of food if public resources are used to attract new grocery stores
- Improving transportation access to food
- Promoting youth development through food-based projects

Food Systems in the Buffalo Draft Land Use Plan

The draft land-use plan for Buffalo establishes three principles for guiding city action — economy, neighborhoods, and environment — and addresses food-related issues for each:

ECONOMY
4. Increase retail activity.
    4.3   Support neighborhood retailers and entrepreneurs.
       • Develop transparent and predictable regulations for mobile food vendors, including food trucks, wagons, bikes, and carts.

NEIGHBORHOODS
6. Reinforce walkable neighborhoods.
    6.5   Establish interim uses for vacant land.
       • Support the use of vacant land to expand parks, recreation, gardens, and habitat areas, and other innovative uses.
       • Permit the development of community gardens on public lands, with landscaping and beautification [sic] standards that ensure community benefit.
       • Allow pilot projects for aesthetically-pleasing constructed wetlands, forest reserves, municipal orchards, and urban agriculture within high-vacancy blocks to reduce City maintenance expenses.

ENVIRONMENT
9.   Reinvigorate public health.
     9.2   Enable healthy food production and distribution.
       • Remove barriers to developing grocery stores, healthy corner stores, outdoor markets, and farmer's stands at convenient locations throughout the city, while preventing vendors from selling individual items and stolen property.
       • Allow small-scale urban agriculture, with appropriate guidelines on the design of greenhouses, hoop houses, and the like.
       • Allow urban agriculture in high-vacancy neighborhoods as a long-term use, with guidelines for quality design and strict standards governing safety and aesthetics.
       • Allow produce sales as a temporary use with appropriate limitations on location, size, and time of operation.

MAP's Food for Growth plan was published in 2003 and gave program staff the data they needed to advocate before city council. Staff pushed for food systems legislation, starting with clear permitting for raising chickens. As described below, the willingness of the city planning staff to focus on food required incremental and persistent advocacy from MAP and other community-based organizations (Raja et al. 2014).

Food Planning Emerges as a Municipal Focus

Over the last 15 years the work of the Massachusetts Avenue Project has literally shaped the development of the West Side community while also shaping the way municipal planning supports food systems (Raja et al. 2014, 182). The Food for Growth assessment allowed the community to understand the role of the city in building a robust food system and to develop an agenda to advance with city council.

Their challenge was to convince city planners to focus on food systems. Buffalo's 2006 update to its comprehensive plan included minimal reference to food retail and food processing as part of economic development strategies. There was no acknowledgement of the role of the food system in supporting other city goals to be a "prosperous, green, livable community," something Raja refers to as "food-blind planning" (Raja et al. 2014, 182).

Community members did not give up however. Over time, the community pushed for zoning changes to allow uses such as aquaponics, market gardens, and chickens. Persistent engagement with the city and with planners eventually led to partnership and collaboration. By 2010, the city council was engaged, passing ordinances to allow community gardens on city land. The mayor launched a "Green Code" initiative to update the city's development framework and invited the MAP team to help engage the community in the planning process. This marked the first time city planners acknowledged the need for food policy.

The Green Code initiative is intended to translate the comprehensive plan principles into land use plans and a unified development ordinance for the city. The draft land-use plan for Buffalo establishes three principles for guiding city action — economy, neighborhoods, and environment — and addresses food-related issues for each. The plan emphasizes food production in the city, but does not focus on other sectors of the food system — processing, distribution, or waste. Nevertheless, it addresses some of the economic impacts of food and proposes allowing the infrastructure necessary for food production (e.g., chicken coops, farm stands, market gardens) (Raja et al. 2014, 183). This is an important step in institutionalizing the role of local government in building a better food system. The city council plans to vote on the new land use plans in September 2015.

Conclusion

Although the term "food desert" has become a shorthand way to discuss food access issues, the mapping tool associated with it has many limitations. Using the tool alone, without direct observation in a community, can lead to a poor understanding of a community's resources and needs. Commu-

Buffalo's new land-use plan and development code support food production within the city, including urban farming and chicken-keeping. (Credit: Flickr photos by [Mark Hogan](#) *(CC BY-SA 2.0).)*

nity food system assessments offer a more comprehensive approach for gathering data and determining the resources, gaps, and community-preferred strategies for improving access to healthy food.

Because of their professional expertise and interdisciplinary perspectives, planners can play a lead or support role in a community food system assessment. Planners can help guide and participate in the assessment through the various stages outlined above. In particular, planners can identify, and even provide, necessary staffing, funding, and other resources to conduct the assessment, convene community stakeholders, manage data collection and analysis, and develop policy recommendations. Regardless of planners' roles, they should use assessment findings to inform and guide their community's policies, programming, and decision-making.

Food access in a neighborhood intersects with land use, transportation, economic development, public health, and many other issues that are managed by city agencies. As the case study from Buffalo demonstrates, planners have an important role to play in supporting community advocacy around food access and incorporating these priorities into municipal regulations and guiding documents. Assessing and integrating food access priorities into daily planning practice will help build and sustain healthy, vibrant communities.

About the Authors

Kara Martin, AICP, has been working to advance how community health and food systems intersect with the built environment for nearly 15 years through the tools of policy analysis and development, research and assessments, and partnership convening. Martin was principal at Urban Food Link from 2011 to 2015 and is now founding principal at Healthy Community Planning (www. healthycommunityplanning.com).

Tammy Morales is a neighborhood activist who is passionate about community economic development. From 2007 to 2015 she was the founding principal of Urban Food Link, a planning firm that successfully advanced municipal planning for equitable food systems throughout the Puget Sound region. Morales is currently a candidate for Seattle City Council.

References and Resources

Almeida, Tangerine, Mark Bostaph, Mikaela Engert, Samuel Gold, Jeanne Leccese, and Jordana Maisel. 2004. *Food for Growth: A Community Food System Plan for Buffalo's West Side.* Prepared for the Massachusetts Avenue Project, Buffalo, N.Y.: University of Buffalo Department of Urban and Regional Planning. http://foodsystemsplanning.ap.buffalo.edu/wp-content/uploads/2012/10/Award04-FoodForGrowth.pdf

American Planning Association. Food Systems Planning Interest Group. https://apafig.wordpress.com/

American Planning Association. 2007. "Policy Guide on Community and Regional Food Planning." www.planning.org/policy/guides/adopted/food.htm

Bell, Judith, Gabriella Mora, Erin Hagan, Victor Rubin, and Allison Karpyn. 2014. *Access to Healthy Food and Why it Matters: A Review of the Research. PolicyLink and The Food Trust.* http://thefoodtrust.org/uploads/media_items/access-to-healthy-food.original.pdf

Buffalo (New York), City of. 2006. *Queen City in the 21st Century: Buffalo's Comprehensive Plan.* www.ci.buffalo.ny.us/files/1_2_1/mayor/cob_comprehensive_plan/index.html

Buffalo (New York), City of, Mayor's Office of Strategic Planning. 2015. "Buffalo Green Code." www.buffalogreencode.com

___. 2011. *Buffalo Green Code: Draft Land Use Plan.* www.buffalogreencode.com/BuffaloFutureLandUsePlan.pdf.

California Center for Public Health Advocacy, PolicyLink, and UCLA Center for Health Policy Research. 2008. "Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes." Policy Brief. April. www.policylink.org/sites/default/files/DESIGNEDFORDISEASE_FINAL.PDF

Furbush, Jocelyn. 2007. *Everyone Eats!: A Community Food Assessment for Areas of North and Northeast Portland, Oregon*. Interfaith Food and Farms Partnership. www.emoregon.org/pdfs/IFFP/IFFP_N-NE_Portland_Food_Assessment_full_report.pdf

Gorge Grown Food Network. 2011. *2007–2010 Columbia River Gorge Community Food Assessment*. www.gorgegrown.com/project/cfa.cfm

Growing Food Connections. Growing Food Connections Policy Database. http://growingfoodconnections.org/tools-resources/policy-database/

John Hopkins Center for a Livable Future. Food Policy Resource Tool. www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/projects/FPN/resource/online/index.html

Kwantlen Polytechnic University Institute for Sustainable Food Systems. 2014. "Southwest British Columbia Bioregion Food System Design Project." Progress Report, May. www.kpu.ca/sites/default/files/Library/Briefing-Book-May-28.pdf

Mari Gallagher Research and Consulting Group. 2006. *Examining the Impact of Food Deserts on Public Health in Chicago*. www.marigallagher.com/site_media/dynamic/project_files/Chicago_Food_Desert_Report.pdf

Martin, Kara. 2011. *The Food Landscape in SeaTac*, Washington. Seattle: Urban FoodLink. www.ci.seatac.wa.us/Modules/ShowDocument.aspx?documentid=4876

Massachusetts Avenue Project (MAP). "Programs." http://mass-ave.org/programs/

Mikkelsen, Leslie, and Sana Chehimi. 2007. *The Links between the Neighborhood Food Environment and Childhood Nutrition*. Oakland: Prevention Institute. www.preventioninstitute.org/component/jlibrary/article/id-63/127.html

North Carolina State University Cooperative Extension Service. Community Food Assessment Resources. http://localfood.ces.ncsu.edu/community-food-assessment/.

Pothukuchi, K., and J. L. Kaufman. 2000. "The Food System: A Stranger to the Planning Field." *Journal of the American Planning Association* 66(2): 112–24.

Pothukuchi, Kami, Hugh Joseph, Hannah Burton, and Andy Fisher. 2002. *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Venice, Calif.: Community Food Security Coalition. www.downtowndevelopment.com/pdf/whats_cooking.pdf

Raja, S., C. Ma, and P. Yadav. 2008. "Beyond Food Deserts: Measuring and Mapping Racial Disparities in Neighborhood Food Environments." *Journal of Planning Education and Research* 27(4): 469–82.

Raja, S., D. Picard, S. Baek, and C. Delgado. 2014. "Rustbelt Radicalism: A Decade of Food Systems Planning in Buffalo, New York (USA)." *Journal of Agriculture, Food Systems,* and Community Development 4(4): 173–89.

Raja, Samina. Forthcoming. "Community Food Infrastructure: A Vital Consideration for Planning Healthy Communities." In Beatley, Timothy, ed. *Healthy Environments, Healing Spaces: Current Practice and Future Directions in Health and Design*. Charlottesville, Va.: University of Virginia Press.

Tagtow, Angela, and Susan Roberts. 2011. *Cultivating Resilience: A Food System Blueprint that Advances the Health of Iowans, Farms and Communities*. Elkhart, Iowa: Iowa Food Systems Council. www.farmlandinfo.org/sites/default/files/Cultivating_Resilience_Iowa_Blueprint_1.pdf

Unger, Serena, and Heather Wooten. 2006. *A Food Systems Assessment for Oakland, CA: Toward a Sustainable Food Plan*. Oakland Mayor's Office of Sustainability and University of California, Berkeley, Department of City and Regional Planning. http://oaklandfoodsystem.pbworks.com/w/page/7498248/FrontPage

United State Department of Agriculture, Economic Research Service (USDA ERS). 2015. " Food Environment Atlas: About the Atlas." www.ers.usda.gov/data-products/food-environment-atlas.aspx

University of Washington Department of Urban Design and Planning Summer Planning Studio. 2008. *Food for Thought: Groundwork for the King County Food and Fitness Initiative*. www.seattle.gov/DPD/cs/groups/pan/@pan/documents/web_informational/p2233882.pdf