

PORTLAND PLAN

Food Systems



City of Portland Bureau of
Planning and Sustainability

Sam Adams, Mayor | Susan Anderson, Director

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The Food Policy Council is a citizen-based advisory council to the City of Portland and Multnomah County. The Council brings citizens and professionals together from the region to address issues regarding food access, land use planning issues, local food purchasing plans and many other policy initiatives in the current regional food system. The Food Policy Council has been in conversation with BPS since 2007 regarding the Portland Plan. Two Council committees, the Land Use Committee and Food Access Committee, provided input to the development of this document in 2008, while the Urban Food Initiative/Portland Plan Committee reviewed text in 2009.

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Food Systems



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NEIGHBORHOODS & HOUSING



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HUMAN HEALTH, FOOD AND PUBLIC SAFETY



QUALITY OF LIFE, CIVIC ENGAGEMENT AND EQUITY



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PORTLAND PLAN



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EXECUTIVE SUMMARY

This Food Systems Existing Conditions Report represents the first attempt to characterize a wide range of food issues as part of the City's comprehensive planning efforts. It includes a summary of what is currently known about Portland's food system, conclusions from national studies about the impact and intersections between food, health and community design, and potential policy options the City could explore to support the food system.

Planners have long addressed several of the essentials of life – air quality, water quality and housing – while food has remained off planners' radar. However, growing awareness about the impact of the food system on climate change, local and regional economies, fossil fuel resources, community health and land use have piqued planners' interest in recent years. More intersections are now visible between food and what planners already do.

The Bureau of Planning and Sustainability is currently updating the City's 1980 Comprehensive Plan and the 1988 Central City Plan in an effort called the Portland Plan. The Portland Plan is an inclusive, citywide effort to guide the physical, economic, social, cultural and environmental development of Portland over the next 30 years. The plan will build on the work the community did through visionPDX, which captured and fleshed out our shared values of sustainability, equity and accessibility, and community connectedness and distinctiveness.

These efforts represent an opportunity to be more direct about the positive impact these plans can have on our local food system, and to consider further impacts as we plan for the next several decades. The examination of food issues as background to the Portland Plan provides a way for Portland to take the next step in planning for food systems. To inform these planning processes, this report highlights and explores a wide variety of food topics, and attempts to summarize key issues and recommendations. It is intended to contribute to public conversation around food as a planning issue to allow fuller consideration of policy choices and investment priorities.

Key Findings & Recommendations

1. Portlanders are passionate about food and urban agriculture. Demand for services is outstripping current supply.

Portlanders believe all people should have access to multiple sources of fresh, local food, including both food purchased and grown. Equity in access to local food is a major theme in the visionPDX data. Respondents consistently express the need to increase access to local food among low-income populations so that all everyone can benefit from the region's agricultural abundance. Portlanders envision a future in which eco-roofs, converted parking lots, vacant lots and other under-utilized spaces provide local, healthy and affordable food for the city's residents.

The commitment and interest in food is evident in a waiting list of over 1,300 people for a community garden plot; recent growth in farmers markets by two or three a year; waiting lists for CSA farms equaling almost 100% of current capacity; growth in the backyard gardening and backyard chicken movement; and the local and national attention lavished on our regional food bounty, restaurants and value-added products. The City of Portland should encourage expanded programming to provide access to healthful foods and local growing opportunities and incorporate food access and urban agriculture into community design.

2. Portland is experiencing rising rates of obesity and Type 2 diabetes, and areas of the city have fewer food access options. These factors can impact the city's communities disproportionately.

Portland's rising rates of obesity and diabetes represent two of our greatest health challenges. While rates in the city are generally on par or better than surrounding counties and the nation as a whole, they are well

above national targets. It is also clear that Portland's rates are headed in the wrong direction, as the percent of population that is overweight or obese and the prevalence of diabetes are rising.

People with easy access to healthful foods, and limited access to unhealthful foods, tend to eat more fruits and vegetables and have improved nutrition and overall health. However, areas of Portland, many of which have higher concentrations of poverty, are underserved by full-service grocery stores, community gardens and farmers markets. In addition, demand for food assistance services continues to rise, and Oregon has high rates of food insecurity.

Besides proximity, other factors like affordability, quality, selection and cultural appropriateness all also play into the food access issue. In many cases, low-income people travel long distances to reach affordable, quality food. The City of Portland should encourage expanded access to healthy foods by planning for new food outlets, supporting existing outlets to provide more healthful, affordable options and creating supportive regulatory environments for healthful food and agriculture.

3. The City of Portland currently lacks a Comprehensive Plan goal or policies regarding food systems and food access.

The City of Portland can influence food systems through the consideration of food issues during the planning process and through support of policies, programs, and investment priorities conducive to expanding food access and encouraging healthy behavior choices.

The Bureau of Planning and Sustainability can focus efforts for the Portland Plan to direct urban development in a manner supportive of providing opportunities to access healthful food and grow food locally. A planning goal describing our commitment to food access and urban agriculture would support community values around this issue and bring food into the City's comprehensive planning framework.

Without food systems as a consideration within planning, future decisions made through the Portland Plan may cause unintended consequences that work counter to our community's physical health. Food is related to many issues of importance that the Portland Plan is undertaking: climate change, affordability, human health, neighborhood health, urban form and more, and decisions made in these areas will impact the food environment.

4. Food comes up as a major component to several issues under exploration in the Portland Plan.

- **20-minute neighborhoods**: Grocery access has already been identified as a key feature of the 20-minute neighborhood. In early outreach, the public has suggested community gardens as being important. Programming urban plazas, or community gathering places, with events like farmers markets, can also contribute to walkable, vibrant communities.
- **Growth**: In many U.S. cities in decline, urban agriculture (UA) opportunities are more plentiful as much vacant land is available. We have an opportunity with the Portland Plan to define UA for a growing, largely land-locked city. There are many creative ideas for providing more of our food without expanding the urban growth boundary or losing growth potential within the boundary. The discussion around accommodating growth while expanding UA could enhance the growth conversation while drawing in diverse participants.
- **Affordability**: As housing costs rise, less money is available for other basic needs like food. While transportation is certainly key and accounts for a larger proportion of the household budget, food costs are significant and are often the expenditure that gets reduced when other costs rise. Central to the affordability discussion is the ability to meet all basic needs, including healthful food.
- **Community resiliency**: There is growing interest in preparing communities to face unexpected turmoil or deep changes due to climate change, peak oil, and a changing economy. As we seek to address these challenges and prepare for an uncertain future, food is an integral issue in the discussion.

INTRODUCTION

What is a food system?

A food system is made up of all of the paths that food travels. This includes everything from production and processing to distribution, consumption and disposal. Also included in the food system are the inputs and products of each of the steps, including natural and human resources.¹

In the past several decades, the food system that nourishes individual communities has become global, with food sometimes traveling several thousand miles from farm to plate. Partly in response to the globalizing of food, there has been increased interest in supporting *community* food systems, where the elements of the food system work to support the local economic, social and nutritional health of a neighborhood, city or region.

One definition of community food systems distinguishes them from the globalized food system by several characteristics: food security, self-reliance and sustainability.² Food security can be considered at many different levels: individual households' ability to provide food for themselves; a community's ability to meet its food needs in case of emergency; or security of the food supply from contamination. Self-reliance measures the extent to which a community can meet its own food needs.

Sustainability of the food system has many elements as well:

- *Environmental sustainability:* Are growers using sustainable farming practices? Is the system reducing fossil fuel use and impacts on climate change? Are the soil, air and water degraded or improved?
- *Economic sustainability:* Can farmers sustain themselves? Can they provide a decent living for their workers? Is food accessible and affordable to all? Does money spent on food remain in the community?
- *Social and cultural sustainability:* Do different elements of the food system bring people together? Are culturally appropriate food options made available?

These dimensions or characteristics will be discussed further throughout the document.

Why look at food in the Portland Plan process?

Over the next three years, the Bureau of Planning will be updating its 1980 Comprehensive Plan and the 1988 Central City Plan in an effort called the Portland Plan. The Portland Plan is an inclusive, citywide effort to guide the physical, economic, social, cultural and environmental development of Portland over the next 30 years. The plan will build on community work accomplished through visionPDX, which captured and fleshed out our shared values of sustainability, equity and accessibility, and community connectedness and distinctiveness.

The Portland Plan has identified eight Critical Issues with which the planning process must grapple in order to prepare Portland for the next 20-30 years. Human Health and Safety, a new topic for Portland planning, includes issues of food access and physical health. Other Critical Issues like Climate Change also include key food components. Food is appearing in the planning process due to a growing recognition of connections between food systems and the work planners already do.

¹ Cornell University, "A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture," <http://foodsyst.cce.cornell.edu/primer.html>.

² *Ibid.*

Planners have long addressed several of the essentials of life: air quality, water quality and housing. However, food has remained off planners' radar until recently. One survey of planners from 22 cities conducted in 1997-1998 found that many planners felt as though food should not be part of their purview because, among other things:

- A sense that the food system is largely operated through private firms, and there may not be a public role in the system
- A sense that the food system isn't "broken" and therefore does not need intervention
- A view that the food system only indirectly interacts with the urban built environment³

However, growing awareness about the impact of the food system on climate change, local and regional economies, fossil fuel resources, community health and land use have piqued planners' interest in recent years. More intersections are now visible between food and what planners already do.

This shift is reflected in a larger survey of 192 American Planning Association members conducted in 2007-2008.⁴ In this survey, there was broad support for planners' involvement in elements of the food system, including over 80% of respondents saying that planners should have "significant involvement" in or make a "top priority" the following areas:

- Planning for farmland preservation
- Promoting food access through public transportation
- Planning mixed-use developments to include food destinations

Several additional areas also received 60-70% support (as measured by "significant involvement" and "top priority" responses):

- Including food issues in comprehensive plans and neighborhood plans
- Using zoning codes to regulate food retail
- Planning for farmers markets, urban agriculture and community gardens

The examination of food issues as background to the Portland Plan provides a way for Portland to take the next step in planning for food systems. The underlying values of the project of sustainability, equity and community connectedness provide a lens through which to examine key issues, and there is a food dimension to them all.

Impacts of Climate Change and Peak Oil on the Food System

This report does not assess the impacts of climate change and peak oil on the food system, or vice versa. These two distinct phenomena represent significant threats to public health through direct impacts on how food is grown and distributed. The food system and how we eat can also impact the severity of climate change and peak oil.

The City of Portland's *Climate Action Plan* (2009) contains a chapter on Food and Agriculture which states that "The total carbon footprint of the food system may be larger than passenger transportation." The Portland Peak Oil Task Force's final report states "a constrained energy future calls for a less energy-intensive food supply, with crops grown locally, processed less, processed locally and shipped over shorter distances." Many of the topics addressed and policy options explored in this document support directions that would respond to climate change and peak oil.

³ Pothukuchi, K., & Kaufman, J.L. (1999). Placing the food system on the urban agenda: The role of municipal institutions in food system planning. *Agriculture and Human Values*, 16, 213-224.

⁴ Raja, Samina, Branden Born and Jessica Kozlowski Russell, "A Planner's Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Healthy Eating," American Planning Association, Planning Advisory Service, Report Number 554, August 2008.

What is this document?

This is an existing conditions report on food systems designed to inform the Portland Plan process. It includes a summary of what is currently known about Portland's food system, a review of how other municipalities are approaching food systems and other ideas around food policy; and conclusions from national studies about the impact and intersections between food and community design. The paper was designed to provide the necessary background research to inform Portland Plan conversations around potential policy choices.

Most sections and chapters are presented as follows:

Table 2-1: Section Organization

Section Header	Information Covered	Example topic: Community Gardens
<i>What is the Issue?</i>	What do we know about a particular issue: its benefits and challenges?	What do we know about community gardens? What have studies shown in terms of the social, economic or environmental impacts?
<i>Local Conditions</i>	What data has been collected in Portland or Multnomah County on the topic?	How many community gardens are there currently? How are they managed? Is this a sufficient number?
<i>Conclusions</i>	Given the above two topics, what can we say about this issue in Portland? Where are there gaps in information? Key findings and opportunities.	Examples (not a real conclusion): <i>"We don't have enough data to understand the local conditions"</i> or <i>"We understand that community gardens provide numerous social and food security benefits. It does not appear that current resources are matching demand in this area."</i>
<i>Policy Alternatives</i>	Examples of how other municipalities have addressed this topic, or example policies that have been proposed elsewhere.	<i>"Many cities make vacant land available to community groups to establish community gardens. Chicago funds a nonprofit organization called NeighborSpace to manage vacant properties..."</i>

The data used is pre-existing; no new data collection has been done to complete this report. Much of the data used is only available at the Multnomah County level, but where possible, Portland city statistics are offered. Sources include multiple City of Portland bureaus, Multnomah County, local nonprofit organizations, businesses, and the Centers for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS), among many others. We cannot guarantee the quality of the data, and cannot provide an in-depth analysis of data limitations, though we will attempt to point out gaps in data that might be needed to make stronger policy decisions.

Where possible, we compare Portland or Multnomah County data with that of surrounding counties, the state as a whole, or national averages. Where possible and relevant, we compare current performance with past data to provide longitudinal perspective. A more relevant comparison, however, might link current trends with where we *want* to be. In a few areas, we turn to the *Healthy People 2010* objectives. This set of 467 10-year objectives in 28 health target areas was published by the U.S. Department of Health and Human Services with input from hundreds of organizations and agencies around the country and released in 2000.

No comprehensive food system assessment has been completed for the city of Portland; two organizations have conducted community food assessments for specific areas within Portland ("Everyone Eats!" by the Interfaith Food and Farms Partnership in 2008 and the Lents neighborhood food assessment in 2005). These studies both involved primary data collection in the form of surveys of local residents. The Institute for Portland Metropolitan Studies also completed a study of the regional food system in 2008, "Planting Prosperity and Harvesting Health." The data focus on Oregon and Washington as a whole.

This document is not meant to be taken as a comprehensive food system assessment, but does attempt to gather together the existing information focused specifically on Portland's food system. It draws from both rigorously collected data as well as community efforts like the neighborhood assessments. This work helps us begin to piece together a picture of Portland's community food system and how the City might take a more active role in making it more equitable, sustainable and community-focused.

Direction from visionPDX

visionPDX was an extensive public engagement process to develop a shared vision for our community for the next 20 years and beyond. Over 17,000 Portlanders offered their opinions to visionPDX over the course of the two-year process. The resulting body of community input is a rich resource to get a clear sense of where the community wants to go in the future.

On the subject of food and food systems, the general consensus that emerges from the community data⁵ is that Portlanders support the notion that people of all income levels should have access to multiple sources of fresh, local food. The focus of respondents was on creating more opportunities for growing ones own food locally within the city, as well as an appreciation of stores that sell local foods from area farmers (New Seasons Market, for example) and direct marketing between farmers and buyers at farmers markets . Portlanders also support the preponderance of locally-owned restaurants that serve local food and our brew pubs.⁶

Portlanders envision a future in which eco-roofs, converted parking lots, vacant lots and other under-utilized spaces provide local, healthy and affordable food for the city's residents. Many also envision more community education around urban gardening, permaculture and the "how" and "why" of local food production. Respondents envision many more people growing food at home by converting backyards and front yards into food-producing gardens.⁵

Portlanders see many benefits to supporting local food production, including:

- Reducing dependence on fuel;
- Building a strong local economy;
- Improving residents health and reducing obesity;
- Building community by connecting neighbors to each other as well as to food producers;
- Combating pollution;
- Increasing people's connection to nature;
- Fostering regional self-reliance; and
- Creating a more vibrant urban eco-system.

Many respondents would like to see even more farmers markets in Portland, especially in low-income neighborhoods that currently lack access to fresh, local food. About 63% of respondents in a visionPDX phone survey indicated that they would be very or somewhat willing to pay for the creation of a permanent public market (similar to Seattle's Pike Place Market) in downtown Portland.⁷

A major theme that runs through the visionPDX data is the desire to have equity in access to local food. Respondents consistently express the need to increase access to local food among low-income populations so that all Portlanders can benefit from the region's agricultural abundance. This could happen, respondents

⁵ visionPDX, "Voices from the Community: the visionPDX Input Report," now available at <http://www.visionpdx.com/reading/inputsummary/index2.html>. The summary provided here comes from the section "Urban Livability – Urban Agriculture/Community Gardens" unless otherwise indicated.

⁶ <http://www.visionpdx.com/reading/inputsummary/economy/shopping.html>

⁷ Davis, Hibbitts and Midghall, Inc., memo: "Telephone Survey Findings for visionPDX," September 27, 2007.

suggest, through subsidizing CSA shares, providing community gardens within walking distance of all Portlanders, and ensuring that farmers markets are more equitably distributed across the city.

HEALTH OUTCOMES RELATED TO DIET

There are many community building, economic, social and health benefits to increased healthful food access and opportunities to grow food locally. This chapter focuses on the many health impacts of the food system:⁸

- One-third of all cancer deaths are linked to diet, according to the National Cancer Institute.
- A July 2009 study from RTI International indicates that obesity related medical spending accounts for \$147 billion a year, nearly 10 percent of all U.S. medical spending.
- An estimated 76 million persons contract food-borne illnesses each year in the United States. The high incidence of food-borne diseases in children, especially infants, are a major concern.

Two of the most serious health conditions related to quality of diet are increasingly an issue in Portland: obesity and diabetes. The health impacts of addressing food issues at a planning level could be enormous; this chapter lays out the current conditions and how the issues are connected to the built environment.

Obesity and Overweight

What is the issue?

The potential health impacts of overweight and obesity have become increasingly clear in recent years. Multnomah County's Community Health Assessment Quarterly summarized potential impacts in its recent examination of overweight and obesity:

Individuals who are overweight or obese are at increased risk for a number of chronic diseases including type 2 diabetes, hypertension, high cholesterol, coronary heart disease, stroke and certain types of cancer (e.g. breast and colon cancer). These health problems will have an adverse impact on quality of life and increase the risk of premature mortality.⁹

How do we measure obesity?

Obesity and overweight are measured by the Body Mass Index calculation (BMI), which is calculated using height and weight figures. People of healthy weight have a BMI of under 25; overweight people have a BMI of between 25 and 29.9, and obese individuals' BMI measures 30 or above.

Connection to the Built Environment

Evidence indicates that both food consumption choices and levels of physical activity can be impacted by the urban environment. For example, "low-density, auto-dependent development and sprawl can negatively impact physical activity by making residents car-dependent. Sidewalks in poor condition or non-existent; a lack of walkable destinations such as school, work, or the supermarket; disconnected street networks; and a lack of transit options" also discourage physical activity.¹⁰ On the nutrition side, studies have indicated that lack of access to full service supermarkets is correlated to decreased fruit and vegetable consumption and decreased likelihood of meeting recommended limits for fat consumption. Studies have shown that residents in areas with little healthful food access experience higher obesity rates and higher rates of residents dying prematurely from diabetes, cancer and heart disease.¹¹

⁸ Pothukuchi, Kami, et. al., "What's Cooking in Your Food System? A Guide to Community Food Assessment," 2002. Accessed on June 8, 2009 at <http://www.foodsecurity.org/CFAGuide-whatscookin.pdf>.

⁹ Multnomah County Health Department Community Health Promotion, Partnerships and Planning Office of Health Assessment and Evaluation, "Overweight and Obesity," *Community Health Assessment Quarterly*, Fall 2008.

¹⁰ Morris, Marya, editor, "Integrating Planning and Public Health: Tools and Strategies to Create Healthy Places," Chicago, IL, American Planning Association, October 2006.

¹¹ Gallager, M. "Examining the Impact of Food Deserts on Public Health in Chicago," 2006.

Local Conditions

BRFSS data tells us that Multnomah County has lower overweight and obesity rates than other surrounding counties or the Metropolitan Statistical Area as a whole (see Figure 2.2). However, despite the fact that the percentage of overweight adults has remained largely the same since the early 1990s, Multnomah County obesity rates in the same time period have more than doubled from 11% to 24%. This is similar to the national and Oregon rates, as shown in Figure 2.3; while the overweight percentage has not greatly changed, the obesity rates both nationally and in Oregon have increased dramatically since 1995.

While Multnomah County might be doing better than the region as a whole on these issues, the county falls short of *Healthy People 2010* goals, which call for 60% of the population to be at a healthy weight, only 15% qualifying as obese. The region has a long way to go to reach these targets, though many overweight people are trying to change the statistics: "In 2005, 56% of overweight adults and 78% of obese adults reported trying to lose weight."¹²

Almost 60% of adults in the Portland area are overweight or obese. Adults age 45 or older are more likely to have high blood pressure or high cholesterol than their counterparts at healthy weights. About one quarter of overweight or obese adults 45 or older were also diagnosed with diabetes.¹³

Figure 3.1 Overweight and Obesity of Adults in the Portland Metropolitan Area, 2007¹⁴

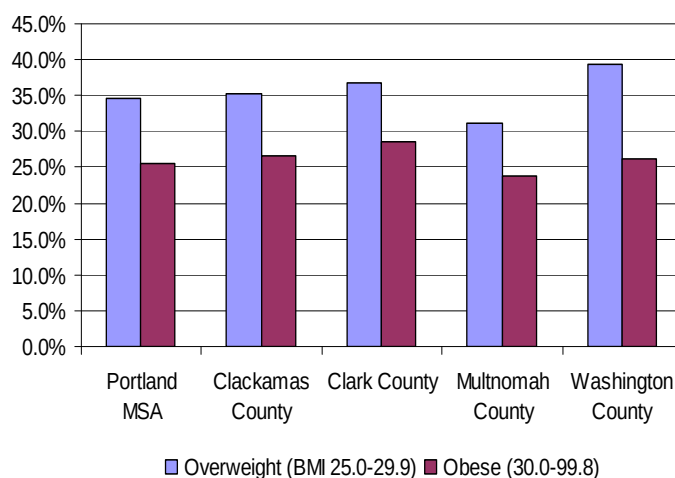
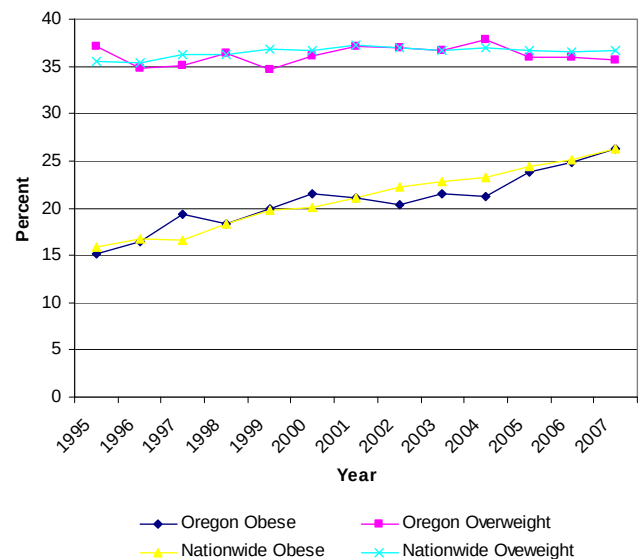


Figure 3.2: Obesity and Overweight, Oregon and US, 1995-2007¹¹



Consumption of Fruits and Vegetables

Nutrition and physical activity are the two major predictors for maintaining a healthy weight. The measure of fruits and vegetables consumed daily is often used as a proxy for adequate nutrition. According to the Centers for Disease Control, over 70% of Multnomah County residents fail to eat the recommended five or more fruits or vegetables a day.¹⁵ The 2005 Dietary Guidelines for Americans actually increased the recommended daily

¹² Department of Human Services, Physical Activity and Nutrition Program, "Oregon Overweight, Obesity, Physical Activity, and Nutrition Facts," January 2007.

¹³ *Ibid.*

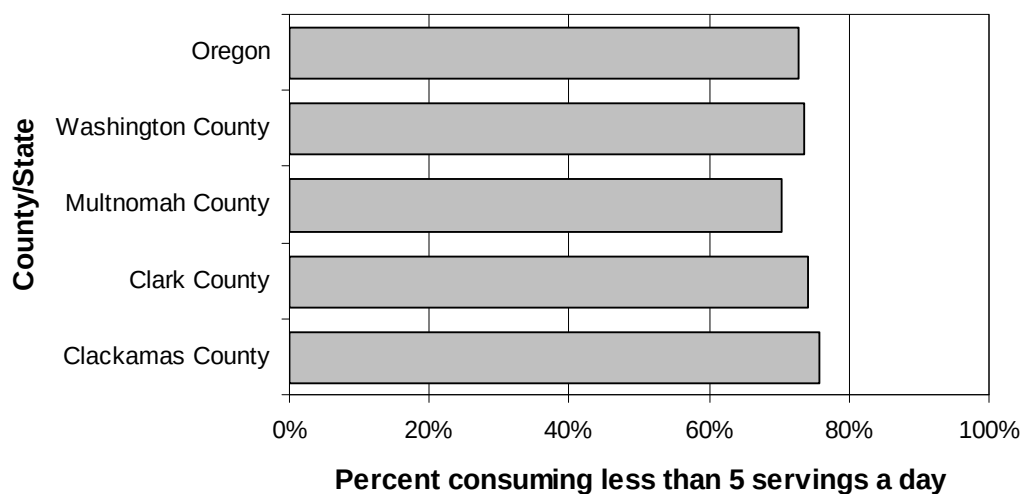
¹⁴ Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2007.

¹⁵ *Ibid.*

servings of fruits and vegetables to 9 (1/2-cup) servings;¹⁶ most of Portland's residents are not meeting this target.

These consumption choices can result in very real health impacts: increased consumption of fruits and vegetables has been linked to reduced risk for many chronic diseases, including stroke, type 2 diabetes, and certain cancers, as well as coronary heart disease.¹⁷ While Multnomah County's rate is actually better than the surrounding counties and Oregon as a whole, the County is falling short of *Healthy People 2010*'s target that at least 70% of all people over the age of two consuming at least two servings of fruit and 50% consuming at least three servings of vegetables.¹⁸ As discussed in the Food Access chapter, consumption of fruits and vegetables is related to access and proximity to healthful food outlets.

Figure 3.3: Percent of population consuming less than five servings of fruits and vegetables per day¹⁹



Obesity and Food Insecurity

Obesity is often present in food-insecure households. This apparent paradox has its root in the reactions to hunger. First, food-insecure households will often try to maximize calories per dollar. Calorie-dense foods can stave off hunger, but also can be high in fat and provide limited nutritional content, leading to weight gain.¹ Second, low-income neighborhoods often have poorer access to healthful foods, leading to less nutritionally appropriate choices available. This issue of food access in Portland is explored further in the Food System Background Report.

Third, people who go through periods of not having enough food to eat may tend to overeat when food is available. This can happen monthly, as food stamps run out early, or can be part of a longer cycle of food insecurity. This cycle can result in weight gain. Finally, the body itself may adapt in times of low food availability, becoming more efficient and conserving energy by storing more calories as fat.² In America, obesity is often strongly linked to hunger and food insecurity.

¹Food Research & Action Center, "The Paradox of Hunger and Obesity in America," 2005. Accessed at <http://www.frac.org/pdf/hungerandobesity.pdf> on Dec. 16, 2008.

² Ibid.

¹⁶ Dietary Guidelines for Americans, 2005. Accessed at <http://www.health.gov/dietaryguidelines/dga2005/document/default.htm> on December 8, 2008.

¹⁷ Ibid.

¹⁸ U.S. Department of Health and Human Services. "Healthy People 2010, Volume 2, Objectives for Improving Health Part B: Focus Areas 15-28." Objective 19: Nutrition accessed on January 19, 2009 at: http://www.healthypeople.gov/Document/HTML/Volume2/19Nutrition.htm#_Toc490383124.

¹⁹ Source: CDC Behavioral Risk Factor Surveillance System

Physical Activity

In general, overweight and obese individuals in Multnomah County tend to exercise less than people at healthy weights. In 2005, 48% of those in the healthy weight range met the recommendations for moderate or vigorous physical activity while only 32% of overweight individuals and 17% of obese individuals met the recommendation.²⁰

People who earn less money and have less education tend to exercise less in Oregon than people with more education or higher income levels. Latinos exercise statistically less than the average in the state; African Americans and Native Americans exercise more than the average (and more than white non-Latinos).

Healthy People 2010 goals include 30% of all adults exercising five times a week for 30 minutes or longer and 30% exercising vigorously for at least 20 minutes three times a week.²¹ Overall, Multnomah County and Oregon meet these goals, though some subgroups like Latinos do not.

The built environment impacts the amount of physical activity people get. More information on this topic is in Chapter 8, Active Living in the Health and Safety Existing Conditions Report.

Economic Impacts of Overweight and Obesity

A study between 1998 and 2000 in Oregon estimated the direct and indirect medical costs of obesity to be \$781 million. This figure included preventive, diagnostic and treatment services related to obesity as well as lost income from decreased productivity, reduced activity, absenteeism, and premature death.²² A second study examining increases in health care expenses in the U.S. due to obesity found that 27% of the increases in per capita health care spending between 1987 and 2001 were due to obesity – both the greater number of obese people, and greater health care expenditures for obese people. Costs incurred by the obese were 37% higher than costs incurred by those with normal weight in 2001.²³ Almost a quarter of those costs were attributable to three conditions: diabetes, heart disease and high cholesterol.

Disparities among ethnicities and low-income populations

Different ethnic or racial groups in Multnomah County have different levels of obesity and overweight. Asian Americans had the lowest rates of overweight or obesity in Multnomah County, but their rates were higher than the national average. African Americans had lower rates locally than nationally (28% countywide vs. 34% nationally). Native Americans/Alaska Natives and Hispanics had the highest rates, and the rate for Hispanics was significantly higher than the national average for Hispanics (30% countywide vs. 24% nationally).²⁴

Interestingly, immigrants generally come to the United States with lower rates of obesity overall. However, after they have lived here for a period of time, they are likely to have higher BMI. In one study, immigrants on arrival had an obesity rate of 8% versus the U.S. average of 22% at the time; for those immigrants who had been in the U.S. fifteen years or more, the obesity rate approached the U.S. average.²⁵ Research suggests that characteristics such as the built environment and social networks in United States communities are determinants of the declining health status among immigrants.

²⁰ Multnomah County Health Department Community Health Promotion, Partnerships and Planning Office of Health Assessment and Evaluation, "Overweight and Obesity," *Community Health Assessment Quarterly*, Fall 2008.

²¹ U.S. Department of Health and Human Services. "Healthy People 2010, Volume 2, Objectives for Improving Health Part B: Focus Areas 15-28." Objective 22: Physical Activity and Fitness accessed on January 19, 2009 at: <http://www.healthypeople.gov/Document/HTML/Volume2/22Physical.htm>.

²² *Ibid.*

²³ Thorpe, Kenneth E., Florence, C.S., Howard, D.H. and Joski, P., "The Impact of Obesity on Rising Medical Spending." *Health Affairs: The Policy Journal of the Health Sphere*, 20 October 2004.

²⁴ Multnomah County Health Department Community Health Promotion, Partnerships and Planning Office of Health Assessment and Evaluation, "Overweight and Obesity," *Community Health Assessment Quarterly*, Fall 2008.

²⁵ Goel MS, McCarthy EP, Phillips RS, and Wee CC, "Obesity among US immigrant subgroups by duration of residence." *JAMA*. 2004 Dec 15;292(23):2860-7.

The Coalition for a Livable Future's Regional Equity Atlas found that generally, poorer communities and communities of color had less access to nature and, to a lesser degree, parks; they also often tended to be located in areas with fewer sidewalks.²⁶ Both of these findings indicate potential built environment influences on elevated overweight and obesity in these communities.

Diabetes

What is the issue?

Diabetes is a condition in which the body either does not produce the hormone insulin (Type 1 diabetes) or either does not produce enough or cannot metabolize the insulin produced (Type 2), leading to high blood sugar levels, increased urination, weight gain and more serious complications.

The American Diabetes Association reports that 65% of all people with diabetes die from heart disease or stroke; adults with diabetes are two to four times more likely to experience stroke or death by heart disease as adults without diabetes.²⁷ Diabetes is linked closely with other diseases, many of which are life-threatening: obesity, heart disease, stroke, hypertension, high cholesterol, kidney disease and more.

While the causes of Type 1 diabetes include genetics and exposure to some viruses, Type 2 diabetes is more closely linked to obesity, lack of physical activity and poor eating habits, as well as age, ethnic background and family history, among other causes.²⁸ Type 2 diabetes is by far the more common of the two types, and rates have been increasing greatly over the past several decades, even among youth.

Connection to the Built Environment

As mentioned above, Type 2 diabetes is tied to factors like physical activity and nutrition. The built environment influences people's access to sidewalk and bike networks, determines whether there are destinations to walk or bike to, and can shape access to healthful (and not-so-healthful) foods. See the section on Connection to the Built Environment under Obesity above for more information.

Local conditions

Prevalence

The region seems to be doing slightly better than the nation as a whole in diabetes prevalence, and Multnomah County has the lowest rates in the region. In the state as a whole, diabetes mellitus was the 6th leading cause of death for both males and females in 2005 (the most recent year for which data has been released). In Oregon, cases of diabetes have increased 35% (from 4.6% to 6.3%) over the past ten years; the diabetes rate has also increased in Multnomah County during that time.

The rate of diabetes cases in Multnomah County, 62 per 1,000 population, is substantially higher than the *Healthy People 2010* target of 20 per 1,000 population (Target 5.3). Multnomah County's rate of diabetes-related death per 100,000 was 96 in 2005²⁹, which is substantially higher than the *Healthy People 2010* target of 45 diabetes-related deaths per 100,000 (Target 5.5).³⁰

²⁶ Coalition for a Livable Future, "The Regional Equity Atlas: Metropolitan Portland's Geography of Opportunity," 2007.

²⁷ American Diabetes Association, "Complications of Diabetes in the United States." Accessed on January 2, 2009 at <http://www.diabetes.org/diabetes-statistics/complications.jsp>.

²⁸ Centers for Disease Control and Prevention. National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2007. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008.

²⁹ Multnomah County Health Department, "Diabetes Mortality and Morbidity," Community Health Assessment Quarterly, vol. 4, Issue 1, Winter 2009.

³⁰ U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.

Table 3-1: Have you ever been told by a doctor that you have diabetes?

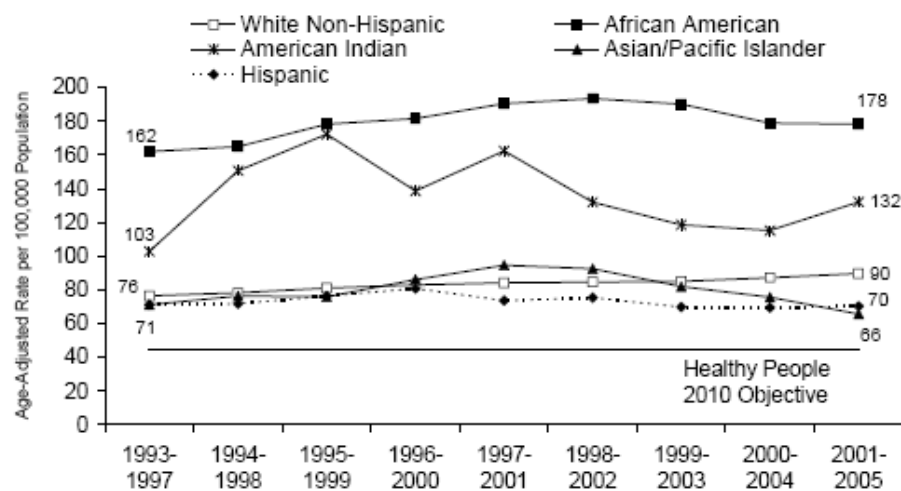
County	Yes*	Pre- or Borderline Diabetes
Clackamas County, OR	8.2%	1.5%
Clark County, WA	7.6%	1.1%
Multnomah County, OR	6.2%	1.2%
Washington County, OR	7.2%	0.9%
Nationwide	8.1%	1.1%

* Does not include pregnancy-related diabetes
Source: BRFSS, 2007

Disparities among people of color

Diabetes more often affects lower income Oregonians and people of color, including Asian/Pacific Islanders, American Indians and Alaska Natives, African Americans, and Hispanics. Death rates for African American and Hispanic Oregonians due to diabetes are significantly higher than for non-Hispanic whites, with African American and Hispanic women faring the worst.³¹

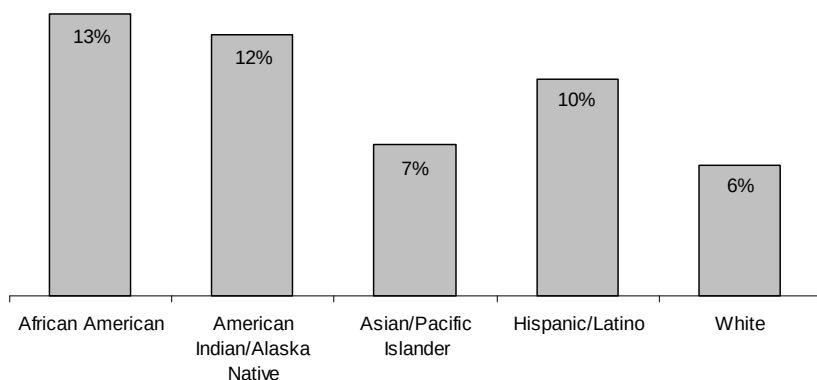
Figure 3.4 Diabetes-related Mortality Rate by Race or Ethnicity, Multnomah County³²



³¹ Multnomah County Health Department, "Overweight and Obesity," Community Health Assessment Quarterly, vol. 3, Issue 3, Fall 2008.

³² Source: Multnomah County Health Department, "Overweight and Obesity," Community Health Assessment Quarterly, vol. 3, Issue 3, Fall 2008.

Figure 3.5 Diabetes Prevalence by Race/Ethnicity, Oregon, 2004-2005^{33,34}



Premature mortality measures the number of years lost due to diabetes at end of life, calculated from 75 years. In this measure, people of color are also at significantly greater risk of dying younger from diabetes than non-Hispanic whites.³⁵ “In Multnomah County in 2001-05, African Americans had a statistically higher diabetes mortality rate compared with that of White non-Hispanics, Asians and Hispanics. Native Americans had the second highest diabetes mortality rate.”³⁶

Table 3-2: Mean number of lost years to premature death from diabetes

Overall	12.36
Men	13.35
Women	11.13
African Americans	14.82
American Indians/Alaska Natives	16.24
Asian/Pacific Islanders	11.68
Whites	6.97
Hispanics	24.87

Source: Oregon Public Health Division, *Vital Statistics - Death Records, 2005*, via Oregon Department of Health and Human Services, Public Health Division, “*The Burden of Diabetes in Oregon: Surveillance Report*,” September 2008.

Economic Costs of Diabetes

While the full economic costs of diabetes are not known, a 2007 estimate put national direct and indirect costs at \$174 billion, and direct medical costs at \$116 billion. This estimate found that average medical expenditures for diabetics were 2.3 times higher than for non-diabetics.³⁷ Analysis of some Oregon hospitals in 2006 put the cost of diabetes-related hospitalizations at \$1.1 billion.³⁸ In Multnomah County in the same year, the cost of hospitalizations with a primary diagnosis of diabetes was almost \$16 million, with an average of \$16,020 per hospitalization.³⁹

³³ Note: Rates are age-adjusted to the U.S. 2000 Standard Population. Data for the categories African American, American Indian/Alaska Native, Asian/Pacific Islander, and White do not include respondents of Hispanic ethnicity.

³⁴ Source: Oregon Public Health Division, BRFSS Race Oversample 2004-2005

³⁵ Oregon Department of Health and Human Services, Public Health Division, “*The Burden of Diabetes in Oregon: Surveillance Report*,” September 2008.

³⁶ Multnomah County Health Department, “*Report Card on Racial and Ethnic Health Disparities*,” March, 2008.

³⁷ National Diabetes Information Clearinghouse, “National Diabetes Statistics, 2007,” accessed January 2, 2009 at <http://diabetes.niddk.nih.gov/dm/pubs/statistics/#complications>.

³⁸ *Ibid.*

³⁹ Multnomah County Health Department, Health Assessment and Evaluation, “*Diabetes in Multnomah County*,” Community Health Assessment Quarterly, vol. 4 issue 1, Winter 2009.

FOOD ACCESS

What is the issue?

Food access is a term that refers to the ability to obtain healthful, affordable food. Access can be compromised because there are no grocery stores in particular areas; stores that are there might be difficult to get to using the existing transportation network; food might not be affordable; or grocery or convenience stores might have limited options of healthful foods.⁴⁰ Other challenges, like limited knowledge of how to prepare, properly store and preserve healthful foods, or concentrations of restaurants and stores selling predominantly unhealthful convenience foods, are also important factors affecting food choices and access.

Note: Gardening, community gardens, urban agriculture and other topics focused on growing food in the city are included in the Urban Agriculture section later in this document. While gardening and growing food can certainly improve food security and increase access to fresh produce, this topic will not be included in this chapter.

Food access is related to hunger and food insecurity. While food access can be a challenge in urban and rural areas alike, this chapter will focus on urban areas with issues similar to Portland's.

Barriers to Access

The British Food Access Network has concluded that four factors play into what they term “food poverty” or lack of food access:

Accessibility – How do people reach food retailers, and are there any food retailers near to their home? For those who do not have access to adequate public or private transport, not being able to get to the shops is a defining factor in their ability to buy healthy affordable food.

Availability – Even if food retailers are convenient, individuals may not be able to buy the healthy food that they want. Local food retailers may not stock healthy options, such as fruit, vegetables and lean meats, due to a shorter shelf life, lower profit, a perceived lack of interest or a shortage of storage options. Some local shops may not accept WIC vouchers or SNAP/Food Stamps.⁴¹

Affordability – Expenditure on food is the most flexible part of household budgets as the amount spent on food is often whatever is left over when all the essential bills have been paid. When sudden or unexpected costs happen, the amount available to spend on food is reduced. Nutrient-dense foods (especially fruits, vegetables and whole grains) tend to cost more and the cost of these foods has increased faster than the cost of calorie-dense foods such as chips and cookies.

Awareness – Many individuals lack the knowledge, skills or time needed to buy and cook foods from scratch. There is also a lot of misinformation about nutrition and healthy foods in the media meaning many people do not know where to start.⁴²

A group of Masters of Urban and Regional Planning students at Portland State University explored the issue of food access in Portland and added a fifth factor:

⁴⁰ SustainWeb, Food Access Network, “What is food poverty?” Accessed at <http://www.sustainweb.org/page.php?id=187> on December 17, 2008.

⁴¹ As of Oct. 1, 2008, *Supplemental Nutrition Assistance Program* (SNAP) is the new name for the federal *Food Stamp Program*. In this document, we will refer to SNAP/food stamps as the program name to avoid confusion.

⁴² SustainWeb, Food Access Network, “What is food poverty?” Accessed at <http://www.sustainweb.org/page.php?id=187> on December 17, 2008.

Appropriateness – The ability of available goods to satisfy the preferences of specific groups of people with distinctive food preferences; primarily ethnic groups but also others such as local food advocates who prefer to buy locally-produced foods.⁴³ People can be reluctant to purchase food with which they are unfamiliar, due to cultural traditions or worries that “unusual” food will be rejected by the family and so get wasted.⁴⁴

Discussion of food access can include elements of all five of these factors. Activists and, increasingly, governments, are attempting to ensure strong access to food for all through a variety of programs and policies that consider these issues. The following chapters will explore some of them further, and outline what others have done to address food access in their communities.

GROCERY STORES

What is the issue?

The barriers to food access discussed above apply to grocery stores specifically as well. The location of grocery stores can impact people’s eating habits, and there is a widespread belief that communities suffer without direct access to an affordable full-service grocery store. The selection of products offered, and their prices, are also at issue.

Health Benefits

Health benefits of a nearby full-service⁴⁵ grocery are becoming increasingly well-documented. There is ample evidence that convenient access to a supermarket increases fruit and vegetable consumption.⁴⁶ This increased consumption, measured in studies within less than a mile but documented as far away as two miles, has been shown to be particularly beneficial for low-income communities and communities of color. People living within a kilometer of a grocery store were also, in one study, half as likely to be overweight than those who live in neighborhoods without a food store.⁴⁷

A study from Leeds, England assessed the food-consumption patterns in a neighborhood before and after a new grocery store was developed as a health intervention. Researchers found “a significant upward shift in fruit and vegetable consumption in the post-intervention period...amongst those who had the poorest diets in the pre-intervention period.”⁴⁸ Another study of pregnant women and food consumption found that pregnant women living more than four miles away from a supermarket have poorer diets than pregnant women living less than 2 miles from a supermarket.⁴⁹ A recent study also linked a concentration of “healthy” food stores – full-service groceries and produce markets – with lower body mass index and lower prevalence of obesity.⁵⁰

Poor diets have been linked to several health conditions, especially obesity, Type 2 diabetes and high cholesterol; these conditions are also often found in low-income communities and communities of color.

⁴³ Community Food Concepts, “Foodability: Visioning for Healthful Food Access in Portland,” Portland State University Masters of Urban and Regional Planning Program, June 2009.

⁴⁴ Community Food Concepts, Foodability MURP Workshop Project, “Barriers to Access.”

⁴⁵ In this paper, “full-service” food markets or grocery stores are considered to be those that provide a full array of food options, including fresh produce, meats and dairy products as well as packaged foods.

⁴⁶ Black, J.L. and J. Macinko. 2008. “Neighborhoods and obesity.” *Nutrition Reviews*. 66(1): 2-20.

⁴⁷ Hatherly, Joanne, “Distance from grocery store determines weight: Study,” Vancouver Sun, April 6, 2009. Accessed on May 14, 2009 at

<http://www.vancouversun.com/business/fp/Want+lose+weight+Move+closer+grocery+store/1470781/story.html>.

⁴⁸ Wrigley N., D. Warm, and B. Margetts. 2003. “Deprivation, diet, and food-retail access: findings from the Leeds ‘food deserts’ study” *Environment and Planning A*, 35(1): 151 – 188.

⁴⁹ Laraia, B., A.M. Siega-Riz, J. Kaufman, and S. J. Jones. 2004. “Proximity of supermarkets is positively associated with diet quality index for pregnancy.” *Preventive Medicine*, 39: 869-875.

⁵⁰ Medical News Today, “Access To ‘Healthy’ Food Stores Associated With Lower Prevalence Of Obesity In New York City,” March 21, 2009. Accessed on 6/1/2009 at <http://www.medicalnewstoday.com/articles/143099.php>.

Economic Benefits

Full-service⁵¹ grocery stores can raise the economic value of surrounding properties; they provide both entry-level and higher jobs in a community. They draw customers to the commercial district and can boost traffic to neighboring shops or catalyze development of new commercial stores. By increasing traffic, they can increase security of an area with more eyes on the street and can bring the impression that the community is an attractive place to live and work.⁵²

In the Portland metropolitan region, food and beverage stores have a significant economic benefit. The most recent available data indicates they employ almost 18,500 people and total over \$3.3 billion in sales.⁵³

Table 4-1: Food and beverage store data for the Portland Metropolitan Statistical Area

NAICS code	Description	Estab-lish-ments	Sales (\$1,000)	Annual Payroll (\$1,000)	Paid Emp-loyees
445	Food and beverage stores	885	3,312,971	363,303	18,468
4451	Grocery stores	637	3,064,471	344,135	17,229
44511	Supermarkets & other grocery (except convenience) stores	369	2,873,916	324,124	15,869
44512	Convenience stores	268	190,555	20,011	1,360
4452	Specialty food stores	148	71,904	12,660	811
4453	Beer, wine & liquor stores	100	176,596	6,508	428

Source: 2002 Economic Census.

Barriers to Access

As mentioned above, some of the main barriers to healthful foods can be transportation, what foods stores are actually stocking, and affordability of those products. Access is also often tied to income, race or ethnicity disparities and the transportation system.

Income and Racial/Ethnic Disparities

Food access disparities among different income and ethnic groups have been well documented. Low-income and minority communities tend to have less access to supermarkets than wealthier and predominantly white communities, while having a greater number of corner stores, convenience stores, and liquor outlets.^{54 55 56}

In a study of census tracts in New York, Maryland, and North Carolina, low-income neighborhoods had half as many full-service grocery stores and four times as many convenience or limited-service stores as the wealthiest neighborhoods. Areas that were predominantly minority or racially mixed neighborhoods again had half as many supermarkets as predominantly white areas. And, "in general, poorer areas and non-White areas also tended to have fewer fruit and vegetable markets, bakeries, specialty stores, and natural food stores. Liquor stores were more common in poorer than in richer areas."⁵⁷

⁵¹ In this paper, "full-service" food markets or grocery stores are considered to be those that provide a full array of food options, including fresh produce, meats and dairy products as well as packaged foods.

⁵² Proscio, Tony, "Food, Markets and Healthy Communities: How food stores accelerate local development and enrich residents' lives." Local Initiatives Support Corporation, January 2006.

⁵³ 2002 Economic Census.

⁵⁴ Black, J.L. and J. Macinko. 2008. "Neighborhoods and obesity." *Nutrition Reviews*. 66(1): 2-20.

⁵⁵ <http://www.policylink.org/pdfs/HealthyFoodHealthyCommunities.pdf> (Healthy Food, Healthy Communities: Improving Access and Opportunities Through Food Retailing)

⁵⁶ http://www.marigallagher.com/site_media/dynamic/project_files/1_DetroitFoodDesertReport_Full.pdf (Examining the Impact of Food Deserts on Public Health in Detroit)

⁵⁷ Moore, Latetia V., and A. V. Diez Roux. 2006. "Associations of neighborhood characteristics with the location and type of food stores." *American Journal of Public Health*, 96 (2): 325-331.

A study of neighborhoods in Atlanta found that wealthy African American neighborhoods still had fewer supermarkets than wealthy white neighborhoods, indicating the impact of race on store locations independent of income.⁵⁸

This result can have consequences: an extensive study published in the American Journal of Public Health looked at reported food choices of over 10,500 people in four geographic regions in the U.S. This study found that African Americans' consumption of fruits and vegetables increased by 32% for each additional grocery store in the census tract; for white Americans, consumption increased 11% for each additional grocery store. Even after controlling for education and income, more African Americans living in census tracts with at least one supermarket met dietary guidelines for fruits and vegetables.⁵⁹

Transportation Barriers

Up to one-quarter of low-income households are transit-dependent and do not own an automobile. In fact, low-income households are 6 to 7 times more likely to not own cars than other U.S. households.

"Nevertheless, most low-income households attempt to use cars for food shopping, even though more than half cannot rely on a car that they own."⁶⁰ This impacts the time spent getting to and from the store. One study of transportation to grocery stores in the San Francisco area found that on average, residents of low-income communities spent one hour getting to and from the store, while people in affluent areas on average could reach three stores within 10 minutes roundtrip.⁶¹ Fewer transportation options may affect the likelihood of low-income people visiting convenience stores and both paying more for similar products or being limited by inadequate selection of healthful foods.

One study found that after a new grocery store opened, the "main travel mode used by those respondents [who had switched to shopping at the new store] shifted significantly towards walking." Car and taxi usage fell.⁶²

Local Conditions

Portland has many grocery chains and independent stores serving residents' retail food needs, and it appears that those stores are covering some of the most densely-populated areas of the city (see Map 4-1). There have been three recent examinations of the Portland metropolitan area's access to full-service grocery stores. These all noted similar and/or overlapping areas of no grocery service throughout the city.

Past analyses of grocery access in Portland

As discussed above in the Health Benefits section, different researchers have used various distances as their proxy for appropriate physical access to grocery stores, ranging from a five-minute walk to 1 km (.62 mi) to 2 miles and beyond. Most of the studies thus far in Portland have chosen one mile as the upper limit for grocery access, based on an appropriate walking distance. One mile generally corresponds to a 20-minute walk.

Regional Equity Atlas

The Coalition for a Livable Future used data collected in 2003 by the Portland Multnomah Food Policy Council to contribute to a food access section in their Regional Equity Atlas. In this analysis, some of the areas within the city of Portland that have poor access to grocery stores include:

⁵⁸ A. Helling et al, "Race and Residential Accessibility to Shopping and Services," *Housing Policy Debate*, no. 14 (2003): 69-101.

⁵⁹ Kimberly Morland, PhD, Steve Wing, PhD and Ana Diez Roux, MD, PhD, "The Contextual Effect of the Local Food Environment on Residents' Diets: The Atherosclerosis Risk in Communities Study." November 2002, Vol 92, No. 11 | American Journal of Public Health 1761-1768.

⁶⁰ http://departments.oxy.edu/uepi/cfj/publications/transportation_and_food.pdf

⁶¹ Flournoy, Rebecca and Treuhaft, Sarah, "Healthy Food, Healthy Communities: Improving Access and Opportunities Through Food Retailing," Policy Link and the California Endowment, Fall 2005.

⁶² Wrigley N., D. Warm, and B. Margetts. 2003. "Deprivation, diet, and food-retail access: findings from the Leeds 'food deserts' study" *Environment and Planning A*, 35(1): 151 – 188.

- The Wilkes neighborhood in outer Northeast Portland
- Along I-5 in North and Northeast Portland, including the Boise neighborhood
- South of Powell in outer East Portland
- In the area south of downtown, including the Homestead and South Portland neighborhoods

The data source used in this study for Multnomah County was the Oregon Department of Agriculture's list of licensed food retailers, vetted fairly significantly by on-the-ground and phone call verification.^{63,64}

Metroscope

In 2007, an article in *Metroscope* magazine examined food access in the region. Looking only at grocery access within the city of Portland, some of the same areas as in the Regional Equity Atlas show up as being further than one mile from the nearest full-service grocery store:

- Along I-84 east of I-205
- Along I-5 just north of downtown

Additional areas identified as being grocery store-deficient include:

- Large areas of St. Johns and the Portsmouth neighborhood
- Some block groups along I-205
- Along the southern border of Portland on the east side
- Several neighborhoods on the west edge of Portland.

The article also examines concentrations of convenience stores, concentrations of poverty and concentrations of households without access to a car. While no conclusions are drawn within the text of the article, the maps indicate that:

- Areas identified as having poor food access overall (few or no full-service groceries and high concentrations of convenience stores) generally have low population densities, with few notable exceptions (I-5 north of downtown being one)
- Areas identified as having poor food access are often areas with higher rates of poverty

Looking at areas of low car access and poor food access together, only the area north of downtown along I-5 had both these characteristics; most areas with poor food access did not have a concentration of households with no car.⁶⁵

Sparks Study

The final study was a thesis completed by Andrea Sparks, a graduate student at the University of Oregon now working at the U.S. Dept. of Housing and Human Services on food desert issues.⁶⁶ In this study, distance from both census tracts and block groups to the nearest stores were measured and analyzed, as well as variety (number of stores within walking distance – here defined as 1000 meters/3280 feet or an average 15-minute walk in an urban area) and competition (number of stores from different chains and parent companies within walking distance). Her study area focused on the Portland metro area contained within the urban growth boundary.

The results were interesting and not necessarily following in the trends described in national studies above:

- Significant, though weak relationships between higher-poverty areas and *shorter* average distances to the nearest supermarkets

⁶³ Coalition for a Livable Future, "The Regional Equity Atlas: Metropolitan Portland's Geography of Opportunity," Portland State University and Coalition for a Livable Future, 2007.

⁶⁴ Email correspondence with Deb Lippoldt,

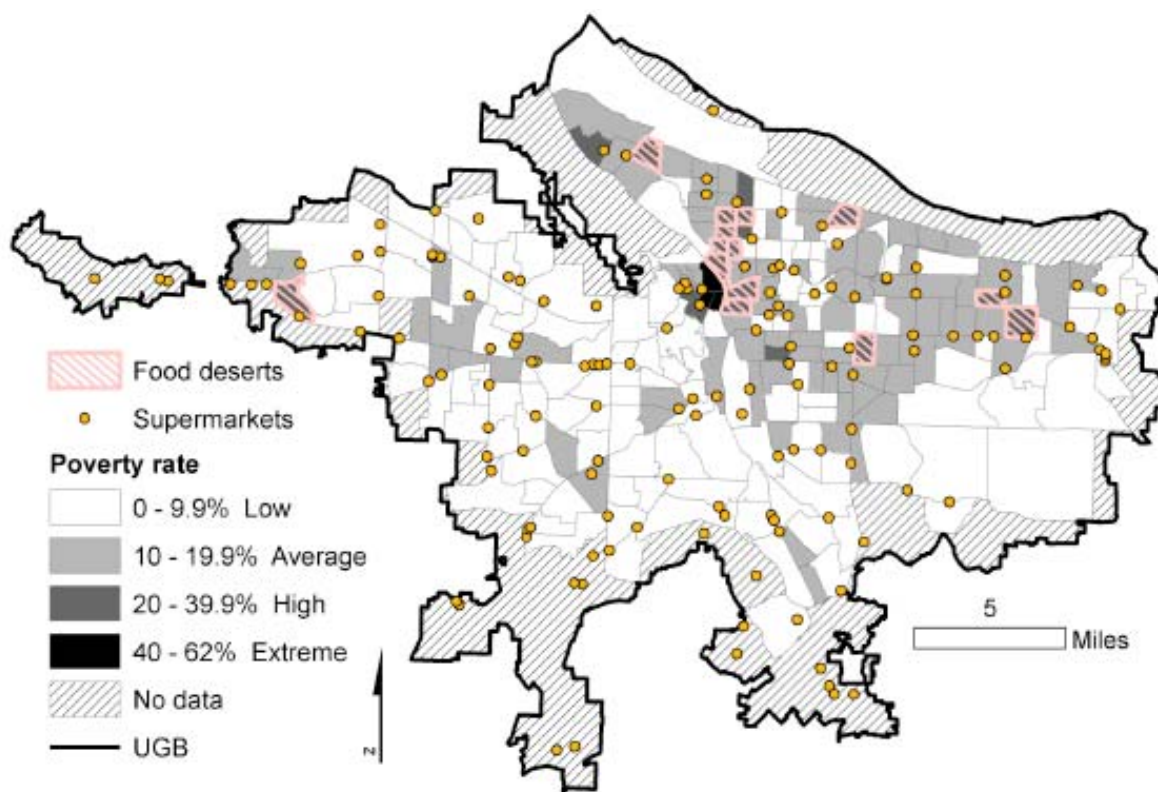
⁶⁵ Margheim, Joy, "The Geography of Eating Well: Food Access in the Metroscope," *Metroscope*, Winter 2007.

⁶⁶ Sparks, Andrea Leigh, "Measuring Food Deserts: A Comparison of Models Measuring the Spatial Accessibility of Supermarkets in Portland, Oregon." Thesis presented to the Department of Planning, Public Policy and Management and the Graduate School of the University of Oregon, June 2008.

- A significant, though weak, relationship between areas of higher rates of poverty and *more* supermarkets within walking distance.

Tracts were given ratings from Very Low Access to Very High Access.⁶⁷ The three tracts with extreme poverty (the highest rates of poverty in the study area, over 40% below poverty level) were located in Northeast Portland, and each of them were found to have Very High or High levels of supermarket access. However, in the next level down, 14 of the 24 high poverty areas (20% to 39.9% below poverty level), most of which are in the city of Portland, had Low or Very Low levels of supermarket access. The author defines these tracts, where there is a combination of high poverty and low access, as “food deserts.” As can be seen in the figure below, many of these tracts are located in Northeast Portland.

Figure 4.1: Poverty Rates and Food Deserts



Source: Andrea Sparks, University of Oregon

Physical Access

The Bureau of Planning and Sustainability has reviewed the data used in this last paper and has adopted it as the starting point for analysis of grocery store access in Portland. To the list of chain grocery stores the Bureau added a number of additional, non-chain stores that provide a full-service grocery experience, including food cooperatives and independent larger stores like Sheridan Fruit Co. and Fubonn Supermarket. We have mapped these stores with boundaries that represent half-mile and mile distances to the stores via walking paths (see Map 4-2).

⁶⁷ The categories assigned to different block groups were based on different criteria in each of the three measures calculated: distance to nearest store; access to more than one store; and number of different chains within walking distance. For more information, see Sparks.

Analysis of this map echoes past findings: large areas of east Portland, North Portland west of I-5, as well as areas of SW Portland have areas of no coverage by full-service grocery stores. Because of topography and roads, the stores that do serve SW Portland have smaller walking coverage areas than stores built in flatter areas of the city. Considering only half-mile walking distances, there are many areas of little to no coverage, while the one-mile distance shows fewer holes. Almost 53% of the city is within one mile of a full-service grocery store, while only about 18% is within a half-mile.⁶⁸

While much of SW Portland is highly educated, largely white, with access to cars and low poverty rates, the same cannot be said of some of the other areas missing grocery coverage. For example, a large swath of North Portland east of St. Johns and west of I-5 has only one grocery store with healthful food access, that being the Big City Produce at New Columbia (which is relatively small compared to chain supermarkets).

This area has higher concentrations of poverty and higher population density (see Maps 4-3 and 4-1) than other parts of the city, but little access to fresh food. Other areas with limited coverage like the area just north of downtown and in Cully also have high poverty concentrations relative to the rest of the city, but few options. Many of the areas described here are some of the most diverse parts of Portland, raising questions about whether the racial and ethnic disparities in food access that have been noted in other cities is also present here. More data focused on this issue would be welcome.

This model only considers location of full-service grocery stores, not other fresh food access points; see Chapter 8: Retail Food Environment Index for a new model for measuring food access.

Affordability

For many older, more diverse cities, food access has often been discussed as an issue of disinvestment in low-income communities. In this model, suburban stores have opened where wealthier people lived, leaving people in poor communities to have fewer options and higher prices.⁶⁹ This is especially true in neighborhoods with only small stores, which generally cannot offer food for the same lower prices as larger stores. In Portland, the issue seems a bit different, not the least because many of Portland's closest-in neighborhoods have become more affluent, and areas of poverty are shifting to areas that are further away from the central core.

Costs of food

But are food costs higher in higher-poverty parts of the city? Limited data is available, but some studies indicate that lower-income areas of Portland do not suffer from higher food prices in full-service grocery stores than higher-income or more suburban locations. A market basket survey conducted by PSU students as part of the Lents community food assessment in 2004 found that chain stores with locations in both Lents and other parts of the city did not have significantly higher food prices in their Lents store; one chain was found to have slightly higher prices in Lents, while another had slightly lower prices.

There was larger variation among store chains; for example, it cost almost \$50 less to buy equivalent foods at Winco, the lowest-priced store, than at Albertsons, the highest, in this informal study. When the two “bag-your-own” stores (Winco and Food-4-Less) were removed from consideration, the differences in price were not as extreme.⁷⁰

A 2008 University of Washington study in Seattle neighborhoods found that grocery stores in lower-income communities were actually a good deal cheaper than those in more affluent communities: a \$112 difference between the most expensive store and the cheapest, and a \$31 difference between two Safeway supermarkets. Grocery store representatives questioned the results.⁷¹ This result is opposite what has been

⁶⁸ Calculations made on areas – not population or households – and includes open space and industrial land.

⁶⁹ Mark Vallianatos, Amanda Shaffer, Robert Gottlieb, “Transportation and Food: The Importance of Access. A Policy Brief of the Center for Food and Justice, Urban and Environmental Policy Institute,” October 2002.

⁷⁰ PSU, “Lents Community Food Assessment Market Basket Survey Results.”

⁷¹ Langston, Jennifer, “Location plays role in how groceries are priced: Survey calculates cost of the same foods at various Seattle stores,” *Seattle Post-Intelligencer*, August 18, 2008.

documented in many other cities, including cities with large amounts of disinvestment in urban areas and high concentrations of poverty.

With this limited data, one might conclude that in Portland, the cost of food may have more to do with what chain grocery is frequented (and how large of a store it is), rather than which branch of that chain is used.

Shopping habits

Other Portland-area studies found that the choice of which chain to use shaped food access habits for low-income Portlanders. Two neighborhood-level community food assessments⁷² conducted by local nonprofit organizations in the Lents neighborhood and in areas of North and Northeast Portland, focused on reaching lower-income residents and gaining information about their buying habits. What they found was that food access is more complicated than whether a full-service store is located nearby.

Survey results showed that often in areas that were served by a store, the lack of perceived affordability of the store – whether it was a higher-end store like Whole Foods, or even a more common chain store like Safeway – would impact a resident's decisions about where to purchase food. Those low-income residents surveyed appear to tend to travel greater distances to stores they perceive as being more affordable, like Winco and Wal-Mart.

One family demonstrated this phenomenon in a 2008 *Oregonian* article on grocery access. The Calderon family shops once a month at the Clackamas Winco – 10 miles and an hour away by bus. This store is cheaper than those in their Northeast Portland neighborhood. It is also accessible by a direct bus line, making transfers with a couple hundred of pounds of food unnecessary (A considerably closer Winco necessitates a transfer.). Despite the fact that several grocery stores, including a New Seasons Market (eight minutes away by bus) are in their neighborhood, the Calderons believe they can't afford to shop there on the food stamps they receive.⁷³

The survey data collected by the Interfaith Food and Farms Partnership in the North/Northeast Portland community food assessment backs up this anecdotal tale. The survey targeted low-income respondents by collecting data at emergency food sites, discount grocers and at local churches. Almost half of the 202 respondents were dissatisfied with the number of full-service stores in their neighborhood, despite the fact that most of them lived within ½ mile of one. One quarter of respondents spent 30 to 90 minutes one way to reach the store they most frequently used, and about half of respondents did not have ready access to a car or use their own car for grocery shopping.⁷⁴

⁷² A community food assessment is a process that empowers a community to describe their own community food security needs, and mobilize to address them. Through community food assessments, “diverse stakeholders work together to research their local food system, publicize their findings, and implement changes based on their findings.” (Community Food Security Coalition, “Community Food Assessment Program.” Accessed on 3/11/2009 at http://www.foodsecurity.org/cfa_home.html)

⁷³ Parker, Paige, “Portland's low-income neighborhoods are city's 'food deserts',” *The Oregonian*, November 15, 2008.

⁷⁴ Interfaith Food and Farms Partnership, “Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland, Oregon,” Ecumenical Ministries of Oregon’s Interfaith Network for Earth Concerns, June 2008.

Figure 4.2: Length of time respondents travel to grocery store (one way)

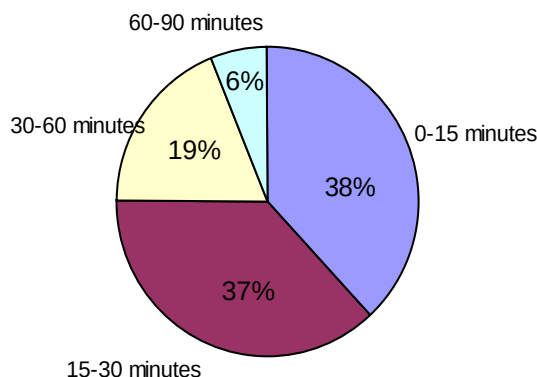
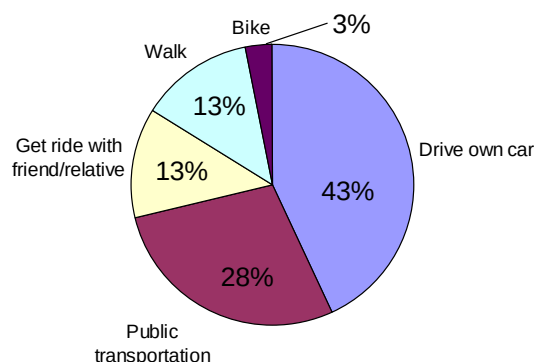


Figure 4.3: Method of transport to grocery store



Source: *Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland, Oregon*

For both food assessments, many respondents (30% in N/NE Portland and 39% in Lents) felt that they didn't eat enough fruits or vegetables, and four out of five respondents in Lents said they would like to eat a healthier diet. Most felt they would prepare more fresh foods if they had more time or grocery money.⁷⁵

This kind of data makes the picture of food access more complicated than the simple measure of whether a full-service store is nearby or not.

What does it take to build a new supermarket?

Whether the areas that have been identified as having little access to full-service grocery stores can support a new store can be impacted by population density, land access, financing and other factors. Here are a few things to consider:

- Supermarkets typically need 40,000 – 50,000 people in their “trade area” to be viable. The number of people nearby is more important than their income.
- Stores aim to do \$350,000 in sales per week. Supermarkets plan on people who live nearby spending about one-fifth of their per capita weekly (PCW) food expenditures (which averages \$35) at their store; people outside the trade area are expected to spend 5% of their PCW.
- A 50,000 square foot store needs about five acres of land on which to locate. Urban sites generally need four parking places for every thousand square feet of store.
- Construction costs and ability to finance will impact timelines and viability of the project. Supermarket construction costs about \$90 to \$150 per square foot.⁷⁶

These kinds of market concerns would need to be considered by any company looking to locate, or being asked to locate, in an underserved community. Approaches other jurisdictions have utilized to overcome some of these limiting factors and encourage grocery stores in low-income communities are described in this section's policy examples.

⁷⁵ Lents Community Food Survey report, November 2004.

⁷⁶ LISC Commercial Markets Advisory Service, “Is a grocery store in your neighborhood's future?” Commercial Advisor newsletter, Summer 2008.

Convenience Stores

What is the Issue?

Convenience stores, despite their high numbers, are generally not considered to be strong contributors to healthful, affordable food access. In her study of food access in Portland, Joy Margheim states:

Convenience stores boast limited shelf space and different access to wholesalers, and thus tend to offer more highly processed, snack-type foods. Because they typically offer smaller package sizes, smaller stores such as convenience stores are relatively expensive (hence the assumption that a consumer is paying for convenience, not necessarily quality). While they play an important role in urban life and may stock widely different items depending on their ownership and clientele, convenience stores usually are not a reliable source for healthy, economical meals...The concern regarding convenience stores is relative concentration. An area with many convenience stores may offer few incentives to healthy eating, particularly if there are no grocery stores nearby.

A seminal 1997 USDA study found that prices at grocery stores are on average 10% lower than convenience stores and small, independent stores.⁷⁷ As to selection and variety of products, most convenience stores carry only a few basic staples, with most shelf space taken up by soft drinks, tobacco products, beer, snacks, candy and lottery tickets.

One study of convenience stores and bodegas (small corner shops) in New York City compared availability of healthful foods for diabetics in East Harlem and the adjacent Upper East Side. East Harlem has the city's highest rates of diabetes and obesity and one of the lowest median incomes, while the Upper East Side has the lowest rates of diabetes and obesity in the city and one of the highest median incomes.

While only 9% of the bodegas in East Harlem carried the five recommended foods for diabetics (diet soda; 1% fat or fat-free milk; high-fiber and/or low-carbohydrate bread; fresh fruits; and fresh green vegetables or tomatoes), 48% of bodegas in the Upper East Side carried these items. This demonstrates that convenience stores and small markets or bodegas are not by definition devoid of healthful options, and location or demographics of shoppers can unfortunately impact what is sold.

Challenges and Opportunities

Because of the omnipresence of such small neighborhood stores, many organizations looking at food access are now working to increase the supply of healthful food options at such stores. The Healthy Corner Stores Network (HCSN) provides a forum for sharing best practices and lessons learned, as well as related research on helping "convert" small corner and convenience stores into places with healthful food options.⁷⁸

These conversions can be as simple as helping an existing store to sell pre-packaged cut fruit, as the Healthy Corner Store Initiative is doing in

Bodegas vs. Convenience Stores

"Although similar, bodegas and convenience stores are not exact substitutes. Bodegas [also called corner stores] rely on a business model unique to the inner city - combining characteristics of a convenience store, grocery, and deli - and offer substantial benefits to a community. They are often owned independently, by immigrants, offer flexible hours of operation, and are located in convenient locations."

Stringer, Scott M., Manhattan Borough President, "FoodStat: Measuring the Retail Food Environment in NYC Neighborhoods" May 2009



Healthy Corner Store Initiative refrigerated barrels to sell healthy snacks at corner stores.

⁷⁷ Phillip Kaufman, James MacDonald, Steve Lutz and David Smallwood. "Do the Poor Pay More for Food?: Item selection and price differences affect low-income household food costs." USDA ERS. AER n. 759. 1997.

⁷⁸ Healthy Corner Stores Network, www.healthycornerstores.org.

Philadelphia. The Initiative (funded by the Robert Wood Johnson Foundation) provides refrigerated barrels and marketing materials to market packages of fruit. The fruit is sold at an affordable rate – \$1 per pack – and also provides greater profits at 40 cents per pack than do other, less healthy snacks the store already sells.

Larger-scale conversions to a fuller selection of fresh produce offer some economies to existing stores. “Conversion to selling healthy food involves relatively little added cost — refrigerated fixtures, inventory of new items and the time required to purchase, handle and display the new, perishable items are the main items — and takes advantage of management that has some operating skills and experience and knows, and is well known by, the neighborhood from which its customers come.”⁷⁹

A survey of corner stores in Washington, D.C. also found that most independent owners were interested in providing more foods with high nutritional values like fresh produce, and that most of them accepted SNAP/food stamps. Almost half of them did have some produce in the store. These factors make a good foundation on which to build healthier food access.

However, these stores face challenges as well. Profits from fresh produce are unpredictable: “Because many customers prefer to buy produce at supermarkets where fresh produce often is less expensive and more varied, corner stores typically keep very small quantities of fresh fruits and vegetables in stock—and they are not always able to sell the food before it spoils.”⁸⁰ Other challenges noted include the following:

- No marketing or displays of produce
- Average quality of produce
- Costs can vary greatly, and are not always displayed

Joint Ventures Involving Neighborhood Corner Stores

The following text is from Ed Bolen and Kenneth Hecht, “Neighborhood Groceries: New Access to Healthy Food in Low-Income Communities,” California Food Policy Advocates, January 2003.

A Collaboration Between Farmers/Growers and Corner Stores

Neighborhood corner stores or specialty markets could collaborate with growers who supply farmers markets, thus benefiting both entities. Corner stores could cut costs by dealing directly with growers and getting access to the freshest produce. Growers could add a new market to supplement their weekly, and often limited-season, farmers market sales. Growers would naturally need to work with a network of small stores in order to make the driving and drop-off time worthwhile. For the stores, a key issue would be finding an experienced person to set up the farmer-store arrangements and to provide on-going coordination.

A Collaboration Between Supermarkets and Corner Stores

Under this model, a large supermarket (either independent or part of a chain) or specialty store might act as a central “hub” for a network of small corner stores — satellite stores that might carry the supermarket’s name or brand or logo — in the surrounding neighborhoods. The larger market would buy produce, perhaps directly from local farmers, and other goods, storing, handling, delivering and re-selling them to local corner stores. An important feature of this model is that the larger market would also act as an advisor or mentor to neighborhood storeowners. While the larger markets could gain customers and revenue, corner stores could increase their sales by drawing on the expertise, buying power and other economies enjoyed by the larger market.

A Network of Small Markets

While small market owners are notoriously independent, they could cut costs and increase sales by participating in a cooperative or franchise-type produce operation. A successful model can be found in the approach used by Ace Hardware stores. Such a cooperative system would be aimed at resolving some of the problems that are associated with distribution limitations faced by small storeowners. This model would enable a number of small stores to establish a “buying group” to purchase products at lower prices from a reduced number of distributors. The storeowners might also advertise under a common, recognizable “umbrella” brand. The model might even enable small storeowners to become competitive in price and product mix with the full service traditional supermarkets.

⁷⁹ Bolen, Ed and Kenneth Hecht, “Neighborhood Groceries: New Access to Healthy Food in Low-Income Communities,” California Food Policy Advocates, January 2003.

⁸⁰ District of Columbia Department of Health, “Creating Healthy Corner Stores in the District of Columbia: Healthy Corner Store Program – Phase One Research Results and Recommendations,” October 2008. Accessed on June 4, 2009 at http://www.dchunger.org/pdf/cornerstores08_phaseone_report.pdf.

The Washington, DC report lays out a series of recommendations for community organizations, local government and corner store owners themselves to address issues of building capacity and demand and solving sourcing issues. At this point, there are numerous resources and studies to help develop a healthy corner store program and address some of the very real challenges to helping small corner and convenience stores become the healthy food access points they could be.

Conclusions

Access to food is most commonly identified with access to full-service grocery stores. Based on a one-mile standard, there are clearly some parts of Portland that are not well-served by grocery stores. Some of these areas, like the southeast corner of the city, are sparsely populated and may not be able to support a large, full-service store. Other areas are likely better candidates for stores; however, simply locating a store in an underserved neighborhood does not ensure that all residents of that neighborhood will choose to use the new store (and, hopefully, benefit from the healthy offerings therein). Some will likely continue to travel long distances to achieve the lower prices that bargain stores are perceived to offer.

In Portland, data indicate that grocery access is more complicated than whether a store is within walking distance. Affordability is also an important factor in determining where people shop, as well as availability and accessibility. While many communities contain at least one full-service supermarket, there are concerns about whether this one store can serve all members of their communities. In many cases, low-income people are left traveling long distances to reach affordable, quality food. In addition to proximity, other factors like affordability, quality, selection and cultural appropriateness all also play into the food access issue.

Gaps exist in the data we have available to get a clearer sense of the many factors that play into food access. Data collected from grocery stores on the zip codes of their customers would help determine the extent to which people travel from their homes in search of food. More extensive data collection on residents' buying and consumption habits would be useful to draw a clearer image of how people access food. Further analysis of the role that convenience stores and other retail food outlets play in providing food would clarify the opportunities for impacting food access in Portland. More data is also needed on how transit routes and safe biking/walking facilities connect to grocery stores.

RESTAURANTS AND FAST FOOD

What is the issue?

*The following section, Trends in Eating Out, is an excerpt from Multnomah County Health Department's **Fast Food and Chain Restaurant Nutrition Labeling Policy Initiative** prepared by The Chronic Disease Prevention Program July 15, 2008.*

Trends in Eating Out

Dining Out More: National trends show that Americans are dining out more. In 1970, Americans spent just 26% of their food dollars on restaurant meals and other foods prepared outside their homes. By 2003, Americans were spending almost half (46%) of their food dollars on away-from-home foods and consuming a third of their daily calories while eating out.⁸¹

Increasing Portion Sizes: Portion sizes have grown over time. It is not uncommon for a single restaurant meal to provide half a day's calories or a whole day's recommended calories. Restaurant foods are often served in large portions well beyond the recommended standards of the Food and Drug Administration (FDA), and priced in a way that makes larger serving sizes more appealing.⁸² For example, a Double Gulp from 7-

⁸¹ National Restaurant Association, 2002. Also Center for Science in the Public Interest, *Anyone's Guess*, November 2003.

⁸² Center for Science in the Public Interest. *Anyone's Guess*. November 2003.

Eleven contains six servings, meaning it provides six times as many calories as would a standard serving size of soft drink.

Increased Calorie Intake: Several studies have found a positive association between eating out and higher calorie intake and higher body weights. Increased calorie intake is a critical factor in rising obesity rates.⁸³ Children eat almost twice as many calories at a restaurant compared to at home.⁸⁴ Studies suggest that foods consumed away from home are more calorie-dense and nutritionally poorer compared with foods prepared at home. Foods that people eat from restaurants and other food service establishments are generally higher in nutrients for which over-consumption is a problem (like fat and saturated fat) and lower in nutrients that people need to eat more of (like calcium and fiber) as compared to home prepared food.⁸⁵

Health Impacts of Fast Food Restaurant Concentration

Eating at fast food restaurants regularly has a negative impact on health. Fast food restaurants tend to cluster around schools⁸⁶ and in low-income neighborhoods.⁸⁷ For example, a study in England and Scotland showed there was a significant positive association between neighborhood poverty and the mean number of McDonald's outlets per 1000 people.⁸⁸

Fast food restaurants are often used as a proxy for unhealthful food access.⁸⁹ However, studies of fast food have shown mixed results in terms of whether a concentration of fast food restaurants equals increased consumption of unhealthful foods. In California, obesity and diabetes prevalence were found to be highest in adults "who have the most fast-food restaurants and convenience stores near their homes relative to grocery stores and produce vendors."⁹⁰ Another study, though, found "proximity of 'fast food' restaurants to home or work was not associated with eating at 'fast food' restaurants or with BMI."⁹¹ A recent study of 13,000 New Yorkers found that, while higher concentrations of full-service grocery stores were associated with lower BMI and lower prevalence of obesity, higher concentrations of convenience stores and fast food were not significantly associated with higher obesity or BMI.⁹²

These studies could have gotten different results due to differences in methodologies or locations; however, conclusions are mixed on studies of concentrations of fast food restaurants' impact on consumption and health outcomes. One possible explanation is the distance examined; a recent study of fast food restaurants near schools found an association with student obesity if the restaurant was within one-tenth of a mile of the school, but a restaurant being one-quarter or one-half mile didn't have the same effects.⁹³ Researchers recognize the methodological challenges; research on health impacts of fast food restaurants will continue to be a field ripe for exploration.

⁸³ Binkley et al., 2000; Jeffery & French, 1998; Ma et al., 2003; McCrory et al., 2000; McCrory et al., 1999).

⁸⁴ Zoumas-Morse C, Rock CL, Sobo EJ, Neuhaus ML. "Children's Patterns of Macronutrient Intake and Associations with Restaurant and Home Eating." *Journal of the American Dietetic Association* 2001. vol. 101, pp. 923-925.

⁸⁵ Lin et al, 1999; Clemens et al., 1999; Jeffery & French, 1998; Ma et al., 2003.

⁸⁶ Austin, S. Bryn et al. "Clustering of Fast-Food Restaurants Around Schools: A Novel Application of Spatial Statistics to the Study of Food Environments." *American Journal of Public Health* 95, no. 9 (September 2005): 1575-1581.

⁸⁷ <http://www.ajpm-online.net/article/PIIS0749379704001394/fulltext> (Fast food, race/ethnicity and income: A geographic analysis)

⁸⁸ Cummins, SC., L. McKay, and S. MacIntyre. 2005. "McDonald's Restaurants and Neighborhood Deprivation in Scotland and England." *American Journal of Preventive Medicine*, 29 (4): 308-310.

⁸⁹ C.M. Burns and A.D. Inglis, "Measuring food access in Melbourne: Access to healthy and fast foods by car, bus and foot in an urban municipality in Melbourne." *Health & Place*, Volume 13, Issue 4, December 2007, Pages 877-885.

⁹⁰ <http://www.healthpolicy.ucla.edu/pubs/publication.asp?pubID=250#> (Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes)

⁹¹ <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1397859> (Are Fast Food Restaurants and Environmental Risk Factor for Obesity?)

⁹² Medical News Today, "Access To 'Healthy' Food Stores Associated With Lower Prevalence Of Obesity In New York City," March 21, 2009. Accessed on 6/1/2009 at <http://www.medicalnewstoday.com/articles/143099.php>.

⁹³ Currie, Janet, Stefano Della Vigna, Enrico Moretti, and Vikram Pathania, "The Effect of Fast Food Restaurants on Obesity," National Bureau of Economic Research Working Paper No. 14721, February 2009.

Economic Impact of Restaurants

Nationally, 945,000 restaurants employ over 13 million people in the United States, or 9% of the U.S. workforce. Each day, more than 130 million individuals will be a customer of a restaurant or prepared food establishment, adding up to \$566 billion in yearly sales. Nationally, restaurants capture 48% of all food expenditures, compared with only 25% in 1955. Many of these are the chains we think of as dominating the American landscape, but seven out of ten eating and drinking places are independent, unique operations, and 91% of them have fewer than 50 employees.⁹⁴

While sales were \$566 billion in 2008, the overall impact of the restaurant industry is said to be as high as \$1.5 trillion through sales in related industries such as agriculture, transportation and manufacturing. The restaurant industry has also calculated that the multiplier effect for a dollar spent in a restaurant as being an additional \$2.02 in the nation's economy.⁹⁵

Oregon has almost 8,500 eating and drinking places employing 176,000 people and recording \$5.5 billion in sales. Estimates are that every dollar spent in Oregon's restaurants generates an additional \$1.08 in sales, and that each additional million dollars spent in Oregon's bars and restaurants generates an additional 29 Oregon jobs.⁹⁶

According to the 2002 Economic Census for the Portland Metropolitan Statistical Area (which includes Portland, Beaverton, Vancouver and surrounding towns), there are over 4,000 eating and drinking establishments that employ almost 62,000 people. Data from the 2007 Economic Census should be available at the metropolitan level by mid-2010 to see how this has changed during the 2000s.

⁹⁴ National Restaurant Association, "2009 Restaurant Industry Pocket Factbook," <http://www.restaurant.org/pdfs/research/2009Factbook.pdf>. Accessed on Feb. 27, 2009.

⁹⁵ National Restaurant Association, "2009 Restaurant Industry Pocket Factbook," <http://www.restaurant.org/pdfs/research/2009Factbook.pdf>. Accessed on Feb. 27, 2009.

⁹⁶ Oregon Restaurant Association, "Oregon: Restaurant Industry at a Glance." www.ora.org.

Table 5-1: Restaurant-related economic data for the Portland Metropolitan Statistical Area

NAICS code	Description	Estab-lish-ments	Sales (\$1,000)	Annual Payroll (\$1,000)	Paid Employees
722	Food services & drinking places	4142	2,485,605	750,700	61,750
7221	Full-service restaurants	1,603	1,151,827	382,606	28,966
7222	Limited-service eating places	1,884	1,010,866	272,376	25,160
722211	Limited-service restaurants	1,394	810,255	221,750	20,624
722212	Cafeterias, buffets & grill buffets	29	32,085	8,808	772
722213	Snack & nonalcoholic beverage bars	461	168,526	41,818	3,764
7223	Special food service	290	169,205	57,467	4,514
7224	Drinking places (alcoholic beverages)	365	153,707	38,251	3,110

Source: 2002 Economic Census.

Local Conditions

The chart above indicates over 4,000 food and drink establishments in the Portland MSA. The city has a reputation for numerous high-quality restaurants, many of which buy from local farmers and feature local cuisine. These efforts and more have made Portland a restaurant hotspot. The New York Times referred to Portland as "a full fledged dining destination" that is experiencing a "golden age of dining and drinking...all constructed to the gospel of local ingredients."⁹⁷

Portland also has a plethora of chain restaurants and fast food places familiar to most U.S. cities. Multnomah County prepared a map of fast food and chain restaurants in the county⁹⁸ represented here as Map 5-1. The map shows some 375 fast food restaurants and an additional 50 or so chain restaurants across Portland.

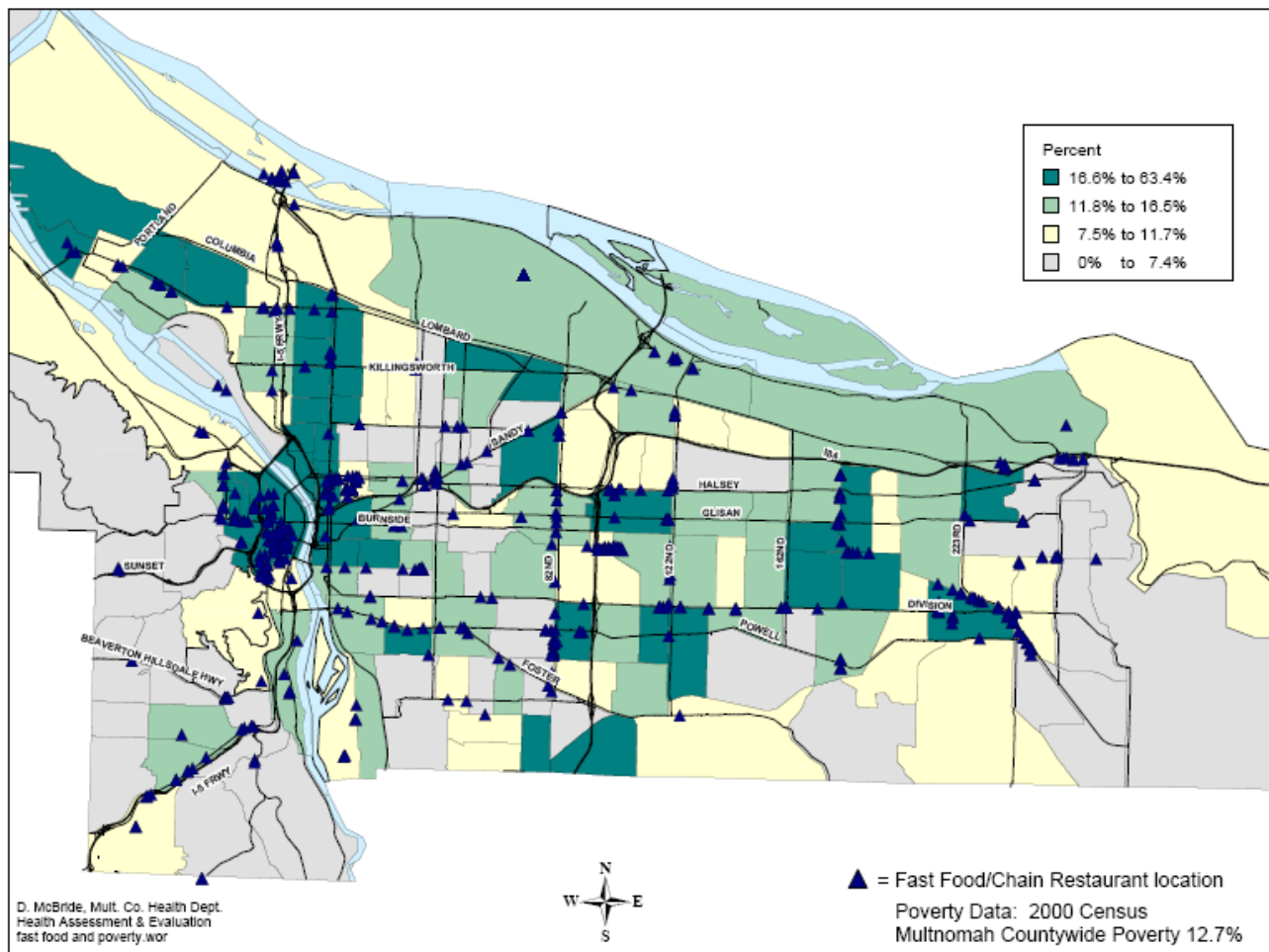
Not surprisingly, these restaurants are generally clustered along larger arterials and in downtown, where traffic will contribute to greater sales. As seen on the map, most of the restaurants are within a half-mile of a school. Particular clusters are noted on MLK and Grand near Broadway/Weidler; in the Mall 205 area of Stark and Washington; and along 82nd especially south of Powell. These are generally very car-intensive parts of the city.

There does seem to be some relationship between clustering of fast food and chain restaurants and areas of higher poverty, as seen from Figure 5.1 below. The data used is from the 2000 Census, so some changes in these figures may have occurred since this time. However, it does appear that people in areas of higher poverty often have clusters of fast food restaurants nearby. One example is along MLK, Jr. Blvd in NE Portland, but many of the clusters along arterials also coincide with Census tracts of higher poverty, and vice versa.

⁹⁷Eric Asimov, "In Portland, A Golden Age of Dining and Drinking," September 27, 2007, [New York Times](#), Style section.

⁹⁸ The term "chain restaurants" used here includes restaurants with more than 15 outlets nationwide that serve similar or identical menus of food and operate under the same brand. This includes everything from Denny's to Outback Steakhouse, Pizza Hut, etc. "Fast food restaurants" fall under this same definition but in general are assumed to mean a restaurant where food is pre-prepared or offered within several minutes of ordering; where food is paid for upon ordering and where a drive-through option may be available.

Figure 5.1: Multnomah County Fast Food Outlets and Chain Restaurants and Percent of Population at Less than 100% of Federal Poverty Level



Little data has been collected to determine who within Portland eats at fast food restaurants, how often, or how they make their food choices. Nationally, the number of fast food restaurants has increased seven-fold from 30,000 in 1970 to 220,000 in 2001. Fast food is especially popular among adolescents, who on average visit a fast-food outlet twice per week.⁹⁹ Within the Lents Community Food Survey, 33% of respondents reported that they eat at fast food restaurants once a week or more often, while 65% reported eating at fast food restaurants a few times a month or more often.¹⁰⁰ Health data is not available at a level to be able to compare health outcomes of people who live near to fast food restaurant concentrations versus those who do not.

⁹⁹ Paeratakul, S et. al., "Fast food consumption and dietary intake profiles - Fast Food," Nutrition Research Newsletter, Nov, 2003.

¹⁰⁰ Lents Community Food Survey report, November 2004.

Local Policy

Recently, local governments have taken action on the issue of fast food restaurants and the risk of obesity. Multnomah County's Board of Commissioners, acting as the Board of Health, voted in 2008 to require chain restaurants and coffee shops with over 15 outlets nationwide to post caloric information on display boards, including drive-throughs, and additional information on written menus. The process to implement this direction is underway, and should be in implementation by mid-2009. Multnomah County follows New York City, King County, WA and San Francisco in adopting nutrition labeling for chain restaurants.

The City of Portland zoning code regulates placement and design of drive-through facilities, often associated with fast food restaurants. The code states: "Drive-through facilities are allowed in the zones which are intended for auto accommodating development. They are not consistent with or supportive of areas where the desired character is pedestrian-oriented development." To this end, they are prohibited in several of the more pedestrian-serving commercial zones and several subdistricts, though allowed in all industrial zones and several employment zones. The zoning code has undoubtedly contributed to the placement of fast food restaurants along major auto-serving arterials in Portland.

Conclusions

More information would be required to determine the extent to which Portlanders in general, and subgroups in particular, rely on fast food restaurants to meet their nutritional requirements. However, there do appear to be linkages between concentrations of poverty and clusters of fast food restaurants, mirroring similar findings in other cities regarding marketing unhealthful foods to lower-income populations. A comparison of concentrations of fast food restaurants with specific health outcomes in smaller geographic areas would be useful in determining the extent to which the two are associated.

The new menu labeling program underway at Multnomah County (and a statewide mandate potentially on its way to becoming law) can help ameliorate some of the impact by making consumers more aware of the caloric content of foods they plan on ordering, at the point of sale. Other steps governments can take include limiting additional fast food restaurants from locating near schools or locating in their jurisdictions altogether.

FOOD ASSISTANCE AND CHARITABLE FOOD

What is the issue?

Hunger continues to be an issue for many households in the United States – 11.1% of them in 2007. Within these households are over 12 million children.¹⁰¹ The **food and nutrition assistance** system in the United States is made up of federal and state government programs like SNAP/food stamps and supplemental nutrition support programs. These programs are the nation's safety net against food insecurity. In addition are **charitable food** networks of food banks, food pantries and soup kitchens. These charitable networks do receive food from U.S. Department of Agriculture commodities, but these amounts have declined significantly in recent years. USDA commodities accounted for only 10 percent of food distributed by Oregon Food Bank in fiscal year 2007-2008.¹⁰² Emergency food assistance programs also rely on food industry donations, food drives and purchased food to serve their clients.

Many people in the United States rely on food assistance and charitable food to meet this basic need; the number is rising in the wake of the economic downturn. The underlying causes of hunger are definitely crucial to address; while there still is hunger and food insecurity, though, the food assistance and charitable food systems should be made to be as robust as possible. Local conditions are considered here both to get a sense of the demand for the services and to document the way that so many community members access food.

¹⁰¹ Feeding America, "Issues – Hunger Fact Sheets," Accessed 3/11/2009 at <http://www.hungeractioncenter.org/fact-sheets.aspx>.

¹⁰² Oregon Food Bank, "The State of Hunger: 2007-08 Statistics for the Oregon Food Bank Network serving Oregon and Clark County, Washington."

Hunger in Oregon

Hunger Ratings

Hunger is now measured in the United States using the terms “low food security” and “very low food security.” Defined by the US Department of Agriculture, low food security refers to reduced variety, quality or desirability of diet, with little or no indication of reduced quantity of food. Very low food security indicates disrupted eating patterns or reduced consumption¹⁰³, exemplified by skipped meals, smaller portions, etc. Figure 6.1 examines indicators of food insecurity and how common they are among the different groups.

Oregon has consistently ranked as one of the more food-insecure states in the nation in recent years. After the unfortunate label of “hungriest state in the nation” was given to Oregon in 2000, advocates had made progress in addressing low food security: in 2005, Oregon had fallen to #17 in the national rankings after a push to expand enrollment in federal food stamps, among other actions.¹⁰⁴ However, with growing unemployment and increasing living expenses, these gains have largely evaporated. The most recent rankings from the USDA show that between 2005 and 2007, Oregon had more people with very low food security than all other states besides Maine.¹⁰⁵

Causes of Hunger

Oregon Food Bank’s recently released biennial study of emergency food box recipients demonstrates the complexity of conditions that brings people into the emergency food network. Some of the most often-cited reasons for participation were that food stamps were insufficient to meet food needs; high food costs; high fuel and heating costs; and either recent or persistent job loss.¹⁰⁶

Currently, the federally-gathered statistics on poverty and hunger are collected separately, so it is difficult to correlate them, but clearly there is a relationship between hunger and low- or no-income households. In the most recent Oregon Food Bank survey, 46% of households receiving emergency food had at least one member working, and 20% of households had members looking for work. Despite this, fully two-thirds of respondents live below 100 percent of the 2008 Federal Poverty Level.¹⁰⁷

Other challenges cited by respondents included:

- Child care costs: 63% reported that child care is too costly.
- Housing costs: 29% of respondents had had to move within the past 2 years because of the cost of housing.
- Health care: 58% of households are putting off medical care; 68% are delaying dental care and 47% are putting off purchases of medicine. Forty percent of survey respondents reported having medical debt.

Other challenges, such as low educational attainment, pre-existing debt, lack of health coverage and being disabled, contributed to the challenges respondents face.

¹⁰³ United States Department of Agriculture Economic Research Service, “Food Security in the United States: Definitions of Hunger and Food Security.” Accessed May 30, 2009 at <http://www.ers.usda.gov/briefing/foodsecurity/labels.htm>.

¹⁰⁴ Oregon Hunger Relief Task Force, <http://oregonhunger.org/panel-2.html>. Accessed on Dec. 9, 2008.

¹⁰⁵ Nord, Mark; Andrews, Margaret and Steven Carlson, “Household Food Security in the United States, 2007,” USDA Economic Research Service, Economic Research Report Number 66, November 2008.

¹⁰⁶ Oregon Food Bank, “Profiles of Hunger and Poverty in Oregon: 2008 Oregon Hunger Factors Assessment.” September 2008.

¹⁰⁷ *Ibid.*

Health Impacts of Hunger

Research is emerging on the health consequences of childhood food insecurity. The Childhood Hunger Initiative of Oregon compiled research into the continuing medical education (CME) course, “*Childhood Food Insecurity: Health Impacts, Screening and Intervention*.”¹⁰⁸ Some of the conclusions are listed below:

- Children living in food insecure households are at higher risk for upper respiratory infections, stomachaches, headaches, and increased hospitalization.^{109,110}
- Food insecurity is also related to heightened levels of depression and anxiety among mothers and children.¹¹¹
- Mothers may feel frustration, guilt, and fear about the household food situation and other household economic constraints.¹¹²
- Children from food insecure households are more likely to exhibit behavioral problems such as aggression, inattention, aggression and anxiety.¹¹³
- Teenagers experiencing food insecurity are especially at-risk. They are five times more likely to have attempted suicide and more likely to be depressed.¹¹⁴

Neighborhood and environmental conditions may affect household food insecurity by limiting access to affordable and healthful food choices. These conditions may account for why food-insecure adults and children may be at greater risk for obesity. For more on food insecurity and obesity, see the sidebar on page 40 in the Health Outcomes chapter.

Local Conditions

Statewide Distribution of Emergency Food

The amount of emergency food being distributed in Oregon showed signs of increase in the past year. Oregon Food Bank (OFB) works with 16 regional agencies in the state, with a larger network of 915 local member agencies and programs (food pantries, soup kitchens, etc.). This entire network distributed 57.8 million pounds of food in the past year. Map 6-1 shows the location of OFB-affiliated food assistance sites in Portland, including congregant meal sites, emergency food box sites and several children’s feeding program sites. The sites are clustered in downtown and in inner NE and North Portland, with other sites scattered around the city.

After holding steady for three years, the number of emergency food boxes distributed statewide increased 5% from 752,000 in Fiscal Year 2007 to 792,000 in FY2008.¹¹⁵ Almost half of these food boxes, or over 370,000,

¹⁰⁸ Course found at: <http://ecampus.oregonstate.edu/hunger>

¹⁰⁹ Alaimo K, Olson CM, Frongillo EA. “Food insufficiency and American school-aged children’s cognitive, academic and psychosocial development.” *Pediatrics*. 2001; 108(1): 44-53.

¹¹⁰ Cook JT, Frank DA, Berkowitz C, Black MM, Casey PH, Cutts DB. “Food insecurity is associated with adverse health outcomes among human infants and toddlers.” *J Nutr*. 2004;134:1432-1438.

¹¹¹ Whitaker RC, Phillips SM, Orzol SM. “Food insecurity and the risks of depression and anxiety in mothers and behavioral problems of their preschool-aged children.” *Pediatrics*. 2006;118(3):e859-e868.

¹¹² Hamelin A, Habicht J, Beaudry M, “Food insecurity: consequences for the household and broader social implications.” *J Nutr*. 1999; 129:525S-528S.

¹¹³ Kleinman RE, Murphy JM, Little M, Pagano M, Wehler CA, Regal K, Jellinek MS. “Hunger in children in the United States.” *Pediatrics*. 1998; 101(1):e3.

¹¹⁴ Alaimo K, Olsen C. “Family food insufficiency, but not low family income, is positively associated w/ dysthymia and suicide symptoms in adolescents.” *J Nutr*. 2002; 132:719-725.

¹¹⁵ Oregon Food Bank, “The State of Hunger: 2007-08 Statistics for the Oregon Food Bank Network serving Oregon and Clark County, Washington.”

were distributed within Multnomah County.¹¹⁶ In addition to the food boxes, which provide enough food for 3-5 days of meals, about 4 million emergency meals were served and 87,000 people received food through other programs. Over 1.3 million of these emergency meals were served in Multnomah County alone.

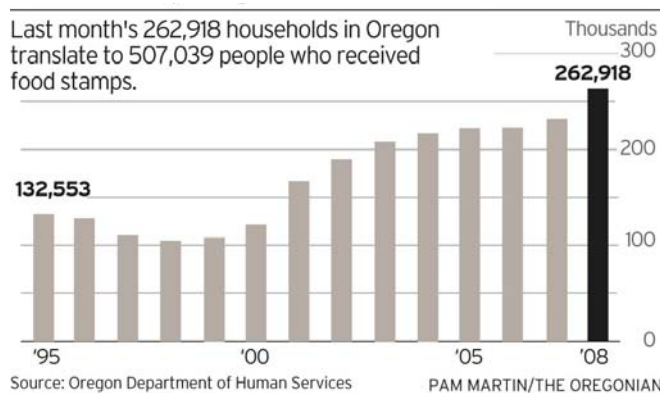
The numbers from the first two quarters of 2008-09 show a 15% increase statewide in food box distribution over the same period last year. Five out of 20 regional food banks reported increases greater than 25%.¹¹⁷ This is despite the fact that most agencies will only serve a household a limited number of times. The numbers are expected to rise as unemployment and the impacts of the economic recession deepen.

Supplemental Nutrition Assistance Program (SNAP)/Food Stamps

SNAP (formerly called the Food Stamp Program) is a program of the federal government to provide food assistance funds to low-income households. The federal government pays for the cost of the benefits (over \$40 million a month for Oregon in 2007¹¹⁸), and shares administration costs with the state. SNAP is the nation's largest food and nutrition assistance program for low-income Americans. In 2008, the Food Stamp Program served almost 25 million Americans each month, with an annual cost to USDA of \$37.5 billion.¹¹⁹

The number of people signed up for SNAP/food stamps continues to increase in Oregon, as shown in this *Oregonian* chart from December 2008 below. Currently, over 500,000 Oregonians, or one in seven, receives support through SNAP. This is a record number of people receiving benefits at any one time in Oregon and this number includes over 170,000 people in the Portland metro area – a 13% increase from November 2007.¹²⁰ Looking more specifically at Multnomah County, in July 2008 the count was just under 96,000 people receiving SNAP from 54,105 households.

Figure 6.2: Food Stamp Usage in Oregon, 1995 – November 2008.



Maps 6-2 and 6-3 show how SNAP/food stamp participation has risen between January 2007 and February 2009 in different parts of Portland, by zip code. Looking at actual numbers in Map 6-2, the parts of Portland with the largest increases during this time period were East Portland and parts of North Portland. These two parts of Portland do not have a particularly high population density, though several Census tracts within these areas do show higher concentrations of poverty. Looking at the increases by percentage in Map 6-3, much of

¹¹⁶ Commission on Children, Families and Community (CCFC), "Profile of Hunger and Food Insecurity Issues in Multnomah County," September 15, 2008. Accessed at <http://www2.co.multnomah.or.us/ChildrenFamily/pdf/Economic%20Security/Profile%20of%20Hunger.doc> on Dec. 10, 2008.

¹¹⁷ Accessed at <http://www.oregonfoodbank.org/> on February 8, 2009.

¹¹⁸ Accessed at <http://www.oregon.gov/DHS/assistance/foodstamps/foodstamps.shtml> on February 8, 2009.

¹¹⁹ United States Department of Agriculture Economic Research Service, "Briefing Rooms: Supplemental Nutrition Assistance Program (SNAP)." Accessed on 3/11/2009 at <http://ers.usda.gov/Briefing/SNAP/>.

¹²⁰ Cole, Michelle, "Food stamps aid hits state record," *The Oregonian*, December 17, 2008.

the city increased by 20% or more, with one section of SW Portland south of downtown showing an increase of over 80%.

Participation does not necessarily reflect the number of people eligible to take part in SNAP/food stamp benefits: “The Oregon Hunger Relief Task Force (OHRTF) estimates that 81% of eligible Multnomah County households participate in the program, which is slightly above the statewide average participation of 79% of eligible households. The participation rate for seniors is much lower. OHRTF estimates that only 42% of eligible seniors (age 60 & over) in Multnomah County participate in the program.”¹²¹

Special Supplemental Nutrition Program for Women, Infants & Children (WIC)

WIC serves families most in need of preventive health services; the program works to overcome health disparities through health care and vouchers to purchase nutritious foods. Statewide in 2007, Oregon WIC served 168,000 women, infants and children. Vouchers were cashed for healthful foods at grocery stores totaling \$75.5 million, and at farmers markets and farm stands for \$417,000. Over three quarters of Oregon WIC’s budget goes to the nutrition vouchers.¹²²

In Multnomah County, just over 30,000 women, infants and children were served in 2007, from 12,253 households. Sixty-eight percent of these households had at least one working member – slightly less than the 72% average statewide. Just over 60% of the households were at or below the federal poverty level. Multnomah County’s share of nutrition vouchers in 2007 included \$13.5 million to grocery stores and \$74,560 to farmers.

Free and Reduced Lunch Program

The Commission on Children, Families and Community has this summary of the Free and Reduced Lunch Program in Multnomah County:

The Free/Reduced Lunch (FRL) program is the second largest feeding program (after the Food Stamp Program) for low-income families. In 2007 school year, 47.6% of all public school children in Multnomah County participated in the FRL program. 43,676 children and youth ate a FRL meal during the 2007 school year. Oregon Department of Education’s most recent reports (2006 school year) for the school snack and supper program indicate that 404,169 meals were served to students in Multnomah County schools.

Related, but separate to FRL is the Summer Food Service Program (SFSP) coordinated by non-profit organizations, faith groups and school districts. A three-year United Way grant recently allowed the program to be expanded in the tri-county area, and during the grant period, participation doubled. In the summer of 2007, 361,000 meals were served to children and youth; 2,280 meals were also served to low-income parents at SFSP sites.¹²³ Many of the sites were in Portland Parks and Recreation facilities, highlighting how a city bureau is already engaged in this issue.

Gleaning

Gleaning is the practice of making use of leftover edible products after the farmers are done harvesting, or when a restaurant, caterer or other food preparer has leftover products. There are 25 gleaning organizations in Oregon with over 10,000 low-income households as members. Gleaners today gather food and firewood

¹²¹ Commission on Children, Families & Community (CCFC), “Profile of Hunger & Food Insecurity Issues in Multnomah County,” September 15, 2008. Accessed at <http://www2.co.multnomah.or.us/ChildrenFamily/pdf/Economic%20Security/Profile%20of%20Hunger.doc>.

¹²² Oregon Department of Human Services, “Oregon WIC: 2007 Annual Report,” accessed on February 8, 2009 at http://www.oregon.gov/DHS/ph/wic/docs/annual2007/wic_annual_report.pdf.

¹²³ Commission on Children, Families & Community (CCFC), “Profile of Hunger & Food Insecurity Issues in Multnomah County,” September 15, 2008. Accessed at <http://www2.co.multnomah.or.us/ChildrenFamily/pdf/Economic%20Security/Profile%20of%20Hunger.doc>.

from farmers fields to restaurants. Growers may receive a state income-tax credit for the crops they donate to gleaning organizations.¹²⁴ Oregon Food Bank coordinates the 25 organizations around the state.

Within Portland, other gleaning groups are springing up:

- The *Portland Fruit Tree Project* works with volunteers to harvest existing fruit from backyard trees. The harvest is shared between volunteers, who themselves are often low-income, and food banks, where it is distributed to people accessing food assistance.
- *Urban Edibles* offers an online map and database of wild food sources. Some of these are on private land; people posting sites presumably ask permission first.
- *Urban Gleaners* was an organization started by PSU students to pick up leftover food from farmers markets, restaurants, grocery stores and elsewhere and deliver it to food pantries and other agencies that feed the hungry. The organization continues under the direction of community volunteers
- *St. Vincent de Paul* operates a food recovery and repack program salvaging prepared and perishable food that would otherwise be discarded and making it available to people in need.

Support for Growing Food

Several organizations involved in charitable food distribution also have programs to help people on food assistance grow some of their own food:

- The Learning Gardens at the Oregon Food Bank serve as an educational location as well as growing food for volunteers and others.
- Growing Gardens focuses on building gardens in the backyards of low-income families, and supporting them for three years to establish the gardening practice.
- Janus Youth Programs runs several gardening projects in low-income housing developments to foster leadership development and increase the consumption of fresh foods among residents.

Increasing the capacity of all Portlanders to grow some of their own food can help develop food security and increase capacity and independence. More information on growing food in the city is in the Urban Agriculture section.

Conclusions

Multnomah County is not winning the battle against hunger. The need for food assistance and charitable food continues to grow, despite advocates' best efforts. The economy presents a severe challenge in the delivery of emergency food to Portlanders. As seen in the Oregon Food Bank numbers above, demand has already greatly increased in the last half of 2008, with more increases expected in the coming months.

The Commission on Children, Families and Community offered some perspectives on challenges to increased demand:

Oregon's economic slowdown may severely impact access to adequate nutrition and food in our community. Rising food, energy, and transportation costs constitute the potential of a "perfect storm" impacting food security for low-income households. Inflation will directly affect the capacity of low-income households to maintain a "food secure" status during the winter months. Health experts warn about the challenge that low-income parents face in choosing to "heat or eat," which puts children and youth at-risk for food insecurity during the winter months.

Seniors, disabled adults and others who live on fixed-incomes are also at greater risk of food insecurity and hunger in periods of economic inflation. Recent survey data conducted with Loaves & Fishes' clients indicates

¹²⁴ Oregon Food Bank, "What is Gleaning?" Accessed on June 8, 2009 at http://www.oregonfoodbank.org/ofb_services/food_programs/gleaning/.

that 16% of homebound seniors in their program rely on their one meal a day for their primary nutrition source. Fifteen percent (15%) of on-site diners rely on the meal served at a meal site for their primary nutrition of the day. Multnomah County's Aging & Disabilities Services Division reports indicate that local senior centers are experiencing a higher volume of calls requesting information on emergency food services and energy assistance.

Food budgets, as mentioned above, are often seen as the most flexible or expendable part of a household's budget. When the fixed costs are paid, whatever is left over can be spent on food. One key way to stabilize a household's food budget and reduce the need for emergency food is to raise its income so that more is left over. Efforts through the Portland Plan at economic development, increasing access to education and ensuring community affordability can all impact food access and issues of hunger.

DIRECT MARKETING

Direct marketing, or the practice of selling directly by farmer to consumer, is a rapidly growing field in American agriculture. Direct market farms can be smaller-scale, even start-up operations as well as more established farming businesses. Some common faces of direct marketing include farmers markets, community-supported agriculture (CSA) operations, farm stands and U-pick operations and public markets. Some of these models are so new that little research has been done nationally or locally on their impacts. However, direct marketing still shows significant economic and social benefits to Portland, in addition to the health benefit of increasing access to healthful, local foods.

The Portland Multnomah Food Policy Council recently mapped the location of farms in the region that sell to Portland farmers markets, in CSAs catering to Portlanders or through other direct marketing channels. A map of these farms is available in Map 7-1.

Farmers Markets

What is the Issue?

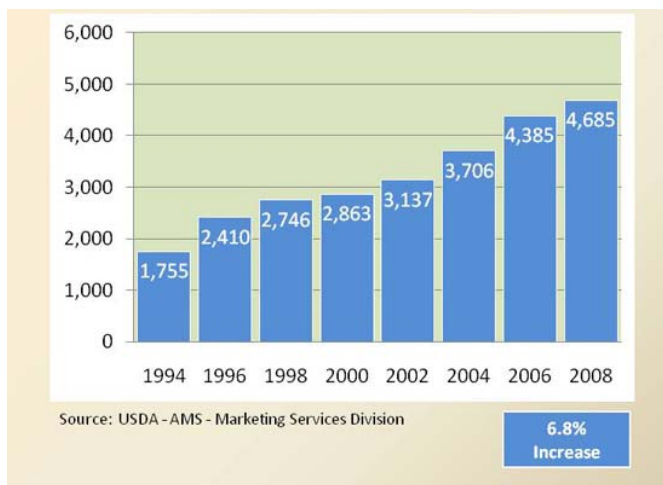
Farmers markets offer direct connections between farmer and customer; they provide fresh, just-picked fruits and vegetables, and other locally-made products; they reduce the distance food travels from farm to plate, and they provide opportunities for people to gather and interact.

Farmers markets have been growing in popularity and number in the US in recent years. In 2008, over 4,600 farmers markets were operating, more than double the number from 1994 (see chart below),¹²⁵ with overall sales topping \$1 billion.¹²⁶

¹²⁵ USDA Agricultural Marketing Service, <http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateC&navID=FarmersMarkets&rightNav=FarmersMarkets&topNav=&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketsHome&description=Farmers%20Markets&acct=frmrdirmtk>.

¹²⁶ Press release, Western Farm Press: "Secretary Kawamura and USDA Secretary Schafer celebrate the benefits of farmers markets," August 6, 2008.

Figure 7.1: Number of Operating Farmers Markets



Social and community benefits

Markets' community-building capacity is the reason some customers and vendors alike take part. The Project for Public Spaces has found that customers at public and farmers markets highly value the markets' function of bringing people together. Likewise, surveys of vendors also indicated that they placed a high priority on meeting people and interacting with their customers. "Place" was also important to both customers and vendors, with respondents pointing to the atmosphere, entertainment, and fun of the markets.¹²⁷

The magic behind farmers markets is the community value they bring to a neighborhood.

They are much more than a buy-sell market; they

are a hub for building community capacity, educating the people, introducing new people and deepening relationships. People envision farmers markets as a vibrant welcoming place in their community. This energy is created by design because the markets are open for generally only four to six hours. People are bound to bump into someone they know during this short shopping window. At the Portland Farmers Market, that crowd is on the average 12,000 people in 5½ hours each week. Here are the values that are experienced in a thriving neighborhood farmers market:

Pride in the community which builds community capacity. In Portland, most markets are operated independently by people in the community the market serves. Every market has a board which is a learning laboratory on how to create a sustainable, "community owned" farmers market. It will thrive if the community has a strong vision of their community identity and uniqueness. In 2008, the Hollywood Farmers Market had 16 people apply for 6 board positions.¹²⁸

Civic engagement and the promotion of volunteerism. Entire families come down early market day to transform an empty street or lot into a welcoming, bountiful neighborhood party each week. Farmers markets provide a free family adventure.

Educational venues for healthy communities. The markets offer community booths to public, private and nonprofit organizations so they can engage the community in their particular cause. The community booths are important to the quality of the market. The Hollywood Farmers Market served as a location to gather public input on the Hollywood Visioning Project, which won a national planning award.

Quality of life. Farmers markets provide the opportunity to maintain the quality of life as Portland grows. Discussions are percolating about town squares, 20 minute neighborhoods and walkability, and how markets can support and fit into these concepts.

Bridging of the rural and urban communities. Farmers markets are one of the best public relations tools for Oregon agriculture. Over 100,000 people visit farmers markets in Oregon each week at the peak of the season. These local markets were the seed to rebuilding our local food systems for Farm-to-School and School Gardens efforts, the current garden movement, local foods in hospitals and local farmers highlighted in grocery stores.¹²⁹

¹²⁷ Project for Public Spaces and Partners for Livable Communities, "Public Markets as a Vehicle for Social Integration and Upward Mobility Phase I Report: An Overview of Existing Programs and Assessment of Opportunities," September 2003.

¹²⁸ Conversation with farmers market advocate and organizer Suzanne Briggs, March 26, 2009.

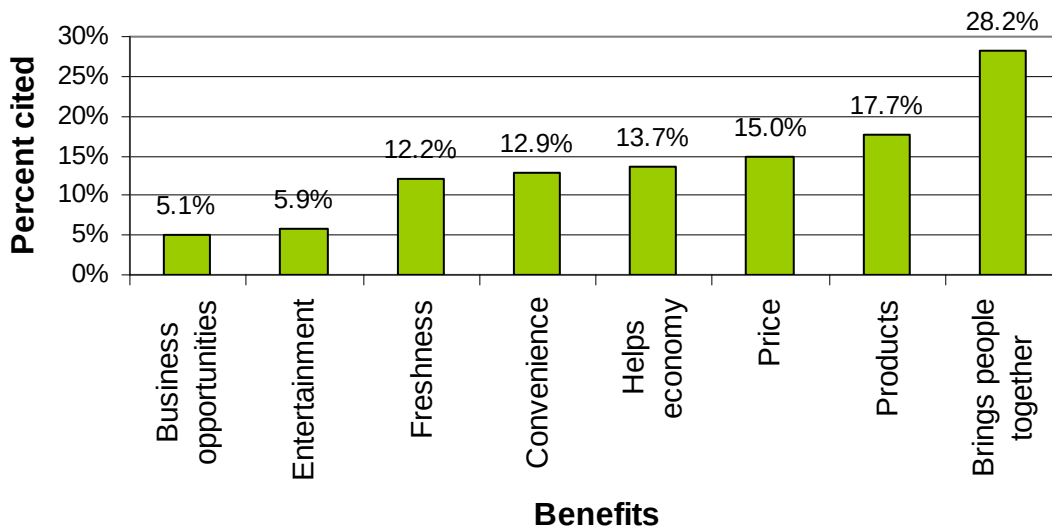
¹²⁹ Conversation with farmers market advocate and organizer Suzanne Briggs, March 26, 2009.

Figure 7.2: Ways Public and Farmers Markets Benefit Communities



Source: LISC, "Urban Neighborhood Markets: Alternatives to Traditional Grocery Stores."
http://www.lisc.org/docs/experts/2007/eo_01_24_2007.pdf

Figure 7.3: Benefit of Farmers Markets to Community (Customer's View)



Source: Project for Public Spaces and Partners for Livable Communities, "Public Markets as a Vehicle for Social Integration and Upward Mobility Phase I Report: An Overview of Existing Programs and Assessment of Opportunities," September 2003.

Access to healthful foods

Access to fresh produce is one of the perceived benefits of farmers markets. Programs have been established to help low-income populations access fresh produce at farmers markets, through SNAP/food stamps and subsidies from the Women, Infants, and Children (WIC) Farmers Market Nutrition Program (in Oregon, called the WIC Farm Direct Nutrition Program) and the Seniors Farmers Market Nutrition Program (in Oregon, called the Seniors Farm Direct Nutrition Program). In Oregon in recent years, over \$1 million worth of

mainly fresh fruits and vegetables have been sold yearly through farmers markets and roadside stands through these two programs.^{130,131} In comparison, WIC vouchers for all food throughout the state totaled almost \$76 million. In 2008 in Oregon, 27,075 WIC participants and 32,210 seniors received Farm Direct Nutrition Program (FDNP) checks to purchase fresh produce directly from local farmers. Statewide, 549 farmers participated in the FDNP via 89 farmers markets and 243 farm stands.¹³²

Despite their success, both the WIC and senior programs are federal funds that go through the allocation process each year. Food stamps, on the other hand, are mandatory and currently make up half of the Farm Bill. If an individual or family applies for and qualifies for SNAP/food stamps, they receive them, whereas the other two programs are limited by the amount allocated. Therefore, the potential to increase farmers sales is much greater through SNAP. Also, SNAP can be used on a much broader basis at markets, including purchasing vegetable plants.

One study, published in 2008, indicates that the WIC Farmers Market Nutrition Program can be an effective way of increasing consumption of fresh fruits and vegetables. In California, WIC participants receiving subsidies to farmers markets increased daily fruit and vegetable consumption by almost three servings, and sustained the increased consumption for six months after the subsidy was removed.¹³³ Aside from this survey, little data has been published to prove or disprove that farmers markets can increase consumption of fruits and vegetables overall. See below under *Local Conditions – Low-Income Shopping at Farmers Markets* for a local pilot project at the Lents International Farmers Market in 2008 to increase use of food stamps.

Economic Benefits

Farmers markets provide opportunities for farmers to capture more value for their products than selling wholesale; sales at farmers markets can net producers 200% to 250% more return than sales to wholesalers or distributors.¹³⁴ These dollars often stay in the community longer, thus netting a greater multiplier effect in the local economy. One study in Georgia indicated that "...every dollar in sales on our facilities generates \$2.66 in the local economies".¹³⁵ A recent anecdote in Portland indicates that one farmer is still in business because of the sales he generates at farmers markets.¹³⁶

Economic benefits have also been shown to accrue to businesses located nearby farmers markets. Multiple surveys have demonstrated additional sales in local stores surrounding markets on market days. "In a 2002 survey of over 800 customers from a variety of indoor and open-air markets around the country, Project for Public Spaces (PPS) discovered that 60% of market shoppers also visited nearby stores on the same day; of those, 60% said that they visited those additional stores only on days that they visit the market."¹³⁷ A study of markets in Corvallis and Albany demonstrate similar increases in downtown sales on market days.¹³⁸

Farmers markets can also provide needed extra income for larger operators, and can provide a low-cost entry point to marketing needed for smaller, newer farmers trying to get off the ground.

¹³⁰ Direct from the Oregon farm, May 04, 2005, *The Oregonian*

¹³¹ Oregon Farmers' Markets Association, "Women, Infants, Children (WIC) and Senior Farm Direct Nutrition Program," accessed 5/30/2009 at http://www.oregonfarmersmarkets.org/cust/wic_senior.html.

¹³² Oregon Public Health Division, DHS, and the Conference of Local Health Officials, "Best Practices: 2008 Farm Direct Nutrition Program – A fruitful season." Oregon Public Health Connection, vol. 3 no. 11, November 26, 2008.

¹³³ Dena R. Herman, PhD, MPH, RD, Gail G. Harrison, PhD, Abdelmonem A. Afifi, PhD, and Eloise Jenks, MEd, RD, "Effect of a targeted subsidy on intake of fruits and vegetables among low-income women in the Special Supplemental Nutrition Program for Women, Infants, and Children." *Am J Public Health*. 2008 Jan;98(1):98-105. Epub 2007 Nov 29.

¹³⁴ Integrity Systems Cooperative Co. (1997). Adding values to our food system: An economic analysis of sustainable community food systems. Report prepared for the United States Department of Agriculture, Sustainable Agriculture Research & Education Program. Logan: Utah State University.

¹³⁵ Figures for July 1998 to June 1999. Economics Department, Georgia State University.

¹³⁶ Comment made by Hollywood Farmers' Market farmer at November 2008 Ecotrust event.

¹³⁷ http://www.pps.org/markets/info/markets_articles/economic_benefits_of_markets.

¹³⁸ Stephenson, G and Lev, L, 1998. Analyzing three farmers markets in Corvallis and Albany, Oregon. OSU extension service.

Local Conditions

Portland's network of farmers markets are growing in number, customers, and sales. Portland's neighborhoods now hosts 18 farmers markets (see Map 7-2), with many more serving the metro region. Farmers market vendors sold \$11.2 million worth of goods in 2007; this number continues to rise faster than population growth, indicating that farmers markets are gaining market share.¹³⁹ The Hillsdale Farmers Market weekly market sales doubled to \$70,000 between 2002 and 2007, and Hollywood Farmers Market doubled to \$60,000 between 2000 and 2007.¹⁴⁰ The total economic impact of Portland's network of farmers markets was estimated to be over \$17 million in 2007; the markets produce more than 150 jobs with nearly \$3.2 million in employee compensation.¹⁴¹

Where do the farmers come from?

Portland has largely retained its abundant farmland close to the urban core. According to a recent study, half of all vendors at Portland neighborhood farmers markets travel 30 miles or less to arrive at market, and over 90% of the food offered comes from within 100 miles; most of these vendors are located in the Willamette Valley.¹⁴² This differs from some other urban areas; in San Francisco, for example, dozens of farmers drive over 100 miles to reach the urban markets.¹⁴³

The well-established farmers markets are generally at capacity for vendors, leaving new growers or farmers who want to explore direct marketing to go to newer, often lower-sale markets. Smaller vendors generally expect sales of around \$300 per market day, versus \$2,000 per day for more established and larger vendors.¹⁴⁴

Low-Income Shopping at Farmers Markets

A survey of food stamp recipients in Portland in 2005 revealed several barriers to spending food stamps at farmers markets, despite the fact that many farmers markets accept SNAP/food stamps.¹⁴⁵ First, many respondents indicated that they did not eat many fruits or vegetables. Of the 108 food stamp clients surveyed, 81% consumed less than 3 fruits or vegetable servings in a day in any form, and most ate one or less fresh item.

Barriers for eating fruits and vegetables purchased raw included perceptions that raw foods were expensive (perhaps especially so when measured in terms of calorie-density rather than nutrient-density), inconvenient and complex. However, many respondents cited their children as strong motivators for eating more healthily (including more fresh produce), and others indicated that they would like to eat more produce but simply could not afford to buy more.¹⁴⁶

Respondents viewed market selection as inadequate and more high-priced than grocery stores. The limited market hours and locations also posed challenges. Vendors can market their products on a per-item basis, but also on a per-pound basis, and comparison can be confusing.

¹³⁹ Barney & Worth, Inc., "Growing Portland's Farmers Markets: Portland Farmers Markets/Direct-Market Economic Analysis," Prepared for the City of Portland, November 2008.

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*

¹⁴² *Ibid.*

¹⁴³ San Francisco Food Systems, "2005 San Francisco Collaborative Food Assessment," 2005.

¹⁴⁴ Globalwise, Inc., "The Prospect for Expanding Portland's Farmers Markets: Are Growers Ready to Ramp Up the Supply?" May 2008.

¹⁴⁵ "Electronic Benefits Transfer" or EBT is the new method of transaction for the SNAP or Food Stamp Program. Over the past several years, the system has moved from paper coupons to electronic management. This has been challenging for farmers' markets to install the needed equipment to process EBT cards and for their shoppers, whose transactions are now more complicated.

¹⁴⁶ "Barriers to Using Urban Farmer's Market: An Investigation of Food Stamp Client's Perception." October, 2005. <http://www.oregonfarmersmarkets.org/EBT/docs/BarrierstoUsingFarmersMarkets102206.pdf>

The survey found that Women, Infants and Children (WIC) Farm Direct Nutrition Program introduced several of the respondents to farmers markets; 19 out of the 25 WIC households had shopped at farmers markets. However, respondents did not continue to shop there after the WIC benefits ended.¹⁴⁷

A recent effort to promote food stamp use at the Lents International Farmers Market (LIFM) in 2008 was more promising. In partnership with New Seasons Market, LIFM provided customers at the market who used food stamps with a dollar to dollar match, up to five dollars, for each Sunday the market was open in July 2008. The incentive provided food stamp customers with a potential of \$20 in free produce for the entire month of July. Food stamp customers spent almost four times as much at the market during the campaign than prior to its launch. Food stamp spending at the market was sustained significantly after the promotion campaign ended.¹⁴⁸ Results from this promotion campaign suggest that food stamp shoppers will spend money on fresh fruits and vegetables when they can stretch their dollars to do so.

Farmers markets are adding card services to capture these SNAP/food stamp dollars, but it is too early to determine the full impact on sales. More community outreach and education is required to inform SNAP participants that farmers markets are a food access point and for the farmers to make their booth SNAP-friendly through better signage.

What is the Potential for Developing Additional Successful Farmers Markets in Portland?

The City of Portland report titled "Growing Portland's Farmers Markets" indicates that there is strong market potential for growth of Portland area farm-direct markets due to growing interest in local, fresh and organic produce and other food items. Further, it is likely that there are small farmers who would be available to supply new farmers markets in the years to come, especially as older farmers retire and smaller, specialty farms continue to grow in Oregon. One barrier for young farmers is land. Portland's government can play an advocating role in saving farm land outside the urban growth boundary and maximizing the tillable plots inside the city.

In 2007, the 14 markets in Portland captured about \$11.2 million in sales. Half of this was in fruit and vegetable sales, out of a potential \$187 million in Multnomah County expenditures of fruit and vegetables.¹⁴⁹ This represents a market share of about 3%. The report indicates that it might be possible to increase this market share to up to 20%, especially in the summertime months.¹⁵⁰

There are some indications that saturation can occur well below this point, however. A recent article in the *San Francisco Chronicle* reported on a number of more established farms getting out of farmers markets earlier in the season due to decreasing returns for their investment. One farmer said, "There are just so many farmers markets now. That model of marketing is diluted, so we don't have the same profitability." Another pointed to the growing number of markets meaning that customers were drawn from a smaller geographic area, leading to fewer sales.¹⁵¹ Focus in creating new markets should be on increasing market share rather than siphoning off the existing customer base from other markets.

In choosing a market site, communities need to be mindful about the demographics of their community and the dynamics of neighboring farmers markets. Key to the successful "movement" of farmers markets over the last fifteen years has been the collaboration and cooperation among markets. Thinking about a citywide network of farmers market provides an opportunity to strategically place markets so each resident has access

¹⁴⁷ *Ibid.*

¹⁴⁸ Gilroy, Amy, "Farmers' Markets and Electronic Benefit Transfer (EBT): Reaching the underserved community at the Lents International Farmers' Market (LIFM)," Community Health Partnership, November 2008.

¹⁴⁹ Barney & Worth, Inc., "Growing Portland's Farmers Markets: Portland Farmers Markets/Direct-Market Economic Analysis," Prepared for the City of Portland, November 2008.

¹⁵⁰ *Ibid.*

¹⁵¹ Ness, Carol, "Farmers Burn out on Markets," *San Francisco Chronicle*, September 19, 2007. Accessed on February 8, 2009 at <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/09/19/FDAHS186D.DTL>.

in their own community but can also support other markets on different days. For instance, the Montavilla Farmers' Market has been successful since opening in 2007 because they chose to be a Sunday market which complements their neighboring Hollywood's Saturday farmers' market. As markets mature, Portland may be better able in the future to determine what an appropriate catchment area is for a farmers market or other farm direct marketing venues, and how many is an appropriate number.

In the meantime, an Oregon State University study has found that up to 75% of customers to Portland's markets live within a two-mile radius of the market at which they shop.¹⁵² Map 7-2 shows Portland's network of farmers markets with a two-mile walking-distance radius around them. About 15% of the city's area is within one mile of a farmers market, while only 3.5% of the city is within a half mile.¹⁵³

Looking at these locations, there are several areas around the edges and in Southeast that appear to be underserved by the current markets. Two neighborhoods in particular that are identified as underserved parts of the city are Cully/Concordia in Northeast and Centennial/Hazelwood in Outer East.¹⁵⁴ A new market recently opened in St. Johns and the new King Market, run by Portland Farmers Market, south of Alberta also helps to bring coverage to a new part of NE Portland.

Farmers Markets Conclusions

Portland's network of farmers markets are growing in number and sales, providing a quality community experience while bringing fresh, local produce directly to consumers. While areas not well-served by farmers markets are certainly evident, the local organizations that have sprung up to support new markets in recent years (those in Montavilla, Parkrose, Lents, Westmoreland and others) have created successful smaller markets in new parts of the city.

Not all neighborhoods will have the community capacity to support the week-to-week farmers market. In fact, they can drain the energy in the community and provide strains on relationships. Other farm direct models need to be explored. For instance, one model is Mobile Markets which are farm stands on wheels. Gorge Grown in Hood River has a pilot program that shows promising results.¹⁵⁵

While there are benefits to residents of having a farmers market in their low-income community, it's important to note that many challenges exist to opening and sustaining a low-income farmers market, such as recruiting vendors who can make more money at higher-income markets; securing permanent low cost sites, transportation access in communities with lower rates of car ownership, less transit service and incomplete walking/biking networks; and recruiting customers who may perceive economic and cultural barriers. Local and national studies are beginning to explore and identify strategies for successful low-income communities.

More data is needed on the impact of farmers markets on produce consumption. If there is an area of Portland that is determined to have food access issues, how will forming a farmers market there help address the issue?

It appears there is a next generation of farmers, but a serious strategy needs to be developed to assure land is available for future generation of farmers. The City of Portland can use its stewardship/partnership role with other jurisdictions to secure local foods for the next generation of Portlanders.

Community-Supported Agriculture (CSA)

¹⁵² Barney & Worth, Inc., "Growing Portland's Farmers Markets: Portland Farmers Markets/Direct-Market Economic Analysis," Prepared for the City of Portland, November 2008.

¹⁵³ Calculations made on areas – not population or households – and includes open space and industrial land.

¹⁵⁴ Barney & Worth, Inc., "Growing Portland's Farmers Markets: Portland Farmers Markets/Direct-Market Economic Analysis," Prepared for the City of Portland, November 2008.

¹⁵⁵ <http://www.gorgegrown.org/mobilemarket.cfm>

What is the issue?

Community-supported agriculture is a model for selling farm-fresh produce to subscribers or shareholders who purchase a “share” of the season’s harvest upfront. This harvest is then delivered or offered for pick-up usually once a week for the growing season. This model offers many benefits.¹⁵⁶

Advantages for farmers:

- Get to spend time marketing the food early in the year, before their 16 hour days in the field begin
- Receive payment early in the season, which helps with the farm's cash flow
- Have an opportunity to get to know the people who eat the food they grow
- Reduced or shared risk from failed crops because they've already been paid

Advantages for consumers:

- Eat ultra-fresh food, with all the flavor and vitamin benefits
- Get exposed to new vegetables and new ways of cooking
- Usually get to visit the farm at least once a season
- Find that kids typically favor food from “their” farm – even veggies they've never been known to eat
- Develop a relationship with the farmer who grows their food and learn more about how food is grown

CSAs and Food Access

Do CSAs impact food access issues? The upfront cost of vegetables for the entire season could deter many people living paycheck-to-paycheck from taking part, if they even know the option exists. The structure of the weekly pickup could also be challenging to those with variable schedules. However, the mobile nature of these farms’ drop-off or pick-up sites could provide access to fresh produce, cheese, meats and eggs to areas that are not currently served by grocery stores.

One farm in Washington offers a SNAP/food stamp-only CSA in addition to multiple other revenue streams – however, they only require weekly payments, rather than the upfront costs. The organization Just Food in New York City works with fifty regional CSAs. Thirty of them have flexible payment options and some take SNAP/food stamps.¹⁵⁷

Research on the CSA Model

An article summarizing existing research on community-supported agriculture found the following results¹⁵⁸:

- CSA operators cover direct costs through shares, but operator labor and fixed inputs are not adequately covered.
- A significant proportion of CSA farmers did not own land, but made rental or lease agreements.
- In one study of Upper Midwest CSA operators, the following conclusions were drawn:
 - o Surveyed CSA operators were more highly educated and younger than the national average.
 - o CSA returns were higher than the average return per acre for commodity crops in the Midwest.
 - o Almost all labor on the surveyed farms was provided by family members (indicating that only one type of CSA was characteristic of the Upper Midwest – the farmer/landowner operating a CSA as a marketing strategy.)
 - o Farmers identified causes of dissatisfaction for their CSA members as “too much produce, too much food preparation time, and lack of product choice.”

¹⁵⁶ Local Harvest, “Community Supported Agriculture,” <http://www.localharvest.org/csa/>.

¹⁵⁷ Lyons, Zachary D. “Food Stamp-CSA Opens Access to the Freshest Food,” Rodale Institute, March 17, 2008.

¹⁵⁸ Adam, Katherine L. “Community Supported Agriculture,” ATTRA Publication #IP289, 2006. Accessed on 5/31/2009 at <http://attra.ncat.org/attra-pub/csa.html#research>.

CSAs are organized in a number of ways. Around 10% of them are operated by non-profit organizations, which usually incorporate food security elements like job creation, donations to food banks, and access to fresh produce in areas that don't already have it. About 75% of CSAs (and most Portland CSA farms) are operated by individual farmers as one of several direct marketing methods. The remainder are CSAs organized by a core group of subscribers who hire a farmer to grow for them.¹⁵⁹

Local Conditions

The Portland area has some 42 CSAs selling everything from vegetables to eggs and cheese to flowers, according to the Portland Area CSA Coalition.¹⁶⁰ These CSAs range from large-scale farms growing food in rural parts of Oregon and bringing it in to town each week, to farmers who grow food primarily in urban backyards, bringing new meaning to the term “urban agriculture.” These farms serve the entire Portland metro region. In addition, there are several CSAs working directly with church congregations through the Interfaith Food and Farms Partnership; in this arrangement, church congregants directly support a CSA and receive food, while the CSA also provides scholarships to lower-income shareholders.

A survey conducted by the Bureau of Planning and Sustainability¹⁶¹ collected data from 18 of these area CSAs selling food shares to Portland residents in 2008. The number of shares varied from three to 400, with a total for the 18 farms of 1884 shares. Average number of shares was 99 and the median was 50 shares.

Most of these farms maintain waiting lists for future seasons ranging from three to 700 people, with five farms at or above 100 people. The total number of people on waiting lists for the farms was 1874, or almost 100% of the existing capacity within these farms. Ten of the farms plan on expanding their land base and/or number of shares offered in the near future to meet some of this demand; for those farms willing to be specific in their predictions of expansion, around 940 additional shares, or 50% of existing demand, are expected to be offered.

Price per full share varied a good deal, from \$324 to \$1,100, with the average price at \$573 and the median at \$500. Total sales in 2008 from these 18 farms is estimated to be around \$1,071,500.

Conclusions

It is clear from the waiting lists that current demand for community-supported agriculture is greater than supply in Portland. More data would be helpful to determine the impact of CSAs on their subscribers and on food access in Portland. The challenges they face in using urban land would also be instructive to determine barriers to increasing supply.

¹⁵⁹ Adam, Katherine L. “Community Supported Agriculture,” ATTRA Publication #IP289, 2006. Accessed on 5/31/2009 at <http://attra.ncat.org/attra-pub/csa.html#research>.

¹⁶⁰ Portland Area CSA Coalition, “Alphabetical List of CSAs Serving the Portland Area,” <http://portlandcsa.org/oregon-csa-farms.php>.

¹⁶¹ For more information on the survey, contact Steve Cohen at 503-823-4225 or scohen@ci.portland.or.us.

Farm Stands and U-Pick Operations

Mobile farm stands are another way to bring produce to areas without it; other operations let consumers come to them to harvest their crops. The Tri-County Farm-Fresh Produce Guide

(www.tricountyfarm.org/index.asp) is an online and paper guide to farms in the three counties of Multnomah, Washington and Clackamas who sell directly to consumers. Currently they have about 63 member farms in the three counties: 12 in Multnomah County, 19 in Clackamas County and 32 in Washington County. Of those in Multnomah County, two, Giusto Farms and Trapold Farms, are within the Portland city boundaries. Six more are on Sauvie Island. For member-farms who have joined since 1991, at least 50% of total sales must come from produce grown in the three counties.

These farms provide either farm stands for fresh-picked produce and other products, u-pick opportunities for various fruits and vegetables, or both. Prices vary but can be well below a grocery store, especially for u-pick operations which require more time and effort from the customer. Trapold Farms is a farm stand located in outer NE Portland where they used to farm, but now food is brought in mainly from Sauvie Island. Giusto Farms is the only active farming operation left in NE Portland, and they supplement with additional land in Mulino¹⁶² (see sidebar).

A company called The Farm Stand operates four farm stands in Portland as a vehicle to help college students raise money for school. Pat Rice and Karen Rutledge started the berry-selling business as a fun side-project to their first career, nursing. However, they grew the business to support more students, and now each summer around 20 students operate four farm stands around Portland.¹⁶³ The stands sell fresh berries, honey, and processed berry products.

Farm Stand Locations:

- 4600 block of NE 138th (across from Costco)
- 12505 NE Halsey
- NE Sandy & 141st
- 5633 SE Division

Giusto Family Farm

The Giusto family has been farming in what is now the Parkrose neighborhood in Portland since 1917, when the Rossis and the Giustos formed a farming partnership that lasted 70 years and two generations. In 1989 the partnership was amicably dissolved, and Aldo Giusto still farms with his son Dominic. The Giustos farm five plots, including four in NE Portland totaling around 29 acres, with an additional 35 acres in Mulino. An additional 16 acres were sold off to development in 1996, and the farmers report feeling “encroached upon” by the city expansion.

The Giustos bring in Walla Walla onions and fruit from Hood River, but all the vegetables they sell are grown on their own land. About 50% of their income, however, comes from wholesaling their vegetables. While they formerly supplied Fred Meyer and Safeway, consolidation in the industry caused the entry cost to rise and selling to them was no longer feasible. They now sell to Unified Western Grocers (a wholesale grocery cooperative), Sheridan Fruit Company and Pacific Coast Fruit Company.

For more information:

Riegel, Rich. “Giusto Farms: A story of Italian immigration to America.” The Mid-County Memo, August 2008.

Riegel, Rich. “Giusto Farms : A family tradition.” The Mid-County Memo, August 2008.

Crain, Liz. “Cooked right, Oregon Brussels sprout a new image.” January 6, 2006.

¹⁶² Riegel, Rich. “Giusto Farms: A story of Italian immigration to America.” The Mid-County Memo, August 2008. http://www.midcountymemo.com/aug08_giusto2.html. Accessed on 11/26/2008.

¹⁶³ Boule, Margie, “Berries sweeten the chances of success for college students,” The Oregonian, July 27, 2008. <http://www.thefarmstands.com/whatothers.html>. Accessed 11/26/2008.

Public Markets

What is the issue?

Public markets are more permanent structures than farmers markets, often open several days a week and selling everything from produce to fish and meats, cheeses, breads and more. The West Side Market in Cleveland, for example, was named a 2008 Great Public Place by the American Planning Association not only for its long tradition of serving Clevelanders delicious fresh and prepared foods, but for its role as a community anchor. West Coast markets like Pike Place in Seattle and Granville Island in Vancouver, BC are also well-known food places and destinations in their own right.

Health benefits

The health benefits of eating more fresh produce have been discussed above. It has also been shown in recent research that the nutritional value of many crops has declined as they have been increasingly produced through high-yield monoculture.¹⁶⁴ This heightens the importance of sourcing a variety of foods from small local producers.

An August 2006 study by the Project for Public Spaces entitled “Public Markets and Community Health: An Examination”¹⁶⁵ found that there is a potential for a “double bottom-line of market profitability and community health achievement” when public markets work with health entities:

With a successful market, existing community services, especially health entities (broadly defined, private or public) see public markets as a critical neighborhood asset building vehicle, and therefore as a strategic partner in developing a healthier community. Similarly, existing public markets, including those who have embarked on “public health” programs within their markets, definitely see the health entities as their strategic partners in maturing the markets into more economically viable ones.

For the purpose of this study, the term “public market” referred to both permanent indoor public markets and farmers markets. But it’s clear that permanent indoor markets offer many options for health-related activities – lectures, classes, “health fairs,” etc. – potentially more than do seasonal farmers markets.

Food access benefits

Interestingly, although the common perception is that fresh, locally-grown foods are too expensive for low-income shoppers, a 2003 study of public markets and farmers markets found that “[i]n terms of affordability, the case study markets still seem to have a leg up on what little competition there is. In unsolicited responses



Cleveland's West Side Market won a 2008 Great Public Place award from the American Planning Association for its role as a culinary and cultural landmark.

¹⁶⁴ Davis, Donald R., “Declining Fruit and Vegetable Nutrient Composition: What Is the Evidence?” *HortScience* 44: 6-223 (2009).

¹⁶⁵ Moon, J. Robin, “Public Markets and Community Health: An Examination.” For the Project for Public Spaces. Accessed 3/10/2009 at http://www.pps.org/pdf/public_markets_community_health.pdf.

to the question 'What is the greatest benefit of the market to the community?' 22% of customers mentioned price. Furthermore, over 70% of customers agreed that they shopped at the market because it has better prices than the stores in their neighborhood."¹⁶⁶

Economic benefits

Several studies have been conducted of established year-round indoor public markets that indicate the capacity of such markets to attract shoppers and drive economic growth in their neighborhoods. One study of Queens Market in London, England found that every £10 (\$19) spent generated an additional £25 (\$48) in economic activity. This compares favorably with supermarkets, in which £10 would only generate an additional £14 (\$26.50). The study also determined that the local market creates twice as many jobs per square foot of retail space as nearby supermarkets do.¹⁶⁷

These results are reinforced by a shopper survey that Granville Island Public Market in Vancouver conducted in October 2008,¹⁶⁸ which showed that shoppers stayed at the market an average of 2.2 hours; they came for food shopping (42%), recreation (19%), consumption of prepared foods (13%), and shopping for non-food items like crafts (8%). These shoppers also included other retail businesses on Granville Island in their itinerary at the rate of 41% on weekends, 37% on weekdays, and 28% on weekday evenings. On average, they purchased \$46 on groceries and \$65 on non-food items from nearby retailers.

Local Conditions

The quest to re-establish Portland's own public market has been long – for the past 10 years, local food enthusiasts and others who could see the benefits of a year-round, indoor public market have been advocating for its establishment and searching for the proper location. They have been inspired not only by Portland's current status as a food mecca, but also by our long history of public markets, starting with the New Market Theater in 1872 and including the Portland Public Market built in 1933 which covered the waterfront between the Hawthorne and Morrison bridges and was the largest public market in the nation at the time.

Interest on the part of the City in the re-establishment of a public market in Portland was demonstrated as early as 2001, when PDC and Charlie Hales' office funded a two-site feasibility study that focused on the central fire station on Ankeny Square and the Federal Building at 511 NW Broadway.¹⁶⁹ PDC also helped to fund an extensive feasibility study of the Ankeny Square site in 2006.¹⁷⁰ Both of these studies indicated that Portland has capacity and support for a public market located downtown. This was reinforced by a poll conducted by Davis, Hibbitts and Midghall, Inc. in the fall of 2007, which clearly showed that Portlanders have a strong interest (63%) in a public market, even though the poll did not specify a site.¹⁷¹

It is important to note that farmers markets and public markets can co-exist and can also benefit one another by getting more consumers accustomed to buying local foods directly from the producers. The relationship between Portland's public market advocates and area farmers markets is cordial, and discussions about incorporating seasonal outdoor vendors in plans for the public market are ongoing.

¹⁶⁶ Project for Public Spaces, Inc. "Public Markets & Community-Based Food Systems: Making Them Work in Lower-Income Neighborhoods." Accessed on 3/10/2009 at http://www.pps.org/pdf/kellogg_report.pdf.

¹⁶⁷ Project for Public Spaces, Inc., "Measuring the Impact of Public Markets and Farmers Markets on Local Economies," Accessed on 3/10/2009 at http://www.pps.org/markets/info/markets_articles/economic_benefits_of_markets.

¹⁶⁸ Ono, Lisa, Manager, Public Affairs & Programming, Granville Island Public Market. "Executive Summary, I-COUNT Response Data, October 3-10, 2008."

¹⁶⁹ Urbsworks, Inc., "Portland Public Market 2-Site Feasibility Study," 2002. Accessed 3/10/2009 at http://www.portlandpublicmarket.com/PDF/UW_2002_2SiteFeas.pdf.

¹⁷⁰ Portland Development Commission, "Portland Public Market Study, Phase 1: Market and Financial Feasibility." Prepared by Bay Area Economics, GBD Architects, Project for Public Spaces and Shiels Oblatz Johnson, July 11, 2005. Accessed on 3/10/2009 at <http://www.portlandpublicmarket.com/PDF/FinalFeasibilityStudy7-11-5.pdf>.

¹⁷¹ Davis, Hibbitts & Midghall, Inc., "Telephone survey findings for visionPDX," September 27, 2007. Accessed on 3/10/2009 at <http://www.visionpdx.com/downloads/visionPDX%20survey%20results%20.pdf>.

The proposed location for the James Beard Public Market is on the west end of the Morrison Bridge - a County-owned property. The County intends to issue a Request for Information in fall 2009. The Historic Portland Public Market Foundation, the 501(c)(3) entity that emerged from the original committee of public market advocates, plans to respond to the RFI.

Integral to current plans for a public market in Portland, to be named the James Beard Public Market, is the assumption that it will be located on a MAX line near the downtown transit mall, so that Portlanders from all over the city will be able to get there easily. The James Beard Public Market will insist on having vendors representing a full cross section of ethnic and socio-economic strata in Portland; will create incentives for low-income, SNAP/food stamp, and WIC shoppers to purchase fresh, healthy foods; and will offer free classes in cooking and nutrition. These incentives will be funded by targeted sponsors, ideally health care foundations.¹⁷²

RETAIL FOOD ENVIRONMENT INDEX (RFEI)

What is the issue?

Definition

The Retail Food Environment Index (RFEI) is a way of thinking about the relative abundance of different types of retail food outlets in a given area by creating a ratio of those outlets. The RFEI is constructed by dividing the total number of fast-food restaurants and convenience stores by the total number of supermarkets and produce vendors (produce stores and farmers markets) in the area. The result is the ratio of retail food outlets that offer little in the way of fruits and vegetables and other healthy foods to those in which fruits and vegetables are readily available.

¹⁷³ The higher the number, the easier it is to find unhealthy food choices in a particular place.

$$\text{RFEI} = \frac{(\# \text{ fast food restaurants} + \# \text{ convenience stores})}{(\# \text{ supermarkets} + \# \text{ produce stores} + \# \text{ farmers markets})}$$

The RFEI originated in California, where the California Center for Public Health Advocacy in 2005 calculated the RFEI for all California counties and cities with greater than 250,000 people.¹⁷⁴ New York City has followed suit with its "FoodStat" calculation, which uses the same equation, and which has been tested in a pilot study of East Harlem and the Upper East Side.¹⁷⁵

Limitations

The ratio does not reflect all elements of an area's food environment, as several outlets are not included in the calculation:

- sit-down restaurants
- coffee shops
- ethnic food stores

¹⁷² Email exchange with Amelia Hard, President of the Board of Directors for the Historic Portland Public Market Foundation, 3/18/2009.

¹⁷³ Collective Roots, "Retail Food Environment Index (RFEI)," Accessed on June 5, 2009 at <http://www.collectiveroots.org/rootpedia/r/rfei>.

¹⁷⁴ California Center for Public Health Advocacy, "Searching for Healthy Food: The Food Landscape in California Cities and Counties," Accessed on June 5, 2009 at <http://www.publichealthadvocacy.org/searchingforhealthyfood.html>.

¹⁷⁵ Stringer, Scott M., Manhattan Borough President, "FoodStat: Measuring the Retail Food Environment in NYC Neighborhoods," May 2009. Accessed on June 5, 2009 at http://mbpo.org/uploads/Food_Stat_FINAL.pdf.

- specialty stores like fish and meat markets or candy or chocolate stores
- emergency food outlets
- CSA dropoff sites
- Food carts

When conducted in California, the ratio also did not include convenience stores associated with gas stations, which underestimates the ratio somewhat.

Further, data source can make a large difference. One study of data sources for retail food outlets in California found significant differences between the telephone business directory and the state-collected information for four cities under investigation: the state had over 30 additional sites to the telephone directory, while the directory listed 260 additional sites to the state-collected data.¹⁷⁶ Consistency is key, and on-the-ground data verification would be ideal (such as that carried out in the New York City pilot study).

Nor does the ratio necessarily take into account efforts that certain outlets (those on the top of the equation, or fast food restaurants and convenience stores) are making to provide healthier options, or the prevalence of unhealthful foods at supermarkets and other retail food outlets on the bottom of the equation. The ratio also assumes that all outlets are of equal importance; for example, one 1,000 square foot convenience store has the same weight as a full-service, 30,000 square foot supermarket. This assumption does not take into account how people use the different outlets.

Benefits

Despite these limitations, the calculation can be extremely useful, especially in the face of growing evidence that food choices are determined to a certain extent by available options. The ratio provides a way to compare geographic areas using the same data. Given the rise in obesity and nutrition-related chronic disease, using a ratio such as this can begin to help us understand the impact of the food environment on local health outcomes. An interesting analysis, both of the RFEI tool itself and of the quality of food environments and their impact on health, could be done with localized RFEI scores coupled with localized health information to see if there were a correlation between the two.

Further, the RFEI starts to quantify an issue that has largely been discussed in qualitative terms until now.

Local Conditions

While it is beyond the scope of this document to conduct a detailed RFEI analysis of Portland, the data already gathered for this document does allow for some back-of-the envelope calculations of the retail food environment in Portland.

Data and Sources

Fast Food Restaurants: Data on fast food and chain restaurants was shared with us from Multnomah County Health Department. The data was stripped of all chain restaurants such as Red Robin, Denny's, Red Lobster and other sit-down, though chain, restaurants. This is consistent with the ratio not considering sit-down restaurants in the equation. Some of the most frequent chains included in the total were Subway, Taco Bell, McDonalds, Burger King, etc. Other outlets that are included are Starbucks, as they sell pre-made sandwiches; Pizzicato and other pizza places; and specialty outlets like Jamba Juice and Baskin Robbins. The total number of outlets for the City of Portland was found to be 377.

Convenience Stores: The number of convenience stores was determined by examining a list of stores in Portland with the North American Industry Classification System (NAICS) code of 44512, convenience stores without gas stations. Source is the Oregon Employment Department, 2006. Primary outlets were 7-11 and Plaid Pantry outlets, as well as numerous local, independent stores. The total number was 165.

¹⁷⁶ Wang, My C. et. al., "The neighborhood food environment: sources of historical data on retail food stores," The International Journal of Behavioral Nutrition and Physical Activity, vol. 3, no.15, 2006.

Full-Service Grocery Stores: Data was culled from the full-service grocery store map (Map 4-2); the chain stores came from the database created by Andrea Sparks for her analysis of supermarkets in the metro area;¹⁷⁷ added to this were several non-chain stores that were determined to provide a level of full service for its customers such that they should be included in the analysis for a total of 62 full-service grocery stores in Portland.

Farmers Markets: Included in the total are 17 Portland farmers markets.

Produce Stores: The NAICS code 44523, Fruit and Vegetable Markets, lists 23 outlets for Portland. Source is InfoUSA, January 2008.

Plugging these numbers into the equation, we get an overall RFEI for Portland of 5.31.

RFEI =

$$\frac{(\# \text{ fast food restaurants} + \# \text{ convenience stores})}{(\# \text{ supermarkets} + \# \text{ produce stores} + \# \text{ farmers markets})}$$

RFEI for Portland =

$$\frac{(377 + 165)}{(62 + 23 + 17)} = 5.31$$

This compares unfavorably to most California cities, as seen in Table 8.1 below. The number means that there are over five times as many places to find unhealthful foods as healthful foods in Portland. Portland ranks higher than most major California cities, as well as most California counties in the study.

City	RFEI
Bakersfield, CA	6.63
Fresno, CA	6.23
Portland	5.31
San Diego, CA	4.58
Los Angeles, CA	4.24
San Francisco, CA	3.85
Oakland, CA	3.81

Looking at Portland's five quadrants (Table 8.2), there is a fair amount of disparity in the RFEI. Southwest Portland ranks the worst among the five areas with a score of 7, potentially because of a large number of fast food restaurants clustered in downtown.

North and Northeast Portland have similar scores both below Southwest with 5.45 and 5.50 respectively. North Portland has relatively small numbers across the categories; Northeast has clusters of fast food restaurants at Lloyd Center and the airport that may have contributed to their higher score. Both of these quadrants' scores were above the city average.

Northwest also has low numbers throughout, and ended up with the lowest RFEI of 4.22. Southeast Portland has almost as many fast food restaurants as does Northeast, and more than double the number of convenience stores; however, this quadrant also has more supermarkets, produce stores and farmers markets, which brings down the RFEI to 4.68, below the city's average.

¹⁷⁷ Sparks, Andrea Leigh, "Measuring Food Deserts: A Comparison of Models Measuring the Spatial Accessibility of Supermarkets in Portland, Oregon." Thesis presented to the Department of Planning, Public Policy and Management and the Graduate School of the University of Oregon, June 2008.

Table 8-2: Retail Food Environment Index (RFEI) of Portland quadrants.

Quadrant	Fast Food Restaurants	Convenience Stores	Supermarkets	Produce Stores	Farmers Markets	RFEI
North Portland	35	25	7	2	2	5.45
Northeast	121	33	17	7	4	5.50
Southeast	104	74	22	11	5	4.68
Southwest	90	22	10	1	5	7
Northwest	27	11	6	2	1	4.22

Conclusions

As the RFEI is a new tool, there is no clear sense of what number is “acceptable” or positive in terms of providing successful healthful food access. And there are limited locations (currently, California cities and counties) that have used the RFEI to consider healthful food access, meaning there are few places to which to compare the RFEI. These back-of-the-envelope calculations can be seen as an additional input to a broader discussion of food access in Portland. As the tool is more frequently used and refined, this calculation will be worth revisiting.

FOOD ACCESS CONCLUSIONS AND POLICY EXAMPLES

Conclusions

The Food Access section of this background report explored the various ways people access food, summarized what is known about their impact on food access, health, community and the economy and explored the Portland context for each access point.

It is clear that Portland is rich in food outlets, with strong networks of CSAs, farmers markets and grocery stores providing multiple places to procure healthful, local and even organic food. Community commitment to these direct marketing channels is strong, as evidenced by significant waiting lists for CSAs and strong community support for existing and new neighborhood farmers markets, as well as a high number of restaurants serving locally-grown cuisine.

Concurrently, Portland also has many fast food restaurants and convenience stores which offer many unhealthful alternatives, and are potentially concentrated in areas with higher poverty – areas where the population may already have multiple health challenges. Further, parts of the city are not currently served by full-service groceries, farmers markets or farm stands. One measure of food access, the Retail Food Environment Index, shows that many parts of Portland have more than five times the number of outlets for unhealthful foods as for healthful foods.

Demand for food assistance services continues to rise, and Oregon continues to have high rates of food insecurity when compared to other states. Consumption of fruits and vegetables remains well below the U.S. Surgeon General’s recommendation of 9 half-cup servings a day in Multnomah County, leading to significant threats to community and individual health. While Portland is rich in resources, much can still be done to increase access to healthful foods and thereby improve the health of Portland’s residents.

Policy Examples

Governments have been using a variety of tools to address food access issues.

Creating the environment to support food access

Zoning and Plans: Several cities are incorporating food issues into comprehensive and general plans, and adding zoning code language to address food access and urban agriculture issues.

- Fresno, CA incorporated a definition for farmers markets in their zoning code that allows farmers markets in more zones.
- San Francisco also has removed zoning barriers to opening a general grocery store when it replaces another grocery store.
- Chula Vista, CA's General Plan recognizes health and its relationship to food access through its policy to "promote access to healthy foods through opportunities such as farmers markets."

Fast Food Regulations: Cities may require special permits or minimum distances from schools for fast food establishments. In addition to zoning regulations, some cities are prohibiting the use of trans fats in fast food establishments and requiring the display of nutrition information for all menu items. Some cities prohibit the development of any new formula food establishments; Los Angeles is the most recent and well-publicized example of a city using this tool.

- In Detroit, MI, certain carry-out, fast food, and drive-in restaurants must be at least 500 feet from the nearest point of an elementary, junior high, or senior high school site.
- Washington DC's new comprehensive plan limits location and proliferation of fast-food restaurants.
- In San Francisco, the city banned formula business in some areas and residents must be notified whenever a formula retail business applies to open in their neighborhood.
- In Boston, MA, food service establishments, vending machines, and mobile food vendors are prohibited from serving food containing trans fats.

Licensing & Covenants: In New York, Mayor Bloomberg prioritized licensing pushcart greengrocers to expand access to fresh produce. San Francisco and Chicago have made it easier to open a grocery store that is replacing another.

- New York City now has a special permit for greengrocer pushcarts, with an aim to have 1,500 operating throughout the city.
- Chicago passed legislation that restricts the use of land use covenants. These covenants are often used by grocery stores to limit the use of vacated property even once it has been sold.

Incentives for Improving Local Food System

Tax Incentives and Loan Programs

Cities are using property tax exemptions, credits, and rebates to encourage the development of new grocery stores and community gardens in underserved areas. Low interest loans, energy discounts, and planning and technical assistance combine with tax incentives to create a comprehensive incentive package.

- Washington, DC has approved a 10-year Supermarket Tax Exemption Act to provide property tax exemptions and other tax incentives for new grocery stores in targeted areas.
- Community gardens are recognized as amenities for the purposes of the low income housing tax credit system in New Jersey.
- Chicago has a Grocery-Anchored Retail Loan program that provides low interest loans for grocery stores opening in food deserts.

Grants and Loans:

Cities can use Community Block Grant monies to support farmers markets, community gardens, or corner store conversions. In addition, some states are finding ways to fund projects regionally and locally.

- Wisconsin is investing in projects that increase local food sales through the Buy Wisconsin, Buy Local program.

- Pennsylvania's statewide Fresh Food Financing Initiative is aimed to support supermarket development in underserved areas by using loans to fill in the gaps where store developers cannot count on traditional financial institutions.

Technical Assistance or Support:

Beyond financial incentives, many cities have programs that make it easier for businesses and individuals to support the local food system.

- Chicago has worked with consultants to provide developers with neighborhood assessments to encourage grocery store development.
- Baltimore is also helping grocery stores to assemble land for new development.
- In Baltimore and in New York, the city is working with corner stores to increase the supply of healthy food choices.
- Sioux City, IA has an Organic Market Partnership that is designed to bring businesses to the area and help market local foods.
- Portland's BEST program – work with businesses to reduce waste or purchase food more sustainably

Policies for Specific Types of Access Points

Farmers and Public Markets:

- Assist markets to secure permanent sites with needed infrastructure
- Incorporate farmers markets and public markets into the zoning code
- Ensure that all Portland-area farm-direct markets are equipped with wireless EBT card readers to allow SNAP/food stamp users to purchase food at those markets
- Establish incentives to farmers for selling at markets serving low-income areas (which may not offer the same profit margin as markets in more affluent areas, or more established markets)
- Designate a staff person designated as a market liaison. This person could connect farmers with markets, offer technical assistance and coordinate other city efforts to support the markets

Food Assistance and Charitable Food:

- Increase collaboration between local farmers and food assistance providers to increase fresh produce offerings
- Work to establish community kitchens with space for cooking and canning classes/opportunities and to incubate food entrepreneurs
- Publicize and distribute more WIC and Senior Farm Direct Nutrition Coupons

Retail store access

- Examine transit routes and walking and biking networks with an eye for improving access to existing grocery stores
- Assess areas of the city that are under-served by full-service grocery stores and determine what land use planning or transportation actions would help attract a grocery store to the area
- Explore consumer food co-ops like the Self-Help and Resource Exchange (SHARE) project which uses community service to buy down the cost of groceries
- Create incentive programs to retrofit groceries and corner stores with equipment to store and sell fresh fruits and vegetables as well as whole grain products
- Streamline permitting for mobile vegetable/fruit trucks which can serve areas of the city with low food access
- Develop a Healthy Corner Store voluntary initiative that encourages small food retailers and convenience store merchants to designate x% of shelf space to healthful food items

URBAN AGRICULTURE

There is no shared common definition for urban agriculture in the growing body of literature on the subject. In the Portland context, where an urban growth boundary (UGB) concentrates development in the urban core, urban agriculture can be described either broadly, incorporating the vibrant regional farm economy that contributes to Portland's food security and to its economic health; or it can be described more narrowly, referring to activities occurring primarily within the Urban Growth Boundary itself.

Because this document will primarily inform potential actions that the City of Portland itself can take, urban agriculture (UA) in this report will focus primarily on those activities taking place within the UGB and within the city of Portland, but highlighting how the regional agriculture picture impacts Portland when appropriate.

Oregon's land use system prioritizes development in urban areas, and preservation of farm and forest land beyond urban areas. When this system of urban growth boundaries was first adopted, little consideration was given to the importance of open space and natural areas inside UGBs. In recent years, more recognition of the importance of access to natural areas and open space within cities, and the importance of natural habitat in urban areas, has informed policy and program development (Metro's Nature in the Neighborhoods program, for example).

Similar arguments for a role for agriculture in cities have begun to gain traction recently, especially as the topics of carbon emissions, the potential for high fuel costs and a down economy take center stage in the national dialogue. Urban agriculture advocates point to numerous benefits for enabling members of the public to grow their own food in cities and for supporting small, independent urban farms: reducing the distance from field to plate, educating urban residents about where food comes from and increasing community resiliency to potential food shortages.

What makes urban agriculture different than traditional commercial farming?¹⁷⁸

Agricultural uses can be considered along a continuum from large-scale, single-crop commercial operations of hundreds or thousands of acres to backyard gardens for personal use. State land use policy and regulations provide protections for rural agriculture. In order to set policy and determine appropriate land use tools for agriculture within urban areas it is useful to understand how urban agriculture differs from more conventional farming practices. The following provides a general description of the characteristics commonly associated with urban agriculture. Given the diversity of urban agricultural activities there remains considerable variation from site to site.

- *Scale* – sites can be as small as a few hundred square feet and are rarely over a few acres
- *Location* – sites are often leftover spaces within developed areas; they may be remnants of historic farms, difficult to develop sites, or portions of sites developed in a compatible use, such as a school, a utility right-of-way or water storage facility
- *Intensity of use* – land is used intensely to maximize benefits in a small area
- *Techniques* – the small scale favors hand tools and smaller mechanized equipment
- *Crop diversity* – rather than growing single crops oriented to mass production, these sites often include a variety of crops that change from season to season
- *Products* – fruits, vegetables, herbs, flowers or nursery stock are most common; some sites may have small beehives or a few chickens

¹⁷⁸ This section pulled directly from Johnson, Marie and Kathleen Stokes, "Diggable City Phase II Report Appendix C: Land Use Policy and Zoning Analysis," Feb. 2006. Available at <http://www.portlandonline.com/OSD/index.cfm?c=42793&a=122595>.

- *Consumer base* –local products may be grown for personal use, local subscribers (as in CSAs), nonprofit or student consumption, or those who shop at farmers markets or farm stands
- *Community orientation* – sites are often considered community assets, providing open areas, educational opportunities, or food security
- *Associated activities* – educational activities may include nutrition or farming education to school children, job training programs, demonstration projects, or gardening education for self-sufficiency/food security; related commercial activities may include farm stands, plant sales, or collection by CSA members
- *Land ownership* – nonprofit or government ownership is common; remnant historic farms or CSAs may be in private ownership

The following chart describes where agriculture is allowed outright, allowed as a conditional use or prohibited. Map 10-1 demonstrates how this looks across the city, with just over 60% of the city either prohibited to farm or where agriculture would be a conditional use, and much of the rest in industrial zones where land, especially large plots of land, are already rare and sometimes need remediation from past contamination.

Table: Where is Agriculture allowed in Portland? *

Allowed Outright	Conditional Use	Prohibited
OS, RF, R20, EG1, EG2, EX, IG1, IG2, IH	R10, R7, CS, CG, CX	R5, R2.5, R3, R2, R1, RH, RX, IR, CN1, CN2, CO1, CO2, CM
40.8% of Portland's land base	24.3% of Portland's land base	34.9% of Portland's land base
34,776 acres	20,682 acres	29,753 acres
* includes pockets of Multnomah County.		

Zoning Abbreviations (for those zones abbreviated in the table above)

Open space designations	Residential designations	Commercial designations	Employment designations
OS – Open Space	RF – Residential Farm/Forest	CN1 – Neighborhood Commercial 1	EG1 – General Employment 1
	R20 – Residential 20,000	CN2 – Neighborhood Commercial 2	EG2 – General Employment 2
	R10 – Residential 10,000	CO2 – Office Commercial 2	IG1 – General Industrial 1
	R7 – Residential 7,000	CM – Mixed Commercial/Residential	IG2 – General Industrial 2
	R5 – Residential 5,000	CS – Storefront Commercial	IH – Heavy Industrial
	R3 – Residential 3,000	CG – General Commercial	
	R2.5 – Residential 2,500		
	R2 – Residential 2,000	CX – Central Commercial	
	R1 – Residential 1,000		
	RH – High Density Residential		
	RX – Central Residential		
	IR – Institutional Residential		

COMMUNITY GARDENS

What is the Issue?

A community garden is a place where multiple people, often neighbors, garden a plot of land together. Community gardens can be single large community plots which everyone works and then shares in the harvest, or they can have multiple plots for individuals and families to use. Community gardens can grow food, flowers, or other non-edibles. While all community gardens share in many of the same benefits, this section will focus on food-producing gardens.

First Lady Michelle Obama recently praised community gardens, saying, “I’m a big believer in community gardens, both because of their beauty and for their access to providing fresh fruits and vegetables to so many communities across this nation and the world.”¹⁷⁹



Gardeners at Col. Summers Community Garden amend their soil.

Studies have already identified community gardens as places that encourage participants to exercise more, eat healthier foods, connect with neighbors, reduce the stress of urban environments, provide culturally-appropriate foods and save money on food expenditures. Additional rigorous study would be helpful in documenting these impacts more robustly.

Health benefits

Health benefits of community gardens include increased exercise, consumption of fresh and healthful foods and better mental health.¹⁸⁰ In surveys from California Healthy Cities, community gardens participants reported a 6% increase in physical activity sessions and a 10% increase in produce consumption.¹⁸¹ Locally, the nonprofit agency Growing Gardens, which builds backyard gardens for low-income Portlanders, reports that 40% of their gardeners spent more time outdoors because of their gardens in 2007, and 71% increased their consumption of fresh fruits and vegetables.¹⁸² The authors of a study of gardens in Toronto found that community gardens were perceived by gardeners to provide numerous health benefits, including improved access to food, improved nutrition, increased physical activity and improved mental health.¹⁸³

Community benefits

Community gardens have many community development impacts, including building social capital by promoting interaction among diverse community members and encouraging neighbor collaboration.

¹⁷⁹ Burros, Marian, “First Lady at Agriculture Department,” The New York Times, The Caucus: The Politics and Government Blog of the Times, February 19, 2009.

¹⁸⁰ <http://heapro.oxfordjournals.org/cgi/reprint/22/2/92> (Growing Urban Health: Community Gardening in South-East Toronto)

¹⁸¹ <http://www.ajph.org/cgi/reprint/93/9/1435> (Community Gardens: Lessons Learned from California Healthy Cities and Communities)

¹⁸² Katon, Peter, “2007 End of Season Survey Summary,” Growing Gardens, January 15, 2008.

¹⁸³ Wakefield S, Yeudall F, Taron C, Reynolds J, Skinner A. Growing urban health: community gardening in South-East Toronto. Health Promot Int. 2007 Jun;22(2):92-101.

Community gardens have been shown to promote social health and community cohesion.¹⁸⁴ Gardens can also prevent neighborhood dumping and littering in formerly vacant areas, and increase the capacity of an area's "eyes on the street," acting as a deterrent to crime.¹⁸⁵

Some community gardens not only provide opportunities for neighbors to interact, but facilitate community organizing. In a study conducted in New York City, "gardens in low-income neighborhoods were four times as likely as non-low-income gardens to lead to other issues in the neighborhood being addressed, reportedly due to organizing facilitated through the community gardens."¹⁸⁶

Economic benefits

Gardens can be financially beneficial to both participants and to the community. One study of the New Brunswick community gardens found that gardeners saved between \$50 and \$250 per season in food costs.¹⁸⁷ Other estimates indicate that the value of produce from a community garden plot can be much higher; a study of Boston's 3,000 garden plots indicated that they generate \$1.5 million worth of produce each year.¹⁸⁸ Almost all of Growing Gardens' gardeners (97%) said that they save money as a result of gardening.¹⁸⁹ In some community gardens, gardeners grow products for sale at local farmers markets, churches or other community gathering places, thus generating a source of income.¹⁹⁰

There is evidence that community gardens have a positive impact on surrounding property values.¹⁹¹ A study from St. Louis indicates that the homeownership rate of the immediate vicinity increased after a community garden opened, relative to surrounding Census tracts without gardens.¹⁹²

Local Conditions

Portland Community Gardening Program

Portland Parks and Recreation has managed a Community Gardens Program for the past 30 years. Thirty-one gardens contain approximately 1,000 plots and serve 3,000 people. Most of the gardens are located in inner Southeast, Northeast and North and Southwest Portland. Three gardens are located east of I-205. See Map 10-2, which includes all PP&R gardens and all known community-managed gardens. About two-thirds of the gardens are on publicly-owned land, while PP&R has arranged lease agreements for privately-held land for the remainder of the gardens.

The number of plots per garden varies, with the smallest gardens (for example, Patton Community Garden) having eight to ten plots and the largest garden (Fulton Community Garden) comprising 102 plots. In 2006,

¹⁸⁴ Wakefield S, Yeudall F, Taron C, Reynolds J, Skinner A. Growing urban health: community gardening in South-East Toronto. *Health Promot Int.* 2007 Jun;22(2):92-101.

¹⁸⁵ Schukoske, Jane E., "Community Development Through Gardening: State and local policies transforming urban open space," *Journal of Legislation and Public Policy*, Vol. 3 No. 2, Spring 2000.

¹⁸⁶ Armstrong D. A survey of community gardens in upstate New York: implications for health promotion and community development. *Health Place.* 2000 Dec; 6(4):319-27.

¹⁸⁷ Hlubik WT, Hamm MW, Winokur MA and Baron MV (1994) 'Incorporating research with community gardens: the New Brunswick Community Gardening and Nutrition Program,' in Francis M, Lindsey P and Rice JS (1994) 'The Healing Dimensions of People-Plant Relations: Proceedings of a Research Symposium,' UC Davis, CA: Center for Design Research, Department of Environmental Design, pp 59-64.

¹⁸⁸ Boston Parks and Recreation Department, Policy and Resource Development Unit, *Open Space Plan for Boston 2002-2006* (Boston, Ma.: City of Boston, 2002), 424, available online at http://www.cityofboston.gov/parks/pdfs/os7b_text.pdf.

¹⁸⁹ Katon, Peter, "2007 End of Season Survey Summary," Growing Gardens, January 15, 2008.

¹⁹⁰ Feenstra, Gail, Sharyl McGrew and David Campbell, "Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities," University of California Agriculture and Natural Resources Publication 21587, 1999

¹⁹¹ http://furmancenter.nyu.edu/publications/documents/Community_Gardens_Paper_Aug3_2006f.pdf (The Effect of Community Gardens on Neighboring Property Values)

¹⁹² Tranel, M. and L.B. Handlin, Jr., "Metromorphosis: documenting change" *Journal of Urban Affairs*, 28: 151-167, 2006.

the Community Gardens Program lost two sites and about 183 plots to development (156 plots from the Reed Community Garden and 27 plots from Blair Community Garden).

The Reed garden had been the largest in PP&R's system and had been maintained as part of the program for more than 30 years. Parks staff and gardeners worked with Reed College to see if part of the garden could be maintained or relocated, but this was not part of the College's development plans (they have since built additional student housing on the site of the garden). Some affected gardeners were moved to other gardens; Parks continues to look for opportunities to open additional community gardens within a similar geographic area.

Improvements made at all garden sites include fencing, locked gates, water lines, signs, and raised accessible beds. In addition to regular plots, the system includes half plots and raised beds, which are used for education programs and for gardeners who are disabled. Some gardens have sheds for tool storage, paved paths, and other amenities.

Around 10 other known community gardens are maintained in Portland outside of the Parks and Recreation system: some at universities, some at churches and others at housing projects or on vacant land. The information below applies specifically to and only considers the gardens managed by the City through the PP&R Community Gardens Program.

Goals for Community Gardens

PP&R has not determined an appropriate level of service for community gardens. Other communities have called for a certain number of gardens per population; for example, in its comprehensive plan, Seattle adopted a goal of "One dedicated community garden for each 2,500 households in [the Urban Center Villages] with at least one dedicated garden site."¹⁹³ The Urban Villages, in their various configurations, do not contain the entire area of the City, but the denser, residential town centers.

Were Portland to adopt a similar standard throughout the city, Portland's goal would be 90 gardens, triple the current number. Using Seattle and Denver (relatively comparable in terms of population number, density, and geographic location) as reference points, it is clear that the City of Portland could sustain a large increase in community gardens with the accompanying health and community benefits that come along with that.

Table 10-1: Portland Community Gardens Program compared to other western cities.

	Portland	Seattle	Denver
Population (2004)	533,492	571,480	556,835
# of Garden Sites	30	53	60
# of Garden Plots	1,000	1,900	1,251
Plots / Population	1:533	1:300	1:445
Sites / Population	1:17,780	1:10,780	1:9,280

Source: Portland Multnomah Food Policy Council City of Portland Community Gardens Program Recommendations, February 2008.

Demand for Community Gardens

However, a perhaps more accurate representation of need would be level of demand. The Community Gardens Program consistently maintains a waiting list of several hundred individuals; in early 2009, this number topped 1,100 (a number higher than the plots currently available in the system) as food prices rose and the impacts of the economic downturn were felt locally.¹⁹⁴

¹⁹³ Seattle's Comprehensive Plan: Toward a Sustainable Seattle, UV-A5, Urban Village Appendix B, page 351 of 498, 2005.

¹⁹⁴ Phone conversation, Leslie Pohl-Kosbau, Community Gardens Program Manager, Portland Parks & Recreation, Oct. 2008.

A map of those on the waiting list as of Fall 2008, Map 10-3, shows that many people who get on waiting lists for gardens already live near existing gardens. There is a concentration of people on the waiting list in Inner SE and to a lesser extent, Inner NE Portland; demand for gardens in these areas is intense, where the city has limited open space and higher population density.

Demand in other parts of the city may be lower because there is less interest, or because fewer existing gardens are nearby, or because lots may tend to be larger providing adequate garden space on residents' own property. No rigorous study has been conducted to measure interest in community gardens across the city. However, local surveys have found that interest in using a community garden plot is about 50% of respondents,¹⁹⁵ and anecdotal information from garden centers and seed companies in early 2009 is that demand is growing much stronger for gardening materials, seeds and starts.

Barriers to Creating Additional Gardens

Several sites for new gardens have been identified; however, the start-up and maintenance costs for gardens in the City system are major barriers to expanding that system. To establish a new garden, a new water meter, fencing and preparatory work needs to be completed. New water meters cost several thousand dollars to install, and fencing a garden for safety and theft prevention can run thousands of dollars more. Establishing a garden will cost the city from \$30,000 to \$50,000 for a medium-sized garden. The garden fees, which cover part of the regular garden maintenance, were raised from \$50 to \$75 in 2009 to make up for shortfalls in PP&R's budget; however, not all costs are recovered through the fees and other funds are limited.

Other available lands have been identified through such efforts as the Diggable City Project (looking at available City-owned land) and County Digs (Multnomah County's tax-foreclosed lands made available for gardening). Churches, schools and business sites could provide access to urban property. However, no one organization has been able to access and use this land for more community gardens in an organized fashion, though one-off projects are common such as the independently-run community gardens mentioned above.

Community Gardeners in Portland

Limited information about who is gardening in Portland's community gardens is available to us from annual surveys conducted by Portland Parks & Recreation.¹⁹⁶ Portland community gardeners are diverse in age: while those ages 18-24 are a small group, many of the other age groups are better-represented, as seen below. Around two-thirds of gardeners have incomes under the median family income (MFI) for Portland (which in 2008 was \$67,500 for a family of four), and 38% have incomes below 60% of MFI.

Figure 10.1: Age of Portland Community Gardeners

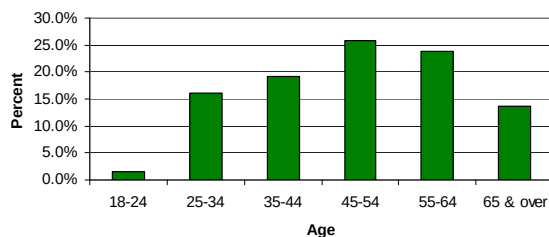
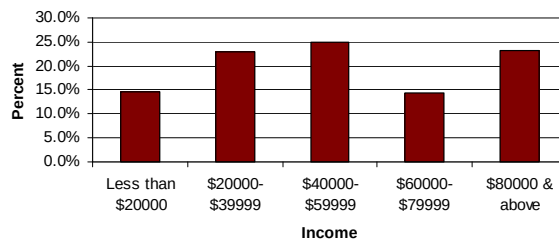


Figure 10.2: Community Gardeners' Reported Income Level



Source: Portland Community Gardens Program, Portland Bureau of Parks & Recreation, 2008 survey of community gardeners.

¹⁹⁵ Portland Multnomah Food Policy Council, "City of Portland Community Gardens Program Recommendations," February 2008.

¹⁹⁶ The PP&R surveys are optional mail surveys, not a random sample of gardeners. In 2008, over 400 gardeners completed the survey out of the 1,000 plots assigned.

The same surveys asked participating gardeners to identify their top reasons for choosing a community garden. From the options given, a majority of participants cited the following: not enough garden space at home, that people in general enjoy gardening, and that the quality of the produce is better (though the question does not clarify better than what: Gardening at home? Store-bought produce?).

A quarter of respondents said that they save money on food through community gardening. In a past survey in 2004, the same question was posed using a ranking system of 1 to 5 ("Ranked Reasons for Participating in a Community Garden [5 High, 1 Low]"). In this survey, 32% of those who responded to this question ranked "food savings" as a 4 or a 5 in importance.¹⁹⁷

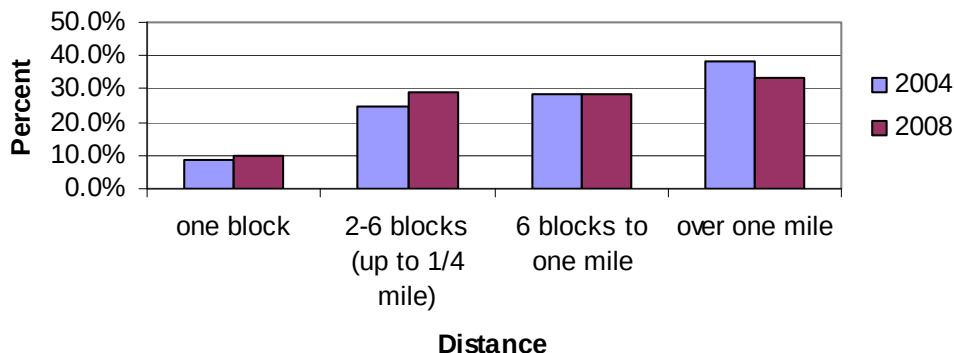
Table 10-2: Portland community gardeners express why they participate. Numbers represent the percentage of respondents noting each of the following as one of their top three reasons.

Reason for Participation	Percent
Not enough garden space at home	69.3%
Enjoy gardening in general	65.5%
Provides better quality of produce	57.0%
Saves money on food	27.1%
Provides sense of relaxation	25.6%
Socializing & sharing with family or other gardeners	23.0%
Provides exercise	11.8%

Source: Portland Community Gardens Program, Portland Bureau of Parks & Recreation, 2008 survey of community gardeners

Exactly two-thirds of gardeners traveled less than one mile to reach their community garden plot in 2008, slightly more than in 2004 (when 61.8% could make the same claim). Car use among gardeners has dropped slightly among gardeners since 2004 as well, and now just about half walk, bike or take the bus to their garden rather than drive.

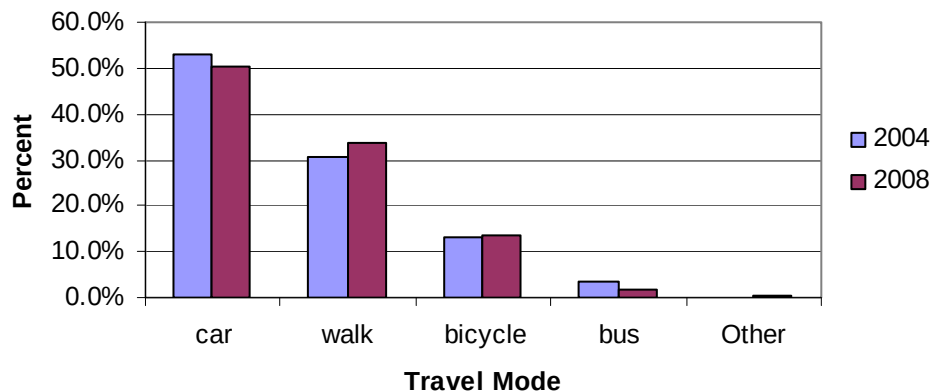
Figure 10.3: Length of Travel to Garden by Portland Community Gardeners



Source: Portland Community Gardens Program, Portland Bureau of Parks & Recreation, 2004 and 2008 survey of community gardeners

¹⁹⁷ Portland Community Gardens Program, Portland Bureau of Parks & Recreation, 2004 survey of community gardeners.

Figure 10.4: Mode of Travel for Portland Community Gardeners



Source: Portland Community Gardens Program, Portland Bureau of Parks & Recreation, 2004 and 2008 survey of community gardeners.

Several urban agriculture advocates have questioned the PP&R policy of not allowing community gardeners to sell the produce they raise on the community garden plots. As evidenced in the book *Entrepreneurial Community Gardens*,¹⁹⁸ allowing gardeners to sell produce can turn gardens from community building endeavors to economic development tools. In exploring future ways to increase the benefits arising from Portland's network of community gardens, a re-examination of this policy could be appropriate.

Other Community Gardens

As mentioned above, there are other community gardens in Portland that are not managed by Portland Parks and Recreation. While Portland State's Institute of Portland Metropolitan Studies has collected location information on these gardens (shown along with PP&R's gardens in Map 10-2), little other information has been gathered. Several are run by churches, a few by universities (Portland State University and University of Portland, for example), and others by groups of neighbors.

Conclusions

Portland benefits from its unified system of community gardens managed through the City's Parks and Recreation bureau; often, community gardens are not managed by municipal governments and community groups must coordinate the gardens on their own. However, PP&R's Community Gardens Program has not grown along with demand; it is understaffed compared to similar municipal programs like Seattle's and underfunded in terms of developing and maintaining new gardens.

Community groups in some parts of Portland are responding by organizing gardens on their own. Less information is available on these gardens, though most are independent, some are available only to specific groups (like students, immediate neighbors or church members) and many have relatively short tenures compared to some of the older gardens in the PP&R system.

However, a large demand still remains for additional garden plots, and community response from processes like visionPDX indicate that the public would like to see the City take an active role in expanding community gardening opportunities. Numerous policy ideas for how the City could accomplish this are presented at the end of the Urban Agriculture section.

¹⁹⁸ Feenstra, Gail, Sharyl McGrew and David Campbell, "Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities," University of California Agriculture and Natural Resources Publication 21587, 1999.

URBAN FARMING OPERATIONS

Urban Educational Farms

What is the issue?

Urban educational farms are farming operations whose primary goal is to provide a demonstration site and educational opportunities about growing food to the public, often with a focus on children and youth. Many such places have sprung up in dense urban environments like the half-acre Mill Creek Farm nestled in a dense but depopulating Philadelphia neighborhood, while others are located on the outskirts of urban environments, like the 12.5 acre Center for Urban Agriculture at Fairview Gardens in Goleta, CA (which was once quite rural and now is surrounded by suburban tract development).

Goals of such farms can focus on helping people understand where their food comes from, learning more about natural systems and science and gaining skills to feed oneself, all through an experiential process.

Local Conditions

Portland is home to several working farms that have an educational mission – linking agricultural production and reconnecting children, youth and adults with the land and food production. These farms are identified on Map 10-1. Four of the five properties described below are owned by public entities: the City of Portland, Metro and the City of Lake Oswego. One is held privately by a fifth-generation property owner and has been farmed for decades.

Zenger Farm is a historic farm whose land was purchased by BES in 1994 for watershed preservation. In 1995 part of the property was again under agricultural production; in 1999 a nonprofit organization formed to steward the property and provide educational opportunities about agriculture and sustainable food systems to area schoolchildren. The nonprofit now hosts two farmers, provides multiple smaller plots to immigrant farmers, and brings thousands of children and youth, k-12 to the farm for tours, work days and summer camps. A fifty-year lease with BES has enabled the nonprofit to plan for the future, while honoring their past; new green building projects integrated into the old farmhouse have made Zenger a showcase for sustainability principles.



Leeks growing at Zenger Farm.

On the site of the former Green Thumb program, a horticultural partnership between PPS and OSU between the 1970s and 1990s, a new vision for urban agriculture is emerging. The *Learning Garden Laboratory* is becoming known as one of the most distinctive and diverse projects in Portland's urban agriculture scene. On a 13-acre site across from Lane Middle School in SE Portland, this piece of land now hosts community garden plots, fruit trees, a native plants garden, garden plots growing foods from different countries, and more.

Funded by a \$125,000 grant from the City of Portland, which was matched by PSU, the project continues to evolve: in the past few years, the space was managed by faculty and students at the Educational Leadership and Policy program at PSU. Now, a new partnership has led to the site's management by the OSU Extension Service, and many new programs and partnerships are under development.

The nonprofit *Sauvie Island Center*, founded in 2006, runs field trips for k-5 students on the Metro-owned Howell Territorial Park on Sauvie Island. This park includes land rented by Sauvie Island Organics, and field

trips explore both farmland and beyond in the spring and fall. A summer program partnering with day camps is currently under development.

Jean's Farm is a 1-acre urban farm on the banks of Johnson Creek in SE Portland. Privately owned, the plot was previously used by various farmers; it has been organically farmed for over 30 years. In 2005, PSU's Educational Leadership and Policy program used the farm as a demonstration site for elementary and middle schoolers who came to the site twice a week. In 2007, Oregon Tilth became the new steward of the property, and had planned to use Jean's Farm as an educational site; the property is now available for rent and currently not functioning as an educational farm.

Luscher Farm is located in Lake Oswego and provides an interesting local model of City management of a historic farm. In its 40+ acres, it now hosts a community garden, a CSA farmer, the Rogerson Clematis Collection, a dog park, ball field, and a garden demonstration site run by Oregon Tilth.

Tryon Life Community Farm is a 7-acre parcel adjacent to Tryon Creek State Park in SW Portland. Formerly a farm, then rental apartments for Lewis and Clark students, the land was threatened with development in the mid-2000s. A large grassroots campaign ended with purchase of the property by a newly-formed nonprofit organization called Tryon Life Community Farm. Area governments bought a conservation easement on the property, protecting it in its mostly undeveloped state into perpetuity, and the land is held in a trust by Oregon Sustainable Agriculture Land Trust. The farm now runs its own education programs with local schools, and makes itself available for other organizations, summer camps, retreats, workshops and more. It is open to the public three days a week and continues to develop both its farm functions and its programming.

Other related garden education programs are:

- *Growing Gardens*, a nonprofit organization that works with low-income families to build gardens in their backyards and offers them three years of support, seeds, workshops and more.
- Oregon Food Bank manages two *Learning Gardens*, one in Portland and one in Hillsboro, where multiple objectives are met: food is grown to be distributed through the emergency food system; adults are taught about gardening and then cooking what they grow; and at-risk youth are paired with adult mentors to work in the gardens, increasing confidence and community connectedness.

These farms are noted on Map 10-1 in red.

Entrepreneurial Urban Agriculture

What is the issue?

The term "entrepreneurial urban agriculture" has been used by several scholars of community food systems to refer to urban food projects with an economic development focus. Such projects can arise from churches, nonprofit organizations, community development corporations or school or university groups. Gail Feenstra et. al. defined entrepreneurial community gardens as those that sold their garden products for the benefit of participants, those that trained and employed community residents, or both.¹⁹⁹ Many such projects have a focus on youth, especially at-risk youth, and/or low-income populations. Many also make use of abundant vacant land in struggling urban areas, something Portland does not have available to the same extent as many older, eastern cities.

One major source of support for entrepreneurial UA is the USDA Community Food Projects Competitive Grants Program. In some cities, such projects are eligible for Community Development Block Grant Funds, as was the case in Portland until the adoption of the 10-Year Plan to End Homelessness shifted priorities for the City and County. Heifer International also has an urban agriculture grants program, and supports projects in

¹⁹⁹ Feenstra, Gail, Sharyl McGrew and David Campbell, "Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities," University of California Agriculture and Natural Resources Publication 21587, 1999, p. 5.

North American cities. In the study of 27 entrepreneurial community garden projects, the most common source of funding was from city or county governments.

One of the best documents for analyzing the potential for entrepreneurial urban agriculture is “Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States,” by Jerry Kaufman and Martin Bailkey. Though published in 2000, it offers extensive information on benefits and obstacles to these types of projects, and ways of overcoming those obstacles. The case studies are also interesting, and several of the projects are still in operation.

While many entrepreneurial UA projects work towards self-sufficiency, many have not yet been able to reach that goal. Many projects rely on grants and donations to supplement income from selling agricultural products:²⁰⁰ “Research into the economic returns of for-profit urban agriculture concludes that most operations produce only modest revenues, even when subsidized.”²⁰¹ In one study, those that were more successful often sold value-added products that required more investment in processing equipment and staff know-how.

Local Conditions

Youth-focused

In Portland, **Food Works** is one of the most well-known entrepreneurial urban agriculture projects. Food Works began as the St. Johns Woods Gardening Project, a 7500-square foot community garden at the St. Johns Woods housing project, where youth were hired to manage the gardens and help residents grow food for themselves and their community. The youth decided to grow additional food for the Portland Farmers Market, and Food Works was born. The entrepreneurial idea has grown into a comprehensive job training program, with 10 crew members working an acre of Metro-owned land on Sauvie Island and selling to the Portland Farmers Market at Portland State each week. Their produce is also available in the New Seasons Market Arbor Lodge store. Support from local nurseries, the adjacent Sauvie Island Organics CSA, and a grant from the USDA Community Food Projects Competitive Grants Program have enabled expansion of the project.

Job training

Focused on adults, **Verde Native Plant Nursery** combines job creation, training and environmental sustainability in a “green jobs” business model. Verde, a spin-off from low-income housing developer Hacienda Community Development Corporation, installs and maintains native plant material for stormwater management and watershed restoration projects while training Hacienda residents in landscaping and nursery work.

Verde has begun to grow native plants for projects in its Training Greenhouse, and hopes to expand. The goal is to develop a low-capital-expense growing operation that would allow for easy transition from one plot of land to another. Verde is currently in negotiations with the City of Portland for use of a publicly-owned site to grow the nursery business; due to past degradation of the property, studies of its contamination levels are currently underway.

Verde provides good-paying jobs with full benefits to 3 full and 2 part-time workers, while providing restoration services to clients throughout the Portland metropolitan area. Aside from the many social benefits, the Verde Native Plant Nursery uses urban agriculture to help build a greener community through its work in bioremediation and green stormwater management. As the Verde example demonstrates, UA can include non-food-based products and services as well.

²⁰⁰ Feenstra, Gail, Sharyl McGrew and David Campbell, “Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities,” University of California Agriculture and Natural Resources Publication 21587, 1999, p. 19.

²⁰¹ Jerry Kaufman and Martin Bailkey, “Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States,” 2000, Lincoln Institute of Land Policy Working Paper, p. 65.

Immigrants and refugees

There has been interest among food system advocates in using agriculture as a path to success for immigrants and refugees in Portland for several years. Grants from the USDA Risk Management Agency enabled several yearly direct marketing workshops to take place in multiple languages, including Spanish, Hmong, Somali and Cambodian. At one such workshop in 2004, over 90 farmers attended, as well as 25 organizations. Efforts like this brought to light the need of would-be immigrant and refugee farmers for technical assistance in finding land, negotiating leases, finding outlets for their products, and more. Projects that currently focus on immigrants and refugees in the Portland metro region include:

- The **New American Agriculture Project** (NAAP), started in 2004 by MercyCorps NW, helps immigrant and refugee farmers access land and other resources to develop market gardens and small farms. MercyCorps has supported over a dozen farmers from around the world²⁰² and plans to take on 4-5 new farmers a year. The City recently leased a .75-acre city-owned property to MercyCorps NW for use by Nepalese immigrants.
- **Adelante Mujeres**, a community development organization in Forest Grove, runs a micro-enterprise farming program through which 12 new immigrant farmers are provided plots of land at Pacific University's B Street Permaculture Project and are provided spots at a farmers market run by the organization to provide an outlet for the farmers to sell their produce.
- While not specifically urban agriculture, Hacienda Community Development Corporation runs an interesting food-based economic development project called **Micro Mercantes Tamale Vendors**, through which entrepreneurial but poor women from Mexico are given the tools to sell tamales at Portland-area farmers markets.

Urban Commercial Farms

Several farmers operate in Portland: some of them on historical remnant farms, some of them scattered on small plots around the city and some on public land. Map 10-1 shows the location of some of the commercial farms that use direct marketing to sell their products.

Operators like Giusto Farms (see Farm Stands and U-Pick Operations in the Direct Marketing chapter above) are continuing a long lineage of farming on land in Portland – Giusto Farms has been in operation since 1917 and still farm 29 acres in Portland. Others, like 47th Ave. Farm, use newer models like CSA and rent land at Zenger Farm. It is clear from the map that only a small proportion of Portland's land is currently in agricultural production to be sold by direct marketing, whether at farmers markets, CSAs or farm stands.

Backyard Gardening as Business Model

Several new farmers are trying to make the urban context of small lots work for their business model. Sunroot Gardens, for example, is a small CSA and urban farming endeavor that arranges with private landowners to use backyards, side- and frontyards for growing food. The operation is run mostly by bicycle, which is possible when sites are all in close proximity.

Other similar operations are springing up, most focusing on a smaller number of shareholders as independent operators (rather than hiring staff). These business models, with a focus on small, mostly hand-tended operations have enormous potential with the number of yards in the city; however, they are still unproven in terms of generating a living wage for their operators.

Your Backyard Farmer is a successful, innovative business approach to community supported agriculture through urban backyard farming. The two owners provide all the planning and labor to clients who want to create their own backyard organic "farm." They will also offer their knowledge and expertise to landowners who are willing to do the work themselves.

²⁰² https://www.mercycorpsnw.org/mercy/corps/info/new_agriculture_project/ accessed 10/28/2008.

They are currently contracted for 75 farms and 25 do-it-yourself collaborations. A few of their projects include multiple families working one large yard. The owners also farm their own ¼ acre property, raising produce to sell to restaurant accounts.

OTHER URBAN AGRICULTURE

Back (or front) yard Gardening

Gardening is one of the nation's favorite pastimes, and Portland is no exception. While no surveys have been conducted in Portland measuring how many residents actually garden or grow some of their own food, there is a strong local passion for gardening. Portlanders have popularized gardening in front yards as well as in back in many neighborhoods in a loose "food not lawns" movement. One organization, Growing Gardens, has helped low-income families plant over 600 backyard gardens in the past decade (see Map 12-1). Several CSA operations grow exclusively in backyards and small urban plots, turning backyard gardening into a business.

Portland is also rumored to have the highest density of backyard chickens in the country per capita²⁰³ – the city allows up to three chickens (or rabbits, ducks or goats, or combination thereof) without a permit, and Multnomah County will permit more with an inspection and proper facilities. Chickens provide a steady source of protein through the eggs they lay, thus supplementing the more traditional backyard crops of fruits and vegetables. Growing Gardens sponsors the annual Tour de Coops, a self-guided tour of city chicken coops. In 2008, the fifth year of the tour, more than 600 people took part.

Backyard gardening can be very effective in reducing food costs. A 400-square foot garden plot with good access to light and water can grow anywhere from 300 to 500 pounds of food, saving hundreds of dollars a year.²⁰⁴ An anecdotal accounting of the 834 pounds of food that came out of one 1600-square-foot garden in Maine in one year yielded between \$2200 to \$2550 worth of food (depending on where it would have been purchased).²⁰⁵ This figure can vary greatly depending on which crops are grown, how intensively an area is gardened and how carefully crops are tended, but the impact can far outweigh the costs of setting up a garden, while providing other physical and social benefits.

While gardening is not disallowed in any of Portland's zones, several barriers to increasing gardening have been identified. For example, the new trend of CSAs using backyard plots for their growing area has not been vetted through the zoning process. Are CSAs who grow in their customers' backyards breaking zoning rules on commercial activity in residential zones? Or are they largely the same as landscapers, maintaining the plots and getting paid to do so?

Water usage for gardening is another potential barrier. The Water Bureau does take the step to measure a household's winter water usage rates to determine sewer rates for the year (thus not charging sewer rates for all the summer yard watering usage, since this water does not end up in the sewer system. However, urban water costs are much higher than agricultural water rates, which are unavailable in the urban context. At the same time, the state of Oregon has not been supportive of greywater systems, which enable households to capture water (from washing machines, showers, etc. though not toilets or kitchen sinks) to use to water gardens. Advocacy around this issue at the state level has led to the proposal of changes to current rules to allow greywater systems to be used in the current legislative session.

²⁰³ Korn, Peter, "Urban chickens top green pecking order: Chickens beat dogs in sustainability, make locally produced food." Portland Tribune, February 12, 2009.

²⁰⁴ Portland Multnomah Food Policy Council, City of Portland Community Gardens Program Recommendations," February 2008.

²⁰⁵ Kitchen Gardens International, "KGI News: March, 2009."

Garden Education

Gardening education classes for the general public are offered by many organizations and individuals in Portland. Here is a quick list of several sources for information on urban agriculture and growing food in Portland; this list is by no means comprehensive:

Children's gardening classes:

- **Portland Parks and Recreation:** PP&R's Community Gardens Program offers a weekly children's gardening class at Woodlawn Community Garden in the summer from June through August, as well as a weekly teen gardening program in various locations.
- **Growing Gardens:** Growing Gardens provides after-school garden clubs, summer garden camps, school gardens, teen service and parent/child workshops.
- **OSU Extension Service** in A 4-H Sustainable Living Program is in its infancy.
- **School Gardens:** Dozens of Portland public and private schools now have school gardens. These gardens are usually organized and maintained independently, often by parent volunteers and sometimes with staff support. The gardens are usually incorporated into class curriculum. See Map 12-2 for locations of gardens as of 2007, the most recent collection of this information.

General Gardening Classes:

- **Oregon Tilth's Organic Education Center** at Luscher Farm in Lake Oswego offers classes on organic gardening, soil building and seed saving.
- **Oregon State University Extension Service** offered its first Master Gardener classes in six years in Portland at the beginning of 2009. This intensive, 66-hour course was offered for \$690 or \$345 if participants are willing to volunteer and serve as resources through the Extension Service. OSU Extension also piloted a program similar to the Master Gardener program, focused specifically on growing organically, in the fall of 2008.
- **Zenger Farm** offers various adult workshops/classes on worm composting, gardening and cooking, in addition to its extensive child/youth education programs.
- Nurseries and other businesses often offer gardening and related classes.
- **Portland Community College** offers a small number of community education classes on urban farming, including permaculture, raising chickens, soil classes, gardening in containers and more.
- **Growing Gardens** offers year-round classes for the public on everything from seed starting to seed saving, gardening 101, year-round gardening, cooking, composting and food preservation. In 2008, over 250 people attended workshops that frequently have waiting lists.
- The **City of Portland's Bureau of Planning and Sustainability** launched a series of "sustainable food classes" in early 2009. Classes included gardening, urban chickens and bees, cheesemaking, preserving and more. Over seven hundred people registered for the classes that filled to 98% of capacity. The series will be expanded in 2010.

Fruit Tree Pruning:

- **Portland Fruit Tree Project** offers fruit tree pruning workshops in the early spring.
- Portland Parks and Recreation Community Gardens Program offers classes/work parties on fruit tree pruning.

Preserving/Cooking:

- **Preserve** offers a series of preserving classes throughout the summer, to a limited number of participants.
- **Lost Arts Kitchen** offers preserving, cooking, baking and eating local classes.

- **Sustainable Living on a Budget** workshops help people recapture skills like baking bread, making dairy products and fermenting to save money.
- **Kookoolan Farms** in Yamhill County offers cheesemaking classes.

Chicken Raising, Beekeeping and other Classes:

- **Portland Chickens**, hosted by Growing Gardens, offers workshops and an annual Tour de Coops, arguably the largest chicken coop tour offered in the nation.
- **Livingstone Nursery** hosts chicken keeping classes and has an annual Chicken Fest; they also have beekeeping, fruit and landscaping classes.
- **Urban Farm Store** is new on the Portland scene and specializes in chickens; they have a free weekly or biweekly chicken raising class.

Permaculture:

- **Portland Permaculture Guild** hosts monthly potlucks and educational gatherings on permaculture-related topics.
- Permaculture design courses are offered by Toby Hemenway, a permaculture author (*Gaia's Garden: A Guide to Home-Scale Permaculture*) through monthly sessions. Hemenway has also taught permaculture through Portland State University.
- **Portland Permaculture Institute** is currently on hiatus while its organizers are in the process of developing an urban ecovillage; they have offered both intensive 2-week and 4-weekend permaculture design courses in the past.

These classes have helped educate an interested public in all things related to urban agriculture; the popularity of the classes – even those that are more expensive – demonstrates the level of interest in these topics in Portland.

School Gardens

What is the issue?

The interest in starting gardens at schools is part of the larger farm-to-school movement, which works to help children understand where their food comes from, the benefits of eating fresh, locally-grown food, and the functioning of natural systems.

Evidence supports these results; studies have shown that garden-based nutrition education can increase the amount of fresh produce adolescents eat,²⁰⁶ as well as overall opinions of fruits and vegetables.²⁰⁷ Interaction with nature through gardening can also increase students' interest in environmental issues^{208, 209} and even improve science achievement test scores.^{210, 211}

²⁰⁶ McAleese, J. D. & L. L. Ranklin. "Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents." *Journal of the American Dietetic Association*, 107:662-665, 2007.

²⁰⁷ Lineberger, S. "The Effect of School Gardens on Children's Attitudes and Related Behaviors Regarding Fruits and Vegetables." Thesis, Texas A&M University, 1999.

²⁰⁸ Waliczek, T.M., Zajicek, J.M. "School Gardening: Improving Environmental Attitudes of Children Through Hands-On Learning." *Journal of Environ. Hort.* 17(4): 180-184, 1999.

²⁰⁹ Skelly, S. & J. Zajicek. "The Effect of an Interdisciplinary Garden Program on the Environmental Attitudes of Elementary School Students." *Hort Technology*, 8(4): 579-583, 1998.

²¹⁰ Klemmer, C.D., Waliczek, T.M. & Zajicek, J.M. "Growing Minds: The Effect of a School Gardening Program on the Science Achievement of Elementary Students." *HortTechnology*. 15(3): 448-452, 2005.

²¹¹ Smith, Leanna L., and Motsenbocker, Carl E. "Impact of Hands-on Science through School Gardening in Louisiana Public Elementary Schools." *HortTechnology*. 15(3), pages 439-443, 2005.

Local Conditions

In 2007, the Oregon Department of Agriculture surveyed Oregon public schools to gather benchmark data on existing school gardens and gardening programs.²¹² They found that over 160 schools in Oregon have school gardens, with 44 of them in Multnomah County (see Map 12-2). A majority of school gardens have been in existence for three to five years (37%) and 34% reported having gardens for more than six years; the rest were more recent or unable to determine their start date.

Table 12-1: Top Goals of School Garden Organizers (frequency over 50%)

Goal	Frequency
Hands-on learning	92%
Academic information	79%
Environmental education	74%
Agricultural education	64%
Community involvement	55%

The gardens have been used to teach lessons in various curricula, including science, the arts, nutrition, health education, social sciences, food security and more. At the various sites, most students tended flowers and vegetables, composted and worked with native plants. Other activities were less common: vermiculture, birds, restoring habitat, cooking and more. “Most students enjoyed the fruits of their labors either right in their garden (47%) or in the classroom (41%). The school cafeteria was the setting for 13% of harvest consumption, while 23% took their food home to enjoy there.”

Top challenges in starting and maintaining gardens include summer care, time constraints and costs. In spite of these challenges, dedication and interest to the gardens remains strong.

In 2008, the Oregon Legislature created a School Garden Coordinator in the Oregon Department of Education Child Nutrition Program to:

- Assist school districts to utilize Oregon agricultural products and produce from school gardens
- Promote food and garden-based educational activities
- Coordinate farm to school and school garden activities with school district wellness policies
- Report to the 75th Legislative Assembly on activities conducted as part of the pilot program
- Coordinate the Oregon Farm to School and School Garden Program with the Oregon Department of Agriculture’s farm to school activities.²¹³

This coordinator works closely with the Farm to School coordinator housed in the Oregon Department of Agriculture, demonstrating the closeness of the two issues: farm to school and school gardens. More information is available on farm to school issues under Chapter 14: Institutional Purchasing.



Montavilla School Garden, circa 1919.

²¹² Information on the 2007 inventory provided by: Ratcliffe, Michelle and Haley Smith, Results from the 2007 Oregon School Garden Inventory,” Accessed on September 15, 2008 at http://www.ecotrust.org/farmtoschool/2007_School_Garden_Inventory.pdf.

²¹³ Ecotrust Farm to School Program, “History of Farm to School Legislation in Oregon.” Accessed on June 7, 2009 at <http://www.ecotrust.org/farmtoschool/History-of-F2S-legislation-in-Oregon.pdf>.

Local Programs

Ecotrust's Farm to School Program has been instrumental in collecting research and advocating for school food more broadly, including assisting Portland Public Schools to implement their grant to incorporate more locally-grown and processed foods into school meals.

Portland Public Schools are embracing school gardens through eat.think.grow - Portland Partners for School Food & Garden Education, housed at the Portland Schools Foundation. In this partnership, advocates, school officials and others including Portland Parks and Recreation are providing community support and resources to assist the district in accomplishing its Wellness Policy. PPS remembers days past when school gardens provided much of the food for students; the photo on the previous page is of an expansive school garden at Montavilla School, captured in 1919.

Rooftop Gardening

What is the issue?

The notion of using rooftops to grow food is gaining popularity in North America, especially in dense, urban environments. The benefits of green roofs or eco-roofs have already been well-documented: converting a roof from asphalt to growing things can provide greater insulation for the building, divert rainwater from the sewage system; decrease the urban heat island effect, provide additional habitat for some insects and birds, and can increase the beauty of a space.

Rooftop gardening takes the green roof idea a step further, adding the benefit of providing food as well as potentially creating opportunities for community building. Rooftop gardens have been discussed more than studied, though some conclusions have been made about the environmental impacts of food-producing gardens. One study of a rooftop garden in Montreal over two years found that this container garden, while not covering the entire roof, still made an appreciable impact on the building temperature.²¹⁴

Socially, rooftop gardens have the potential for creating growing space in densely-populated areas where there might be little access to open land. Rooftops can therefore fill a need for space on which to grow food. Rooftops are also more likely to be free from shade, free from animal pests and close to water access, thus increasing the potential of being successful growing spaces.

Rooftop gardens can differ greatly from green roofs. For example, some green roofs are installed but are not visible from the street and not accessible to people. To be a green roof, a roof does not have to provide access to people. However, a cultivated garden growing produce or herbs does need to interact with human beings throughout the growing season, so accessibility and safety are potential additional concerns.

Also, instead of the highly engineered waterproofing and new roof structure of which a green roof is often constructed, food-growing rooftop gardens can be planted in containers, even "kiddie pools." While green roofs are designed to weigh as little as possible, vegetables are grown in dirt, which can get heavy quickly. Without redesigning or reducing the planting medium (or getting rid of it entirely, as in hydroponics), the weight from a rooftop garden can quickly approach the engineering limits of the building. Add rainwater or irrigation and the load becomes even heavier. Both load and access are two of the most cited challenges to expanding rooftop gardens.^{215 216}

²¹⁴ Ayalon, Rotem, "Spreading the Roots: An assessment of the social and environmental impacts of the Rooftop Garden Project on the Montreal community." The Rooftop Garden Project, 2006. Accessed at <http://rooftopgardens.ca/en/node/1107> on December 2, 2008.

²¹⁵ Nowack, Michelle, "Urban Agriculture on the Rooftop," Cornell University, Senior Honors Thesis, May 2004. Accessed at: <http://www.cityfarmer.org/rooftopthesis.html> on December 2, 2008.

²¹⁶ St. Lawrence, Joseph, "Urban Agriculture: The Potential of Rooftop Gardening," York University, North York, Ontario, Canada. July 29, 1996. Accessed at <http://www.cityfarmer.org/rooftopthesisIntr.html#rooftopthesisIntr> on December 2, 2008.

Local Conditions

Portland was an early proponent for green roofs, adding a Floor-Area Ratio bonus for rooftop gardens or green roofs installed in new downtown developments. The bonus for rooftop gardens is not as generous as that for eco-roofs, but does call out food production as well as creating green space for people.

An innovative project that has gotten attention is now on the roof of Noble Rot, a restaurant at 10th and East Burnside. Chef Leather Storrs installed a 3,000 square foot garden that supplies some of the restaurant's produce. Food is grown in containers and hydroponically.

A study in 2004 by the City of Portland Office of Sustainable Development involved a thought experiment: what if the Central Eastside Industrial Area were completely covered in green roofs (not necessarily food gardens) by 2050? What would the ecological benefits be?

Assuming complete build-out of the area under current zoning regulations, rooftops would make up 55% of the 670-acre area. Assuming full green roof coverage by 2050, there would be several quantifiable environmental and economic benefits.

- Stormwater: 32% reduction – 207 million gallons



- Energy: 6.5% reduction, resulting in reduction of \$600,000 in utility bills
- Urban Heat Island: cool the district's core from .4 to .9 degrees F.
- Removal of approximately 155-310 tons of particulates from the air²¹⁷

If at least some of these spaces were used for growing food, the acres of food production added to Portland's potential would be enormous. There haven't been that many studies of the economic potential of roof-grown food; one study of a 2,100 square foot rooftop herb garden on a Vancouver, BC hotel estimated the value of the herbs grown at \$25,000-\$30,000.²¹⁸ Assuming only

one-quarter of that value in food products (\$7,500) for a garden of equivalent size (2,100 square feet), and only one-quarter of the green roofs in this district focused on food production (equal to 92 acres), the yearly value of food products would be \$13.8 million.



Lettuce and green beans growing on 3,000 sq. ft. rooftop garden at current site of the restaurant Noble Rot (formerly Rocket).

²¹⁷ Miller, Terry, "Portland Ecoroof Update: Tools and Strategies to Promote Widespread Application of Ecoroofs in Portland." Presented at the 2nd Annual Green Roofs for Sustainable Communities conference in Portland, OR in 2004. www.greenroofs.org/resources/millerliptanpresentation.pdf.

²¹⁸ "Green Roof Herb Garden Case Study: Fairmont Waterfront Hotel, Vancouver, BC." <http://www.landarch.uiuc.edu/resources/courses/coursewebsites/LA441Web/Readings2006/Fairmont%20Waterfront%20Hotel%20green%20roof.pdf>.



A view of what the Central Eastside Industrial Area could look like were all the roofs converted to eco-roofs.

Permaculture

What is the issue?

Combining the words permanent and agriculture, permaculture is a set of ethics and design principals based on caring for the earth, caring for people and redistributing surplus. Permaculture utilizes ecology as the basis for designing integrated systems of food production, housing, appropriate technology, and community development.

Permaculture is a design system that has significant potential for urban application. Appropriate for small plots of land, permaculture systems are designed to maximize production while minimizing inputs like water, chemicals, and labor.

Local Conditions

While still an unfamiliar concept in much of the United States, permaculture has a strong following in Portland. This is in part because of the Portland Permaculture Guild, which runs an active listserv and hosts monthly events to bring people together to discuss how to better implement permaculture concepts in both urban and rural environments, share resources and learn from one another.

From available evidence, it appears that permaculture is most often practiced at the individual level, working with backyards and individual lots rather than larger-scale demonstration projects. Permaculture as a design system can be used easily in many settings, including community gardens, school gardens, backyards, and many of the other models that have been discussed in this document. For this reason, use of permaculture is harder to track. It can be considered a method, like organic farming, that can be used in multiple settings.

Fruit and Nut Trees

What is the issue?

Fruit and nut trees can produce a great deal of food for minimal amounts of work when properly established and maintained. For example, at maturity, a mulberry tree could produce 100 lbs of fruit, a chestnut tree 250 lbs and a persimmon tree 400 lbs.²¹⁹ Fruit and nut trees also perform other services as all trees do: sequestering carbon dioxide, contributing to the green canopy, slowing rainwater's path to the sewer system and more.

²¹⁹ Portland Multnomah Food Policy Council, "Fruit/Nut Tree Policy Recommendations," approved March 11, 2009.

Local Conditions

Currently, there is no comprehensive inventory of the number of fruit or nut trees planted and producing in the city of Portland. However, over the past several years the Portland Fruit Tree Project (PFTP), a local nonprofit dedicated to “empowering neighbors to share in the bounty and care of urban fruit and nut trees,” has been running a voluntary registry program for fruit and nut trees. In 2008, PFTP worked with volunteers to harvest 5,000 lbs of fruit from several hundred trees. Some 75% of this fruit was distributed to approximately 1,000 low-income families; the rest went home with volunteers. Despite this success, nearly two-thirds of the trees on the PFTP registry were not harvested due to limited capacity. PFTP is growing its capacity to conduct more harvest parties and will also do more to promote its registry in 2009 and beyond.

There is interest among advocates in getting the City to take a more active role, as part of its urban forestry programs and services, in promoting fruit and nut trees in its current regulatory work and new and existing initiatives. A recent set of policy recommendations passed by the Portland Multnomah Food Policy Council focuses on incorporating information on fruit/nut trees in the Citywide Tree Policy Review and Regulatory Improvement Project; planting fruit/nut trees as part of the Grey to Green Initiative’s 33,000 yard trees to be planted; developing more community orchards and incorporating fruit/nut trees into the Neighborhood Tree Liaison Program.²²⁰

Vertical Farms

Defining Vertical Farms

The idea of a vertical farm is to create a multi-story hydroponic greenhouse that would produce a wide variety of fresh foods to feed tens of thousands of people year round. The concept is being developed and refined by the Vertical Farm Project (www.verticalfarm.com), started in 2001 at Columbia University. The Vertical Farm Project has estimated that with 3 million square feet (approximately 30 stories) the vertical farm could provide 2,000 calories a day per person for 50,000 people. The project is in conceptual form and no real world examples currently exist, but all of the technology that would be needed is currently in use.



One conception of what a vertical farm could look like. Source: www.verticalfarm.com.

Vertical Farm Benefits

Vertical farm proponents promise multiple benefits:

- year-round crop production
- high yield (i.e. one indoor acre of strawberries produced hydroponically could yield as much as 30 traditional outdoor acres)
- a smaller footprint than contemporary agriculture
- reduced need for storage and transportation of food
- higher crop success due to protection from weather
- new employment opportunities from construction to operation

Challenges to Implementation

Cost is the most obvious challenge to vertical farms. The Vertical Farm Project has estimated the construction cost of a 30 story vertical farm to be in the hundreds of millions of dollars. Research also needs to be conducted to prove conceptual models. Furthermore, building and zoning codes could pose as an obstacle to the construction of a vertical farm. Vertical farms seem better-suited to extremely dense urban environments where food security has been identified as a major community concern.

²²⁰ Portland Multnomah Food Policy Council, “Fruit/Nut Tree Policy Recommendations,” approved March 11, 2009.

URBAN AGRICULTURE CONCLUSIONS AND POLICY EXAMPLES

Conclusions

Urban agriculture (UA) has become increasingly popular in Portland, both as a hobby and as an area for advocacy. visionPDX demonstrated deep commitment to increasing food grown in the urban area through private gardens, community gardens, raising livestock, supporting farmers markets and CSAs and more.²²¹

The benefits for urban agriculture have been demonstrated to be numerous: increased consumption of fruits and vegetables; increased exercise; neighborhood beautification; more “eyes on the street;” saving or earning money by buying less produce or selling what is grown.

Despite these benefits and the deep interest demonstrated by the many organizations forming and working to increase urban agriculture in Portland, the movement has not yet reached full bloom in Portland.

Some of the barriers include:

- A limited number of community garden plots, well below the level needed to meet existing demand
- High cost of water meters and water when developing a new UA project
- Lack of clarity in the zoning code regarding legality of selling produce coming from backyards through new CSA models; rules against selling produce from community garden plots
- Lack of definition for urban agriculture that recognizes the scale at which UA works; zoning limitations as to where agriculture is allowed
- Limitations to planting edible plants and trees in public rights-of-way, including fruit and nut trees and vegetable gardening
- Limited land made available for urban agriculture projects, either from public or private sources

As urban agriculture is necessarily tied to land (or space, in the case of rooftop or impervious surface gardens), it intersects with planners and their land use planning responsibilities. As seen below in Policy Examples, planners can support urban agriculture by incorporating urban agriculture as a valued use for publicly-owned land; making it a priority for new developments, especially multi-family developments; and using their economic development tools to support entrepreneurial food businesses.

Policy Examples

Numerous sources suggest policy ideas to promote urban agriculture. For example, the Sustainability Plan for the City of San Francisco passed in 1996 contains six goals around food and agriculture, along with long- and short-term objectives and sets of actions under each goal. This chapter of that plan provides a useful framework to consider in developing new comprehensive plan language. The following are pulled from a variety of documents.^{222, 223, 224, 225}

²²¹ visionPDX, “Voices from the Community: the visionPDX Input Report, Urban Livability – Urban Agriculture/Community Gardens,”

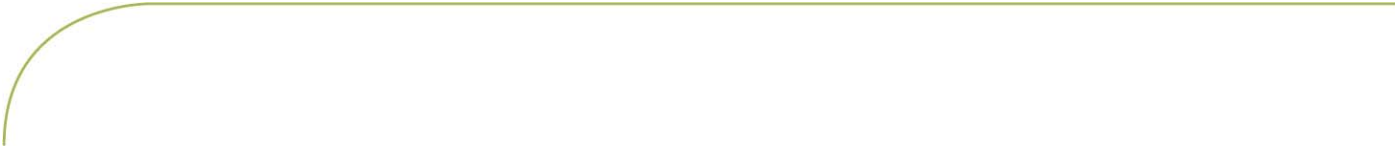
http://www.visionpdx.com/reading/inputsummary/urban_livability/urban_agriculture_community_gardens.html.

²²² City of Kamloops, “Best Practices in Urban Agriculture: A Background Report Prepared for the City of Kamloops to support development of an Urban Agricultural Strategy,” True Consulting Group, February 2007.

²²³ Providence Urban Agriculture Task Force, “Urban Agriculture in Providence: Growing our community by growing good food.” Accessed on June 8, 2009 at <http://www.farmfreshri.org/learn/docs/urbanag-growing.pdf>.

²²⁴ Brown, Katherine and Anne Carter, “Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe,” Community Food Security Coalition, October 2003.

²²⁵ Scott M. Stringer, Manhattan Borough President, “Food in the Public Interest: How New York City’s food policy holds the key to hunger, health, jobs and the environment,” February 2009.



Infrastructure

- Make underutilized public land available for urban agriculture projects
- Recognize urban food production as infrastructure contributing to clean air and water as well as food security
- Consider alternatives to drinking water for agricultural irrigation. Consider tax incentives or other programs to remove the barrier of costly water and water meters when used for food production
- Encourage investments in systems for rainwater collection and storage and for small-scale water saving irrigation systems (e.g., drip irrigation) in order to reduce the demand for treated water
- Create a municipal curbside composting system
- Identify ways to protect and expand the regional foodshed by identifying threats, including development and contamination, and opportunities, enhancing farm supporting infrastructure and increasing land under cultivation

Economic development

- Support commercialization of food produced in cities to enhance gardens' self-sufficiency (e.g., farmers markets, on-site sales, value-added processing opportunities)
- Support a significant community-based infrastructure for urban growers such as tool banks, agricultural businesses, shared processing facilities, farmers markets, community supported agriculture ventures, funding streams, technical service providers and Cooperative Extension professionals to urban sites
- Create permanent sites for farmers markets throughout the city; incorporate necessary utilities, parking and loading areas into the design and provide these facilities at minimal cost
- Support social enterprise initiative involving urban agriculture through social marketing and leveraging existing resources
- Provide local growers with low-interest loans and other micro-enterprise supports for start-ups and land acquisition
- Link training and welfare-to-work programs for unemployed people to opportunities in urban food-related businesses as a source of living wage jobs

Coordination with other departments and sectors

- Support public-private partnerships among businesses, city councils, the county and urban and rural farmers to establish stable agricultural activities in and near cities
- Work with private landowners and other levels of government to identify where additional farmers markets and community gardens might be established on land or adjacent to facilities not owned by the city
- Support or provide incentives to schools, hospitals, business parks and other landowners to promote food production on their grounds
- Link food production to other city responsibilities such as recreation, water storage, nature conservation, firebreak zones and zones with high flooding risk; provide economic incentives to encourage farmers participation in the management of such areas
- Integrate agriculture and gardening across school curriculum
- Meet with the major distribution companies to determine the demand for, obstacles and capacity to source food grown locally

Land Use Planning

- Promote local food production as one of the larger community goals
- Designate areas and strategies for urban agriculture in the city's comprehensive plan

- Consider urban agriculture as a priority use when evaluating uses for city-owned land
- Establish land trusts and conservation covenants for private or public lands to provide long-term security for urban agriculture sites

Community Development

- Recognize urban agriculture as a strategic asset for community development, neighborhood beautification and public safety
- Incorporate communal gardening space and edible plant material into multifamily development
- Encourage new development projects to include gardening in neighborhood development plans, using guidelines such as LEED Neighborhood Developments as a reference
- Carry out community food assessments to identify resources and deficiencies in various parts of Portland

Zoning and Building Codes

- Define urban agriculture within the zoning code as a distinct form of use that is permitted in all zones and includes community gardens and retail sales of agricultural products. Include language allowing small-scale, hand-tended farms to operate within city limits
- Amend building codes so that they reflect the actual structural contingencies of rooftop gardening
- Consider options for community gardens in the planning and redesign of facilities such as community centers and recreation areas
- Include land for food production in environmental impact review criteria for new developments and businesses
- Include urban agriculture in the city's managed open space strategy

Community Gardens – the following policy examples are from Public Health Law and Policy's "Establishing Land Use Protections for Community Gardens," March 2009.

Community Gardens on Vacant Public and Private Land

- The City of Escondido, California, has an "Adopt-a-Lot" policy allowing community gardens to be operated as an interim use on both publicly and privately owned vacant land. A city employee works with landowners and the community to develop an agreement for the conditions and tenure of use of the land as a garden.²²⁶
- Des Moines has a community garden program that allows the establishment of community gardens on city right-of-ways and real property.²²⁷
- New York City has a law protecting and promoting the use of vacant lots for gardens.²²⁸
- A number of cities, including Washington, D.C., and Hartford, Connecticut, collect and maintain an inventory of public or private vacant land suitable for gardens.²²⁹

Financing and Acquiring Land for Community Gardens

- Seattle has provided parks with bond monies, public housing funds, and neighborhood matching grants to purchase land for and help maintain garden plots.²³⁰
- Minneapolis allows use of tax-forfeited land (properties seized by the city from the landowner due to unpaid taxes) as garden sites without charge.²³¹

²²⁶ Local Government Commission. "Cultivating Community Gardens Fact Sheet." Available at: www.lgc.org/healthycommunities.

²²⁷ Des Moines Municipal Code § 74-201, 74-202.

²²⁸ New York City Administrative Code §18-132

²²⁹ D.C. ST § 48-402(1); Hartford, Connecticut, Municipal Code § 26-15(a)(1).

²³⁰ More information on Seattle's community garden program is available at: www.seattle.gov/neighborhoods/ppatch/.

- Chicago formed a nonprofit called NeighborSpace with the Chicago Park District and the Forest Preserve District of Cook County. Each entity contributed funds to purchase lands for community gardens.²³²
- Madison, Wisconsin, has used federal Community Development Block Grant funds to support community gardens.²³³
- A number of cities, including Boston, Philadelphia, Providence (Rhode Island), and New York City, use land trusts to acquire and preserve community gardens.²³⁴

Municipal Community Garden Programs

Several cities have created community garden programs operated by the city. Hartford (Connecticut), Palo Alto (California), Portland (Oregon), and Sacramento (California) maintain a municipal garden program. San Francisco has a community gardens policy committee that establishes policies and implements gardening standards and operating rules.²³⁵

Public-Private Partnerships

A number of communities have created partnerships with nonprofit organizations to acquire land for and operate community gardens.

- As noted earlier, Chicago created a city-funded nonprofit called NeighborSpace to acquire property to preserve land for community gardens. It also enters into operating agreements with local groups to use and maintain the spaces.
- The City of Seattle's P-Patch Community Garden Program works with the nonprofit Friends of P-Patch and the City Housing Authority to acquire, build, protect, and advocate for the gardens.

²³¹ Hennepin County Resolution 85-5-374

²³² More information on NeighborSpace is available at: www.neighbor-space.org.

²³³ More information on Madison's use of community development block grants is available at: www.ci.madison.wi.us/cdbg/docs/brochure_G.pdf.

²³⁴ More information on the South Side Community Land Trust in Providence, Rhode Island, is available at: www.southsideclt.org; more information on the Neighborhood Gardener's Association/A Philadelphia Land Trust is available at: www.ngalandtrust.org.

²³⁵ More information on San Francisco's community gardens policy committee is available at: www.parks.sfgov.org/recpark_index.asp?id=27041.

ADDITIONAL FOOD TOPICS

Several other topic areas do not fit well under the headers of Food Access and Urban Agriculture. These include Institutional Purchasing, Food Processing, Food Waste Recycling and Food in the Economy.

INSTITUTIONAL PURCHASING

What is the issue?

Large institutions such as governments, hospitals, universities, prisons and corporations often purchase large quantities of food for sale or use by their employees or clients. Shifting their purchase to buy food that was grown or produced locally or organically can have benefits both on the nutritional value of the food and on the amount of fossil fuels used to grow and transport it. Further, dollars directed towards supporting the regional food system stay in the local economy rather than being exported.

However, barriers exist to more institutions using their dollars to support the local food economy. First, often budgets for food are on a razor-thin margin, and if locally-sourced food costs more, the institution must choose the cheaper option. When institutions work with a food service provider like Aramark, prices are determined in advance during contract negotiations. If locally-sourced products are found later but cost more, the flexibility isn't there to purchase them.

Governments have faced similar challenges. Previously in Oregon, local government agencies have been prohibited from enacting preferential policies favoring local products if they cost more than other options. The 2009 Oregon legislature passed a bill that allows public contracting agencies the discretion to give up to a 10% premium for local food. If they want to go beyond 10%, they have to make a written determination. Each public agency will write their own rules about what is meant by "local."²³⁶

Second, many institutions work with one main distributor such as Sysco or Food Services of America. These suppliers are likely limited in what they offer that is produced locally, and therefore institutions, even those with a strong commitment to sourcing locally, are limited in what they can purchase. Suppliers require vendors to carry a large liability insurance policy, creating a potential barrier for small producers.

Clients and individual customers prioritizing local or organic foods can help move the distribution and food service industry in the direction of providing more of them. However, the issue of costs remains.

Local Conditions

Governments

As mentioned above, local governments are limited in their ability to prefer locally-sourced, but potentially more expensive, products. With the support of the Portland Multnomah Food Policy Council, Multnomah County conducted a pilot project in 2005 in its correctional system to purchase fresh, in-season produce. After the pilot, Multnomah County Corrections included sustainability criteria in their call for proposals for a 5-year food service contract.²³⁷ The County and the City of Portland both have policies directing the purchase of local goods when everything else is equal; no studies exist to measure the extent to which either entity has increased its local purchases, or specifically local purchases of food, since passage of these policies.

Private Institutions

Some institutions have made local purchasing a priority, but overall the process is market- (and client-) driven. Bon Appetit Management Company, a food service company which places a priority on local, organic scratch foods, is used by several local institutions including University of Portland and Intel.

²³⁶ Personal phone conversation with Kat West, Sustainability Manager at Multnomah County, June 8, 2009.

²³⁷ Planting Prosperity, Harvesting Health (or whatever correct title is) p50.

A goal to buy local was added to the Portland State University food service contract in its most recent round of negotiations. Aramark, PSU's current provider, recently audited its PSU food service account and determined that 23% of its products are locally sourced (from Oregon or Washington). This included all milks and non-hard-cheese dairy products purchased from Sunshine Dairy; most breads from Franz and Portland French Bakery (made locally, though wheat likely not locally grown); some meats from Country Natural Beef; all fresh produce; some frozen veggies under the Flav-R-Pac label, etc. There is also an interest in buying more products from Food Alliance-certified suppliers like Truitt Bros. and Shepherd's Grain Cooperative. Some of these products do not cost more than other, non-local sources, and Aramark is limited by its pre-negotiated food prices with PSU.²³⁸

Farm-to-School

Oregon's pre-k-2 schools offer another big opportunity for sourcing products locally – and also big challenges to making it happen. Portland Public School system alone provides 18,500 breakfasts, 18,500 lunches, and 9,000 a la carte items each school day. The National School Lunch Program, which supports school food across the country, requires that price be the primary consideration in food purchases, and the margins for school food are extremely thin – each lunch given to a child who qualifies for free lunches is reimbursed only \$2.32; this figure does not increase when food prices do, meaning that schools operate on narrow margins in providing meals to students.

Both farm to school and school gardening programs for kids have been demonstrated to:²³⁹

- Increase children's participation in the school meals program and consumption of fruits and vegetables, thereby improving childhood nutrition, reducing hunger and preventing obesity and obesity-related diseases
- Improve children's and the communities' knowledge about, and attitudes toward, agriculture, food, nutrition and the environment
- Increase market opportunities for farmers, fishers, ranchers, food processors and food manufacturers
- Support economic development
- Because these programs decrease the distance between producers and consumers, they promote food security while reducing emissions of greenhouse gases and reliance on oil.

The Oregon legislature recently approved funds for a Farm-to-School coordinator housed in the Oregon Department of Education and the Department of Agriculture has also supported an additional position. In 2006, graduate students in the School of Urban Studies and Planning at PSU conducted a workshop project focused on increasing local sourcing in school lunches. The Local Lunches Project report provides examples, goals and strategies for increasing local, fresh products in Portland schools.²⁴⁰

Conclusions

Despite these disparate efforts and individual stories, no data have been collected that reflect either the true buying power of Portland's largest institutions, nor analyzing the impact of the steps they've taken thus far to increase purchases of local or organic products. PSU's Institute of Portland Metropolitan Studies recently released a food system assessment considering Oregon and Washington. Part of the process was a set of interviews with food system stakeholders. These interviews indicate support for developing model sustainable institutional purchasing policies, offering perhaps a way forward to further develop local purchasing in Portland.

²³⁸ Information about PSU's product mix from personal conversation with Laura Weiss, Regional Sustainability Manager, West Region, Aramark, 11/6/2008.

²³⁹ Ecotrust, "History of Farm to School Legislation in Oregon," Accessed June 8, 2009 at <http://www.ecotrust.org/farmtoschool/History-of-F2S-legislation-in-Oregon.pdf>.

²⁴⁰ <http://www.portlandonline.com/OSD/index.cfm?c=42829&a=123023>

FOOD PROCESSING

Food processing is an extremely important part of the food system. Currently much of the processing in the U.S. is done by highly industrialized, larger-scale companies. In Oregon, we have both large companies like Con-Agra and Del Monte as well as smaller processors like the Hood River Juice Co., Kettle Foods and Scenic Fruit Company.

In 2008, food manufacturing in Oregon added 1,800 jobs statewide, a 7.9 percent increase. This was the only manufacturing sector in Oregon to show growth during the same time period; the manufacturing sector as a whole declined by 8.3 percent. With \$3.4 billion in annual revenues, 18,000 workers, a \$542 million annual payroll and a heritage that spans more than 150 years, food processing is Oregon's third-largest industry, trailing only high-tech and forest products in its statewide economic impact.²⁴¹

In the Portland metro area, over 8,000 people are employed in the food manufacturing sector (see Table 15-1). Portland is home to the Northwest Food Processors Association (NWFPFA), which has more than 450 member companies (processors and suppliers) including 86 food processors with nearly 200 production facilities throughout the Northwest (Oregon, Washington, Idaho). Its members are primarily fruit and vegetable processors but membership has expanded over the past several years to include seafood, dairy, bakeries, specialty and fresh-cut. NWFPFA states that the Northwest food processing industry is a \$17 billion industry which employs over 100,000 in Idaho, Oregon and Washington.²⁴²

Table 15-1: Food manufacturing and wholesale data for the Portland Metropolitan Statistical Area.

NAICS code	Description	Estab-lish-ments	Sales (\$1,000)	Annual Payroll (\$1,000)	Paid Employees
4244	Grocery & related product merchant wholesalers	283	5,409,946	269,523	7,273
311	Food manufacturing	206	2,741,950	274,633	8,471
312	Beverage & tobacco product mfg	57	308,370	39,310	981

Source: 2002 Economic Census.

One local example is NORPAC, based near Salem. Founded in 1924, NORPAC is a farmer cooperative and processor of vegetable and fruit products. NORPAC has 240 farmer-members who farm 45,000 acres and, with their associate farmers and processors, produce over 600,000,000 pounds of product annually. Much of their produce, marketed under the Flav-R-Pac, WESTPAC and Santiam labels, is exported out-of-state, but it can be found in local grocery stores as well.²⁴³

Small-Scale Food Processing

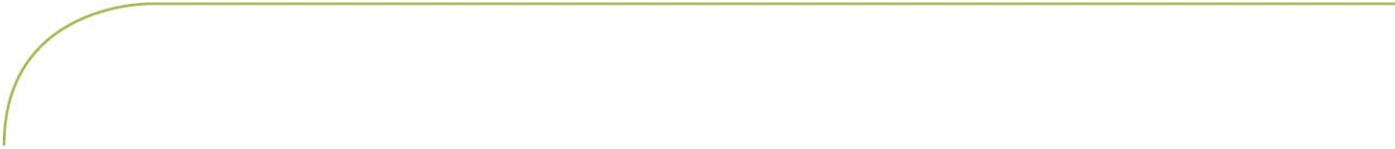
There is interest in making smaller-scale processing opportunities available both for regional farms and for urban farmers and gardeners who might have a product they'd like to process in a small-scale way for market. Providing multiple dispersed locations for food processing also makes sense in building community resiliency in case of resource scarcity. The following exploration of models for smaller-scale processing comes from a 1997 document considering sustainable food systems.²⁴⁴

²⁴¹ Northwest Food Processors Association memo: "Video Highlights Importance of Oregon Food Processors to State Econom." March 18, 2009.

²⁴² Northwest Food Processors Association, <https://www.nwfpamembers.org/eweb/StartPage.aspx>.

²⁴³ NORPAC, www.norpac.com.

²⁴⁴ Integrity Systems Cooperative Co., "Adding Values to Our Food System: An Economic Analysis of Sustainable Community Food Systems," Prepared for United States Department of Agriculture Sustainable Agriculture Research & Education Program, February, 1997. Accessed on June 7, 2009 at <http://www.ibiblio.org/farming-connection/foodsyst/addval.htm#summaryD>.



A number of processing options have strong applicability to sustainable community scale processors. These include "ready made" (i.e. ready-to-cook or ready-to-eat) processed foods, canning and bottling, and custom-packing meat processing. Ready-made processed foods are well suited to local markets, typically involve less capital equipment to produce than other processed foods, and command premium prices. There is good potential to can and/or bottle high acid foods although the best opportunities appear to be for ready-made canned or bottled goods such as soups, stews, and sauces. On-farm or off-farm custom processing of small quantities of chickens also has strong potential.

1. Farmer controlled processing

Traditionally, farmers receive their lowest returns from the commodity processing market. This is because processors need to acquire their farm inputs for as low a price as possible to compete in the very low margin processed food market. One strategy to address this is farmer controlled processing.

A growing number of farmers have established successful grower-owned processing cooperatives to obtain secure markets and better prices. Some of these processing cooperatives are very large. Other farmers have resorted to small-scale on-farm processing. In some cases, individual farmers have joined together to jointly purchase processing equipment and storage, washing, and grading facilities.

2. Economies of scale

In general, the profitability of industrial food processing firms increases in a linear fashion with firm size. This is why there is a high degree of consolidation and vertical integration in the food processing sector. Nonetheless, there is evidence that small quantity, on-farm processing can be economically viable because the processors are able to keep their costs low by using farm family labor and on-farm kitchen facilities. However, small scale processors that wish to increase their sales of value-added products face unexpected difficulties. This is because they are too large to use hand processed, low overhead production methods but not large enough to capture economies of scale. The primary exception to this is processors of "ready-made" food products, which can be quite profitable at a medium scale.

3. Significance of income patching

A key characteristic common to community level food processing activities is "income patching," where the processing activity is one of several sources of income rather than the processor's sole source of support. A number of opportunities exist for farmers to significantly increase their cash returns on a portion of their crop from small-scale on-farm value added processing. For example, an apple sauce processor generated the equivalent of 6 months of a retail sales clerk's salary in only 16 days of processing. Similarly, a homestead chicken processor earned 5.5 months retail sales clerk pay in 19 days of labor. As with food growers, strong management skills are needed to be successful.

Unlike fresh products, the costs to produce organic and non-organic processed foods are very similar. Nonetheless, organic processed foods are generally much higher priced. The net margins for processors that distribute through industrial channels are typically less than 5%. It appears that the path to profitability for community scale processors is to achieve a high margin on small production quantities as opposed to the industrial strategy of producing high quantities of low margin products.

Conclusions

Little data is available on food processing in Portland's urban environment, or its relationship to wholesaling and distribution of food products. A set of interviews with people involved in all scales of processing in

Portland would contribute greatly to the City's understanding of this issue and its relationship to economic development initiatives the City undertakes.

In addition to crossover with economic development, the processing issue has ties to resource scarcity and peak oil. The Portland Peak Oil Task Force final report discusses processing as an industry that must evolve in the face of peak oil; energy-intensive processing or processing that freezes or refrigerates foods, thus requiring additional energy inputs before consumption, will be less likely to thrive, while local processing of local products are likely to increase due to transportation costs.

Since most of the food that people now eat is processed to some degree, this important step in the food system deserves more attention and understanding. In the Portland Plan context, processing will likely be considered primarily in the realm of economic development.

FOOD WASTE RECYCLING

What is the issue?

There is a growing recognition that a large portion of our waste nationally – estimates range from 12% - 20% – is compostable. Programs which enable curbside collection of food scraps, soiled paper, and even meats and dairy products, are increasing in number. Some accept yard trimmings, food waste and soiled paper, and others accept certain combinations of those.

Governments have provided kitchen compost containers and biodegradable bags to use for collection to make the program easier to adopt for residents. Governments have also offered grants to larger institutions to implement composting programs, and have provided education for both commercial and residential customers.

Local Conditions

In 2002, over 190,000 tons of food waste was landfilled in the Portland metropolitan region, constituting 16% of the waste stream.²⁴⁵ Estimates are that close to half of that was probably edible. Portland Bureau of Planning and Sustainability estimates that actually 29% of Portland's waste stream is made up of compostables. In 2005, the Portland Composts! program brought food scrap composting to Portland's businesses. Portland City Council has since adopted the Portland Recycles! plan. The plan recommends expanding Portland's curbside yard debris collection to include all food scraps (including meats and dairy) and food-soiled paper in the 2009-2015 period, to coincide with the building of a new composting facility in Portland designed to receive this mix of food scraps, paper and yard waste.

Current challenges to doing more with food composting include the lack of a local composting facility; concerns from the public on smells and pests, the task of controlling hauler rates; and ensuring participation.

FOOD IN THE ECONOMY

How we spend our food dollars

The Bureau of Labor Statistics collects data on food expenditures through their Consumer Expenditure Survey. This data is easily available for the Portland Metropolitan Statistical Area from 1986-87 through 2004-05.²⁴⁶ Data is not available at the city or county level.

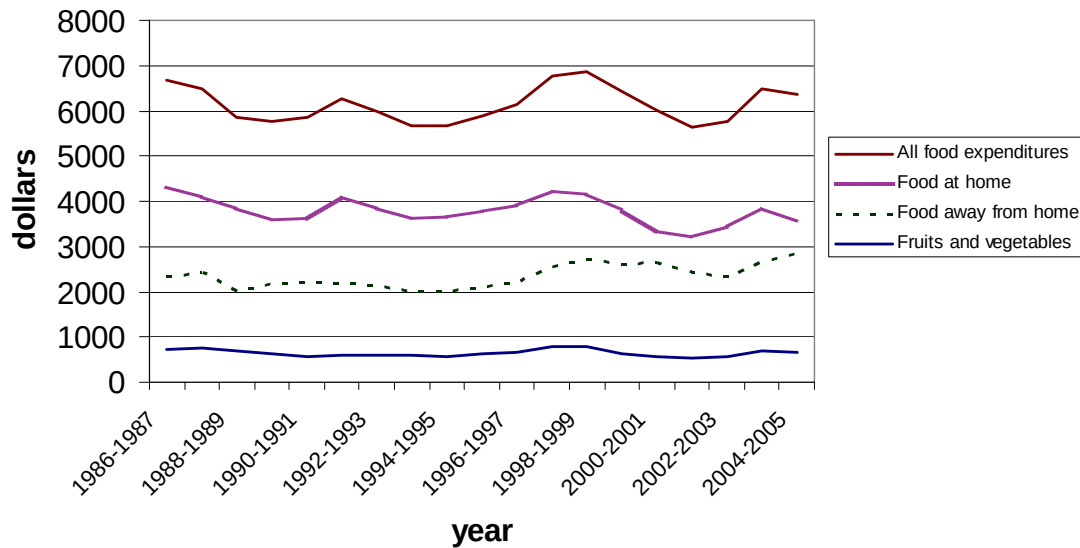
In 2004-05, the average Portland-area household spent about 12.67% of its income on food both eaten in the home and out at restaurants, whereas in 1986-87, the average household spent almost 16% of its budget on

²⁴⁵ Oregon Department of Environmental Quality, Oregon Waste Characterization and Composition Final Report, 2002.

²⁴⁶ Bureau of Labor Statistics, Consumer Expenditure Survey, Metropolitan Statistical Area (MSA) Tables: <http://www.bls.gov/cex/csxmsa.htm#y0405>.

food. This reduction is likely a continuation of a more dramatic shift in expenditures; when the federal poverty rate calculation was first made in the early 1960s, based largely on food expenditures, the average household spent approximately a third of its budget on food.

Figure 17.1: Yearly Food Expenditures, Portland MSA in 2005 dollars



Our eating habits have shifted in the past 20 years. In 1986-87, two-thirds of our food budget was spent on food prepared and eaten in the home. In 2004-05, this dropped to 56%, with the rest of the money spent on food eaten in restaurants. This could be related to social conditions such as a strong or weak economy (in strong economies, conventional wisdom says that people have more disposable income and may choose to spend that going out to eat more often) or the fact that more households became two-income households, leaving less free time for meal preparation. Other factors are likely also at play; the shift in demographics of U.S. households from married couples with children to more single-person households or multiple adults living in households without children have been shown in at least one model to cause a statistically significant increase in spending on food away from home.²⁴⁷

²⁴⁷ Stewart, Hayden et.al., “The Demand for Food Away from Home: Full-Service or Fast Food?” United States Department of Agriculture Economic Research Service, Agricultural Economic Report Number 829.

Figure 17.2: Food Expenditures, Portland MSA 1986-1987

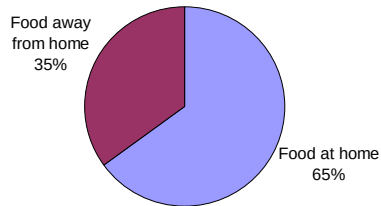
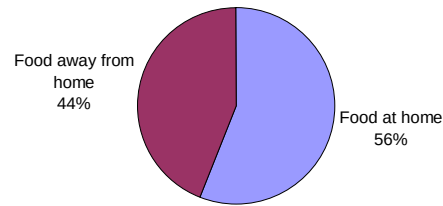
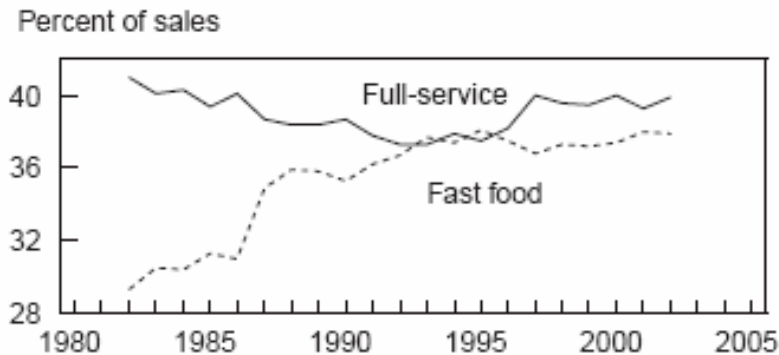


Figure 17.3: Food Expenditures, Portland MSA 2004-2005



Within this shift, the proportion of “food away from home” that is spent on full-service restaurants versus fast food restaurants has also shifted dramatically since 1980, as seen from Figure 17.4 below. Much of the increase in food away from home appears to be from the increase in fast food restaurant expenditures.

Figure 17.4: Away-From-Home Food Expenditures by Outlet Type



Source: Food CPI, Prices, and Expenditures: Expenditure Tables.
Economic Research Service.

Published in Stewart, Hayden et.al., “The Demand for Food Away from Home: Full-Service or Fast Food?” United States Department of Agriculture Economic Research Service, Agricultural Economic Report Number 829.

The way we spend on food items consumed in the home has not changed significantly over time, nor does this breakdown vary significantly from the national averages, as seen in Table 17-1.

Table 17-1: Breakdown of food expenditures within the home, Portland MSA and national averages.

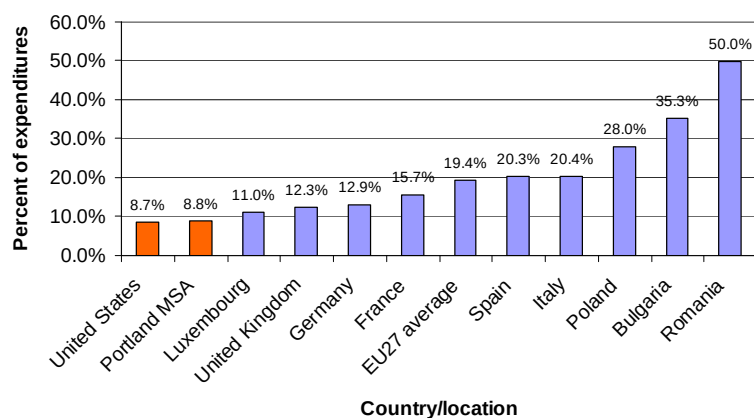
	PMSA 1986-87	PMSA 2004-05	All consumer units ²⁴⁸ 2004- 05
Cereals and Bakery Products	13.8%	12.7%	13.5%
Meats, Poultry, Fish and Eggs	24.7%	22.0%	23.2%
Dairy Products	13.0%	12.1%	11.5%
Fruits and Vegetables	16.9%	18.3%	16.7%
Other food at home: beverages, sweets, fats and oils, other misc. food	31.6%	34.8%	35.1%

Source: Bureau of Labor Statistics, Consumer Expenditure Survey.

International Comparisons

How do these figures compare to those of other countries? A similar consumer expenditure study was conducted in European Union countries; however, their categories are not exactly the same: alcoholic beverages and tobacco are included with food, and restaurant expenditures are combined with hotels. For the purpose of this analysis, we will forego examining our restaurants category, or “food outside the home” expenditures, and add in alcohol and tobacco to make our numbers comparable.

Figure 17.5: Food, Beverage and Tobacco Expenditures, 2005



Source: Eurostat, Household Budget Survey 2005 in the EU27 and BLS Consumer Expenditure Survey. Note: totals do not include funds spent on food outside the home.

As can be seen in Figure 17.5, households in the Portland area and the United States as a whole dedicate a smaller proportion of their expenditures on food (in the home), alcohol and tobacco than do any of the European Union countries. Within Europe, Western European countries spend less than Southern or Eastern European countries. Romanians dedicate the highest percentage of their expenditures on food, alcohol and tobacco of any of the EU countries at 50%, while Luxembourg, at only 11%, still rates several percentage points above the U.S.²⁴⁹

Data from countries beyond Europe is more difficult to come by; while many other countries gather such information, finding it and accessing it in English is a challenge. Bangladesh conducts a Household Income

²⁴⁸ A consumer unit comprises either: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their income to make joint expenditure decisions.

²⁴⁹ Eurostat news release, “Household Budget Survey 2005 in the EU27: Households dedicated more than half of their expenditure to housing and food.” June 19, 2008. Accessed at http://epp.eurostat.ec.europa.eu/pls/portal/docs/PAGE/PGP_PRD_CAT_PREREL/PGE_CAT_PREREL_YEAR_2008/PGE_CAT_PREREL_YEAR_2008_MONTH_06/3-19062008-EN-AP.PDF on December 4, 2008.

and Expenditure Survey every five years and had a summary in English available; in 2005, the average expenditures for food were 53.8% of total expenditures.²⁵⁰ In general, it is commonly accepted that people in developing countries will spend a larger proportion of their incomes to meet their basic need for food.

Recent Food Inflation

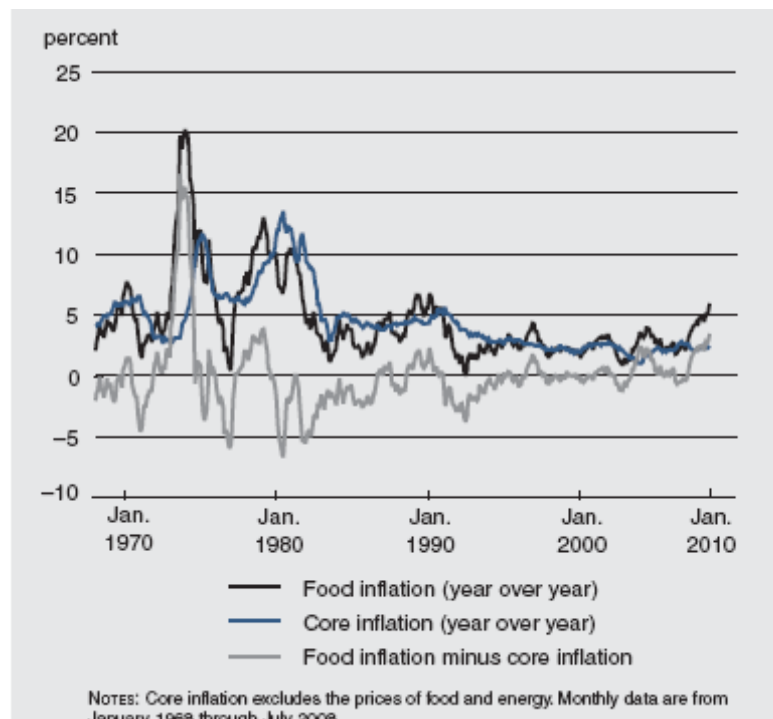
Since the early 1980s, the rate of inflation for food has generally been below 5% a year, and often less than 3% a year. Food inflation rates have also often trended below the overall rate of inflation. Competition, technological advances and increased efficiencies in managing inventories have been cited as major reasons for low food inflation over the past decades.²⁵¹

However, since 2007 the cost of food has been creeping upward, reaching 6% inflation from July 2007 to July 2008. Prices for food consumed at home (from grocery stores and other retail outlets compared to restaurants) rose 7.1% during this time, whereas prices for food away from home (restaurants, fast food) rose 4.6%.²⁵² This increase in inflation is blamed on increases in the price of energy in 2008, which both increases the price of food production as well as increasing ethanol demand and the food products that are used to make it (namely, corn). This causes farmland to shift to growing corn for ethanol, receiving federal subsidies, and thereby reducing land used for growing other food crops. Also, drops in the value of the U.S. dollar has increased foreign demand for U.S. agricultural products.

Food inflation has slowed since mid-2008, likely related to drops in energy prices, but remains the highest rate of inflation of major indexes (including housing, apparel, transportation, medical care, recreation, education and other goods and services) at 5.2% for the period from Jan. 2008 to Jan. 2009. Within the food index, individual categories varied widely: over the past year, for example, cereals and bakery are up 11.3%.²⁵³

This increase in inflation has not affected all households in the same way. One examination of household food expenditures looked at how households in different income levels, the elderly and food stamp recipients purchased food. The study found that “food expenditure percentages fall as income increases;” that elderly households spend the least on food, possibly due to less money spent on food outside the home and fewer

Figure 17.6: Food Inflation vs. Core Inflation



Source: Leslie McGranahan, Chicago Fed Letter, based on data from the U.S. Bureau of Labor Statistics, Consumer Price Index.

²⁵⁰ Bangladesh Bureau of Statistics, “Statistics Bangladesh 2006,” Accessed at http://www.bbs.gov.bd/dataindex/stat_bangladesh.pdf, on Dec. 8, 2008.

²⁵¹ Cushman and Wakefield, “Marketbeat: Portland Retail Report Mid-Year 2008,” A Cushman and Wakefield Research Publication.

²⁵² McGranahan, Leslie, “Chicago Fed Letter: Food inflation and the consumption patterns of U.S. households,” The Federal Reserve Bank of Chicago, Essays on Issues Number 255, October 2008.

²⁵³ Bureau of Labor Statistics, “Economic News Release: Consumer Price Index Summary: January 2009,” February 20, 2009.

Figure 17.7: Food Expenditure Patterns by Demographic Group

Group	Food as a share of total expenditure	Share of food expenditures	
		Food at home	Food away from home
(- ----- percent -----)			
All	13.5	54.5	45.5
Bottom income quartile	14.9	66.4	33.6
Second income quartile	14.7	57.2	42.8
Third income quartile	14.1	53.8	46.2
Top income quartile	12.1	46.8	53.2
Elderly	11.7	60.5	39.5
Food stamp recipients	17.8	74.8	25.2

*Note: All values are for 2006.
Source: Leslie McGranahan, Chicago Fed Letter, based on data from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey.*

calories consumed overall; and that out of the six groups, food stamp recipients spent more on food as a percent of total expenditures than did any other group.

Figure 17.7 compares both food as a share of total expenditure and the proportion that is on food at home versus food outside the home. It shows that the lowest income levels and food stamp recipients not only have the highest proportion of food expenditures overall, but that their expenditures on food away from home are the lowest.

Because spending patterns differ from household to household, food inflation will impact these groups in different ways. The analysis used market basket data for these different groups to examine how specific price increases would impact their experience of food inflation (see Figure 17.8).

Figure 17.8: Food Inflation Experiences by Demographic Group

Group	Food inflation	Food's contribution to total inflation	Total inflation
	(- ----- percent -----)		
All	6.0	0.8	5.6
Bottom income quartile	6.3	0.9	6.0
Second income quartile	6.0	0.9	5.8
Third income quartile	5.9	0.8	5.7
Top income quartile	5.8	0.7	5.2
Elderly	6.3	0.7	5.3
Food stamp recipients	6.4	1.1	6.3

*Note: All values are annual changes from July 2007 through July 2008.
Source: Leslie McGranahan, Chicago Fed Letter, based on data from the U.S. Bureau of Labor Statistics, Consumer Price Index and Consumer Expenditure Survey.*

What the author found was that inflation impacted the lowest income group, the elderly and food stamp recipients the most, while households with higher incomes experienced less inflation. Reasons for this include the fact that prices for food products consumed in the home tend to rise faster than food outside the home; and the proportion of total expenditures that food purchases make up in different households.

Impact of Food on the Economy

Food and related businesses continue to be a strong segment of the economy. As of 2002, food and agriculture-related jobs totaled almost 100,000 in the Portland MSA, and the industry totaled almost \$15 billion in sales (see Table 17-2 below).

The food industry is considered to be relatively recession-resistant overall, because food is a basic need that people must fulfill. However, spending within people's food budgets might shift, for example, from more restaurant meals to fewer, from gourmet products to cheaper or store brands, and from buying more

expensive supplementary products like dressings and seasonings to a focus on basic food staples.²⁵⁴ The impact could be growth in some sectors of the food industry and decline in others.

Table 17-2: Food-related economic data for the Portland Metropolitan Statistical Area.

NAICS code	Description	Establishments	Sales (\$1,000)	Annual Payroll (\$1,000)	Paid Employees
445	Food and beverage stores	885	3,312,971	363,303	18,468
722	Food services & drinking places	4142	2,485,605	750,700	61,750
4542	Vending machine operators	33	46,980	9,373	360
4244	Grocery & related product merchant wholesalers	283	5,409,946	269,523	7,273
4248	Beer, wine & alcoholic beverages merchant wholesalers	38	470,370	57,748	1,484
42494	Tobacco & tobacco product merchant wholesalers	6	Withheld	Withheld	250-499
311	Food manufacturing	206	2,741,950	274,633	8,471
312	Beverage & tobacco product mfg	57	308,370	39,310	981
4842202	Agricultural products trucking without storage, local	36	20,891	5,180	169
4842302	Agricultural products trucking, long-distance	22	17,809	4,264	168
Totals		5708	14,814,892	1,774,034	99,374 - 99,673

Source: 2002 Economic Census.

²⁵⁴ Applied Marketing, "Food Industry Overview February 2009: Did you know the food industry has the advantage of being relatively recession resistant?"

ADDITIONAL FOOD TOPICS CONCLUSIONS AND POLICY EXAMPLES

Conclusions

For some of the topics explored in this section, the connection to how the City could influence them with policies seems less clear than in the previous sections. For example, the City purchases a very limited amount of food itself; therefore, acting as a model in local food purchasing would not have a major impact. The City only has limited impact on the cost of food and how people use their food dollars. In other areas, like food composting, the Bureau of Planning and Sustainability is already actively seeking to incorporate food composting into its menu of curbside recycling options, and has piloted successful programs with local businesses to do just that.

Fundamentally, the areas of institutional purchasing, food processing and food waste handling have less information readily available; they are not as commonly explored in food system literature, nor have local sources of robust data been found. However, they remain key pieces of the food system and therefore deserved mention here in this survey of Portland's food system. Future researchers will hopefully be able to provide more information about the topics and make more links to areas already under the City's purview. In the meantime, the policy examples below give some sense of what is going on in other jurisdictions.

Policy Examples

Purchasing

Many cities and counties have adopted purchasing policies that increase access to local, healthy, and sustainable food. These policies are sometimes extended to public schools.

- Clark County, WA created purchase guidelines for county funded meetings, trainings, and events that include the purchase of local and healthy food options.
- In Woodbury County, IA, only local food can be purchased to be served at county events.
- In Chula Vista, CA vending machines at any city facility must have 100% healthy options.

Farm to School

- In 2008, Washington passed the "Local Farms, Healthy Kids" bill in 2008 which set aside almost \$1.5 million to increase the amount of local food eaten in schools, among other things. Procurement rules were changed to encourage purchase of local foods; funds were made available to institute fruit and vegetable snack programs, a Farm to School program was established, and more.
- California in 2005 passed the "California Fresh Start" program which provided an additional 10 cents to schools for each breakfast which included an additional fresh fruit or vegetable serving
- Missoula County Public Schools started a farm to school program in 2005. By the 2007-08 school year over a quarter of all MCPS food purchases were local: almost 32,000 pounds of food. The program also included partnering with a local nonprofit to get students out to a farm for hands-on education.
- Oregon is a leader in the nation on this issue. In 2007, ODA established the Farm to School Coordinator Position to facilitate markets for Oregon agriculture in the schools. In 2008, the legislature established a parallel position in the ODE Child Nutrition Program- the Farm to School and School Garden Manager. Oregon is the first state in the country to have these two positions dedicated to furthering Farm to School and School Gardens. Current legislation under consideration in 2009 would provide Oregon reimbursement to schools \$0.15 per lunch and up to \$0.07 per breakfast for purchase of Oregon grown, processed or manufactured foods and would require an equal amount of federal meal program purchases per meal to be spent on Oregon food.

Processing

- The province of Ontario recently announced that it will provide nearly \$2 million Canadian towards the Excellence in Manufacturing Consortium's Food Sector Manufacturing Innovation Network project. The project will help increase the sector's global competitiveness through peer-to-peer networks, advanced skills training, internship opportunities and the development of an accessible online network.
- Federal and provincial governments in Saskatchewan have provided almost \$16 million Canadian to fund the Saskatchewan Food Industry Development Centre. The Center provides a new commercial kitchen, laboratory and federally-inspected pilot processing plant to help food processors test new products without large outlays in capital investment for equipment.
- The Small Scale Food Processing Association in British Columbia produces an online directory of food products for restaurants, stores or other entities to easily connect with producers of local, specialty foods.
- Local resources like OSU's Food Innovation Center provide training, testing and marketing services for small-scale or new food entrepreneurs.

Food Waste Recycling

- In its 1996 sustainability plan, the City of San Francisco adopted a goal for composting or recycling all agriculture and food organic residues, with a five-year goal of 25% by 2002

POLICY CONCLUSIONS

Key Findings

The City of Portland currently lacks a Comprehensive Plan goal regarding food systems.

The City of Portland can influence food systems through the consideration of food issues during the planning process and through support of policies, programs, and investment priorities conducive to expanding food access, urban agriculture and encouraging healthy behavior choices.

The Bureau of Planning and Sustainability can focus efforts for the Portland Plan to direct urban development in a manner supportive of providing opportunities to access healthful food and grow food locally. A planning goal describing our commitment to food access and urban agriculture would support community values around this issue and bring food into the City's comprehensive planning framework.

Without food systems as a consideration within planning, future decisions made through the Portland Plan may cause unintended consequences that work counter to our community's physical health. Food is related to many issues of importance that the Portland Plan is undertaking: climate change, affordability, human health, neighborhood health, urban form and more, and decisions made in these areas will impact the food environment.

The City's current Comprehensive Plan does not include policies related to healthful food access.

Access to healthful food is one of the most significant health-related policy gaps in the City's current Comprehensive Plan.

Potential policy areas to promote greater access to healthful foods should center on improving walkability and access to healthy food outlets; removing zoning and land use barriers that restrict the siting of healthful food outlets; removing obstacles to the growing and sale of food in urban areas; providing land for growing food in appropriate locations; encouraging the planting of fruit and nut trees in appropriate locations; and utilizing incentives, economic development tools, and education to support the expansion of local producers, processors, distributors, and retailers.

Food comes up as a major component to several issues under exploration in the Portland Plan.

- **20-minute neighborhoods**: Grocery access has already been identified as a key feature of the 20-minute neighborhood. In early outreach, the public has suggested community gardens as being important. Programming urban plazas, or community gathering places, with events like farmers markets, can also contribute to walkable, vibrant communities.
- **Growth**: In many U.S. cities, urban agriculture (UA) is thriving where cities are in decline and there is much vacant land available. We have an opportunity with the Portland Plan to define UA for a growing, largely land-locked city. There are many creative ideas for providing more of our food without expanding the urban growth boundary or losing growth potential within the boundary.
- **Affordability**: As housing costs rise, less money is available for other basic needs like food. While transportation is certainly key and accounts for a larger proportion of the household budget, food costs are significant and are often the expenditure that gets reduced when other costs rise. Key to the affordability discussion is the ability to meet all basic needs, including healthful food.
- **Community resiliency**: There is growing interest in preparing communities to face unexpected turmoil or deep changes due to climate change, peak oil, and a changing economy. As we seek to address these challenges and prepare for an uncertain future, food is a key issue in the discussion.

Potential Policy Areas

- **Grocery access:** Identify grocery access as a priority for economic development and provide fast-track permitting for grocery stores in underserved areas. Establish a walkability standard (e.g., a quarter- to half-mile) or for access to retailers/sources of fresh produce as part of the 20-minute neighborhood concept.
- **Access to healthful foods:** Encourage convenience stores, liquor stores and ethnic food markets, especially in areas with limited access to full-service grocery stores, to carry fresh produce through incentives programs or otherwise.
- **Access to land:** Remove obstacles to growing, distributing and selling food in residential zones; provide land for growing food through using City or other public resources; require space for community gardens on multi-family housing developments; designate or prioritize vacant land, rights-of-way, easements and other lands for urban agriculture and orchards; encourage growing on rooftops.
- **Direct marketing:** Remove zoning and land use barriers to farm stands, farmers markets and CSA drop-off sites; support direct marketing by providing or helping to secure permanent market sites.
- **Unhealthful food:** Consider using zoning code provisions to avoid a concentration of unhealthful food providers or “formula” restaurants within neighborhoods and near schools. Make new chain retail stores conditional uses.
- **Economic development:** Assess and plan for local food processing/wholesaling/distribution facilities to connect local agriculture to markets such as retailers, restaurants, schools, hospitals and other institutions.
- **Institutional purchasing:** Support access to healthful foods through purchase; serve only food consistent with dietary guidelines in government-owned buildings and at events.
- **Education and research:** Disseminate information about healthful eating habits; offer residents classes in gardening, cooking or composting; encourage or support community food assessments as important tools to identify the needs of specific communities.

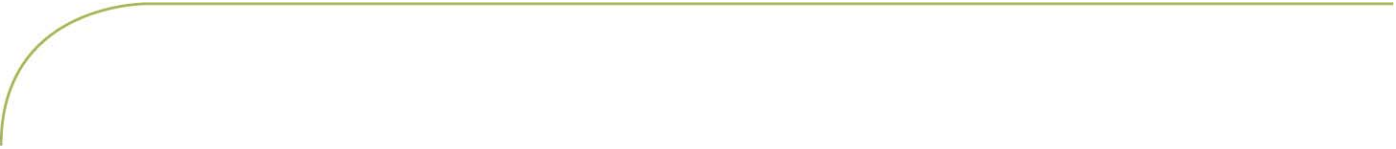
Additional Policy Directions

Developing Stand-Alone Food Plans

- Waterloo, Ontario published “A Healthy Community Food System Plan for the Waterloo Region” in 2007. The plan was developed by a public health agency which has a land use planner on staff.
- Detroit has developed a City of Detroit Policy on Food Security that has been adopted by City Council. The plan includes sets of actions under topics like urban agriculture, economic injustice within the food system and food access.
- Madison, WI developed a Community Gardens Plan in 1999. Recommendations were subsequently incorporated into Madison’s Comprehensive Plan.

Incorporating Food into Comprehensive Plans

- Several cities, including Berkeley, CA; Madison, WI; and Seattle, WA have incorporated language about community gardens into comprehensive or general plans.
- Providence, RI incorporates support for farmers markets, home gardeners, community gardens, urban agriculture, farm to school and more in their comprehensive plan.
- Chula Vista, CA has included language supportive of promoting access to healthful food
- Berkeley, CA: The *Planning Commission General Plan* includes a statement on food systems and associated actions. Actions include encouraging more training on food production by the public



school and University systems; encouraging local institutional purchasing; supporting education in organic and sustainable food systems, and encouraging rooftop and community gardens.

APPENDIX: ANNOTATED BIBLIOGRAPHY

National Resources

A Planners Guide to Community and Regional Food Planning: Transforming Food Environments, Facilitating Healthy Eating (2009)

<http://myapa.planning.org/APAStore/Search/Default.aspx?p=3886>

This extensive document provides data, case studies and planning strategies to consider food systems in planning work. This is a great guide for planners looking to learn more about food systems and how they impact them in planning work.

APA Policy Guide on Community and Regional Food Planning (2007)

<https://planning.org/policyguides/pdf/food.pdf>

This APA-adopted policy guide lays out seven general policies related to food planning and details specific roles that planners can play in supporting each one. This is a great overview of the issues and the relationship between food systems and the field of planning.

Establishing Land Use Protections for Community Gardens (2009)

<http://www.healthyplanning.org/modelpolicies/communitygardenpolicies.pdf>

Establishing Land Use Protections for Farmers Markets (2009)

<http://www.healthyplanning.org/modelpolicies/farmersmarketpolicies.pdf>

These two new resources from Public Health Law and Policy contain model general plan and zoning code language for promoting and expanding community gardens and farmers markets, with some case building at the beginning. These two resources are extremely useful for jurisdictions planning to incorporate food issues into their comprehensive or general plans or zoning codes.

Community Health and Food Access: The Local Government Role (2006)

<http://bookstore.icma.org/freedocs/E43398.pdf>

This short report highlights many food-related topics with the perspective of a local municipality; case studies, policy examples and justifications provide a good introduction to the issues surrounding food systems and governments' roles.

The Planner's Guide to the Urban Food System

www.planning.org/thenewplanner/2008/spr/pdf/PlannersGuidetotheFoodSystem.pdf

This short, colorful resource provides a simple overview of how food and planning intersect, what the food system is and how planners can take action.

The **Community Food Security Coalition** (www.foodsecurity.org) provides information on food systems, assessing food security, and protecting local produce suppliers.

Local Resources

Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in Our Regional Food System (2008)

http://www.pdx.edu/sites/www.pdx.edu.ims/files/media_assets/ims_foodsystemsfinalreport.pdf

The Institute for Portland Metropolitan Studies at Portland State University undertook a project to conduct a regional food system assessment. Defining "region" as including Oregon and Washington, this report gives a great baseline snapshot of the larger regional agricultural system. The report also includes dozens of indicators that can be easily accessed and used.

Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland, Oregon (2008)

http://www.emoregon.org/pdfs/IFFP_N-NE_Portland_Food_Assessment_short_report.pdf

This assessment is based on results from 200+ surveys of N and NE Portland residents of certain zip codes. Surveys were targeted to reach lower-income individuals. Findings include information on accessing healthful foods, nutrition, interest in local foods and more. Other parts of the reports cover recommendations, summaries of other information-gathering, and exploration of the role of faith communities in building food security.

Exploring the Clark County Food System (2008)

http://www.stepstohealthierclarkco.org/pdfs/Clark_County_Food_System_Report.pdf

This community food assessment draws on both quantitative data about agriculture, personal and community health, resource management and food access, but also reports on a qualitative study in two Clark County neighborhoods on food access. This is a good model for community food assessments and also a strong local example to which other efforts can be compared.

The Price of Eating Right: Oregon Trail at Farmers Markets (2005)

Prepared for the Oregon Food Bank by New Territories Research. Available through the Bureau of Planning and Sustainability

Kaiser Permanente funded this study to improve local produce options for low-income residents. Over 100 food stamp users were interviewed about their use of farmers markets and use of EBT (electronic benefits transfer is the “credit card” version of food stamps) at farmers markets.

Portland/Multnomah County Food Policy Inventory (2002)

Prepared by the Portland/Multnomah Food Policy Council

This inventory was written shortly after the Portland/Multnomah Food Policy Council was formed, and tries to provide a “lay-of-the-land” look at City, County and other agencies that impact the food system either explicitly or implicitly. Provides an interesting look back at the state of food policy before the FPC was on the scene.

A Snapshot of Local Food Production in the City of Portland and Multnomah County (2002)

By Jennifer Bell. Field Area Paper for the MURP degree

This scholarly paper gives a snapshot view of Multnomah County agricultural production using state-collected statistics. A policy analysis and GIS mapping lays out a path to increasing local food production. While somewhat dated, the document provides a clear case for moving urban agriculture forward.

Regional Equity Atlas: Metropolitan Portland’s Geography of Opportunity

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

The Coalition for a Livable Future’s report and interactive website has detailed maps and analysis on many equity and access indicators, including a discussion on food access. Some specific Portland information is available from CLF directly; report focuses largely on region as a whole.