



Food Aggregation, Processing, and Distribution

The Local Government's Role in Supporting Food System Infrastructure for Fruits and Vegetables



Food Enterprise & Economic Development, Kitchens in Madison, WI.
Image Source: <http://feedkitchens.org/photos/feed-external-06/>

As consumer awareness of and interest in community food systems has grown over the past decade, the facilities and infrastructure that support these systems have grown as well. In addition to direct face-to-face transactions where producers sell directly to consumers (such as farmers markets or roadside stands), significant development is now occurring in intermediated markets, in which *food aggregators, processors, and distributors* help get local food products from the farmer or food entrepreneur to the consumer.¹ These intermediaries provide vital facilities, infrastructure, and services that allow small and mid-sized farmers and food businesses to move beyond the farmers market and tap into larger and more diverse markets, further growing and strengthening local and regional food systems.

Food aggregation, processing, and distribution infrastructure can take a number of different forms, depending on the product; e.g., processing facility needs are significantly different for livestock (slaughterhouse) versus vegetables (packing shed). This briefing paper will focus on food system infrastructure for fruit and vegetable aggregation, processing, and distribution. It is important that local governments help enable, support, and promote these facilities within their communities to maximize the full economic and community potential of local and regional food system development.

Food **aggregation** is an important concept and function in local and regional food systems. Aggregation refers to bringing produce together from multiple sources to create a larger and more consistent supply to meet consumer demand. This requires the coordination of product sourcing from different producers to establish reliable supply chains for different end markets – restaurants and other food service providers, co-op grocery stores, conventional grocery chains, or wholesalers serving institutional (e.g., schools, hospitals, corporate cafeterias) markets.²

Food **processing**, the function of turning fresh-from-the-farm foods into forms ready for sale or consumption, is an important step that requires physical infrastructure. Basic processing activities can include washing, trimming, cooling, and packaging of fresh produce for sale, while **value-added processing** changes the physical form of the product (e.g., making berries into jam) to enhance its value, create additional marketing opportunities, and expand the customer base for the product.³

An important component of food processing infrastructure in local and regional food systems is **shared-use commercial or community kitchens**: fully equipped kitchen facilities that local entrepreneurs, instructors, or community groups can rent by the hour to prepare and process food products or hold classes and demonstrations.⁴ Community kitchens are often found within existing buildings, such as churches, community and recreation centers, and senior centers, whereas commercial kitchens are often paired with private business facilities, such as a food co-op.

Food **distribution** completes the connection to consumers by moving the produce from aggregation, processing, or storage facilities to the various markets listed above. It requires special-



ized equipment, such as refrigerated trucks, in sizes appropriate for the scale of deliveries required.

A range of facility types make up the infrastructure required to support food aggregation, processing, and distribution. These facilities can stand alone, such as a packing shed or produce warehouse; they can be located within other structures, such as basement cold storage or a community kitchen in a church or senior center; or they can be combined and centralized into one entity, such as a regional food hub.

As defined by the **National Food Hub Collaboration**, a *food hub* “is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.”⁵ According to the United States Department of Agriculture (USDA), regional food hubs are further defined by their commitments to working with small to mid-sized local producers as valued business partners, sometimes providing technical assistance and product differentiation/marketing assistance, and aiming to be financially viable while also having positive economic, social, and environmental impacts within their communities.⁶

These “middleman” components of aggregation, processing, and distribution are the foundation of national and international food supply chains — but the organization and infrastructure needed to perform these functions has been limited at the local or regional level for small and mid-sized farmers and food businesses.⁷ However, this is changing. In 2014, there were about 300 food hubs in the U.S., an increase of 288 percent since 2006.⁸

SIGNIFICANCE

Many local governments are realizing the importance of local and regional food systems in advancing economic, social, and community health goals. The steps of food aggregation, processing, and distribution all have policy, regulatory, programmatic, and funding implications. These steps are vital in diversifying and growing the ways that small and mid-sized farmers and food businesses can reach consumers, filling gaps in the current food distribution system to meet demand for local, sustainably produced products and better allowing local producers to meet the rapidly changing demands of local food markets.^{9,10} Strengthening food distribution networks maximizes the ways in which local and regional food systems can help meet important economic, health, and community goals.

Economic Benefits

Investing in the local and regional food economy can have significant economic development impacts.¹¹ The USDA’s Economic Research Service has estimated the total value of U.S. local food sales at \$6.1 billion.¹² Food aggregation, processing, and distribution channels allow small and mid-sized farmers to tap into

larger and more diverse markets as described above, enabling increased *import substitution*: replacing a portion of a region’s food imports with locally produced food.¹³ Such opportunities for more local and regional food procurement at a larger scale support the expansion of existing farms and establishment of new farms, grow the need for related agricultural support businesses, and create new jobs within aggregation, processing, and distribution facilities.¹⁴ Food processing facilities also provide space and equipment for small food entrepreneurs to launch new businesses making specialty food products or offering food-based services. More jobs generate more business taxes and increase earnings throughout the region.¹⁵ Expanding access to locally produced foods for local consumers helps keep food dollars within the community.¹⁶

Community Benefits

Food aggregation, processing, and distribution infrastructure has been shown to help increase supplies of fresh, healthy, local foods in underserved communities, both by allowing local producers to meet the requirements of suppliers that operate in underserved neighborhoods — such as schools, hospitals, community organizations, and neighborhood stores — as well as through initiatives that support food assistance programs for those in need.¹⁷ Commercial and community kitchens can also be used to feed underserved populations and host food industry job-training programs for disadvantaged residents.¹⁸ Finally, owners and patrons of locally-oriented food businesses are more engaged in local civic and political activities, which increases the problem solving capacity of a community.¹⁹

Role of Local Governments

Local governments can support and promote the development of food aggregation, processing, and distribution infrastructure within their communities in concrete ways. Direct methods include technical assistance, public financing, land use policies, and streamlined permitting processes that support infrastructure for aggregation, processing, and distribution of food.²⁰ Local governments can better integrate food planning into existing comprehensive and economic development plans, identifying existing assets and supporting developing food districts or “food clusters” — all the businesses involved in producing, processing, transporting, and selling food. They can funnel economic development funding to food-related programming and projects, and help incubate food-related businesses by targeting them for support.²¹

PROMISING PRACTICES

The following sections provide examples of how local governments are supporting the development of aggregation, processing, and distribution infrastructure for fruit and vegetable production. These approaches include local food infrastructure assessment and feasibility studies, financial assistance for food infrastructure development, provision of public land and facilities, and food infrastructure-friendly policies and regulations.



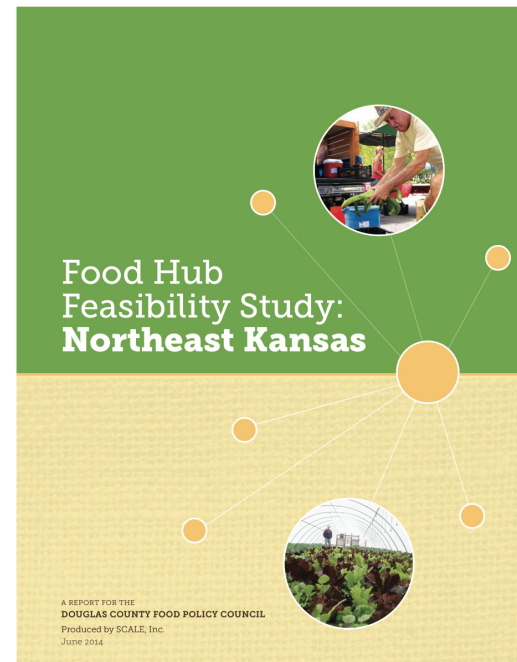
Food Infrastructure Assessment & Feasibility Studies

An important first step in strengthening local and regional food systems is to assess the current state of the complete food system, including the presence (or absence) of local and regional supply chain infrastructure. Local governments can identify and fill gaps — often the missing middle of aggregation, processing, and distribution facilities.

Local governments can take a big-picture approach to examining local and regional food systems and providing guidance on how to comprehensively grow these systems. In 2013, the City of San Francisco and other municipal and organizational partners released the *Roadmap for City Food Sector Innovation and Investment*, a report on the best opportunities for local governments to strengthen local and regional food systems. At the top of the list was investing in supply chain infrastructure, including local/regional food hubs, food business technology companies, food business incubators, and farm-to-institution supporting businesses. These investments were highlighted as having the greatest potential to positively impact local and regional economic development and job creation.²² The report provides guidance to local governments in developing a local foods investment strategy and selecting municipal policies and initiatives to support local farmers and food entrepreneurs.²³ It establishes a process that involves visioning to create goals and objectives; mapping assets and gaps in local and regional food systems; assessing options for actions, both for individual or clustered projects; planning and implementation efforts that identify actors, partners, and appropriate financing and policy tools; and evaluation through indicators and metrics to track success.²⁴

Local governments can take the lead in analyzing and identifying local and regional needs for food aggregation, processing, and distribution facilities in their communities. In Lawrence-Douglas County, Kansas, the county government commissioned and funded a *food system analysis* in 2011.²⁵ It identified light processing facilities for vegetables as one of several missing links in the ability of local farmers to supply produce to local restaurants and institutions.²⁶ The county followed up by commissioning a *food hub feasibility study* that included the Kansas City metro region. Based on producer and consumer surveys, the study found potential for a core group of 15 to 25 farms to aggregate and market \$600,000 – \$750,000 of crop production in the first year, growing to more than \$1 million in sales by the third year. The study strongly recommended moving forward with the development of a regional food hub, including development of an aggregation facility within the region.²⁷ Though the county does not plan to build or operate the food hub itself, it played a vital role in commissioning the feasibility study to identify the need and lay out the process for food hub implementation.²⁸

Local governments can also help take grassroots food aggregation, processing, and distribution efforts to the next level. In central Minnesota's Region Five, a rural five-county area in central Minnesota, a local farmer started a farm-to-school program that



Northeast Kansas Food Hub Feasibility Study.
Image Source: http://media.khi.org/news/documents/2014/07/09/DG_Cty_Food_Hub_Study.pdf

within three years had grown to deliver 15,000 pounds of local foods to schools and engage additional buyers, including restaurants, grocery stores, and a hospital. Based on this success, the Region Five Regional Development Commission commissioned a *food hub feasibility study*, which identified local growers' needs for crop storage and processing facilities, including a commercial kitchen.²⁹ In response, a local group wrote a *business plan* to formalize and expand the farm-to-school program into a regional food hub offering packing, marketing, and distribution services, as well as education and training, to connect small local farmers to both wholesale institutional and direct retail customers.³⁰ The outcome was the creation of the *Sprout Food Hub and Marketplace*, which aggregates produce from more than 70 local and regional producers to supply farm-to-school programs in six local school districts, wholesale sales for local restaurants, and a Community Supported Agriculture program. Future plans include construction of a commercial processing center and kitchen for local growers' use.³¹ The staff support and technical assistance provided by the Region Five Development Commission enabled this transformation of a grassroots farm-to-school program to a regional food hub.

Financial Assistance for Food Infrastructure Development

Once gaps in the local and regional food system have been identified, the next step is to fill those gaps. Even though much of the actual work of food aggregation, processing, and distribution is done by the private sector, public-sector investment can help formalize, strengthen, and even incentivize entrepreneurial efforts.



Sprout Food Hub delivery truck. Image Source: <https://www.facebook.com/Sprout-Food-Hub-446267085428777/>

Redirecting Existing Resources

Local governments can choose to tap into existing resources, such as Community Development Block Grant funds, to support food aggregation, processing, and distribution facilities. The City of Madison, Wisconsin, has dedicated more than \$345,000 in CDBG funds to support the development of a community kitchen incubator project on the city's Northside identified as a high priority in the neighborhood plan.³² The **Food Enterprise & Economic Development (FEED) Kitchens**, managed by the Northside Planning Council (also funded by the City), now offers five commercial kitchens with specialized equipment available for rent by the hour to food businesses and individuals; a training kitchen for nonprofit, educational, and community use; dry, cold, and frozen storage; and office space for use by renters.³³ Though early use of the center was slow when it first opened in 2013, capacity doubled between 2014 and 2015 and plans are in place to expand cooler and freezer storage space, already at a premium. FEED users include local food-business entrepreneurs, a community group that repackages foods that would otherwise go to waste for food pantries and community centers, and bakery training programs for low-income or formerly incarcerated men and women.³⁴

Similarly, the City of Boston used the **Section 108 Loan Guarantee Program** to transform a small portion of its CDBG funds into \$3.2 million in funding to help turn an abandoned meat packing plant into a local food business center.³⁵ The abandoned Pearl Meats factory was purchased by the Dorchester Bay Economic Development Corporation in 2010 and redeveloped into the Bornstein & Pearl Food Production Center to serve as a network of incubator spaces to support start-up and midsize food businesses. By 2014 the site was home to more than 30 businesses, offering a shared commercial kitchen and mid-sized rental spaces nearly impossible to find elsewhere in the Boston area.³⁶

Accessing New Resources

Local governments can target a wide range of grant funding opportunities to support the development of food aggregation, processing, and distribution infrastructure. In Minnesota's rural Region Five, the kitchen at the Eagle Bend Senior Center was producing 4,000 nutritious meals per month for seniors in need, but the Center needed a bigger facility to meet the growing needs of seniors in Todd and Wadena Counties. In 2014, the Todd County Health and Human Services department received a two-year, \$465,400 Community Reinvestment Grant from the South Country Health Alliance to build a new facility. The Eagle Bend Community Kitchen and Center will allow the senior center to provide healthy meals for the region's growing senior population, as well as community organizations such as schools and jails, and will provide space for community classes, and programs for disabled individuals.³⁷ The new community kitchen and center will also support the county's Senior Fruit & Vegetable Program, funded by a Statewide Health Improvement Program (SHIP) grant, which delivers five-pound bags of fresh fruits and vegetables from local farms to homebound seniors each week during the summer season.³⁸

Providing Indirect Financial Support

Local governments can indirectly support food aggregation, processing, and distribution infrastructure through developing and funding food-related programming that uses that infrastructure. In Seattle, the local government-funded **Farm-to-Table** partnership (described in the **first policy brief** of this series), which purchases fresh local foods through the **Puget Sound Food Hub** to provide to programs serving children and older adults in Seattle and King County.^{39, 40} Farm-to-Table's relationship with the Food Hub supports further growth of the hub's food aggregation, processing, and distribution capacity while supplying vulnerable residents with fresh, healthy, local produce.

Offering Tax Incentives

In the city of Marquette, Michigan, the local government supported the expansion of the Marquette Food Co-op, a 42-year old community-owned natural grocery store, into renovated space in the downtown area that will further develop the Co-op as a regional food hub. The co-op serves as the administrative headquarters for the U.P. Food Exchange (UPFE), which supports three food hubs within the region and currently offers designated food aggregation and storage facilities in its basement to support the Central U.P. Food Hub. The expansion also provides space for a teaching kitchen and educational classroom.^{41, 42} The City established a Commercial Rehabilitation District that abates property taxes for five years on the project, a contribution valued at \$115,000.^{43, 44}

Public Land and Facilities

In addition to financial assistance, local governments can provide land and facilities to support local and regional food aggregation, processing, and distribution needs.



San Francisco Wholesale Produce Market. Image Source: <http://www.jacksonliles.com/san-francisco-wholesale-produce-market-master-planning/>

In 1959, voters in San Francisco approved a proposition to create a municipal market, and a nonprofit corporation was formed to help the city establish a produce market. Since 1963, the city has leased warehouse and industrial space on city land to the San Francisco Wholesale Produce Market, northern California's largest wholesale marketplace comprising around 30 produce and food-related businesses. In 2012, the city-county board voted to approve a new 60-year lease for the produce market, enabling additional improvement and expansion, furthering its essential role in the city's future food distribution system.⁴⁵ The market plays an important role in connecting local farmers of urban and peri-urban agricultural lands in the region with residents through vendors that sell organic and locally sourced products. It also serves as an important source of access to fresh, local food for agencies that service vulnerable communities as well as specialty markets operating in underserved, low-income communities, both of which rely on the affordable prices of the wholesale market.⁴⁶

Many cities control an inventory of vacant and abandoned land parcels, some of which are "brownfield" sites whose further development is hampered by the presence of pollutants from previous industrial or other uses. Though the contaminated soils on these sites may make them unlikely candidates for growing food, once remediated they can be used to site food aggregation, processing, and distribution facilities. In Louisville, Kentucky, the city granted a 24-acre vacant parcel of land worth \$1.2 million to a nonprofit developer for the creation of the **Louisville FoodPort**. The former National Tobacco Co. brownfield site will become home to a \$50 million complex featuring a 70,000 square-foot warehouse, commercial kitchen, and office space, along with a food truck plaza, demonstration farm, classrooms, and an anaerobic digester to convert the facility's waste into energy.^{47, 48} In the City of Waterbury, Connecticut, nonprofit Brass City Harvest is working with the city and other partners

to convert a 4-acre brownfield site into the state's first regional food hub, with a 40,000 square-foot facility where local growers can wash, prepare, package, and ship their produce. A \$65,000 state agricultural grant will fund a feasibility study for the food hub.⁴⁹



West Louisville Food Port, Aerial View from Market Street. Copyright OMA.



Rendering of the West Louisville Food Port Market Corner Visitor Center. Copyright OMA.

Food Infrastructure-Friendly Policies and Regulations

Finally, a number of local governments have adopted policies and regulations supporting the development of food aggregation, processing, and distribution facilities.

Comprehensive Plans

Though it is becoming more common for cities and counties to include goals and objectives addressing local and regional food production and healthy food access in their comprehensive plans, relatively few communities have yet gone further to include aggregation, processing, and distribution components.

Those who have include Beaverton, Oregon, which in its **Health Element** calls for supporting “affordable and sustainable local food systems, food hubs, and fresh food retailers to increase access to healthy food.”⁵⁰ In its **Comprehensive Plan**, Rock Island, Illinois, recommends working with “area businesses and entrepreneurs to develop distribution and processing centers for local foods” to increase access to healthy, local grown food.⁵¹ Montpelier, Vermont, has established extensive goals and action items in its **Master Plan** to grow its local and regional food system, including strategies of subsidizing institutional purchasing of local food; increasing direct purchasing between local growers and local restaurants, groceries, and institutions; supporting and enhancing processing and distribution facilities for local foods; and amending processing regulations so they support local agriculture.⁵² Marin County, California, establishes a goal in its **General Plan** of improving agricultural viability within the county, with associated policies of encouraging processing and distribution of locally produced foods and supporting local agricultural marketing efforts via a permanent public market and direct marketing to local and regional restaurants.⁵³

Functional Plans

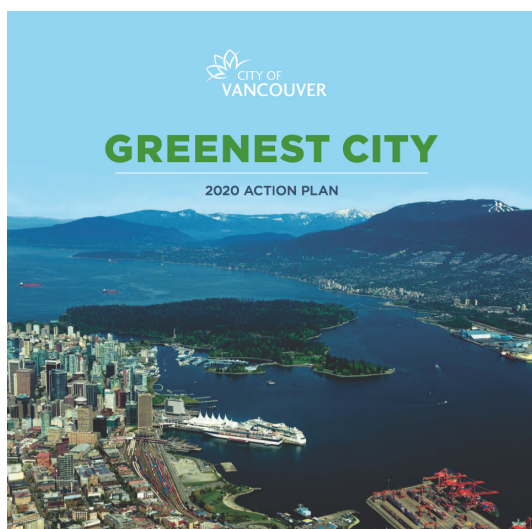
Some communities are also integrating more comprehensive approaches to food systems goal-setting in functional plans such as sustainability plans. In Madison, Wisconsin’s **Sustainable Madison** plan, the Planning and Design element includes the promotion and fostering of local and regional food systems as one of four goals. Policies include supporting efforts to develop distribution and processing centers for local food, and action steps also address connecting institutional buyers and local businesses and organizations with regional farmers and local processing/distribution centers.⁵⁴ The Boulder County, Colorado, **Environmental Sustainability Plan** includes a chapter on Local Food and Agriculture. Strategies to meet internal targets of supporting locally grown products and agricultural infrastructure include nurturing relationships between local growers, distributors, and potential buyers; investing in local food infrastructure, such as farmers markets, food processing facilities, and food distribution channels; and working with local growers to identify infrastructure needs for achieving local food production, such as storage facilities.⁵⁵ In the **Greenest City Action Plan** from Vancouver, British Columbia, Local Food is one of ten goal areas for the sustainability plan. A key strategy calls for supporting the creation of food infrastructure and food-related green jobs in production, processing, storage, distribution, and waste management. Actions to implement this strategy include creating a food-related incubator for local food businesses and a central food hub that can provide space for the assembly, processing, storage, and distribution of food and food products from local farms.⁵⁶

Zoning

Though most industrial districts already accommodate the warehousing, processing, and wholesale or retail sales com-



Boulder County, Colorado Environmental Sustainability Plan 2012. Image Source: <http://www.bouldercounty.org/doc/sustainability/sustainplanwebv.pdf>



City of Vancouver Greenest City 2020 Action Plan. Image Source: <http://vancouver.ca/files/cov/greenest-city-action-plan.pdf>

prising food hub activities, most communities do not regulate food hubs as a specific use.⁵⁷ One exception to this is Howard County, Maryland, which defines “food hub” as “a centrally located facility that facilitates the collection, storage, processing, distribution and/or marketing of locally produced food products” and permits it as an accessory use to farming in rural zoning districts.⁵⁸ Other rural communities, seeking to promote the viability of local farms and agricultural sectors, have amended their zoning codes to support development of on-farm processing and retail facilities. In 2014, Sonoma County adopted an **ordinance** to allow small-scale food processing facilities in agricultural and rural districts with administrative approval of

a simple, low-cost zoning permit.⁵⁹ The ordinance also allows several different types of on-farm retail, including community supported agriculture, seasonal farmstands and small retail facilities, cottage food enterprises, and tasting rooms.⁶⁰

Orange County, North Carolina, created an “Agricultural Support Enterprise” district as one of several floating zoning districts to provide for agriculturally related activities that are not considered bona fide farming activities within the county’s planning jurisdiction. Uses permitted in this district include private and community agricultural processing facilities, cold storage facilities, farmers markets and farmstands, microbreweries and wineries, and community and regional meat processing facilities.⁶¹ The Northwest Michigan Council of Governments and Michigan State University Center for Regional Food Systems have developed a **toolkit** to help local governments create “Food Innovation Districts”: overlay zones to encourage a mix of food-related commercial and industrial uses, including community kitchens, urban agriculture, light agricultural processing facilities, restaurants, warehouses, and food retail sales establishments.⁶²

RECOMMENDATIONS

Food aggregation, processing, and distribution facilities and infrastructure are critical aspects of building a consistent supply of local foods. They support local farmers, producers, and other food-related businesses and organizations in a community by allowing them to access larger and more diverse markets than they could as individual producers. This in turn improves access to fresh, healthy food for a wide range of consumers, including vulnerable and underserved populations. Research shows that aggregation, processing, and distribution facilities should be a policy and investment focus of local governments seeking to build strong local and regional food systems supporting multiple economic, community development, and public health goals.

This brief highlights the many ways and scales at which local governments can invest in aggregation, processing, and distribution infrastructure to support local and regional food systems, from commissioning assessment studies and food hub business plans to supporting the development of facilities and infrastructure or amending policies and codes. Whether driven by the grassroots efforts of farmers, community organizations, or entrepreneurs, or by planning processes and policies, local governments have important roles to play in supporting these efforts by providing technical or policy support, funding, or land and other resources. This is a dynamic area of food systems planning that offers local governments great opportunities to optimize opportunities to improve economic, social, and public health in their communities.



METHOD

The information contained in this brief was gathered through Growing Food Connections' Communities of Innovation research, as well as additional research completed for the writing of this brief. For more information visit: <http://growingfoodconnections.org/research/communities-of-innovation/>.

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GROWING FOOD CONNECTIONS PARTNERSHIP

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