



Robert Wood Johnson Foundation

# Community Design for Healthy Eating

How land use and transportation  
solutions can help



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## Introduction

The Active Living initiative launched by the Robert Wood Johnson Foundation (RWJF) recognizes that, in the last 50 years, our communities have been engineered in ways that minimize physical activity. Planners and public health officials alike agree that inattention to the relationship between community design and physical activity probably has contributed to America's obesity epidemic. Design flaws are particularly acute in many new suburbs, where middle class residents have no sidewalks and no destinations within walking distance. But cities also have neglected walking and bicycling infrastructure and recreation in favor of automobile access.

RWJF also has begun to focus on another aspect of the obesity question: ensuring access to healthy foods as a way of combating childhood obesity. Early evidence reveals the built environment likely plays a role, but this role plays out in tandem with demographic patterns. Development of metropolitan areas has resulted in poor access to healthy foods for specific people in specific places, namely, low-income people living in low-income neighborhoods. The unfortunate synergy between poverty and modern development patterns may result in what two researchers call "fat neighborhoods." (Vernez-Moudon, 2005)

Researchers at the University of Washington have found that obesity rates in Seattle follow a predictable geographic pattern: residents in disadvantaged neighborhoods are far more likely to be obese (Vernez-Moudon, 2005). And while individual socioeconomic factors play a big part, examining indices of neighborhood-level deprivation and poverty reveal this connection as well. Dr. Adam Drewnowski, professor of epidemiology, says, "Research on obesity has lacked a sense of place. We know who [obese people] are in terms of genetics, age, income, education, but we don't know where they live. Mapping is the first step of intervention in targeted localities."

Research has begun to document how the "neighborhood food environment" affects the amount of fruits and vegetables people eat, their obesity levels and overall health (Mikkelsen, 2004; Bellows, ud; Brown, 2002; Bell, 2005). While this paper will consider a few of the primary studies, its main intent is to identify aspects of the built environment that may affect healthy eating and policy responses that address this problem.

## **2 COMMUNITY DESIGN FOR HEALTHY EATING:**

*How land use and transportation solutions can help*

This paper will explore three ways the built environment affects food access. First, land use patterns mean low-income neighborhoods often have too few grocery stores, too many convenience stores that emphasize alcohol and an abundance of fast food restaurants. Second, a poor transportation system cuts off access to many food outlets, especially for those who do not own a car. Finally, the large, regional forces that have encouraged sprawling development are stifling access to healthy foods in several ways. The paper suggests new ways to approach food access by enlisting the expertise of urban planners and using planning and regulatory tools that could permanently change the food access equation. It includes eight specific recommendations for future research.

# 1.

## Land Use Considerations for the Neighborhood Food Environment

The traditional development patterns in our communities have made it difficult for people with limited resources to obtain healthy foods. People who live in low-income communities are often faced with too few grocery stores, too many high-priced, low-quality convenience stores and an abundance of inexpensive fast food outlets that provide foods high in calories, but low in nutritional value. Land use planning and development initiatives, including establishing new grocery stores, community gardens and farmers' markets, can help change this neighborhood food environment.

### Grocery Stores

Perhaps the best-documented barrier to obtaining healthy food is the lack of grocery stores in low-income, inner city neighborhoods. A number of surveys have documented that low-income neighborhoods are inadequately served by grocery stores. (Gallagher, 2005; Morland, 2002; Cotterill, 1995). A recent national survey of metropolitan areas found the square footage devoted to grocery stores in low-income zip codes is about half that found in higher-income zip codes (Pothukuchi, 2005). Other studies have linked healthy eating to grocery store access. A study of African-American women found those who shopped at grocery stores ate more fruits and vegetables (Zenk, 2005). Grocery stores generally offer more variety, higher quality and—most important—lower prices. Convenience store prices can be as much as 76 percent higher than those found at grocery stores (Wilson 1994).

The transportation, planning and development policies that have driven suburban growth over the past several decades have encouraged “supermarket flight.” As middle class shoppers leave cities for the suburbs, the grocery stores follow, leaving lower-income city residents without shopping options (Bolen, 1993; Gottlieb, 1996). For example, while the population declined only 4 percent, between 1970 and 1995, the number of full-service supermarkets in Rochester, N.Y., plummeted from 42 to eight (Prevention Institute, ud).

It is difficult to lure stores back to low-income areas, which often do not have a favorable retail environment. Urban stores usually require more attention to detail than stores built in undeveloped suburban areas. In these outlying areas, supermarkets can easily replicate a standardized store footprint over and over again. In urban areas, developers are often confronted with smaller, oddly shaped urban lots, which make such stores more difficult to build.

#### 4 COMMUNITY DESIGN FOR HEALTHY EATING:

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Transportation and store operating costs are often higher in inner city neighborhoods than in the suburbs. In addition, city permitting processes may require a developer to work through the bureaucracy at several agencies just to get started. The multiple challenges of developing in urban areas mean building urban stores can cost 30 percent more than building suburban stores (Burton, 2004). However, advocates have been able to use an analysis of the available food-buying dollars in a community to show that the high population density around urban stores can make them profitable (Burton 2004).

Those working to bring new stores to low-income neighborhoods say the challenging economics of grocery stores outweigh barriers raised by zoning codes. Nonetheless, zoning can be a factor. But permissive zoning is an essential prerequisite for attracting a grocery store to a community (Feldstein, 2006). In communities where zoning patterns do not allow grocery stores in close proximity to residential areas, zoning may create a significant barrier to food access for lower-income people, who often lack access to reliable transportation.

#### **EXAMPLES: ATTRACTING NEW GROCERY STORES**

Planning and development agencies in most jurisdictions usually take a passive approach to bringing grocery stores back into the city, waiting for proposals from developers. But in some cities, notably Baltimore and Dallas, bringing back food retail is a priority, and planning agencies have reached out to developers. In Baltimore, the city is reclaiming thousands of acres of vacant property and helping to assemble parcels as sites for new grocery stores. Officials in both cities have worked closely with grocery chains to encourage and facilitate investments in city stores. In Chicago, the Retail Chicago Program is aimed at all retail development. It uses customized marketing packages and gives developers a single point of contact to streamline the permitting process, smoothing the way for the development of new stores.

Community groups, often led by Community Development Corporations (CDCs), also have become active in attracting grocery stores to underserved neighborhoods by working with city governments and retailers to create an incentive package. An early example of this was in Newark, N.J., when the New Community Corporation opened a shopping center with a Pathmark Supermarket. The store has been one of the most profitable in the chain, and surveys show local residents are saving up to 38 percent on their food bills (Bolen, 2003). Ironically, the center includes a food court with a number of national fast food chains, including Pizza Hut and Taco Bell.<sup>1</sup> Other places working to lure grocery stores include Rochester, N.Y., and Los Angeles, Calif. But the deals are difficult to put together.

“We need to make food retail a priority as a component of what makes communities livable,” says Hannah Burton of The Food Trust, a nonprofit organization in Philadelphia. “The focus of economic development has been on jobs and housing, with the assumption that retail will follow. But this is not true, because for supermarkets, the profit margins are so narrow that, when financing is not available, it doesn’t happen.” The Food Trust

has been instrumental in inspiring a focus on food retailing in Philadelphia, where the Trust's research found that low-income communities have fewer supermarkets and higher rates of nutrition-associated diseases (Perry, 2004). The Trust used that research to help convene a Food Marketing Task Force, which included city planners, supermarket industry executives and public health officials. The Task Force made several planning-related recommendations in its report: "Stimulating Supermarket Development: A New Day for Philadelphia," including giving priority to assembling land, reducing regulatory barriers and creating public incentives (Burton, 2004).

The work of the Philadelphia Food Marketing Task Force helped to inspire two new state-level financing tools for supermarket development. The Fresh Food Financing Initiative is using a \$20-million infusion of public funds to leverage an \$80-million financing pool for supermarket development. So far, the fund has contributed to establishing eight new stores. The second tool has allowed supermarkets to take advantage of the existing "First Industries" economic stimulus program that provides grants, loans and loan guarantees to agriculture-related businesses. The only other state-level initiative to encourage grocery stores is in Nevada, where a temporary tax incentive was adopted to encourage grocery stores to locate in the southern part of the state (Health Policy Tracking Service, 2005).

Local governments can also use the permitting process as a way to enrich the food environment. For example, in financing and permitting subsidized, mixed-use housing developments, cities such as San Francisco are working with affordable housing developers to identify grocery vendors for newly constructed or rehabilitated retail space. According to Marice Ashe, director of the Public Health Law Program at the Public Health Institute in California, San Francisco also is employing a conditional use permitting process in new residential projects that requires developers to make every feasible attempt to attract grocers.

## **Convenience Stores**

Sometimes the economics of pulling in a large supermarket are simply not feasible. Other strategies are more feasible, in part, because they are much less complex and involve less land and funding (Flournoy, 2005). Many residents, particularly immigrants from places without many supermarkets, may prefer daily shopping in small stores to weekly trips to a big grocer. So some communities are working to improve what is already there: the corner convenience stores that often avoid selling perishable foods in favor of snack foods and alcohol. Planners can look for public funds that can help these small stores with the infrastructure they need to successfully sell perishable foods. "Bringing in big chains is difficult, so a better option can be to increase the capacity of small businesses to serve a health need," says Ashe. "Public financing for private infrastructure is a piece of it, including money for the first month's supply of produce, and investment in improved refrigeration and warehouse capacity."



Land use and zoning regulations generally do not stand in the way of such changes, but innovative zoning tools present new opportunities to improve access to healthy foods in these small markets. For example, if zoning controls allow—rather than prohibit—sidewalk displays, the storefront can expand the retail environment and be a showplace for fruits and vegetables to attract customers. Many communities, such as Chinatown in San Francisco, offer abundant storefront space that allows shoppers to choose from hundreds of varieties of healthy offerings.

Additionally, Ashe and her colleague, Lisa Feldstein, at the Public Health Law Program are expanding a new type of zoning ordinance that encourages existing convenience stores to expand their selection of healthy foods. Traditionally, once a business is permitted to operate, a jurisdiction loses its ability to make it conform to new zoning standards. But “deemed approved” ordinances are now being used to require already permitted businesses to comply with new performance codes. Such ordinances have been used successfully by several cities to require liquor stores to change their business practices to reduce violence, public drunkenness and illegal drug sales. They also have been used to require certain types of hotels to meet updated standards. Building on this new approach to zoning, the Public Health Law Program is developing a model “deemed approved” ordinance that would require convenience stores in neighborhoods without access to grocery stores to meet nutrition-related performance standards by dedicating 10 percent of the retail space to fruits and vegetables. No jurisdiction has yet considered such an ordinance.

**EXAMPLES: IMPROVING  
CONVENIENCE STORES**

Strategies to improve corner stores can be implemented in conjunction with economic development incentives and technical assistance to small business owners. For example, the city of Philadelphia hired and trained a liaison from the Korean community to help them communicate zoning and licensing requirements to the city’s many Korean grocery store owners.

In the Bay View Hunters Point area of San Francisco, a grassroots group called Literacy for Environmental Justice (LEJ) has been working with convenience and liquor stores to help them become good neighbors by selling healthier foods. LEJ shows store owners how to stock and maintain fresh fruits and vegetables, and helps them find funds to purchase refrigeration and display units. LEJ does everything it can to help these stores succeed, including promoting the new “Good Neighbor” store to local residents. In return, the stores must remove alcohol and cigarette ads. Most of the work is carried out by LEJ’s youth interns, who also learn about healthier eating.

In Oakland’s Fruitvale district, a dynamic organizer with the California Food Policy Advocates (CFPA) worked intensively with the owners of the School Market convenience store to bring in fresh, healthy foods and generally improve the store. CFPA arranged for children from a nearby elementary school to take field trips with a nutritionist to stores and markets to learn about buying healthy foods. The Market now sells \$600 to \$700 a week in fresh produce (Bolen, 2003).

## **Community Gardens & Farmers' Markets**

Another way to improve the neighborhood food environment is by providing urban residents with a direct connection to fresh produce—through farmers' markets and community gardens. This strategy also begins to tackle the food system issues discussed in part three of this paper.

Garden plots provide residents with a way to grow their own fresh, healthy food. One study found that people with gardens eat more fruits and vegetables (Blair, 1991). Gardeners also can get significant physical activity while they are cultivating their plots. Many communities have youth garden programs to help young people learn new skills and build self-esteem while they grow peppers and strawberries. According to Anne Bellows of Rutgers University, community gardens also can tap into farming techniques that immigrants bring from their home countries.

Community gardening has been part of city and town life since the 1890s. However, each new wave of gardeners has been forced to reinvent the concept, because gardens are routinely lost to other uses (Lawson, 2005). The modern community garden movement is, in large part, a grassroots response to blighted urban neighborhoods with too much vacant land. But these activities often fail to gain influence with planning or development agencies.

"We have our work ahead of us in terms of getting better recognition," says Betsy Johnson, interim executive director of the American Community Gardening Association. "Gardens are critical recreational facilities as much as golf courses, tot lots or basketball courts. But we don't have the same standing." Gaining title to land to create permanent gardens can be difficult.

"When you talk about putting resources into gardening, planners' eyes glaze over because they want development," says Kami Pothukuchi, assistant professor in the Department of Geography and Urban Planning at Wayne State University. "How can we talk about the benefits of gardens, and then use them as a catalyst for neighborhoods?"

As cities concentrate on revitalization, more and more planning and development departments are undertaking programs to reclaim vacant properties. The reclamation effort is almost always aimed at selling the properties to regain back taxes and spark new development. Ad-hoc community gardens may be displaced in the process. This threat gained prominence in New York City in 1999, when an effort to save more than 100 community gardens from the auction block made headlines. Many of the gardens were saved and put into a land trust by a nonprofit community organization that raised millions of dollars with the help of actress Bette Midler.<sup>2</sup>

**EXAMPLES: PROMOTING GARDENS AND FARMERS' MARKETS**

While most communities do not have access to the fundraising prowess of a movie star, an initiative contained in federal farm legislation has helped community gardening. The USDA Community Food Project Grants, funded at \$5 million annually, are designed to promote food security in low-income communities. About one-third of the funds are used to help set up community gardens.<sup>3</sup>

Only a few jurisdictions have any planning designation for community gardens or have made any formal attempts to encourage them. Two states, New York and Tennessee, have laws on the books that make it easier for municipalities to encourage conversion of vacant lots to community gardens (Schukoske, 2000). Both state laws create a system for allowing gardening on vacant lands and for tracking the gardens, as well as protection from liability. New York also offers technical assistance through an Office of Community Gardens.

At the local level, Boston, Mass., has created an open space designation for community gardens to help preserve existing gardens. In Berkeley, Calif., community gardens are encouraged under the open space element of the General Plan, with a particular emphasis on dense areas without space for private gardens (City of Berkeley, 2001). Seattle may be taking the most active approach. The city's comprehensive plan establishes a goal of one community garden for every 2,500 households in urban areas. In 2000, the Seattle City Council adopted an ambitious strategic plan for community gardening,<sup>4</sup> including adding gardens as one of the city's priorities for disposing of surplus property.

Farmers' markets give city residents a taste of farm-fresh produce, which may encourage healthier eating. In California, where year-round fresh produce is readily available, farmers' markets can be an important part of improving access to healthy foods. Farmers' markets face some of the same problems as community gardens, including a simple lack of attention to their importance. Some communities require permits for street closures that can hamper farmers' markets, but markets are sometimes set up with little or no interaction with city officials. For example, the Food Trust in Philadelphia has been running 19 farmers' markets across the city with no regulatory issues. A number of the experts interviewed for this paper advocated creating permanent locations for farmers' markets, an approach that is being tried in Santa Monica, Calif.

In the Del Paso Heights neighborhood of Sacramento, Calif., a successful program run by the Health Education Council, in partnership with a local organic farm, establishes intensive, small-lot urban farms that are cultivated by Hmong immigrant farmers. With the support of the city, the program has established a farmers' market where the Hmong farmers can sell their produce.

### **Unhealthy Food Retail**

The lack of grocery stores in low-income neighborhoods often stands in sharp contrast to an abundance of fast food restaurants. While such a relationship is

not well documented, a few studies have found that lower-income areas tend to have more fast food and convenience stores (Policy Link, 2004). These neighborhoods also tend to have fewer healthy options. Residents observe they have too many fast food restaurants in their communities that serve low-cost, high-calorie foods of limited nutritional value (Mikkelsen, 2004).

The trend toward larger retail outlets, such as Wal-Mart and Costco, also has affected food access. National retail chains are able to sell food at a discount, placing competitive pressure on more conveniently located local groceries. According to Kami Pothukuchi, such superstores may create a “shadow” that can kill other businesses, removing close-to-home sources of food that may be more accessible than suburban big-box stores.

Marice Ashe and other public health advocates believe that zoning can be used to prevent neighborhoods from having an excessive number of fast food outlets. Many communities have successfully used conditional use permits (CUPs) to limit access to alcohol, tobacco and firearms, and could do the same for food outlets. CUPs allow governments to make individual determinations of whether a proposed use is suitable for a specific location. They also allow jurisdictions to enact limits on the number of outlets and their proximity to schools, as well as other restrictions (Ashe, 2003).

#### **EXAMPLES: LIMITING FAST FOOD OUTLETS**

To date, few jurisdictions have tried to limit fast food or keep such foods away from children in an effort to fight the obesity epidemic, according to research under way by Steve Teret, professor of Health and Public Policy at Johns Hopkins University. Small, affluent towns, such as Carmel, Calif., and Bainbridge, Wash., have enacted regulations to ban fast food restaurants.<sup>5</sup> These actions have been motivated by a professed desire to prevent the “distinct” character of either the whole town or special districts from being altered by what are viewed as “formula” restaurants. Other communities, such as Carlsbad, Calif., have limited the number of drive-throughs. The justification for these bans is sometimes linked to improving safety for pedestrians or avoiding traffic problems. Similarly, some communities have sought to ban or discourage large retail chains, usually because they are seen as a threat to local businesses and town cohesion, and tend to pay low wages (Mair, 2005; Beaumont, 1997). Food security advocates in Los Angeles, Calif., however, focused on nutritional concerns to convince the city to adopt zoning changes for a low-income neighborhood on Central Avenue. The ordinance limits fast food restaurants and drive-throughs (Los Angeles Ordinance No. 176543, file 05-0200, 2005).

While most retail bans affecting food outlets were not instituted to prevent obesity, Teret’s analysis suggests that public health concerns are a justification that can withstand legal scrutiny. He also suggests that the legal case for such bans is strongest when communities have cited goals such as “access to healthy foods” in their comprehensive plans and municipal codes (Mair, 2005).

### **Schools and Food Access**

The easy availability of soda and chips in school vending machines and cafeterias has captured the lion's share of regulatory attention in the battle against childhood obesity. But children have plenty of other opportunities to drink sodas and buy cupcakes just off school grounds. A recent study of elementary schools in East Harlem, N.Y., found that every school had unhealthy food close by, and 57 percent of schools had three or more sources of unhealthy food within 400 feet of the school.<sup>6</sup> A study of fast food restaurants in Chicago, Ill., found that they are clustered near schools, with three or four times as many restaurants near schools than would be expected if their location were unrelated to school location (Austin, 2005). The practice apparently goes back to the early days of the industry. Ray Kroc, of McDonald's fame, wrote of identifying locations for new McDonald's restaurants by flying over neighborhoods in a single-engine aircraft, looking for schools (Schlosser, 2001).

Prominent anti-obesity researcher Kelly Brownell, in talking to *USA Today* about the Chicago study, suggested, "Just like there are drug-free zones around schools, there should be zones around schools that are free of junk food, including fast food restaurants, mini-markets and gas stations that sell food inside."<sup>7</sup> However, to date, such restrictions are rare. A few jurisdictions have restricted fast food restaurants in school zones, but not primarily to fight childhood obesity (Mair, 2005). Detroit, Mich., requires fast food outlets to remain 500 feet away from school grounds; Arden Hills, Minn., sets the restriction at 400 feet. While many legislative efforts are under way at the state level to regulate school food, planning and zoning generally fall under the jurisdiction of local governments.

**EXAMPLES: GETTING  
GOOD FOODS INTO  
SCHOOLS**

Even as states tighten school nutrition standards, including the availability of “competitive foods,” a small movement is working to provide students with fresh, healthy foods through school gardens and farm-to-school programs.

School gardens provide students with a hands-on experience of growing their own produce. Research shows these gardens improve student health and encourage children to eat more vegetables, even those that are unfamiliar (Bellows, ud). The Edible Schoolyard Project started with the help of famed chef Alice Waters in Berkeley, Calif. The program established a school garden at Martin Luther King Elementary School, where students grow foods they then prepare in an on-site kitchen. The Berkeley school district has adopted a policy of serving fresh, organic foods in its cafeterias due, in part, to the success of the Edible Schoolyard.

There are few regulatory barriers that get in the way of school gardens. The educational facility standards issued by the Council of Educational Facility Planners International (CEFPI) are silent on the establishment of school gardens or edible schoolyards.<sup>8</sup> Schools and school districts across the country are establishing gardens on school grounds, but the emphasis has been on grassroots projects, rather than any systematic, planning-based approach.

Farm-to-school or farm-to-cafeteria programs bring fresh foods into schools as teaching tools, snacks or ingredients in school lunches (Vallianatos, 2004). In Des Moines, Iowa, a pilot program provided fruits, vegetables and dried fruits to elementary, middle and high school students as snacks throughout the school day. Some schools use the food in regular school lunches, although a trend toward minimal preparation has made it difficult for some schools to do so. Many programs use the food to set up “salad bar days” as part of the school lunch program.<sup>9</sup> Overweight and obese students at three schools that participated in a farm-to-school program in California found that, over two years, the students’ consumption of fresh fruits and vegetables increased from an average of 2.8 servings a day to 4.2 servings per day (Slusser, 2001).

In 2002, federal farm legislation funded pilot farm-to-school programs. Also, a farm-to-cafeteria program was authorized by Congress in 2002, but requires annual appropriations.<sup>10</sup> A statewide farm-to-school bill was passed into law in New York in 2001. It calls for the agriculture and education departments to work together to help facilitate the purchase of local produce by schools, and to document any needed changes in existing laws to make such purchases easier.<sup>11</sup> California recently enacted the California Fresh Pilot Program, which will send \$18 million to schools to purchase fruits and vegetables for school breakfasts and snacks.<sup>12</sup> While food industry lobbyists were able to strike the word “fresh” from the legislation and replace it with “nutritious,” the program is still expected to bring fresh, local produce into schools (California Food Policy Advocates Web site, 2005).

## 2.

## Transportation Considerations for the Neighborhood Food Environment

“In many ways, food access is a transportation issue. If you have a car, there’s no problem. If you don’t have a car, you are dependent,” says Andy Fisher, executive director of the Community Food Security Coalition. The lack of grocery stores or markets close by is not an inconvenience for people who can drive to stores further away. But it is a critical disadvantage to those who do not drive and those who rely on public transportation, walking or bicycling to meet their daily needs. Providing more stores within walking distance, as discussed above, is clearly a critical part of the transportation picture, and it may be the most obvious way to change the built environment to increase access to healthy food. In addition, it dovetails with the goals of the Active Living movement. Findings emerging from the *Active Living Research* program show that having someplace to walk to is closely linked to increased rates of walking (McCann, 2005).

For the many people who cannot live within walking distance of a food store, high-quality public transit infrastructure is important to facilitate food access. A study of low-income neighborhoods in the San Francisco Bay Area found that, of the 48 percent of residents who were not within walking distance of a supermarket, 42 percent took the bus to go grocery shopping (Hobson, 2002). Unfortunately, even though their ridership base is often lower income, few public transportation systems have made providing access to grocery stores a primary part of their mission. Instead, bus and train service is more often designed to get commuters to jobs. Even if transit routes go near grocery stores, they often run less frequently or not at all on weekends or evenings, which is when most residents have time to grocery shop (Gottlieb, 1996).

While land use planning is almost entirely a local affair, federal funding has a big impact on local transportation policy. Federal transportation policy has prioritized providing funding for limited access, high-speed highways. The 1991 transportation law (ISTEA) began to shift that focus and provide more funding for bicycling, walking and transit, with more rigorous requirements to plan for community needs. Attempts to make access to food a priority for transportation planning have not been included in the two subsequent laws. The only major program specific to low-income transportation, the Job Access and Reverse Commute Program (JARC), was created in 1998, but as its title suggests, it maintains a focus on job access.<sup>13</sup> The Americans with Disabilities Act of 1990 requires transit agencies to provide paratransit service for people

who are unable to use conventional transit routes. But in general, federal transportation policy has had a negative impact on poor and minority communities, often creating rather than solving transportation problems (Sanchez, 2004).

Transit service is provided through state, regional and local jurisdictions, and is usually operated quite separately from city or county planning agencies. Transit agencies often do not have a tradition of extensive public input or public process in making route decisions, and tend to operate the same routes for decades with little change.

**EXAMPLES: IMPROVING  
TRANSIT ACCESS TO  
HEALTHY FOOD**

Some transit agencies have created new routes, increased service or re-routed buses to better serve low-income residents who need access to grocery stores. In Hartford, Conn., the Advisory Commission on Food Policy supported the creation in 2000 of the L-Tower bus route, a cross-town route that cut travel time in half for low-income residents trying to reach jobs and stores, particularly a major supermarket. The route initially was funded through the federal JARC program, but service was cut back in November 2001 in order to stretch limited funds. The Commission felt the route was so important to food access, it conducted a survey and wrote a report to encourage continued funding (City of Hartford, 2002). The survey showed ridership increased by more than 100 percent in the first year, and that 33 percent of riders were using the line to reach a major supermarket. The route is still in existence today, but the bus comes only once an hour. A specialized grocery shuttle bus, which is run by the transit agency in Austin, Texas, also was inspired by the city's Food Policy Council. The service now has been integrated into the regular transit schedule.

Another approach is to redesign the entire bus system to be attractive to middle class users, as well as people of limited means. Boulder, Colo., received widespread attention in the early 1990s when the transit agency departed from tradition and began to design simple, appealing new bus routes based, in large part, on where riders said they wanted to go (including to grocery stores). The first route was named the Hop. Six other new routes (Skip, Jump, Bound, Dash, Bolt and Stampede) are now part of the "community transit network" that has increased transit ridership in Boulder by 500 percent since 1990.<sup>14</sup>

A 2002 report by a local advocacy group in the San Francisco Bay Area known as the Transportation and Land Use Coalition (TALC) called attention to poor access for low-income residents to health care facilities, places for physical activity and healthy foods (Hobson). The report helped launch a three-year collaboration with the transit agency to identify and solve service gaps; service has been redesigned along two routes as a result. TALC is now involved in a much more extensive project to bring transit providers, public health officials and local residents together in a planning process to provide more transit service to health care centers.



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TALC also encouraged the regional planning agency, the Metropolitan Transportation Council (MTC), to establish the Lifeline Transit Network as a more systematic way of meeting the needs of low-income riders. The MTC conducted an extensive study of transportation gaps in disadvantaged communities, including food access. But full funding to close that gap has been slow in coming. The network only recently has been promised \$216 million over the next 25 years, or about \$9 million per year.

“Transit agencies are usually responding to political pressure from higher-income commuters, rather than to people who are completely transit dependent,” says Jeff Hobson, policy director at TALC. “But pointing out the inequities or differences in focus can go a fair way in getting agencies to redirect on their own.”

Even with this success, Hobson warns that putting too much emphasis on transit access to supermarkets could be a misplaced effort. Carrying a week’s worth of groceries onto a bus or train is difficult, even with good service. Providing smaller stores close by may better serve many low-income residents.

One of the most common solutions to the lack of transportation to grocery stores has been grocery store shuttle services, sometimes designed and run through social service agencies, but more often operated by grocers (Mikkelsen, 2004). Some grocers have agreed to try shuttles as a way to stem the removal of shopping carts. The disappearance of shopping carts from a store is usually an indication of a transportation problem for shoppers (Gottlieb, 1996). A recent study of such services found they are financially viable for stores, generating additional sales (Mohan, 2002).

# 3.

## Regional Forces and Food Access

Most of the problems and solutions discussed so far function at the neighborhood level. But access to healthy food is disrupted by much larger forces influencing urban development and the food system. These forces include the loss of investment in existing cities, the creation of sprawling suburbs that consume farmland and the birth of the corporate food system. This larger realm is where advocates for better access to nutritious food may find the best opportunity to forge alliances with those concerned about land use and urban design.

Neighborhoods with concentrated poverty and too few healthy food outlets are, in part, a consequence of the massive disinvestment in urban areas that occurred after World War II as new federally funded freeways, federal home mortgage policies and other factors drew development for the middle class out to the fringes of cities. During the same time, “Euclidian” zoning became the standard for new development. This approach requires a separation of residential, commercial and retail uses and prioritizes automobile access—often at the expense of pedestrians. Many critics say most traditional American small towns could not be built today because they would not conform to these standards, and they add that such restrictions also hamper redevelopment. In addition, most developers prefer predictable, replicable, single-use subdivisions, big-box stores and office parks in locations that fit standard zoning ordinances.

Meanwhile, all the new development on the edge of urban areas has led to an accelerated loss of open space, including the loss of small family farms. Farmers in prime locations face both the allure of selling their land for a tidy profit for development, and the difficulty of competing in a food system dominated by major producers and factory farms. It’s no wonder that so many have given up. According to the American Farmland Trust, the United States loses two acres of farmland to development every minute, and that rate is accelerating (American Farmland Trust, 2002).

As the pace of sprawling development has quickened, the food delivery system has become more centralized and dependent on factory-like farms, which produce huge amounts of a single crop for delivery all across the country. It has become the norm to ship strawberries and other produce thousands of miles. Critics of this system believe it has degraded food quality and the environment, prompting them to call for a return to local, smaller scale, sustainable farming (Lang, 2004).

Tackling this system may seem daunting, but two parallel movements offer hope for those interested in bringing more healthy fruits and vegetables back to the table: urban agriculture and smart growth.

### **Solutions: Urban Agriculture**

The goals of preserving open space on the edge of urban areas and providing access to healthy foods converge in the urban agriculture movement. This movement seeks to preserve close-in farmland; increase the connections between farmers and urban produce buyers; and promote farming rights in the city.

A primary component of the “anti-sprawl” movement has been preserving open space, including farms, through a variety of measures that help landowners keep their land and resist development pressures. Conservationists have used policies such as transferable development rights. These policies allow farmers to transfer or sell their right to build houses or otherwise develop land to other land owners in more appropriate locations, who can then build more houses or other structures on their land. This allows farmers to keep farming while receiving income from the development potential of their land.

In the past, land conservationists did not get too involved in the business end of farming, but in Michigan, where 854,000 acres of farmland were lost to development between 1982 and 1992 (American Farmland Trust, 2002), land use advocates have made the connection. The Michigan Land Use Institute is an anti-sprawl group that has tackled a variety of transportation and development issues, and is now working to promote local farming. Their Taste the Local Difference campaign is aimed at increasing support for local farmers in the Northeast part of lower Michigan. It provides a pocket-sized listing of farms that sell directly to consumers, in addition to the names of restaurants, grocers, caterers and hotels that feature locally produced food. The campaign is part of a wider effort to encourage “entrepreneurial agriculture,” through which small metropolitan area farms become profitable by growing specialty crops and focusing on niche marketing (Cantrell, 2003).

In some communities, urban agriculture is *really* urban; small but highly productive farms are producing and selling food within cities. Greensgrow Farm in Philadelphia began as a way to show that “green” businesses can be a good use for abandoned land and a path to neighborhood revitalization. It has evolved to educate city dwellers about food production, and it delivers plenty of fresh produce to residents (Brown, 2002). The one-block farm is located in a low-income neighborhood right in the city. It has put a former industrial site contaminated with industrial toxins back into productive use with raised beds, a greenhouse, a hydroponics system, beehives, flower beds, a farmers’ market and a retail nursery.<sup>15</sup>

Farmers' markets, farm-to-school programs and community gardens, discussed above, are all considered part of the urban agriculture movement. Farmers' markets and farm-to-school programs give growers an outlet for their produce outside of the corporate food system. Many farmers are also generating steady income by selling fruits and vegetables by subscription and making weekly deliveries. This is known as Community Supported Agriculture, and the deliveries themselves are often referred to as "CSAs." Some providers of food for people with low incomes have arranged for CSAs for their clients.

Only a few places have attempted a systematic approach to urban agriculture. The Food Policy Council of Toronto wrote a report in 1999 recommending that the city set a goal to grow 25 percent of its own fruits and vegetables by 2025 (Toronto Food Policy Council, 1999). The report included an inventory of current farms in the city and made the following policy recommendations related to land use:

- Expand agricultural sites by encouraging community gardening, retaining agricultural zoning designations and increasing land zoned for agriculture.
- Preserve existing agricultural land through programs to keep land in farming. Suggested strategies include: the purchase of land and development rights, conservation real estate, land designation or dedication, community and conservation land trusts (private and public), and purchase of conservation easements on title.
- Take inventory of brownfield sites where urban agriculture could be practiced and encourage development of a "food eco-industrial park," with infrastructure to support greenhouses, hydroponics and other types of farming.

### **Solutions: Smart Growth**

For urban agriculture to be viable in the long run, demand for development on the urban edge must be slowed. That means smart growth—a constellation of policies and practices that systematically encourage more compact, mixed-use development with plenty of transportation choices. A companion movement called New Urbanism advocates using a new planning tool called "the transect" to create compact, walkable development appropriate to every type of neighborhood. The Seaside Institute, a nonprofit organization that's a leader in promoting the principles of smart design and New Urbanism, recently has started to focus on preserving the "agricultural edge" as an essential component of creating vibrant New Urbanist communities.

For the most part, proponents of smart growth have not focused directly on food access issues. Some smart growth developments have worked to attract a large grocery store. Among food advocates, smart growth and New Urbanism are sometimes perceived as primarily middle class movements that may not sufficiently consider the needs of low-income residents. In addition, smart growth

policies that focus on intensifying development in urban areas without considering food access issues may make city lots unavailable for urban farms and community gardens.

But even as they begin to reverse some of the trends that led to suburban sprawl, many of the principles behind smart growth have direct relevance for providing better access to healthy food. The EPA-sponsored Smart Growth Network has established 10 principles of smart growth; eight have relevance to food issues. Smart growth calls for directing development toward existing areas and preserving farmland. Even a modest turn toward more compact development has the potential to save millions of acres of farmland (Burchell, 2005). Providing more transportation choices and more walkable communities can help solve some of the transportation issues described earlier in this paper. Encouraging community participation in planning decisions can be an avenue for community food assessments. Moreover, making development fair and predictable can encourage the location of grocery stores in low-income areas.

Two of the smart growth principles, mixing land uses and creating mixed-income neighborhoods, may seem to have little relationship to food access issues. However, both can help grocery stores or small food shops survive and thrive. Mixing land uses helps put food stores within walking distance of homes. A variety of specialty food stores can benefit from “retail synergy” when clustered with other small shops close to homes. This is recommended as one strategy to promote alternatives to large supermarkets (Bolen, 2003).

Creating mixed-income neighborhoods may have the greatest impact on the food resources now available in low-income areas. Because poor food access is so closely tied to demographics, changing those demographics can help change the market forces that influence the locations of grocery stores, fast food outlets, corner stores and other outlets. Bringing more middle-income consumers into a neighborhood can make it more attractive for retailers who serve both clienteles, and encourage them to stock items that appeal to a wide variety of income brackets. Studies show that retail developments in lower-income areas have a better success rate if they are adjacent to higher-income areas (Bolen, 2003). However, high-priced specialty stores that are moving into urban areas undergoing revitalization may do little to help lower-income residents on tight food budgets.

Literally hundreds of policies are under development to help achieve the goals of smart growth (ICMA, 2003). Many of these policies have become familiar to public health officials working to create more active communities, and many overlap with food access. But setting policies that ultimately provide better access to healthy foods is more complex than setting policies to create walkable neighborhoods. To be successful, such policies must address commercial devel-

opment, transit, affordable housing and urban agriculture, in addition to urban design. A comprehensive approach may be critical. A few states have implemented comprehensive policies and deserve future attention. Oregon's well-known growth management laws, stemming from the early 1970s, set Urban Growth Boundaries (UGBs) and instituted other measures to direct development to urban areas and encourage transit-oriented development. Maryland passed a suite of measures in 1997 that designated priority areas for growth and created a statewide system of Agricultural Preserves,<sup>16</sup> which work with the state's existing affordable housing provisions. New Jersey and Michigan also are working toward statewide smart growth policies.

### **Zoning Code Reforms**

Land use zoning often has been named a culprit in destroying walkability by mandating building setbacks and parking requirements that result in isolated buildings constructed amid a sea of parking. But when it comes to providing healthy foods close by, several experts interviewed for this paper said zoning is not as influential as economic concerns and market forces. However, today's typical zoning rules make life easy for fast food franchisers. They also promote growth patterns that eat up agricultural land and contribute to sprawl. For these reasons, alternative zoning systems deserve attention.

Jurisdictions across the country are trying several types of reformed zoning codes to overcome the shortcomings of Euclidian zoning and allow for development that's similar to pre-World War II style neighborhoods. These "form-based codes" base zoning on the form and orientation of a building, rather than on how the building is used. In other words, rather than limiting uses according to whether the building is to house (for example) a dry cleaner, a grocery store or a boutique, the codes specify the building height, how far it is set back from the street, and other elements of its form. Only certain "nuisance" uses (such as a nightclub in a residential area) are prohibited. Few of these zoning systems have made any explicit provision for inclusion of healthy foods, and should be assessed for their ability to increase access to healthy foods.

### **Transit-Oriented Development**

One type of smart growth initiative is already starting to show some ability to increase the number of healthy food outlets: Transit-Oriented Development (TOD). Cities across the country are building new light-rail lines and stations. In many cases, the government and the transit agency are partnering with private developers to create new neighborhoods by building housing, shops and offices right next to or above the stations. Many such developments also include a public plaza. In other cases, cities are encouraging new development next to existing rail stations, sometimes by redeveloping commuter parking lots.

Transit agencies are allowing the public plazas at transit stations to be used for farmers' markets. One of the newest is the farmers' market at the Fruitvale Transit Village in Oakland, Calif., located in a primarily Latino neighborhood. The market is located on the plaza above the Bay Area Rapid Transit (BART) station and is operated by Unity Council, a community development corporation aimed at helping low-income residents in the primarily Latino Fruitvale community. The Council has worked with local health agencies to promote the market and to ensure that WIC vouchers and other payment forms are accepted, making produce more accessible for low-income shoppers.<sup>17</sup>

Some cities have used new Transit-Oriented Development and new development in already built-up urban areas to attract grocery stores as tenants. In San Diego, the city wooed Ralph's Grocery Store to open in a revitalized area next to a major bus terminal. In Washington, D.C., a full-service Giant supermarket is the first major retail establishment to open in a former shopping district destroyed during the 1968 riots. This extensive development is located above a new Metro station.

### **Talking Urban Agriculture and Smart Growth**

While the specific techniques of promoting smart growth and urban agriculture are important, there may also be great power in more clearly talking about and framing food access in these terms. A new analysis by the W.K. Kellogg Foundation found that the standard "obesity frame" won't make Americans who see obesity as a personal problem more receptive to food policy interventions. It also finds big hurdles to getting Americans to think in terms of the food system (W.K. Kellogg Foundation, 2005). However, research found public opinion is strong in supporting U.S.-based agriculture and locally grown foods, an obvious connection to urban agriculture. A "farm preservation paradigm" is one way to start to educate Americans about the overall food system, even if farmland preservation does not actually talk much about food. This framework intersects with smart growth advocacy, which has identified a values framework of "let's preserve what we have" as a powerful way to talk about land use issues.

## 4.

## Food Access and the Realm of Planning

When the Robert Wood Johnson Foundation first began to explore how community design affects physical activity, the need to nurture cross-disciplinary research quickly became clear. Health researchers and transportation planning researchers barely spoke the same language and had very different ways of approaching their work. In the area of food access, the challenge may be even greater. While research into the health impact of food may be robust, little of the research has been grounded in the places and environment where research participants live. On the planning side, the field has barely even considered access to healthy food as a planning issue.

Planners have viewed food access as something provided by the private market, with only tangential relationship to urban design. They are usually not funded to do food system planning, and simply don't see it as their turf. A recent review found that the major planning textbooks do not discuss food access, and planning journals have published only a scattering of articles on food issues. A survey of 22 planning agencies in the U.S., conducted between 1997 and 1998, found that only six communities addressed food in their comprehensive plans, and only three reported significant attention to the issue in their plans. Twenty of the 22 agencies reported they had dealt with the location of various types of food outlets, and 12 had been involved in community gardens. But in many cases the planners indicated that their involvement lacked a systematic approach (Pothukuchi, 2000). Even when prompted by food security advocates, planners have not always been quick to respond. While Toronto now has exemplary food planning documents, it took the city-sanctioned Toronto Food Policy Council three tries and several years to get the attention of the planning department (Werkerle, 2004).

The persistence of food security advocates has helped planners begin to recognize that access to healthy food is not automatically provided by the private sector, and is an essential community need that has a direct impact on health. This puts food access squarely into the planning arena. The American Planning Association has started to sponsor a food access track at its annual meetings. *Progressive Planning* magazine published a special issue on food and planning in the winter of 2004. Kami Pothukuchi says planners need to move beyond a case-by-case approach to food issues.

“Food needs to be looked at from a systems perspective,” Pothukuchi says. “It is not just about helping grocery stores develop. It’s a whole chain of activities. Planners need to start thinking about all of these issues.”



**EXAMPLES: PLANNING FOR FOOD ACCESS**

A few initiatives have considered food access as part of a systematic planning process. Some communities have altered their general or comprehensive plans to promote better food access by encouraging community gardens or farmers' markets, or by setting healthy food goals. In some cases, these efforts were preceded by community-driven food initiatives. Often, these initiatives have started with two tools that are specific to food planning: Food Policy Councils and Community Food Assessments.

Food Policy Councils can be a first step toward integrating food issues into decision-making processes.<sup>18</sup> They bring together people involved in all stages of the food system: farmers, wholesalers, planners, food banks, school food service representatives, and public health and social service workers. The councils work to address food access and food security on a systemic level. In some communities, they have become de facto food system planning agencies.

In 1999 the Hartford City Council in Connecticut appointed an Advisory Commission on Food Policy. The Commission studied the food system and launched specific initiatives to provide better bus service to grocery stores, and to bring lower food prices to low-income areas.<sup>19</sup> The Commission and a statewide Food Policy Council both contributed to a regional plan for the Capitol Region Council of Governments. This plan includes two chapters that deal with food policy, one on open space and farm preservation, and another titled "Food System," which deals with food distribution systems and ways to encourage healthy eating.<sup>20</sup> Other notable food policy councils are active in Knoxville, Tenn., Portland, Ore., and the states of New Mexico, Michigan and Illinois. Seattle, Wash., and Marin County, Calif., have councils that function outside of their local governments (Winne 2004; Fisher).

Councils and ad-hoc groups interested in food issues often have begun their work with a "Community Food Assessment," a community-wide analysis of all the factors that influence access to healthy foods. Advocacy organizations have been the primary groups to use such tools, but some planners also have led assessments. Among the places where assessments have been developed are: Austin, Texas; Berkeley, Calif.; Detroit; Los Angeles; Madison, Wis.; Milwaukee; San Francisco and Somerville, Mass. The assessments usually include land use and transportation planning elements. Groups making the assessments often draw up maps that show access to food resources, such as grocery stores, farmers' markets and food pantries. They gather detailed information, including the time it takes residents to reach grocery stores by bus (Food Security Learning Center, [ud](#)). They also have used U.S. Census data to determine population density, income, race and ethnicity in targeted neighborhoods. Community Food Assessments have led to a wide variety of community responses to food access issues, and planners can begin to take a leadership role in food access issues by conducting assessments (Pothukuchi 2004a).

## 5.

## Research Recommendations

Researchers can make an enormous contribution by increasing our understanding of how best to change the built environment to provide better access to healthy foods. So far, most planning research related to this topic has focused simply on defining the issue. Public health research has made more progress in documenting a relationship between where people live and their access to healthy foods. Little research has tested whether specific built environment interventions have resulted in people eating more fruits and vegetables or otherwise improving their health status. Below are eight recommendations for areas in need of research. Many of them were derived from the experts interviewed for this paper.

- 1. Measurement through mapping.** Food access advocates and planners alike identified the need for mapping the food environment. Maps can document the number of grocery stores in low-income communities; the access to those stores provided by public transit; the proximity of schools to healthy and unhealthy food outlets; the relationship between income and location of food stores; and the location and size of community gardens, farmers' markets and urban agriculture. Simple maps produced by advocacy organizations and food policy councils already have inspired powerful changes, particularly in the San Francisco Bay Area and Philadelphia. Establishing effective methodologies for producing such maps could help other areas avoid reinventing the wheel.
- 2. Explore case studies.** In most places, land use planners have never even met the people in their community who work on food security. Therefore, case studies of successful collaborations to date could help point the way for new partnerships.
- 3. Build research projects around Community Food Assessments (CFAs).** CFAs gather valuable information about the food environment. Researcher participation can ensure rigorous standards and set the stage for fruitful longitudinal studies.
- 4. Conduct research on the relationship between food access and specific health outcomes.** Some people in the field believe additional documentation on how poor access to quality food harms individual health would be a powerful incentive for change. Others believe that this relationship is already clear and that it is better to focus on research that shows whether interventions are effective.
- 5. Test interventions and take advantage of natural experiments.** Land use changes that could increase access to healthy foods are exploding. For example, over the past decade an estimated 4,000 new farmers' markets

were established (Project for Public Spaces, 2003). Developments using smart growth principles are springing up all over. Researchers could take advantage of these changes to launch longitudinal studies to measure increases in fruit and vegetable consumption and other indications of effectiveness. Researchers could begin such projects in communities that are: opening new grocery stores in low-income city neighborhoods or transit-oriented developments; starting new farmers' markets; and/or establishing new bus or train routes, or expanding existing routes. Another possible natural experiment would be to test the effectiveness of zoning to discourage fast food restaurants. The danger of such research is that it may show few immediate results because isolating the impact of individual changes in urban design is difficult.

6. **Explore ways to document the larger forces influencing food access.** If larger regional or even national forces of sprawl and corporate agriculture are, in fact, influencing access to healthy foods, the challenge is in how to document this. The Active Living movement was to some degree jump-started by such a study and a concerted effort to get the results to policy-makers and the general public (McCann, 2003). This study documented a link between the built environment and obesity on a national scale, and in addition to publication in a public health journal, it was distributed to the general public through a report written for a lay audience. However, this study used existing national datasets, and this may be difficult to replicate on food issues. Another avenue would be to try to document the positive impact of broad policy changes that have resulted in regional smart growth or urban agriculture programs.
7. **Research the connections between where people live, how much money they make and what they eat.** In addition to studying interventions that focus exclusively on low-income populations, this research should explore whether the income diversification that comes with urban reinvestment is helping to improve food access for low-income residents, whether new food outlets in redeveloped areas provide foods accessible to those shopping on a budget, and whether general public transportation improvements facilitate access to health food.
8. **Research market forces.** Because food access is so often about commercial activity, such as placement of grocery stores and what stores decide to sell, it would be invaluable to have a better understanding of the factors that influence where companies decide to locate stores. While companies currently conduct such research, most of it is proprietary.

## Conclusion

The epidemic of obesity in America is doing its damage at all levels of society, but it disproportionately affects people with lower incomes. One reason for this disparity is the simple fact that the less affluent do not live as close to high-quality foods as do the more affluent. Instead, they tend to be surrounded by an overabundance of unhealthy choices, such as fast food outlets and corner stores that lack the equipment, space and resources to provide fresh fruits and vegetables. But there are many options for changing the status quo and eliminating the barriers to obtaining healthy food that have become an impediment to healthy living for so many.

Communities across America are seeking creative ways to improve food access through solutions that focus on improving transportation options, supporting urban agriculture and farmers' markets, and expanding food options at the corner grocery store. New programs are using planning practices, such as farmland preservation, to address the need to provide fresh local food. These practical interventions have a greater chance of success if they are part of a broader effort to study and change the way the built environment influences dietary decisions.

For community design to play a greater role in the fight against obesity there must be a new era of collaboration between public health experts and city planners. Planners are becoming increasingly aware that factors such as zoning codes and street design can influence individual dietary choices. The challenge now is to nurture this growing interest so that food access becomes a routine consideration of city planning.

Fortunately, there are many research projects that can bring city planners and public health interests together to design cities and neighborhoods in ways that clearly promote better access to healthy foods. Land use and transportation planners already have demonstrated a desire to help end the obesity epidemic by working to create walkable communities. Equipped with research, such as maps of local food environments and data on the relationship between neighborhood food access and dietary intake, city planners could become a powerful force in the effort to give all Americans an equal opportunity to choose healthy foods.

*How land use and transportation solutions can help*

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**ENDNOTES**

- 1 See NCC Web site, <http://www.newcommunity.org/sitemapframe.htm>, accessed 8/19/2005
- 2 See <http://www.horizonmag.com/4/flower-power.asp>
- 3 See [http://www.csrees.usda.gov/nea/food/in\\_focus/hunger\\_if\\_competitive.html](http://www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html)
- 4 City of Seattle Resolution Number 30194. See <http://tinyurl.com/dhccck>
- 5 See for a list <http://www.newrules.org/retail/formula.html>
- 6 Newswise. "Unhealthy Food Too Easily Available to East Harlem School Children" news release, May 6, 2005. <http://www.newswise.com/articles/view/511364/>
- 7 "Study Finds Fast Food Restaurants Crowd Schools," *USA Today*, August 23, 2005. [http://www.usatoday.com/news/health/2005-08-23-school-fastfood\\_x.htm](http://www.usatoday.com/news/health/2005-08-23-school-fastfood_x.htm)
- 8 Conversation with CEFPI Assistant Director Public, Government & Regulatory Affairs, Janell Weihs.
- 9 For a list of programs, see <http://www.farmtoschool.org/map.htm>
- 10 See <http://www.farmtoschool.org/policy.htm>
- 11 See <http://www.cce.cornell.edu/farmtoschool/policy/newyorkstate.cfm>
- 12 See <http://www.cfpa.net/2005Legislation/CaliforniaFreshFAQ.pdf>
- 13 See <http://www.ctaa.org/ntrc/atj/jarc/JarcBasics.asp>
- 14 See <http://www.ci.boulder.co.us/goboulder/html/transit/>
- 15 See <http://www.greensgrow.org/>
- 16 See <http://www.mdp.state.md.us/smartintro.htm>
- 17 See [http://www.pps.org/info/newsletter/october2005/markets\\_health?referrer=newsletter\\_email](http://www.pps.org/info/newsletter/october2005/markets_health?referrer=newsletter_email)
- 18 See <http://www.hartford.gov/government/FoodCommission/Councils.htm> for a list of food policy councils
- 19 See Food Security Learning Center, [http://www.worldhungeryear.org/fslc/faqs/ria\\_093.asp?section=8&click=3](http://www.worldhungeryear.org/fslc/faqs/ria_093.asp?section=8&click=3)
- 20 <http://www.crcog.org/publications.htm>



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