# Contents

*Acknowledgements* ............................................. 4

*Executive Summary* ........................................ 5

*West Denver Food Access Issues and How A Food Hub Can Address the Challenge* ................. 9

- Study Area .......................................................... 10
- What is a Food Hub? ............................................. 12
- Food Hub Case Studies Summary ............................... 14
- Opportunities for a West Denver Destination Food Hub ........................................ 19
- Food Hub Opportunity Site Selection ............................. 21
- City Kitchen Food Hub Design Concept .......................... 26

*Business Feasibility Study* .................................... 35

- Retail Market Potential .......................................... 38
- Technical Issues and Risks for Food Hubs ........................ 43
- Equipment Requirements ....................................... 46
- Competition or Partnerships .................................... 47
- Funding a Food Hub ................................................ 49
- Partnerships ......................................................... 54

*Implementation Strategy* ...................................... 55

*Appendix* .......................................................... 59

- Commercial Equipment List .................................. 60

*Appendix: Food Hub Case Studies* .............................. 61

*Appendix: Community Feedback* .............................. 71

*Conclusion* .......................................................... 75
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This study is a “Healthy Eating Active Living” (HEAL) strategy to improve access to fresh, healthy, and local foods in the West Denver community proximate to the Decatur-Federal Light Rail Station, which includes the West Colfax, Villa Park and Sun Valley neighborhoods. Funded through a 2010 Community Challenge grant from the Department of Housing and Urban Development as part of the Federal Partnership for Sustainable Communities initiative to promote livability throughout the nation, the City of Denver is pleased to present this next step toward a more sustainable Denver.

Denver’s West Rail Corridor, a 12-mile light rail transit corridor between the Denver Union Station in downtown Denver and the Jefferson County Government Center in Golden, opened in April 2013, serving downtown Denver, West Denver neighborhoods, Lakewood, the Denver Federal Center, Golden and Jefferson County. Five stations will be located in Denver, including the Auraria West Station (at the Auraria Higher Education Center campus), the Decatur-Federal Station (near Colfax and Federal and central to this study area, and three neighborhood stations (at Knox, Perry and Sheridan along Lakewood Gulch south of Colfax). The intersection of West Colfax Avenue and Federal Boulevard near the Decatur-Federal station, next door to downtown Denver is rich with immigrant cultures. The area is defined by a rich history of Italian, Vietnamese, Latino and Jewish immigrants who call this area home. In more recent years, Somali and Somali-Bantu refugees joined this mix. Together these groups create a mosaic of subcultures unique to Denver. While Denver is a gateway city for immigration, many new residents face economic challenges and barriers due to language and culture; they lack a pathway out of poverty and lack access to fresh food.

The immediate area ranks among the lowest income Census tracts in the state and it is considered to be a “food desert” where hard working residents of humble means lack sufficient access to fresh food retailers.1 Residents here are resilient; many have escaped conflict nations seeking the freedom and opportunity offered by life in the United States. Security, health and happiness start each day with access to nutritious food to fuel and heal the body. However, households in this area start each day at a disadvantage simply because of a limited access to fresh fruits and vegetables. Studies of similar communities show that our food system is in trouble. A movement to correct imbalances, promote sustainable local food systems and improve access to nutritious food is underway. To address these issues, this feasibility study and concept plan explores the possible development of a food hub in the vicinity of the West Rail Corridor.

**Project Goal 1: Move toward implementation.**

The project vets the opportunities and challenges of developing a City Kitchen and results in a business plan concept that may be used for fundraising through traditional and emerging channels. To be successful a food hub must increase market access for local and regional producers, add value to the current food system, achieve triple bottom line (economic, environmental and social) impacts in the community through innovative and sound business practices. Feedback from community members aligns with these objectives and points to specific needs that a food hub must satisfy including access to healthy food (including food banks, SNAP/EBT access), job creation (and community ownership) and opportunity for social interaction.

**Project Goal 2: Be innovative and transformative.**

The project contributes to the development of a robust local food system and enhances the food security of residents, particularly our most vulnerable

populations. The project brings together a diverse partnership to create a community destination or food hub that is a source of jobs, business-to-business exchange, nutrition education and social interaction. The case studies illuminate a variety of innovative business models and financing strategies to implement a food hub project. To satisfy the goals of this project, examples like Weaver Street Market, Midtown Global Market, San Francisco Ferry Market and Detroit Eastern Market, illustrate how cooperative business structures, diversified financing strategies and public-private partnerships can leverage resources and expertise needed for implementation, effective operations and social impact. Repeatedly community stakeholders communicated the need to engage existing entities (including nonprofits, trusted resident advocates, private enterprises and other community organizations) currently working toward local food system development rather than creating a new entity to implement the food hub concept. To that end the food hub business plan should anticipate a cooperative, collaborative business structure that engages existing players in a shared services facility.

Project Goal 3: Create a HEAL model for use elsewhere in Denver and by other cities.
The project develops a replicable framework or model for City Kitchen design, construction, programming and operation that address critical community development needs such as workforce development/access to jobs, centralized siting proximate to strategic areas (downtown, urban residential neighborhoods and transit), nutrition education/food access in an underserved community and energy efficient design. By taking cues from the case studies, this project will develop a business plan that does not reinvent the wheel; rather, it will build on successful examples that are already in operation across the country to lay a foundation for food hub development in Denver. In particular the case studies examined planned improvements to and operational expansions of existing food hubs which showcase the latest green building practices to reduce energy consumption (such as daylighting and cogeneration), and cooperative economic development strategies to ensure livable wage job creation and retention. Information gleaned from the interviews indicates that demand exists in the community for the array of services and activities that would be offered in a destination development food hub (including nutrition education, food business incubation and job training and access to fresh, affordable food).

Project Goal 4: Complements other planning projects.
The project complements the adopted Blueprint Denver and West Colfax Plans. The project complements economic and community development goals near public housing facilities along the West Corridor line. The project furthers goals to reduce the geographic and social isolation of people living in public housing and neighborhoods underserved by fresh food retailers by introducing a community facility that provides access to fresh fruits and vegetables and may attract a variety of visitors/user groups from the larger community. To be transformative the food hub must be developed in an area where it can most directly impact residents (particularly those with limited mobility options and low access to food), and be visible and of a sufficient aggregate size with diverse offerings to attract visitors from outside of the community. To that end, input from community members indicated that the most appropriate site for a food hub would be either in Sun Valley, along Federal or within a short walk of a transit station area. These locations align with the goals of prior city planning efforts, and point to sites like Mile High Vista in the vicinity of Colfax and Federal, assemblages in Sun Valley or other sites within walking distance of the West Rail Corridor.
The City Kitchen Food Hub Feasibility Study aspires
to lay the foundation for a plan to transform a part of Denver’s west side (the Sun Valley neighborhood and surrounds) from a food desert to a community economic development opportunity centered around improved access to healthy food. By filtering the information gleaned from case studies and community outreach through the lens of specific project goals and outcomes, certain themes emerged to guide the development of a food hub concept that could take advantage of the neighborhood’s proximity to downtown, to the City’s West Rail Corridor, and to serve a neighborhood population currently located in a USDA defined Food Desert2.

This study evaluates the definition and types of food hubs, and ultimately explores what it will take to create a Terminal Market/Destination Food Hub for urban agriculture, food storage, processing and distribution, nutrition education, business incubation and health screenings among other potential activities.

Process

Over a six month period, Staff conducted focus groups with key resident stakeholders in the Study Area, particularly residents in Sun Valley and West Denver. These residents provided rich information regarding food needs often related to cultural dietary requirements, food costs, and almost always related to poor physical access to food due to distance or transportation barriers. Throughout the process, Staff interviewed and contacted a variety of field experts already engaged in food access including government agencies like Denver Public Health and nonprofits like Revision International, a group dedicated to engaging parts of the West Denver community in growing their own food. The resulting recommendation for a terminal destination food hub grew from an understanding that a future food hub would have to be catalytic in both social and economic terms, supporting food needs for the local population while offering other revenue-generating ways to attract uses from across the City and region.

The study is strategic in nature, and designed for implementation by groups who can take the information to a more detailed level when an actual site can be secured and funding raised to support initiation of different aspects of the food hub. Throughout the process, it was clear that the varied services of a destination food hub could be implemented in phases as long as the long term vision is clear and to the degree that land is secured over time to implement the full project in the coming years.

During the month of May, project team members met with a variety of residents in a series of four meetings to obtain information about food access in the community, introduce the concept of a food hub and solicit feedback about the core components of a potential food hub. The meetings included a general community meeting conducted in English, as well as three community meetings conducted in the native languages of the Limited English Proficiency (LEP) communities that are heavily represented in the study area (these include Latino/Spanish-speaking, Vietnamese, Somali and Somali-Bantu). Each group responded to the same series of questions. The feedback from the community helps to reinforce the idea that a future food hub will need to provide for multiple uses and go beyond simple food access, offering community-oriented gathering space and community services.

Study Components

Defining Food Access Issues and How Food Hubs Can Be a Solution

This section reviews the existing conditions around food and cities, including a demographic review of West Denver issues, and identifies a typology of food hubs based on case studies from around the country. These studies provided needed insight into the typology of food hubs, and with that, community interviews to identify specific food access challenges on the West Side and how a food hub may help achieve a greater vision for health food access to west side residents.

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Avondale Shopping Center, currently Mile High Vista. Additional land could be added to this idea were the vision for the intersection of Federal and Colfax to change, resulting in land gained from an alternative pedestrian-oriented design in the future.

**Business Feasibility**
The logistics and technical issues surrounding establishment of a food hub are complex, revealing multiple layers and steps to identify food supply and demand characteristics, retail market potential, site assessment, and funding.

**Implementation Strategy**
The implementation plan consists of next-step actions that can be taken to achieve the recommendations in this study.

“Make no small plans. They have no magic to stir men's souls. Make big plans. Aim high in hope and work, remembering that a logical diagram once recorded will not die.”
West Denver Food Access Issues and How a Food Hub Can Address the Challenge
**Food Hub Concept for West Denver**

This study recommends a destination food hub concept that reaches beyond food access into community service facility and gathering place and can be, in the long term, central to the vision for a sustainable healthy neighborhood. The City Kitchen team reviewed approximately 10 sites in Denver and Lakewood proximate to the West Rail Corridor as potential locations for a hypothetical food hub. After site visits and preliminary analysis, the team narrowed the potential sites to five (5) for further analysis. Factors influencing the site selection included visibility, alignment with adopted City of Denver plans for growth and potential for the project to be transformative for the area. Ultimately, the team selected the site formerly known as the

The study area encompasses multiple neighborhoods between Sheridan Boulevard, 6th Avenue, 17th Avenue, and I-25. The resident population in the immediate area is 20,787 residents in 6,469 households (expected to grow to 22,007 residents in 6,811 households by 2015), with a daytime employee population of 11,966. Annual household expenditures on food at home are $4,692 (expected to increase to $5,579 by 2015). Total consumer spending on food at home in the area exceeds $17.2M (expected to rise to more than $22.2M by 2015). Consumer expenditures on food away from home exceed $12.2M (expected to climb to nearly $15.8M by 2015). The area has a total retail gap (leakage) of nearly $12.7M for food stores and food services. A high concentration of low-income residents (who are geographically isolated from the larger community by physical and major transportation barriers) characterizes the study area. The community is considered to be a food desert with limited access to a supermarket or large grocery store. According to census tract data, these communities generally have either a poverty rate of 20 percent or higher, or a median family income at or

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3 Source: ESRI Business Analyst Online
below 80 percent of the area’s median family income. Low-access/food desert communities are defined as having at least 500 people and/or at least 33 percent of the census tract’s population more than one mile from a supermarket or large grocery store. The USDA’s Food Desert Locator (http://www.ers.usda.gov/Data/FoodDesert/fooddesert.html) indicates that the census tracts in the immediate vicinity of the Decatur-Federal Station have a population of 7,908 residents. Of these residents, 2,498 are considered to have low access to fresh food with 1,214 people experiencing both low access and low-income. The USDA Food Desert Locator illustrates that a significant portion of the study area is a food desert centered at the intersection of Federal Blvd. and W. Colfax Ave., an area that includes both the Sun Valley and Westridge Homes public housing communities. Neighboring Lakewood also includes food desert census tracts straddling the West Rail Corridor.

**Food and Cities**

World population by 2050 is expected to be 69% urban (increasing from 6.8 to 9.5 billion people).\(^4\) With urbanization of the world population and price volatility in global food supplies due intensification of climate change (crop failures from drought, floods and other natural disasters) and diminishing oil reserves (leading to higher transportation costs) comes the need for greater food system resilience. These issues necessitate a food system that promotes more agricultural production geographically proximate to population centers. To do so will require infrastructure investment in supportive aggregating, storage, processing and distribution centers or food hubs.

The Food and Agriculture Organization of the United Nations in its report, *Food, Agriculture and Cities*, states that, “Food and nutrition security across the continuum of urban and rural landscapes embraces a set of core values including:


- The tenet that people-centered approaches to sustainable diets and the right to food are linked;
- That stronger urban-rural linkages will help buffer price and climate change volatility;
- That disaster risk reduction requires planning for long term food system resilience; and
- That urban consumers will ultimately shape the food system through market choices that support family farmers and the ecosystems on which we all depend.”

In his book, *The Vertical Farm*, Dr. Dickson Despommier examines the urgent need to improve our food system infrastructure to ensure food security for a rapidly expanding population. The world currently requires an area of cropland equivalent to the entire South American continent, factoring in the area required for animal grazing/husbandry means we use 80% of all dry land available in the world for food production. By 2050, we will require an additional landmass the size of Brazil to farm in order to feed the expected 9.5 billion people that will inhabit this planet.\(^5\) To meet this demand means cities must:

- Enhance urban-rural supply chains
- Integrate vertical agriculture with urban structures and
- Evolve vast, innovative food system infrastructure that includes food hubs.

While urban food hubs may support the development of robust food system infrastructure, these facilities have the additional potential to become economic development generators and revitalization catalysts in declining urban areas. In such places, a food hub may be a source of needed employment opportunities for low income and immigrant populations. Due to the multipurpose nature of the facilities, food hubs may encourage an agglomeration of uses that foster community gathering and commerce.

\[^{5}\] Despommier, Dickson, PhD. *The Vertical Farm: Feeding the World in the 21st Century.* St. Martens Press, NY, 2010
What is a Food Hub?

**USDA definition**
The USDA's working definition of a food hub is: “A centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products.”

**Food Hub Core Components**
At their essence all food hubs, regardless of type, bridge the divide between producers and consumers. How a food hub bridges this divide provides a loose framework to distinguish different types of food hubs. Existing and emerging food hubs generally fall into one of three types of operations. The type operation defines the primary function or core components of the food hub.

**Wholesale Food Hub: Aggregation & Distribution**
**Broker/administrative services:** Handles the logistics and administrative overhead to ensure large, consistent and reliable supplies of locally-produced foods from small to mid-sized farms. **Business management systems:** Provides the business management systems that most farmers lack, which is key to accessing consumer markets. **Marketing/market development:** Provides marketing to increase/maintain demand for locally produced food and provide education services regarding the economic, social and health benefits of eating locally/seasonally. **Aggregation:** A core function of wholesale food hubs is to aggregate source-verified (often organic) produce from multiple farms. In a rural setting, a wholesale food hub is close to the source of produce, and serves as a drop off point for multiple farmers. In an urban setting, a wholesale food hub is often linked to smaller packinghouses in the hinterlands. **Distribution:** Wholesale food hubs function as the pick-up point for end markets that want to buy source-verified local food in palletized form. Wholesale food hubs link farms to consumer markets (which may range from individuals participating in a Community Supported Agriculture program to bulk purchasers such as institutions, schools, restaurants, brokers or grocers).

**Packing facility:** A wholesale food hub typically operates a centralized packing facility that stores, washes, sorts, grades and packs fresh produce for distribution to markets. The wholesale food hub may also handle distribution - operate loading docks and a fleet, as well as orchestrate supply side logistics (route planning and scheduling, etc.). More intensive food hubs may also include small animal (chicken, goat, rabbit) slaughter facilities. **Farming technical assistance:** A wholesale food hub may operate its own production farm and incorporate programs to grow a network of farmers including training in growing methods and coordination of planting schedules to ensure a supply adequate to meet demand. **Branding & market development:** A wholesale food hub often incorporates programs or activities to develop and grow markets for farm products. Often food is sold under the wholesale food hub’s regional label (while maintaining individual farm identity).

**Brokerage/Cooperative Food Hub: Active Coordination**
**Broker/administrative services:** Grass roots, volunteer run organization that functions as a hub business management team. Actively coordinates web-based catalogues and supply chain logistics to connect producers with consumers. **Marketing/market development:** Provides marketing to increase/maintain demand for locally produced food and provide education services.
Case Study Locations

Wholesale Food Hubs

- Appalachian Sustainable Development
  Location: Duffield, VA
  Building SF: 25,000 SF
  Business Model: Private partnership
  Community Services: Yes
  Operating Budget: Website: www.asdevelop.org

- High Plains Food Cooperative
  Location: Rocky Mountain (Fort Collins, CO)
  Building SF: N/A
  Business Model: Cooperative
  Community Services: Yes
  Operating Budget: Website: www.highplainsfood.coop

- Healthy Food Hub
  Location: Chicago, IL
  Building SF: 11,000 SF
  Business Model: Publicly owned
  Community Services: Yes
  Operating Budget: Website: www.healthyfoodhub.org

- Iowa Food Cooperative
  Location: Iowa
  Building SF: N/A
  Business Model: Cooperative (run by an 8-member producer and consumer member board)
  Community Services: Yes
  Operating Budget: Website: www.iowafood.coop

- Midtown Global Market
  Location: Minneapolis, MN
  Building SF: 75,000 SF (within more than 1M SF of vertical mixed use development)
  Business Model: Private partnership
  Community Services: Yes
  Operating Budget: Website: www.midtownglobalmarket.org

- The Food Hub at Lafayette Square (planned)
  Location: St. Louis, MO
  Building SF: 11,000 SF
  Business Model: Private
  Community Services: Yes
  Operating Budget: Website: www.highplainsfood.coop

- Weaver Street Market
  Location: North Carolina (multiple locations, Food House located in Hillsborough, NC)
  Building SF: 11,000 SF (Food House only, excludes administrative offices)
  Business Model: Private
  Community Services: Yes
  Operating Budget: Website: www.weaverstreetmarket.coop

Brokerage/Cooperative Food Hubs

- Classic Food Urban Food Factory
  Location: Portland, OR
  Building SF: 50,000 SF
  Business Model: Privately owned
  Community Services: Yes
  Operating Budget: Website: www.classic-foods.com

- Goodness Greenness
  Location: Chicago, IL
  Building SF: 25,000 SF
  Business Model: Non-profit
  Community Services: Yes
  Operating Budget: Website: www.goodnessgreeness.com

- The Food Hub
  Location: Charlottesville, VA
  Building SF: 3,800 SF
  Business Model: Non-profit
  Community Services: Yes
  Operating Budget: Website: www.localfoodhub.org

- Healthy Food Hub
  Location: Chicago, IL
  Building SF: N/A
  Business Model: Buying club
  Community Services: Yes
  Operating Budget: Website: www.healthyfoodhub.org

- Goodness Greenness
  Location: Chicago, IL
  Building SF: 25,000 SF
  Business Model: Non-profit
  Community Services: Yes
  Operating Budget: Website: www.goodnessgreeness.com

- The Interval Center
  Location: Vermont
  Building SF: 1,600 SF
  Business Model: Non-profit enterprise with for-profit management style
  Community Services: Yes
  Operating Budget: Website: www.intervalce.org

- Local Food Hub
  Location: Charlottesville, VA
  Building SF: N/A
  Business Model: Non-profit
  Community Services: Yes
  Operating Budget: Website: www.localfoodhub.org

Terminal Market/Destination Food Hubs

- Appalachian Sustainable Development
  Location: Duffield, VA
  Building SF: 25,000 SF
  Business Model: Private partnership
  Community Services: Yes
  Operating Budget: Website: www.asdevelop.org

- Detroit Eastern Market
  Location: Detroit, MI
  Building SF: 20,000 SF (Market Hall only)
  Business Model: Publicly owned
  Community Services: Yes
  Operating Budget: Website: www.detroiteasternmarket.com

- Greenmarkets/GrowNYC
  Location: NYC five boroughs
  Building SF: N/A
  Business Model: Non-profit (quasi-governmental)
  Community Services: Yes
  Operating Budget: Website: www.grownyc.org

- Midtown Global Market
  Location: Minneapolis, MN
  Building SF: 75,000 SF (within more than 1M SF of vertical mixed use development)
  Business Model: Private partnership
  Community Services: Yes
  Operating Budget: Website: www.midtownglobalmarket.org

- San Francisco Ferry Market
  Location: San Francisco, CA
  Building SF: 240,000 SF
  Business Model: Public-private partnership
  Community Services: Yes
  Operating Budget: Website: www.ferrybuildingmarketplace.com

- Weaver Street Market
  Location: North Carolina (multiple locations, Food House located in Hillsborough, NC)
  Building SF: 11,000 SF (Food House only, excludes administrative offices)
  Business Model: Private
  Community Services: Yes
  Operating Budget: Website: www.weaverstreetmarket.coop

- The Food Hub at Lafayette Square (planned)
  Location: St. Louis, MO
  Building SF: 11,000 SF
  Business Model: Private
  Community Services: Yes
  Operating Budget: Website: www.highplainsfood.coop

- Weaver Street Market
  Location: North Carolina (multiple locations, Food House located in Hillsborough, NC)
  Building SF: 11,000 SF (Food House only, excludes administrative offices)
  Business Model: Private
  Community Services: Yes
  Operating Budget: Website: www.weaverstreetmarket.coop
regarding the economic, social and health benefits of eating locally/seasonally.

**Direct-to-consumer.** Brokerage/cooperative food hubs create a bridge between consumers and local farms. A consumer group’s collective buying power informs the size of the hub, where buying clubs represent one end of the spectrum and region serving grass roots cooperatives represent the other end.

**Volunteer support.** Brokerages/cooperatives typically rely heavily on volunteer support for operations and coordination of drop-off and pick-up sites for produce.

**Virtual transactions.** Since these food hubs typically do not operate a conventional storefront or maintain inventory, sales are transacted virtually through an online database of available farm products.

**Cooperative structure.** Cooperative business structures with producer and consumer members have maximum economic benefit with dues or transaction costs leveraged to cover operational expenses.

**Supply side logistics:** Works with farmers to coordinate planting schedules and manage product varieties in order to promote variety in local product supplies, and consistent year-round production.

**Terminal Market/Destination Food Hub:**

**Comprehensive Activity**

**Packing house/distribution center:** Provides the space and equipment for food to be stored, lightly processed, packed, palletized and sold under a Hub’s regional label (while maintaining the farm identity).

**Food access:** Serve as the terminus for wholesale and retail vending of regional foods, as well as a point of social gathering related to the food system including education, community events, exchange and the like.

**Health services:** Offers health and social services, such as offices for health and human service providers, diet-related disease screening and counseling

**Commissary kitchen facilities:** Includes a commissary kitchen for value-added food processing for sale to consumers and/or event/teaching kitchens that support cooking classes, nutrition education and community functions

**Food access assistance:** Serves as a pilot site for EBT and WIC technologies.

**Community gathering:** Provides low cost of free of charge community event space. Provides meeting space or classrooms for community meetings, nutrition education, family food budgeting courses, food business start-up and business planning classes.

**Business incubation services/facilities:** Acts as business incubator and shared services facilities (conference rooms, office equipment, phones, etc.) for food micro-entrepreneurs.

**Development anchor/catalyst:** Acts as a development catalyst in a revitalizing area by creating a critical mass of activity with destination appeal and a high degree of commercial exchange.
“Food hub” as a term has been applied to a broad spectrum of land uses designed to provide access to fresh food, but case study research reveals the marked differences in operations and services. Below is a summary of the three types of food hub categories defined above - Wholesale, Brokerage, and Terminal Market/Destination. It is this latter type to which a fully phased City Kitchen can aspire, but depending on funding, partnership, and programming, any one or a mixture of hub components can be initiated to start the effort. Full case study research can be found in the Appendix.

**Wholesale Food Hubs**

*Appalachian Sustainable Development*
*Local Food Hub*
*Goodness Greeness*
*The Intervale Center*

**General description and typical operations.** Numerous wholesale food hubs exist across the United States. Growing demand for local, organic food, makes these hubs essential to the development of markets for the small to mid-size specialty crop farmers. Many bulk purchasers find it difficult to identify a single source that can supply the large quantities of food required. Wholesale facilities are, therefore, instrumental in organizing small to mid-size family farmers. Functions such as planting schedule coordination (to ensure that farmers plant high demand crops in sufficient quantity to meet the demands of bulk purchases), technical assistance (to promote adherence to food safety standards demanded by purchasers) and centralized packing houses (for farmers to drop off produce for grading, packing and distribution to bulk purchasers including institutions such as hospitals, schools, grocers, restaurants and the like) are critical components of aggregation/wholesale distribution food hubs.

**Issues for Consideration.** Due to its central urban location, a food hub on Denver’s West Side would be conducive to wholesale aggregation and distribution of produce. Proximity to freeways and the state highway system would aid transportation logistics. Such a facility could enhance urban-rural partnerships by creating a feeder network from small to mid-sized family farms and rural packinghouses to an urban storage, distribution and processing center. A central city food hub could also serve as a packinghouse for urban agriculture. Such a feeder network would create efficiencies in supply chain logistics as scattered farm sites and smaller rural aggregation/distribution-wholesale facilities could feed a larger urban aggregation/distribution hub. An urban food hub could take on a greater share of market development activities given the proximity to a concentration of population, and networks of bulk purchasers and marketing service providers, allowing farmers to focus on growing and smaller rural food hubs to specialize in packinghouse functions without the added dimensions of transportation logistics, market development and marketing.

**Brokerage/Cooperative Food Hubs**

*High Plains Food Cooperative*
*Iowa Food Cooperative*
*Healthy Food Hub*

**General Description and Typical Operations.** Active coordination food hubs act as a bridge between eaters and producers, and typically function in a grass roots, cooperative style with both producer and consumer members. These food hubs typically do not maintain any inventory, all “inventory” is pre-ordered. The producer member owns the produce and the consumer member holds title to it once a purchase has been made. Buying clubs, where individuals collectively purchase food
from producers, also fall under the header of active coordination food hubs. These food hubs typically are “virtual” lacking significant facilities, maintaining web-based catalogues or very minimal aggregating facilities with partner distribution sites. The producer and/or consumer members often act as volunteers who oversee the distribution activities. Producers handle any washing, sorting, grading and packing of produce. The broker services connect farmers and consumers to ensure more efficient production and distribution that helps reduce the cost of fresh, local produce.

**Issues for Consideration.** A recent Colorado State University Extension Study\(^7\) found that despite significant increases in the consumption of specialty produce, expansion of produce offerings at groceries, and growth in direct to consumer outlets (like farmers markets, CSAs and roadside stands), only a small handful of formal cooperatives serve the emerging niche and specialty produce markets in Colorado. The study acknowledged the many benefits that cooperatives offer to small and mid sized family farmers including improved competitive advantage (vis a vis large operations that capture greater economies of scale), coordinated planting schedules, gaining market access, transportation logistics and alleviating administrative burdens associated with sales, logistics and marketing which detract from the primary purpose of growing. Through substantial outreach interviews with growers, the study identified some of the factors that influence formation of or participation in cooperatives, the study concluded that cooperative education could help overcome these barriers. As Denver’s City Kitchen initiative takes shape, development of a food hub presents the opportunity to engage CSU Extension and existing Colorado cooperatives in the educational programming and operation of the food hub, particularly providing coordination of and support services for a source network of producers. The USDA’s Know Your Farmer, Know Your Food (KYF2) program’s Regional Food Hub Resource Guide states that one of the primary roles of regional food hubs is to have “significant economic, social and environmental impacts within their communities.”\(^8\) Within this role falls the opportunity to develop innovative business models, improve farm sales, create/retain jobs in the food system, expand marketing and social enterprise development, build the next generation of farmers and develop more sustainable and reliable methods of agricultural production.

**Terminal Market/ Destination Food Hubs**

- Weaver Street Market
- Greenmarkets/GrowNYC
- Detroit Eastern Market
- San Francisco Ferry Market
- Midtown Global Market
- Classic Foods Urban Food Factory
- The Food Hub at Lafayette Square

**General Description and Typical Operations.**

Destination development food hubs typically incorporate aspects of aggregation/wholesale and cooperative/brokerage food hubs, housing these activities within a centralized location (usually an urban setting). Proximity to a dense population base means that these facilities provide direct to consumer access (as in a farmers market, indoor vendor arcades, food banks or small market/grocery) or other programs that cater to a general consumer or end user. A terminal market may offer an array of services such as cooking classes, nutrition education, business incubation, on-site production (vertically integrated greenhouse/aquaponics and/or a production garden) and community gathering space so long as these activities are secondary to

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\(^7\) Jennifer Keeling Bond, Kellie Enns and Bill Brockhouse, “Marketing Fresh and Specialty Produce through Cooperatives and Collectives in Colorado with Implications for Cooperative Education Programming”, Agricultural Marketing Report, Colorado State University Extension, June 2011 AMR 11-05; 

and encourage trade. While aggregation/wholesale or cooperative/brokerage food hubs fall into either a farm-to-business/institution model or a farm-to-consumer model, a destination development food hub may encompass aspects of both models, functioning as a hybrid that serves a variety of end users. The emerging model for a 21st century food hub in an urban setting is a destination development, which has the potential for the greatest triple bottom line (economic, social and environmental) impacts. Operators of these types of food hubs are not just property managers; rather they take an active role in value chain business development, facility programming and community engagement (both urban and rural).

**Issues for Further Consideration.** As the country’s population concentrated in urban areas, we transferred the responsibility for feeding ourselves to private, industrial agriculture operations. While these operations are essential to our current food system, there is growing awareness that we need to diversify and enhance the contributions of small to mid-sized growers close to home. Doing so will ensure a reliable and sustainable supply of fresh, healthy food that minimizes ecological impacts and the carbon footprint of food production and distribution. Destination development food hubs are gaining popularity as a solution to the inadequate infrastructure available to small to mid-sized farmers. Expansion of this infrastructure will fill a market niche that aids aggregation, distribution and processing of local food and develops market channels to bulk purchasers.

Beyond these basic functions, “food hubs provide a number of additional services that build the capacity of local producers and also engage buyers and consumers to rethink their purchasing options and habits.” As such urban food hubs have the potential to bridge the gap, providing needed infrastructure for small to mid-sized local farming operations to meet the growing demand for local food and influence consumer food choices, while collaborating with conventional supply chains to maintain access to fresh produce in off peak months.

**Hybrid Model** - Destination development food hubs may be direct-to-institution (wholesale), direct-to-consumer (retail) or more often a hybrid that offers wholesale and retail sales plus an array of other commercial services and programmed activities.

- **Diverse Activity** - Destination developments include diversity of uses that attracts a variety of user groups and supports multiple destination itineraries.
- **Critical Mass** - Such facilities are typically of a substantial size – most often in excess of 20,000 SF for individual buildings or up to 40 acres for district developments to support critical mass of activity.
- **On-Site Production** - The emphasis of terminal markets is on trade. On site production may be a part of terminal market development to the extent that it also functions as an activity generator and the site and supplies additional goods for trade.
- **Community Benefit and Public Finance** - Since social gathering is a key function of destination development food hubs, such facilities often develop through public-private partnerships where community benefit may be gained from a combination of innovative financing mechanisms without which the project would not be feasible. Such financing tools often include grants, tax credits, tax increment financing and low interest loans to realize destination development food hubs. As a result, even privately held projects function to some extent as social enterprises that provide community amenities such as low-cost or free-of-charge event and meeting space, event/teaching kitchens (that support cooking classes, nutrition education and community functions), classrooms (for nutrition education, family food budgeting courses, food business start-up and business planning classes), and space for summer lunch programs for low-income children.

Destination development food hubs may be pilot sites for electronic benefit transfers (EBT).
to process Supplemental Nutrition Assistance Program (SNAP) benefits, Women Infant and Children (WIC) programs and/or food banks (especially consumer choice food banks that clients may shop like a grocery store for needed emergency food supplies). Other health and social services may include offices for health and human service providers, as well as diet-related disease screening and counseling.

- **Economic Activity Generators** - Destination development food hubs function as economic generators that support commerce and job growth, as well as development catalysts that draw visitors and attract investment (like hotels, residential uses and businesses that benefit from proximity to the food hub).

- **Transportation Access** - As with wholesale food hubs proximity to transportation and customers is a key attribute. In addition to proximity to the state and federal highway systems to serve distribution components, destination development food hubs benefit from good access for regional visitors as well as a pedestrian friendly environment within convenient walking distance of nearby residential areas and transit stops/stations.

- **Shared Services Facilities** - Destination development food hubs often act as a business incubator with shared services facilities (conference rooms, office equipment, phones, etc.) for food micro-entrepreneurs. Such facilities often accompany a commissary kitchen that supports food business development through value-added food processing for sale to consumers.

- **Iconic Green Architecture** - Destination development food hubs often involve the construction or rehabilitation of an iconic structure. Design elements reinforce community gathering aspects of the food hub and often include green building elements to offset the high energy demands of these facilities.

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**Recommended Approach**

Food hubs provide the business management systems that most farmers lack, which is key to accessing consumer markets. Food hub services increase and maintain demand for locally produced food through marketing that promotes small family farmers and educational campaigns regarding the economic, social and health benefits of eating locally and seasonally.

No matter the type of food hub, generally such facilities work with farmers to promote variety in local product supplies and consistent year-round production. How food hubs bridge the gap between producers and eaters distinguishes one food hub from another.

After reviewing the core components and key attributes within the context of the opportunities and constraints of Denver’s West Side, and taking into account the diverse food access and community needs on Denver’s West Side based on focus group outreach, this research points to a destination development food hub. This type of hub will take advantage of the area’s location within the region, catalyze development within the planning area, facilitate community gathering and interaction, improve access to affordable, fresh, healthy food, and enhance the self-sufficiency of area residents through economic development and workforce opportunities.

These considerations when applied to the original project goals/outcomes will inform the screening of different opportunity sites within Denver’s West Side and lead to the selection of one site for further study.
Community Economic Development
The core functions of the various types of food hubs mean that such a development could provide a source of livable wage jobs for area residents, from manual labor to executive business management. A food hub with a cooperative business structure harnesses the collective buying power of a group of people, which is particularly important in an area like the West Side with large Census tracts identified as food deserts. Over time as the cooperative grows, members stand to benefit economically and socially through dividends and reinvestment of profits in community development. The case studies illustrate the spectrum of cooperative structures ranging from buying clubs (like Healthy Food Hub) that in their simplest form improve access to fresh food to more elaborate cooperatives (like Weaver Street Markets) with their dividends and community investment programs on the far end of the spectrum. A cooperative business structure may provide a significant path to self-sufficiency for West Denver residents who experience a high degree of economic insecurity. Development of a cooperative food hub may be an ideal way to initiate a West Denver food hub, since such a structure has fairly low overhead requirements initially relying on volunteers for operational support with the potential over time to grow into a complex, robust community development entity. Additionally, there is growing interest from state and federal level institutions to see the development of cooperatives that strengthen urban-rural partnerships, bring fresh, healthy food to consumers in urban areas and create markets for small family farm products. Healthy Eating Numerous Census tracts on the West Side are classified as food deserts lacking access to fresh, healthy food. A West Side food hub that focuses on wholesale and distribution services may not be able to fully address food access needs of the immediate community members. Therefore, a potential food hub should include direct-to-consumer retail sales of fresh produce and/or a food bank to provide no-cost access to emergency food supplies. Across the board, West Denver residents indicated a desire for a food hub to serve as the terminus for wholesale and retail vending of regional foods, as well as a point of social gathering related to the food system including education and community events. Residents noted that it is important for a food hub to offer a diverse selection of food including meat, dairy, eggs, spices, fruits and vegetables (staples, as well as culturally significant foods) to allow for one-stop shopping. Some residents went so far as to express a desire that a food hub incorporate small animal slaughter facilities for the following key reasons:
- To ensure access to the most fresh meat (particularly important to the Somali/Somali-Bantu residents)
- To provide a source of jobs (Somali/Somali-Bantu residents view animal slaughter as a culturally important activity and a respected, desirable job)
- To process animals allowed by Denver’s recently passed Food Producing Animals ordinance which allows backyard chickens, goats, but prohibits on-site slaughter
A food hub in an urban area like West Denver presents the opportunity to be an aggregation and distribution center for urban agriculture and a training/technical assistance outlet for urban farmers and small food business entrepreneurs. An on-site production garden/urban farm and/or
Food Hub Concept for West Denver Opportunity Sites

- Lakewood Elks Lodge
- Saint Anthony's Redevelopment Site
- Mile High Vista (formerly Avondale)
- Confluence Ministries
- Sun Valley Kitchen
- Sun Valley Homes (DHA)
- Sisters of Color

Bus Route
Light Rail Route
Light Rail Stop
Food Hub Opportunity Site
A greenhouse/aquaponics facility should be included in planning for a an urban food hub.

**Catalytic Development Potential**

West Denver, particularly the Census tracts identified as food deserts contain several desirable redevelopment parcels of a substantial size that could reasonably handle the more industrial-commercial, nuisance impacts of a food hub including noise, traffic and hours of operation from the distribution function. West Denver’s proximity to the state and federal highway system, particularly the portions that fall within Denver’s industrial crescent, make it an ideal location for a food hub with a significant distribution function. West Denver’s proximity to a concentration of end users predisposes the area to a large-scale distribution facility with a heavy focus on market development. However, a food hub strictly focused on wholesale distribution or brokerage services may not be sufficient to catalyze the desired mixed use development. Adopted area plans call for land development that promotes social gathering and interaction, especially in TOD station areas, main streets and town centers. A food hub that provides both wholesale and retail food access would be an ideal activity inducer.

Proximity to two Denver Housing Authority communities and Denver Human Services on the West Side creates an opportunity for partnerships between a food hub and the social service providers including workforce development and health screenings. A variety of factors predispose West Denver to a food hub with catalytic investment potential. These factors include proximity to downtown, greenways with bike trails, Sports Authority Field at Mile High, public housing and rapid transit/light rail station areas. An existing high concentration of population and employment (with the potential for additional housing and employment development on large investment parcels) provides a supportive base of consumers to serve and grow strategically. A concentration of marginal, auto-oriented land uses that detract from a sense of place defines the existing conditions of West Denver’s real estate. Destination development in the area, though promising, will be pioneering, risky and require substantial public partnership to be successful. Consideration should be given in the business planning stages to how to germinate a food hub on the West Side with a goal to grow it into a destination development in the absence of a willing investor or partnership.

**Criteria for Opportunity Site Selection**

This study takes an in depth look at a hypothetical opportunity site to develop as a food hub. Looking at a real site within the community provides a more realistic set of variables to analyze in order to understand what would be required to implement a project of this nature. To that end, the project team identified five sites with input from property owners, residents and community organizations. The project team used the following criteria to determine potential opportunity sites for a future food hub:

1. **Proximity to the West Rail Corridor** – is the site within a reasonable walking distance of the West Rail Corridor or is it conveniently accessible by bike or transit?
2. **Transportation Access** - Is the site accessible to the state and federal highway system to ensure convenient access for suppliers in the region and high visibility?
3. **Sufficient Size or Adaptive Reuse** - Does the site offer the potential for adaptive reuse of an existing structure or does the
site offer sufficient undeveloped land for reasonable development to accommodate a wide variety of food hub functions (such as processing, distribution, aggregation, storage, on-site production, business incubation, etc)? Is the site of a sufficient size (greater than 10K SF) to accommodate the diversity of uses that may define a food hub?

4. Development Potential - Is the site within a potential redevelopment area that may support complementary uses such as retail, residential or community facilities (such as a town center identified in the West Colfax Plan) or is there potential for the site to act as an activity center or destination development catalyst in the immediate area consistent with the West Colfax Plan vision?

5. Property ownership – is the site assembled (not in fragmented ownership or some other holding situation that would make it difficult to acquire/develop)? Would food hub development be of interest to the property owner?

Descriptions of the West Side Opportunity Sites

After review of the study area using the above criteria, the team selected the following five sites for consideration:

1. Saint Anthony’s Central Hospital

2. Xcel Power Plant (associated with the planning area for the Decatur-Federal Station Area Plan)

3. Mile High Vista (associated with the planning area for the Decatur-Federal Station Area Plan)

4. Scattered small sites – Sun Valley Kitchen, Sisters of Color, Confluence Ministries

5. Lakewood Elks Lodge

Saint Anthony’s Central Hospital
Ownership: Assembled, private ownership
Zoning: C-MX-5
Size: 16 acres

Saint Anthony’s Central Hospital occupies a fully assembled 16 acre site between Sloan’s Lake, W. Colfax Ave. and Federal and Sheridan. The hospital vacated the site in recent years and plans for redevelopment are underway. Redevelopment will include a mix of residential, retail and office spaces with some remaining health care presence. Existing structures on site offer the potential for adaptive reuse. Alternatively, given the relatively early stages of site planning, the food hub concept could be integrated into redevelopment plans. A food hub in this location could benefit from the customer base that will accompany planned development including new residents, as well as office and retail workers. As an anchor, a food hub could help define a destination development program that attracts visitors to the site and catalyzes reinvestment in the larger W. Colfax area that has been the subject of recent urban planning efforts. Proximity to the lake and its recreational amenities would boost the destination development appeal of this site. The site is easily accessible from I-25 via West Colfax.

Sun Valley/Xcel Power Plant
Ownership: Assembled, private ownership (potential city purchase in future)
Zoning: I-MX-5, UO-2
Size: 2.93 ac/127,818 SF

The Xcel Power Plant offers a large assemblage and an iconic building as a potential food hub site. With its towering smoke stacks, the site has unmatched visibility from I-25, W. Colfax and Federal Blvd. on the city skyline. Adaptive reuse of the structure would have both environmental and economic benefits for the area. The structure’s location in Sun Valley makes it easily accessible to I-25 and the arterial grid. Additionally, superior access to a major light rail station and the South Platte bike trail enhance the site’s destination appeal. The industrial setting also provides greater flexibility in the potential hours of operations and functions of a food hub without substantial impact to residential properties. Proximity to residents in the Sun Valley area, makes this site highly attractive as a job creation center and healthy food access point.
Perched prominently above the intersection of West Colfax and Federal Blvd, this dated commercial strip center could be so much more. The site is the future home of the West Side Library (on the western portion of the site). Adaptive reuse would be the most likely scenario for a food hub as the site now includes a Mi Pueblo grocery store in one of the existing commercial spaces. The grocery anchor could provide a nice compliment to a potential food hub, though some consideration would need to be given to how such uses could truly compliment each other and promote a sustainable food system. Development of a food hub in this location could benefit from the high visibility location. However, the dated nature of the center’s structures leave much to be desired in terms of creating a sense of place and truly taking advantage of the site’s gateway potential. Longer-term redevelopment considerations should take into consideration the potential for a food hub.
Scattered sites: Sisters of Color, Sun Valley Kitchen, Confluence Ministries
Ownership: Fragmented, private ownership
Zoning: Varies
Size: 15,452 SF (total for 3 sites)
In reviewing opportunity sites within the study area, several small sites scattered throughout the study area emerged for consideration. These sites include the Sisters of Color, the Sun Valley Kitchen (in the former Decatur St. Market) and Confluence Ministries. The Sisters of Color facility includes a variety of health promotion services and the organization plans to renovate their garden level space into a commissary kitchen. The Sun Valley Kitchen is a private enterprise owned by a vendor who makes specialty French fries for festivals and street fairs. The vendor purchased the site with the intention to transform it into a commissary kitchen that primarily caters to his business needs. However, the owner also sees opportunity to make the kitchen available as a conventional commissary for other food businesses or for cooking and nutrition classes for children. Finally, Confluence Ministries renovated a long vacant structure in the West Colfax neighborhood. The organization hosts numerous community outreach and skill development programs. The building includes a kitchen, but it is not commercial grade, rather it is used for on-site events instead of processing for-sale, value-added food products. None of the sites meet the screening criteria size requirement. Nonetheless, the sites have been included in this evaluation to acknowledge their potential as satellite partners for a bigger operation that brings a critical mass of food system activity to the area. The three sites could develop a partnership with a food hub to promote food production, distribution and nutrition education programming.

Elks Lodge (Lakewood)
Ownership: Assembled, private ownership
Zoning: CMU-C (Lakewood zoning)
Size: 94,925 SF total site + existing structure (19,706 SF main floor, 14,348 SF basement)
While this study focuses primarily on the area between I-25 and Sheridan from W. 17th Ave. to W. 10th Ave., we examined a handful of sites in neighboring Lakewood to promote multi-jurisdictional cooperation on this project. After reviewing a handful of potential sites, the Elks Lodge emerged as an intriguing opportunity. Of all the sites it presents the most promising adaptive reuse scenario. The facility includes a fully operational commercial kitchen, extensive meeting halls, classroom spaces, loading docks, cold/dry storage capacity and secondary kitchen facilities/bar space. The grounds include substantial parking and sufficient space for a large community garden and/or greenhouse/aquaponics facility. Its Colfax street address (across from Casa Bonita) and proximate to one of Lakewood’s West Corridor light rail stops provide excellent access and visibility. With frontage on Colfax, existing structures (separate from the lodge) could be adaptively reused or redeveloped to establish a prominent food retail outlet with a main street presence. The site is assembled. Whether the site could be purchased from the Elks Lodge is unclear. However, there is guarded interest in further study of a food hub redevelopment option here.

Opportunity Site Screening Analysis
In order to select a single site to study in greater detail from among the various potential opportunity sites, the project team screened the sites through the lens of the project goals. The table below illustrates the degree to which the different sites satisfy the project goals relative to each other. While a strong argument could be made for each of the opportunity sites, Mile High Vista emerged as the most promising site. Given the results of the screening, the project team recommends Mile High Vista.

Create a HEAL model for use elsewhere in Denver and by other cities - The project should develop a replicable framework or model for a food hub design, construction, and programming to address critical community development needs such as workforce development/access to jobs, centralized siting proximate to strategic areas, nutrition education/food access in an underserved community with energy efficient design.
for further study. Four key factors inform this recommendation:

1. Mile High Vista provides one of the most visible and accessible sites perched on the hillside above the intersection of Federal Blvd and W. Colfax Ave., which predisposes this location for destination development appeal.

2. Due to the high intensity location, the site has a fairly high tolerance for nuisance impacts (such as hours of operation, deliveries/truck access) that may be associated with a food hub.

3. The site is one of the most centrally located sites relative to the state and federal highway system, the West Rail Corridor (and the Decatur-Federal station), the South Platte trail, the Lakewood Dry Gulch trail and the study area's food desert Census tracts.

4. A concentration of high intensity housing in the immediate area plus the development of a new West Side Library on the site, improves the potential of this site to have a catalytic impact on the development of the West Colfax corridor, the Decatur-Federal station and the Knox Court light rail station.

This report details demographic information, case studies and feedback received from area residents regarding the need for healthy food access and the possibility of building a food hub to serve the community. As the project moves to the next phase – development of a hypothetical business plan – a clear vision and goal statements provides direction for the next steps.
The West Colfax neighborhood is located on the west end of Denver, bordered by Federal Blvd, Sloan’s Lake, Sheridan Blvd, and Villa Park. It is highly populated, with approximately 15,000 people living in this area, 68% who identify themselves as Latino*. The average household income is $35,000*, and the neighborhood will benefit from small business incubation and education.

*The Pinton Foundation Neighborhood Data

**NEIGHBORHOOD**

**TRANSPORTATION AND ACCESS**

Because of its proximity around the main business and transportation corridor of Colfax Ave, it is an ideal place to base the food hub and will serve the most people. Festival Plaza is easily accessible by most modes of transportation. There is light rail access within half a mile, and a major bus transit station is across the intersection. A bus stop is immediately in front of the plaza. The Lakewood Dry Gulch bike path is just outside, and there are multiple pedestrian paths through the site.

**RECONNECTING THE GRID**

The cloverleaf highway exits at Colfax Ave and Federal Blvd create a major block to the development of business along Colfax. It also blocks the flow of pedestrians and cyclists going from one side of Colfax to the other. By demolishing the cloverleafs and reconnecting the city block grid, a new usable business and neighborhood district is created. This connects the surrounding neighborhoods and downtown together and brings the scale back down to be more accessible for pedestrians and bikes.
The site itself will contain not only the food hub, but also many other programs to create a neighborhood center. There will be low-income and market rate housing, a library, a community center, mixed use buildings, an edible forest, an amphitheater, agricultural and educational centers, and park land.

VIEW
There is a stunning view of downtown Denver that will be preserved through the site design. The view serves as a backdrop to the amphitheater, which will host outdoor events and concerts.

PEDESTRIAN AND BICYCLE
Festival Plaza is easily accessible by most modes of transportation. There is light rail access within half a mile, and a major bus transit station is across the intersection. A bus stop is immediately in front of the plaza. The Lakewood Dry Gulch bike path is just outside, and there are multiple pedestrian paths through the site.
01 EDUCATION
The food hub aims not only to act as a shopping center for fresh produce, but also to serve as a learning center for shoppers and to decrease anxiety that may be associated with healthy eating and shopping. Healthy food can be affordable, and through “growing boards” that teach shoppers what is in season and community boards that share tips and recipes from peers, shoppers are guided through the process of choosing ripe, healthy vegetables and laying out low-cost meals. The layout of the market space centers on social and communal sharing, and allows for continual learning.

02 TRANSPARENCY
Not only does openness expand the educational reach of the building, but it establishes connections between spaces and shows the relationship throughout the entire process of the food from “seed to stomach.” An iconic feature is the central greenhouse. Like an aquarium, one can look in and see food created in a new urban way. The urban garden also shows how edible food can be grown in even small spaces. Shoppers will see how the food is grown in the garden and greenhouse, how produce moves from the farm by truck, and how it is delivered to the store where it is processed, stored, prepared and eventually sold. Because all steps in the process are integral to the educational aspect of the design, there is no “back of house” that is usually hidden. “Windows” between spaces throughout the design keep the user continually reminded of this process — they can observe food being unloaded from trucks direct from farms, experience greenhouse food production, and watch commissary cooks preparing food. Diagrams on the floors and the walls will guide users through this process, so they can see exactly where their salad came from.

ENTRANCE AND LOBBY
As users enter into the lobby, they are greeted by info stations, recipes, and community boards. These boards promote healthy living, teach about production and farming, share recipes and ideas, and let them know what’s in season.

MARKET
The market space is where food will be displayed and sold. It also is a community and social gathering/learning space. Both processed and unprocessed food will be sold here.

GREENHOUSE
The greenhouse is located centrally, tying the pieces of the design together. The methods within the greenhouse include aquaponics, hydroponics, aeroponics, and raised bed plantings.

COMMISSARY KITCHEN
Food will be prepared, sold and served onsite from the commercial kitchen. Entrepreneurs starting their own business in the industry can have a station in the kitchen to prepare and sell their own products. The kitchen is viewable to the public and serves as a food court with a daily changing menu based on who is cooking that day.

TEACHING KITCHEN
Neighboring the commercial kitchen is the teaching kitchen. Here, participants will be able to take classes on cooking, nutrition, and other healthy subjects. This area is also viewable to the public to promote participation. It served to teach families how to cook healthy food — all equipment is based on cooking appliances found in a typical house.
The architecture of the building is inspired by Colorado agricultural buildings and warehouses, such as grain silos, barns, and storehouses. These iconic building forms bring the food/farm connection full cycle combining history and association. Adopting and modifying these forms to fit an urban context pays tribute to both the past and the present, while looking to the future of urban and rural agriculture.

04 SUSTAINABILITY
- Daylighting allows the space to be fully lit during the day with few internal lights. This displays the food in a natural light while reducing lighting costs.
- Solar panels and wind turbines generate electricity, powering the site and offsetting energy costs.
- Rain water cisterns allow the site to reduce storm water runoff, as well as reduce outside water consumption to add more self-sufficiency.
- The Greenhouse, rooftop gardens, and green walls not only provide on-site food production with aquaponics, hydroponics, and aeroponics, but also reduce carbon dioxide and the heat island effect.
### Development Program

<table>
<thead>
<tr>
<th>Food Hub Core Components</th>
<th>SF</th>
<th>Parking</th>
<th>Description</th>
<th>Estimated Cost to Build*</th>
<th>Funding possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Hub Market</td>
<td>32,700</td>
<td>164</td>
<td>Direct-to-consumer grocery/market that acts as an anchor tenant. Hall also includes a vendor arcade for specialty food retail (especially ethnic food and prepared foods) and a brewery/winery.</td>
<td>$3M ($91.28/SF)</td>
<td>Foundation/grant, Colorado Fresh Food Financing Initiative, CEF Fresh Food Financing Fund, future municipal bond project, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Incubator Kitchen</td>
<td>4,000</td>
<td>3</td>
<td>Full scale commercial kitchen for processing food for sale to consumers (both retail and wholesale); additional teaching/event kitchen to support nutrition education, product promotion and destination itineraries related to cooking classes, demonstrations and community or private events.</td>
<td>$830K ($207.30/SF)</td>
<td>Foundation/grant, Value Added Producers Grant, Future bond project, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Administrative Offices &amp; Business Incubation Center</td>
<td>5,000</td>
<td>17</td>
<td>Administrative offices for the food hub operation plus shared services facility for a food business incubation center and other food system businesses, non-profits and advocacy organizations. Primary purpose to reduce overhead burdens for individual organizations, stimulate cooperative activity, educate eaters and focus on market development for a local, sustainable food system benefiting independent and family farmers.</td>
<td>$760K ($151.72/SF)</td>
<td>Foundation/grant, EDA, OED, future bond project, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Greenhouse</td>
<td>10,000</td>
<td>8</td>
<td>A year-round production greenhouse to extend the growing season and ensure year-round access to fresh produce; may be used as a teaching facility; may include aquaponics to grow fish on site; may be linked to an anaerobic digestor or living machine to process organic waste and black water on-site.</td>
<td>$1.3M ($127.40/SF)</td>
<td>Foundation/grant/private partner (Circle Fresh Farms), SCFD, future bond project, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Aggregation, Processing &amp; Distribution Center</td>
<td>5,000</td>
<td>3</td>
<td>Cold and dry storage, packing facilities, processing facilities sufficient for sorting, washing and grading (and may include state-of-the-art flash freezer), loading docks. Storage should also include bulk purchasing, storage and collection (post-consumer) of compostable utensils, plates, cups, etc. for use at festivals and other community events.</td>
<td>$570K ($113.78/SF)</td>
<td>Foundation/grant/private partner (Door-to-Door Organics, MM Local, LoCO Food Distribution, Source Local Foods), Value Added Producers Grant, Future bond project, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Events &amp; Community Center</td>
<td>3,000</td>
<td>10</td>
<td>Flexible space with modular walls that may be converted to classrooms, meeting rooms and large event space with access to the teaching/event kitchen.</td>
<td>$490K ($162.77/SF)</td>
<td>Foundation/grant, NMTC, Enterprise Zone Tax credits, CDGB</td>
</tr>
<tr>
<td>Residential towers</td>
<td>100,440</td>
<td>200</td>
<td>Three twelve story, mixed income residential towers resembling grain silos plus some residential within the food hub footprint. The residential buildings in a customer base to support the food hub and densely concentrates residents to create a critical mass of activity and take advantage of the site's proximity to transit and access to employment centers (Downtown, Aurora, Federal Center).</td>
<td>$19.2M ($191.07/SF)</td>
<td>Private developers, CHAFA, DHA, Mile High Connects, HDFAF</td>
</tr>
<tr>
<td>Outdoor Farmers Market</td>
<td>N/A</td>
<td>N/A</td>
<td>An outdoor farmers market operated by the food hub in partnership with the adjacent property owners which include the new library and mixed use outfit development.</td>
<td>N/A</td>
<td>Partnership with West Side Library, Mixed-Use tenants and property owner, Farmers Market Promotion Program</td>
</tr>
<tr>
<td>Parking</td>
<td>62,000</td>
<td>405</td>
<td>Parking SF calculated as ~153 SF/space + drive aisles; parking requirements may be exaggerated due to calculation method (calculated by component uses); would be best to negotiate the parking requirement comprehensively with a campus development proposal; consideration should be given to parking offsets from car-sharing, bike parking spaces, a bike corral, electric car charging stations, shared parking for uses with different hours of peak demand, transit access offsets, affordable housing offsets, etc. The site should include a fleet of car share vehicles for residents to offset parking requirement and encourage more sustainable lifestyles.</td>
<td>$12.9M (405 spaces @ $15k/space = $12.9M total - $6.9 M for the food hub parking + $6M for the residential parking)**</td>
<td>Food Hub (grant, foundation, bond project, individual donors, Colorado 4F); Residential (partner financed with housing assistance incentives); parking (TIF, bond)</td>
</tr>
</tbody>
</table>

**Cost to build is an estimate that combines estimated cost of land assemblage and construction costs based RS Means Construction Cost Estimator tables for types of construction similar to the component parts of the food hub. http://www.reedconstructiondata.com/rsmeans/models/**

**Litman, Todd Alexander with Doherty, Erinn. Transportation Costs and Benefits Analysis – Techniques, Estimates and Implications, Victoria Transport Policy Institute (www.vtpi.org/tca); parking costs may be exaggerated by using a cost per space vs. cost per square foot estimate. Using RS Means Construction Estimator the cost per square foot for an underground parking garage would be $62.60/SF or $3.9M.
### Campus Build Out - Potential Components

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimated Cost to Build*</th>
<th>Funding possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edible Forest and on-site production gardens</td>
<td>Negligible (absorbed by site preparation costs)</td>
<td>GoCo, SCFD, foundations/grants, DPR, DUG (but only if the produce may be sold), The Parks People (Denver Digs Trees), Mayor’s Million Trees Initiative; Denver Metropolitan District/Community Coordinating District; Sponsorship from Denver Broncos</td>
</tr>
<tr>
<td>Outdoor amphitheater</td>
<td>Negligible (could be absorbed into site preparation costs)</td>
<td>GoCo, SCFD, foundations/grants, DPR, private production company; Denver Metropolitan District/Community Coordinating District; Sponsorship from Denver Broncos</td>
</tr>
<tr>
<td>Nature Center</td>
<td>$151.72/SF</td>
<td>GoCo, foundations/grants, SCFD; Sponsorship from Denver Broncos</td>
</tr>
<tr>
<td>Agriculture Center</td>
<td>$151.72/SF</td>
<td>Foundations/grants, USDA, Colorado Dept. of Agriculture, Rocky Mountain Farmers Union; Sponsorship from Denver Broncos and other sports related businesses</td>
</tr>
<tr>
<td>Mixed-use development pad sites</td>
<td>$191.07/SF</td>
<td>Private developers, CHAFA, DHA, Mile High Connects, HDAF</td>
</tr>
<tr>
<td>Bike/ped path and bridge</td>
<td>$800K/mi - shared-use path; $1.4M - bridge**</td>
<td>Bikes Belong Coalition, CIP/TIP, DPR, foundations/grants, CDOT, DRCOG; Denver Metropolitan District/Community Coordinating District</td>
</tr>
<tr>
<td>Enhanced bus stop</td>
<td>$127.56/SF</td>
<td>RTD, DRCOG, CIP/TIP, federal grants, municipal bond project, Starbucks/private sponsors; Denver Metropolitan District/Community Coordinating District</td>
</tr>
</tbody>
</table>

* Cost to build is an estimate that combines estimated cost of land assembly and construction costs based RS Means Construction Cost Estimator tables for types of construction similar to the component parts of the food hub. http://www.reedconstructiondata.com/rsmeans/models/; cost to build shared-use path and pedestrian bridge derived from another source (see below)

### Proforma Table

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total site area</strong></td>
<td>2.79 ac/122K SF</td>
</tr>
<tr>
<td><strong>Total space - Food Hub Market &amp; Vendor Hall, Incubator Kitchen, Teaching/Demo Kitchen, Distribution Center</strong></td>
<td>59,700</td>
</tr>
<tr>
<td><strong>Grounds</strong></td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Outlot/Pad Development Sites Total SF</strong></td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Total Indoor Vendor Leasable Area (150 SF/stall)</strong></td>
<td>16,700</td>
</tr>
<tr>
<td><strong>Number of Indoor Vendors</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Number of Outdoor Vendors</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>Permanent Retail Anchor and Counters SF (1 anchor @ 5,000SF plus 12 large vendors @500 SF)</strong></td>
<td>16,000</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Permanent Retail Anchor and Counters (sales target $500/SF)</strong></td>
<td>$8,000,000</td>
</tr>
<tr>
<td><strong>Indoor Vendor Rent (100 @ $2500/yr) + Marketing Charge ($2.93/SF)</strong></td>
<td>$293,970</td>
</tr>
<tr>
<td><strong>Outdoor Vendor (weekends April-Sept, 20 vendors @ $50/stall = $56,000; Weds April-Sept, 20 vendors @ $15/stall = $8,400)</strong></td>
<td>$64,400</td>
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<tr>
<td><strong>Incubator kitchen rental ($20/hr-20hr/day + $10/hr-4hr/day)</strong></td>
<td>$160,600</td>
</tr>
<tr>
<td><strong>Shared office space rental (40 spaces @ 80SF/ea @ $5/SF monthly)</strong></td>
<td>$192,000</td>
</tr>
<tr>
<td><strong>Community Event space rental</strong></td>
<td>$36,400</td>
</tr>
<tr>
<td><strong>Processing &amp; Distribution Center (sales target $369/SF)</strong></td>
<td>$1,845,000</td>
</tr>
<tr>
<td><strong>CAM, Taxes and Insurance (@ $6.25/SF)</strong></td>
<td>$104,375</td>
</tr>
<tr>
<td><strong>Other revenue, sponsorship</strong></td>
<td>TBD</td>
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<tr>
<td><strong>Parking fees</strong></td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>10,696,745</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Personnel + benefits (25% of net revenue – assumes higher wage and benefit of cooperative business structure)</strong></td>
<td>$2,674,186</td>
</tr>
<tr>
<td><strong>Cost of goods (market)</strong></td>
<td>$4,560,000</td>
</tr>
<tr>
<td><strong>Cost of goods (wholesale)</strong></td>
<td>$1,328,400</td>
</tr>
<tr>
<td><strong>Marketing ($2.93/SF)</strong></td>
<td>$175,000</td>
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<tr>
<td><strong>Maintenance, taxes, insurance, misc.</strong></td>
<td>$560,000</td>
</tr>
<tr>
<td><strong>Other expenses</strong></td>
<td>$344,000</td>
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<tr>
<td><strong>Greenhouse/Groundskeeping</strong></td>
<td>$500,000</td>
</tr>
<tr>
<td><strong>Building fees, rent</strong></td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Contingency</strong></td>
<td>$100,000</td>
</tr>
<tr>
<td><strong>Total expenses</strong></td>
<td>$10,241,586</td>
</tr>
<tr>
<td><strong>Net Profit (Loss)</strong></td>
<td>$455,159</td>
</tr>
</tbody>
</table>

* Average Supermarket Costs as a Percent of Sales, FMI 2010

**Downtown Denver Public Market Feasibility Analysis, July 2010 – Minimum marketing budget
Business Feasibility Study
**Catalytic Effect of Public Markets**

A destination development like a public market, by its nature has a catalytic effect on its surroundings, as illustrated in the table below. The development creates a critical mass of uses and activities that draw visitors, extend the length of stay and induce spending. The benefits ripple to adjacent businesses and venues. The Urban Land Institute identifies seven principles for destination developments and urban entertainment centers:

1. **Multiple anchors whose combined “pull” draws visitors from a broad region (ideally a nesting of entertainment, dining and retail anchors).**
2. **Programmable venues and enhanced consumer choices that encourage repeat visitation.**
3. **Regionally exclusive offerings that help achieve market dominance.**
4. **Broad appeal across a spectrum of consumers based on providing a variety of consumer itineraries and choices.**
5. **Extended length of visit and increased consumer expenditures per visit.**
6. **Entertainment and cultural and recreational activities that increase productivity during low-demand periods.**
7. **A base of overnight and day trip tourists drawn by a distinctive mix of offerings and links with established attractions.**

The development concept for the proposed City Kitchen site incorporates Mile High Vista (excluding the portion currently being developed as the West Side Library and mixed-use development) plus the light industrial properties extending from the back of the plaza to Federal Blvd, as well as land currently consumed by a portion of the Federal-Colfax cloverleaf interchange. The total site area is approximately 2.79 acres or 122,000 SF and it is zoned CMX-12. The concept proposes two phases, an initial phase that results in the redevelopment of the Mile High Vista site and a future phase in the event of the removal of the Federal-Colfax interchange (which is currently under study). The primary facilities for the proposed City Kitchen food hub activities would be developed on the Mile High Vista site. The terminal market/destination food hub would incorporate the following centers:

1. **An incubator kitchen**
2. **A teaching kitchen**
3. **An aggregation, processing and distribution center (with cold and dry storage)**
4. **A shared services business and community facility (that includes administrative offices, shared services for food system businesses and organizations, and flexible meeting and event space)**
5. **A production greenhouse**
6. **A food market and vendor hall**

**Incubator Kitchen**

The incubator kitchen provides start up food processing entrepreneurs with commissary kitchen space (that meets health code regulations). Food entrepreneurs have wholesale accounts with the Aggregation, Processing and Distribution Center to source produce, meat, eggs, honey, dairy and other local farm products.

**Teaching Kitchen**

The teaching kitchen provides a space for nutrition education, cooking lessons and instruction in safe food handling. This kitchen may also support

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10 Table Source: Public Market Feasibility Analysis – Downtown Denver Partnership, Inc, July 2010
catering for community and private events held within the food hub.

**Business Incubation Center**
A shared services business incubation center provides desks, office spaces, shared meeting/conference room space, as well as shared office equipment such as computers, telephones, printers and copiers. The facility houses start-up food business micro-entrepreneurs and food securing advocacy groups, non-profit organizations, cooperatives, satellite offices for government agencies or other business or organizations that would benefit from co-location. Businesses or organizations that provide technical assistance, business planning assistance and access to capital may occupy space here as key partners to the start-up and development activities.

**Production Greenhouse**
The centerpiece of the food hub is a Production Greenhouse, which functions as a living classroom. The Greenhouse provides education about season extension and augments food supplies outside of the growing season. Ideally this structure is a living building with an aerobic digester to process organic waste materials and generate heat to help warm the greenhouse in winter and power the incubator and teaching kitchens.

**Aggregation, Processing and Distribution Center**
The Aggregation, Processing and Distribution Center is the terminal destination along the various supply chains that lead to Denver. Food arrives from farms and packinghouses in the surrounding community. Produce may be aggregated, washed, sorted and graded here, if this service was not already provided by a packinghouse prior to arrival. Once food is ready for wholesale distribution it is stored in cold and dry storage units before being loaded onto refrigerated trucks for delivery to various clients such as institutions, schools and restaurants.

**Food Market and Vendor Hall**
The Food Market and Vendor Hall provides direct-to-consumer access to fresh and prepared food in several ways. The Hall will include several anchor tenants or markets such as a specialty produce market, a butcher counter and a dairy counter. In addition to the anchor tenants who provide the staples needed by area residents, the Vendor Hall provides stalls/counters for specialty prepared food vendors with a particular focus on diverse, international, ethnic offerings representative of the culture of surrounding community members (Latino, Asian, African, Jewish and Italian). The stalls/counters may also include honey vendors, specialty brewers or local vintners, spices, baked goods, florists, etc. While the bulk of the stalls will be dedicated to food production, limited space may be provided for local artisans and fine hand made items. The Food Market and Vendor Hall will be a particular draw of this development and it will be modeled after destinations like Detroit Eastern Market and Midtown Global Market in Minneapolis. Stalls and counters will be made available to vendors through lease arrangements, as well as day stalls, the pricing varies by season. The variety of vendor counters and stalls will encourage micro-enterprise development and market entry for start-up food vendors. Detroit Eastern Market rental rates are as follows:

<table>
<thead>
<tr>
<th>Leases (Detroit Eastern Market example)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>$1,680 Yearly</td>
</tr>
<tr>
<td>Farmer/Dealer</td>
<td>$1,980 Yearly</td>
</tr>
<tr>
<td>Dealer</td>
<td>$2,200 Yearly</td>
</tr>
<tr>
<td>Specialty/Prepared</td>
<td>$2,500 Summer</td>
</tr>
<tr>
<td>Specialty/Prepared</td>
<td>$880 Winter</td>
</tr>
<tr>
<td>Tuesday Market (All)</td>
<td>$450</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Daily Stalls (Detroit Eastern Market example)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer:</td>
<td>$70 Daily</td>
</tr>
<tr>
<td>All others:</td>
<td>$80 Daily</td>
</tr>
<tr>
<td>Tuesday Market:</td>
<td>$30 Daily</td>
</tr>
</tbody>
</table>
The proposed City Kitchen site plan illustrates the anchors (the food hub market and vendor hall, greenhouse, business center, incubator kitchen and gardens) and programmable spaces (the amphitheater, community events center, teaching/demo kitchen) that will create a draw for visitors and encourage community gathering and interaction (ambient entertainment). The multipurpose nature of the space suits a variety of itineraries depending on the time of day – business, daily needs shopping, lunch crowds and children’s educational programming (during typical work hours), and concerts, lectures, films, cooking classes, shopping and dining out for entertainment (during evening and weekend hours). Proximity to downtown tourists, dense urban neighborhoods with a concentration of both families and singles, the Auraria Higher Education Campus and nearby senior housing facilities provides the opportunity to develop around the clock programming for many different customers. While catalytic, City Kitchen as a feasible business idea depends on its place within the market and its ability to overcome technical challenges to establishing a food hub including equipment, competition and funding.

Retail Market Potential

Demand for food stores surrounding the proposed City Kitchen site approaches $22M. A shortage of grocery stores in this food desert leaves a retail gap with more than $11M in sales currently leaking to other areas. Due to the lack of competition and since residents in this area are geographically isolated, and often transit reliant, a food hub has the potential to capture significant market share.

Two additional factors support the development of a food hub – changing spending patterns due to the entry of the large Millennial population into best customer categories and the multipurpose nature of a food hub which makes it a draw for visitors and customers with a variety of itineraries, not just grocery shopping.

The most current industry research\(^\text{12}\) claims that the landscape for food retailing is undergoing a dramatic shift driven by rapidly changing consumer habits concerning how and where people will shop for groceries. Evidence of the influence of Farm to Fork initiatives on the large Millennial population indicates that these consumers have a propensity to shop across channels and are less aligned with traditional grocers. These emerging multi-cultural consumers are value-driven (and this does not always mean price). They prize convenience, fresh food, healthy lifestyles, variety and natural products. Millennials are an independent cohort whose education and income levels create a distinct difference in shopping habits and their sheer numbers will force retailers to adapt or perish.

The research states that the losers in the coming decade will be grocery stores and branded processed food manufacturers. Millennials are heavily represented in the consumer segments that comprise the trade area for the proposed City Kitchen Food Hub.

It is interesting to note, that when examining the trade area in different ways including a 3-5 mile ring around the site (that is within a 15 minute driving distance), retail demand for food stores exceeds $493M with a retail gap (leakage) of nearly $97M for food stores and nearly $8M for beer, wine and liquor stores, while there is a surplus of $4M for specialty food stores. As a destination development, the proposed City Kitchen Food Hub could act as a draw and capture a fair share of the unmet demand in these areas.

The area’s consumer segments demonstrate a preference for the eclectic type of development.

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proposed in this plan. Additionally, the proposed site's high visibility and proximity to downtown, the Auraria Higher Education Campus, Mile High Stadium and the light rail line (which provides access to the Denver Federal Center) give the location a distinct advantage over other sites in terms of access to additional consumer markets. A large food market will anchor the primary retail space within the food hub. A diverse vendor hall with disaggregated counters and stalls for a variety of local, fresh, prepared and artisan food vendors complements the main mission of providing fresh food to the Sun Valley community. The vendors and retail anchors will offer a variety of staples like fresh fruits, vegetables, meats, dairy, eggs, honey and spices. Stalls or counters serving prepared deli dishes and preserved goods (made in the food hub's incubator kitchen), as well as pho, sambusas, tamales, baked goods, pasta and other dishes representative of the populations living nearby provide culturally relevant consumer attractions. To a limited degree vendors may also offer fine, handcrafted goods. Visitors may come to the site for reasons other than grocery shopping; their itineraries may include cooking/nutrition classes, outdoor recreation, amphitheater programming, business activity, on-site production, tours, events or tailgating. The scope of land assemblage and redevelopment proposed by this plan demands a public-private partnership. To bring this project to fruition will take considerable community engagement from the public, private and non-profit sectors. The goal should be to develop a community-based management structure for the food hub, ideally one that includes cooperative ownership from producer, worker and consumer members. Such a structure will help achieve triple bottom line (economic, social and environmental) success.

**Census Demographics**

Census demographics suggest that with a significant decrease in population, yet only a slight decrease in households, larger family households are being replaced by singles or smaller family units in an approximate 15 minute walking distance from the site. Hispanic households are heavily represented in this area as well. Average household income is projected to increase by 18.9% within walking distance of the site and by 17.4% within driving distance of the site.

**Tapestry Segmentation**

ESRI's Tapestry Segmentation tool synthesizes Census data to categorize and summarize US Consumer markets. The tool breaks US Consumers into 12 “LifeMode” categories that consider life stage/lifestyle issues such as affluence and age. The tool also organizes US consumers by “Urbanization” summary groups that consider geographic and physical features such as population density, city size, location within a metropolitan area and whether that location is within an economic and/or social center.

**Top Tapestry Segments**

The top five tapestry segments represented in the trade areas break down as follows:

Walking distance (15 minute) of the site includes: NeWest Residents (31.4%), Industrious Urban Fringe (25.9%), Metropolitans (19.3%), City Commons (7.4%) and Social Security Set (5.2%). Relative to the US average, these groups are represented at an indices ranging from 743-3,140 (where the US average is 100). It suggests a high concentration of key consumers and potential food hub workers like Hispanic, family-oriented NeWest households who prioritize grocery spending and work in food service, agriculture and manufacturing and Metropolitans who enjoy active, urbane lifestyles, enjoy diverse cultural experiences, and exhibit preferences for Lifestyles of Health and Sustainability (LOHAS).

Driving distance (15 minute) from the site includes: Metro Renters (16.3%), Metropolitans (10.6%), Main Street USA (8.5%), Industrious Urban Fringe (8.4%) and Old and Newcomers (6.8%). The young, diverse, well-educated singles who comprise Metro Renters tend to pursue Lifestyles of Health and Sustainability (LOHAS) – they eat out, workout, drink domestic and imported wine and beer;
they are considered “foodies” or epicurean; they travel and are considered to be liberal. They are represented at an index of 1019 (where the US average is 100).

Within a 3-5 mile ring or donut around the site (an area with a high demand and retail leakage for Food and Beverage Stores and Food Services, as well as Beer, Wine and Liquor Stores), the top five tapestry segments represented include Metro Renters (15.7%), Main Street USA (10.9%), Metropolitans (10.4%), Industrious Urban Fringe (9.6%) and Trendsetters (5.4%). Relative to the US average, these groups are represented at an index of 450 to 981 (where the US average is 100). As with the other trade areas, the concentration of LOHAS households bodes well for the proposed City Kitchen site which is accessible to these groups (who also prioritize access by alternative transportation mode choices). Eighteen percent of Trendsetters households don’t own a vehicle. These households are represented at an index of 450; they are spenders, who are particularly health conscious and buy natural/organic foods, enjoy concerts, alternative and classic music, public radio and liberal politics.

**Trade Area Urbanization Groups**

Not surprisingly, all of the top 5 Urbanization groups within the trade area (save one) live within diverse, densely populated, active, city centers. Proximity and convenient access to shops, services and jobs are important to residents in these areas. Residents are typically well-educated, physically fit/health-conscious individuals who frequently opt for alternative modes of transportation including public transportation, walking and biking (by choice or by necessity) in light of the density, neighborhood connectivity and mix of incomes that define these communities. Incomes and ages range from older, affluent, white retirees/empty nesters to ethnically diverse, upwardly mobile young people and hardworking families. Energetic, engaged, opportunity seekers who read and travel are the norm among these groups. Among property owners, gardening is a frequent activity.

**Trade Area LifeMode Groups**

As for the top 5 LifeMode groups represented in the trade areas, diversity remains the common theme. Denver’s status as a “gateway city” for immigration (particularly Hispanic populations), is evident in the groups that comprise the trade area, especially within walking distance of the proposed site. Individuals who value city life and its inherent community orientation are attracted to urban neighborhoods with a combination of established, character-rich older homes, as well as eclectic, emerging transition areas characterized by infill, redevelopment, an eclectic business mix and opportunities for social gathering. The trade area within a fifteen-minute driving distance of the site is not homogenous either as it contains singles, families, retirees/empty nesters and individuals of different races and incomes. Among non-family households, there is often considerable discretionary income for entertainment, dining out and other purchases, while family households tend to prioritize groceries and children’s items. Healthy, active lifestyles complemented by reading and travel, are also common. Residents tend to be well educated, though concentrated pockets of residents, particularly immigrants, do not possess these same levels of educational attainment and often face language barriers. Despite disparities in educational attainment, most residents may be classified as hard working, aspiring, upwardly mobile or affluent. Those residents with fewer resources tend to rely on larger family units for support. The trade area within walking distance of the site also includes economically disadvantaged groups and seniors who often rely on public assistance and Social Security. It is worth noting that in the 3-5 mile ring around the proposed food site, the top five tapestry segments include Metro Renters, Main St., USA, Metropolitans, Industrious Urban Fringe, and Trendsetters. Since this area also has a retail gap of $96,919,571 for grocery stores and $7,832,039 for beer, wine and liquor stores, marketing efforts should concentrate on these groups. These segments tend to be young and educated, diverse
<table>
<thead>
<tr>
<th>Trade Area Demand</th>
<th>15 minute walk</th>
<th>15 minute drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2015</td>
</tr>
<tr>
<td>Households</td>
<td>6469</td>
<td>6811</td>
</tr>
<tr>
<td>Average Household Income</td>
<td>50,502</td>
<td>60,051</td>
</tr>
<tr>
<td>Per capita income</td>
<td>15,909</td>
<td>18,782</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>27397</td>
<td>30,668</td>
</tr>
<tr>
<td>Daytime employee population</td>
<td>11,966</td>
<td></td>
</tr>
<tr>
<td>Food at home</td>
<td>$2,745</td>
<td>$3,264</td>
</tr>
<tr>
<td>Food away from home</td>
<td>$1,947</td>
<td>$2,315</td>
</tr>
<tr>
<td>Entertainment</td>
<td>$1,799</td>
<td>$2,139</td>
</tr>
<tr>
<td>Consumer spending on food at home</td>
<td>$17,273,737</td>
<td>$22,232,841</td>
</tr>
<tr>
<td>Consumer spending on food away from home</td>
<td>$12,252,957</td>
<td>$15,770,699</td>
</tr>
<tr>
<td>Consumer spending on entertainment</td>
<td>$11,317,984</td>
<td>$14,567,293</td>
</tr>
<tr>
<td>Demand: Grocery Stores</td>
<td>$21,380,079</td>
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</tr>
<tr>
<td>Supply: Grocery Stores</td>
<td>$10,715,736</td>
<td></td>
</tr>
<tr>
<td>Retail Gap: Grocery Stores</td>
<td>$10,664,342</td>
<td></td>
</tr>
<tr>
<td>Demand: Specialty Food Stores</td>
<td>$527,955</td>
<td></td>
</tr>
<tr>
<td>Supply: Specialty Food Stores</td>
<td>$431,736</td>
<td></td>
</tr>
<tr>
<td>Retail Gap: Specialty Food Stores</td>
<td>$96,218</td>
<td></td>
</tr>
<tr>
<td>Total Demand for Food Stores</td>
<td>$21,908,034</td>
<td></td>
</tr>
<tr>
<td>Total Supply of Food Stores</td>
<td>$11,147,472</td>
<td></td>
</tr>
<tr>
<td>Total Retail Gap: Food Stores</td>
<td>$10,760,560</td>
<td></td>
</tr>
<tr>
<td>Demand: Food Services</td>
<td>$18,170,962</td>
<td></td>
</tr>
<tr>
<td>Supply: Food Services</td>
<td>$16,248,468</td>
<td></td>
</tr>
<tr>
<td>Retail Gap: Food Services (excluding Drinking Places)</td>
<td>$1,922,493</td>
<td></td>
</tr>
<tr>
<td>Total retail leakage(+)/surplus(-) for (Food Stores and Food Services - excluding Liquor Stores and Drinking Places)</td>
<td>$12,683,053</td>
<td></td>
</tr>
</tbody>
</table>

Source: ESRI Business Analyst
populations in professional and management positions who seek out eclectic urban activities. There is also a concentration of family-oriented groups. The younger, urban tapestry groups tend to eat out, drink domestic and imported wine and beer, and have an interest in travel. Trendsetters, in particular, are spenders and health-conscious individuals who buy natural/organic foods, take vitamins and exercise regularly. The family groups tend to be frugal and spend more on food at home, lawn and garden and do-it-yourself projects.

The characteristics of the trade area segments suggests that a unique multipurpose facility providing access to fresh, healthy, local foods with community spaces programmed with eclectic urban offerings like specialty food vendors, classes, lectures, films, and concerts will find a strong audience among the diverse populations that constitute the area. It also illustrates that there is potential to capture discretionary income from the broader trade area (with particular focus on the 3-5 mile radius from the site where there is a significant retail gap for food and beverage stores and a niche market of potential consumers).

### Retail Leakage & Surplus

Within an approximate 15-20 minute walking distance of the proposed City Kitchen site, there is a total demand of for Food Stores of $21,908,034. Within this category, there is a retail gap (leakage) of $10,664,342 for grocery stores and $96,218 for specialty food stores.

Looking at the trade area within a 15 minute driving distance, there is total demand for $1,482,348,326 for Food Stores. Within this category there is a retail gap (surplus) of $227,332,804 for grocery stores, $8,129,125 for specialty food stores.

Both the trade area within an approximate 15 minute walking distance and within a 15 minute driving distance have a retail gap (surplus) of liquor stores and drinking places, customers are drawn from outside of the trade area. It is important to note the number of craft breweries that have emerged in the trade area, particularly proximate to the Platte River. These brewers include Probst, the Denver Beer Company, Strange Brew and Wits End; The Source in RiNo, just off the Platte River, will include a beer garden and craft brewer when it opens. The food hub should consider growing hops and incorporating a craft brewery on-site to capitalize on tourism opportunities and to function as a destination development anchor since the area is a draw for beer, wine and liquor sales.

Further examination of the trade area reveals that a 3-5 mile donut around the site contains areas that are underserved for Food and Beverage Stores. This area shows a potential retail demand for $493,116,669 from Food and Beverage stores with a retail gap (leakage) of $96,919,571 for food stores and $7,832,039 for beer, wine and liquor stores and a retail gap (surplus) of $4,149,744 for specialty food stores. Marketing efforts should target consumers in these areas. This donut falls within the boundaries of the 15 minute driving distance, with convenient access to the highly visible proposed City Kitchen site from the freeway, arterial and soon to open West Rail Corridor.

<table>
<thead>
<tr>
<th>Percent of Shoppers that spend on nearby retail</th>
<th>Average Spent in Market</th>
<th>Additional Spent at Neighboring Businesses</th>
<th>Source</th>
</tr>
</thead>
<tbody>
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<td>58%</td>
<td>$71</td>
<td>$20</td>
<td>2008, St. Lawrence Market, Toronto</td>
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<tr>
<td>25%</td>
<td>$32</td>
<td>$20</td>
<td>2009, Crescent City Farmers Market, New Orleans</td>
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<td></td>
<td>$29</td>
<td></td>
<td>2005, Duluth MN Farmer’s Market – Est. Avg of 40% spending $40-$50 and 46% spending $10-$20</td>
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<tr>
<td>60%</td>
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<td>2002, Project for Public Spaces</td>
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<td>47%</td>
<td>n/a</td>
<td>$12-$19</td>
<td>2001, OR State Univ. – Technical Report 3- Assessment of Five OR Farmer’s Markets</td>
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</tbody>
</table>

A destination development like a public market, by its nature has a catalytic effect on its surroundings, as illustrated in the table¹ above.

¹ Table Source: Public Market Feasibility Analysis – Downtown Denver Partnership, Inc, July 2010
Any food hub concept, whether cooperative or terminal, will evaluate operations requirements, equipment needs, funding mechanisms, local production and supply, and competition in order to identify the strengths and weaknesses of the concept in the context of their region.

**Operations - Financial Analysis**

A study of existing and emerging food hubs nationwide reveals that size, scale and mix of uses play an important role in destination development/terminal market food hubs. Critical mass – the sheer size and scale needed to be destination development – is an important consideration.

The case studies revealed that the most successful destination development food hubs included at least 20,000 SF of market and activity space. A synergy of vendors and programmed spaces activate the development. Many of the food hubs studied received at least some form of public finance and/or community investment including no or low rent/mortgage. In almost every food hub in this study, innovative funding mechanisms were used to cobble together sufficient capital to move the project forward or maintain it. This analysis proposes a terminal market/destination development food hub of nearly 60,000 SF composed of a processing and distribution center, greenhouse, community events center, market and vendor hall, incubator/teaching kitchen and a shared services office facility. The proposal recommends the assemblage and development of a 2.8 acre campus surrounding the food hub with a robust mix of uses, programmable activity spaces and pedestrian oriented infrastructure and gathering spaces. The project requires a community revitalization investment of approximately $40M ($2M for land assemblage, $6.9M for the food hub and outdoor recreation/production facilities plus $32M for the residential towers proposed in the concept plan). This initial community investment would pave the way for additional private investment in the mixed use development of the remainder of site. This proposal assumes a public-private partnership that leverages numerous and creative funding mechanisms. The proforma analysis indicates the potential of the site to operate with gross revenues of $10.7M and expenses of $10.2M for a profit of nearly $500K to be reinvested through a cooperative business structure for community benefit including jobs, program expansion and food system infrastructure development and dividends to cooperative members/owners.

**Local food production/supply chain**

Perhaps the most important question to ask about the viability and sustainability of a food hub is: Where will the food hub source produce, meat and other farm products to sustain the operation and meet urban consumer demand? To be sustainable, a destination development/terminal market food hub would need sales per square foot of approximately $500, generating $8M in gross revenue from the market function and approximately $370/SF generating approximately $1.8M in gross revenue from the wholesale distribution center. Programming, space rental and other attractions could also contribute income to the development. Colorado exports the vast majority of the food produced in the state. Estimates put local food consumption at around 1%. Recently, Transition Colorado commissioned Michael Shuman to analyze the potential impacts of a shift to 25% consumption of local food. The study found that a 25% shift would create more than 31,000 jobs in Colorado. The study shows that the total demand

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for food in North Central Colorado exceeds $20.5B from various sources including government (federal, state, local), capital inventory, domestic exports and foreign exports sources. These represent more than two-thirds of the total demand ($30B) for food in the state.

The National Agricultural Statistics Service finds that in Colorado there are just under 32M acres of land in farms or ranches. The average size of the farms/ranches is 853 acres with a total of 60,684 operators. A little more than 25% of individual farms in the state are between 10-49 acres, while nearly 23% are between 50-179 acres. The average age of principal operators is 57.

Colorado faces a number of challenges to local food production. Urban growth pressures consume viable farmland (with appropriate soils and water rights). We have dismantled the food system infrastructure like food hubs and packinghouses that supported small scale producers. Aging farmers and a dwindling supply of new recruits mean we lose many farms and knowledge at an increasing pace annually. Colorado’s dry climate and short growing season pose challenges to year round supply. Studies such as the Northern Colorado Regional Food System Assessment and the Shuman study illustrate these challenges in greater detail and each propose next steps to aid the local food shift. Ongoing study and collaboration will be needed between Denver Seeds, the Denver Sustainable Food Policy Council, Denver’s Community Planning & Development Department (comprehensive plan update), CSU Extension, USDA, Colorado Department of Agriculture/Colorado Proud, Real Food Colorado, the State Food Systems Advisory Council, Rocky Mountain Farmers Union, High Plains Food Cooperative, We Don’t Waste and many other groups.

The city, region, and state lack a food system strategic plan to guide development of the infrastructure that would need to precede a terminal market food hub. Developing a source network of producers will be a critical first step for any food hub development in Denver. It will be critical to assess production capacity and the consistency of supply needed to meet local demand. Small-scale producers will not be able to access markets competitively without greater coordination among growers to plant high demand crops and aggregate produce. Additionally, wholesale market development will be needed to identify the bulk purchasers such as schools/universities, restaurants, institutions and government.

**Strong Strategic Planning**

This feasibility study and concept plan provides a conceptual analysis of the feasibility of a terminal market/destination development food hub. It presents a concept with the potential to draw visitors, capture new residents (that build a consumer base of support), enhance open space and opportunities for community gathering, provide access to good jobs and fresh food and catalyze investment in the surrounding area. However, the ideas are far-reaching and dependent on political will, significant community planning/investment and development of food system infrastructure. The good news is that these variables are ripe and open to big ideas that will ensure that the community capitalizes on the significant investment in the West Rail Corridor. Ongoing strategic planning and the formation of a public-private partnership/champion will be essential to move this plan from an idea to a reality.

**Funding**

A primary challenge for a project of this magnitude is the prospect of funding. Land assemblage at the low-end will cost approximately $2M assuming that multiple property owners would be willing to sell at a fair market value. If intersection redesign and removal of the Colfax-Federal interchange proceeds there is the potential to pick up approximately 75-100K SF of government-owned land for development to help offset land assemblage costs in the event of a public-private partnership. Other costs include engineering for intersection retrofit design and construction, as well as site design and construction costs (which are estimated in the development program table to approach $34M).

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Well beyond the scope of this project, but essential to any food hub development in Denver is an investment in food system infrastructure sufficient to move produce from farm to city. With the advent of the 4F Fund for fresh food retail expansion, consideration should be given to an expanded funding mechanism for comprehensive food system infrastructure. Such funding would not be limited to grocery retail expansion, but would finance projects along the food system spectrum from farms to tables to food waste. A model for such a funding mechanism is the Scientific and Cultural Facilities District for which 1/10 of 1% sales and use tax is dedicated to cultural facilities throughout the seven-county Denver, Colorado metropolitan area.

Food Hub Cooperative Business Structure/Management
Early stakeholder engagement will be imperative to ensure the success of a cooperative business structure for a food hub. Due to the intensive public investment that this proposal would require, models like Detroit Eastern Market and Weaver Street Market provide excellent templates for public-private partnership to launch a cooperative enterprise. Government, foundation and non-profit partners would need to be engaged to provide technical assistance and aid the logistics of cooperative development.

Infrastructure for information management
Early on, consideration should be given to the information technology that would be needed to manage day to day operations of a food hub. Necessary IT solutions include:
- Billing and payment processing
- Warehouse inventory management
- Internet management systems
- Supply chain logistics to aid route planning/route planning technology (like Roadnet Anywhere - $4,500 for a fleet of 3 trucks) and back hauling plans

Understanding of end user requirements and adequate producer support
Food safety and consumer health protection and confidence will be needed. Additionally alignment between wholesale purchaser requirements and producer practices will improve efficiencies. Standards and best practices education and application will be key. Producer understanding of Good Agricultural Practices (GAP), Good Handling Practices (GHP), and Hazard Analysis Critical Control Point (HACCP) will be essential at a minimum. Consideration will be need for agricultural training programs in these practices and other industry standards. In tandem, affordable umbrella liability insurance for producer and vendor members will be needed.

Building energy consumption
Building energy consumption in a food hub can be extreme. In planning for ground-up construction, though, there is considerable opportunity to incorporate numerous green building techniques to mitigate energy expenses and improve the sustainability of the site including:
- Green building technology – wind, solar, geothermal
- Cogeneration through the use of an anaerobic digester that processes the site’s organic waste while capturing heat and biogas for fuel
- Daylighting and passive heating

Understanding of threshold scale for food hub economic efficiency
A food hub requires significant investment capital for supply chain infrastructure (vehicles, storage, retail locations). Coordination with suppliers and other partners will be needed to ensure adequate produce supplies and year-round production/sourcing. It may be more efficient to contract for certain food hub functions to existing operations experienced with processing, distribution or transportation that can be cost-prohibitive.
Incubator/Commissary Kitchen
A commissary kitchen requires a considerable amount of equipment ranging from large appliances to blenders, pots and pans (see the appendix for a recommended list of equipment). Kitchen layout is particularly important for efficient operations by kitchen users and for energy savings (refrigerators, ice machines and other cooling and freezing equipment should be located as far as possible from ovens, griddles and other heating devices). Energy Star appliances should be considered to keep the intensive energy costs of a commissary kitchen down. The EPA offers an Energy Star commissary kitchen equipment planning tool on the following website: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CKP.

Processing & Distribution Center
The Processing and Distribution Center will require walk-in refrigeration, a blast freezer (for perishable goods that require flash freezing), dry storage shelving, fork lifts, and sinks, conveyors and counters for washing, sorting, grading and packing. If the center incorporates a delivery system, a fleet of 1-3 refrigerated trucks would be needed.

Administration & Business Incubation Center
To function as a shared services facility the Business Incubation Center will require desks, office chairs, computers, shared printers/copiers, fax machines, telephones, projectors, projection screens, white boards, and conference room tables and chairs. The area should also include a shared break room with a sink, refrigerator and microwave.

Event Center
The Event Center should be a flexible space with modular walls that can either cordon smaller space or be removed to open the space for large events. This space will also require chairs, tables, audio/visual aids and other equipment sufficient for receptions, conferences and other large gatherings.

On-site Renewable Energy & Sustainability Program
Given the intensive energy demands of commissary kitchens, it will be important to integrate a variety of renewable energy and other sustainable design best practices. Consideration should be given to building an on-site anaerobic digester to process waste materials and generate gas/heat to power the incubator kitchen. Site design features should incorporate low impact development to manage stormwater and promote biofiltration in this area which is prone to flooding. To reduce energy consumption the building should strive for net-zero design. The proposed design of the site lends itself to a learning campus for sustainable urban agriculture, renewable energy and infill development. Any public-private partnership formed to implement this concept should include representatives of the National Renewable Energy Laboratory or similar subject matter experts.
The City Kitchen project lacks significant competition if all the components are developed at one time. However, there are several projects around Denver that help address food access short of becoming destination developments. Currently a destination development or terminal market food hub as proposed by this project does not exist in Denver. The Denargo Market, once Denver’s fruit and vegetable terminal, is under redevelopment as high-density condominiums. However, emerging developments and past planning efforts illustrate the move toward food hub development in Denver, including The Source (in the RiNo district) and The GrowHaus (in the Elyria-Swansea neighborhood). Current planning is underway for a food hub in the former Enterprise Center (the site of a failed kitchen incubator), though details have not been made public. The Downtown Denver Partnership completed a Public Market Feasibility Analysis in July 2010. Existing development that comes close to competition for the City Kitchen project include the Asian marketplace at South Federal and Alameda and Denver Urban Homesteading near the Santa Fe Arts District. These projects and planning efforts are described in greater detail below.

The Source
The Source when its doors open will be the closest competition for the City Kitchen project. The Source is a planned artisan market that will include a variety of vendors (meat/butcher counter, artisan cheese, local honey, florist), a commissary and demonstration kitchen, a restaurant, wine bar, beer garden and brewery. It occupies an iconic industrial structure (on the site of the former Bud’s Warehouse) at 3350 Brighton Boulevard in the RiNo district. The 26,000 SF brick structure with soaring 60-foot ceilings was constructed in the 1880s and originally used as an ironworks facility.

15 More information about The Source may be found using the following links: http://blogs.westword.com/cigesociety/2012/04/the_source_denver_european_market_crooked_stave.php

Father-son developers Mickey and Kyle Zeppelin (the developers of Taxi, a live work community across the Platte River from this site) have billed the project as Denver’s first European-style indoor market. Planned community gathering spaces within the site and a liquor license that covers the whole facility (allowing imbibers to walk and mingle throughout the site) will foster a unique shopping and dining experience. It will be a draw not just for Denver residents, but tourists and regional visitors as well. The site treats food as entertainment, combines a robust variety of vendors/programmed activities and incorporates well-designed gathering spaces. This trifecta is critical to successful destination development ensuring the ability to draw from overlapping markets, while extending the length of stay at the site and inducing visitors to spend on unique offerings. The site’s proximity to the freeway and arterial network will make it easily accessible for suppliers and visitors. The industrial setting will eliminate nuisance conflicts created by hours of operations, noise and other issues that might arise from an intensive food operation.

The GrowHaus
The GrowHaus is an experimental, non-profit, community-driven urban aquaponics facility at 47th and York in Denver’s Elyria-Swansea neighborhood. The project occupies the site of a former cooling greenhouse for Lehrer’s florist. Over the past few years the facility has undergone extensive renovations to develop an operable greenhouse suitable for growing (used primarily for hydroponic vegetable production, in particular lettuce). The staff and partners created a closed loop aquaculture system. A “Growasis” learning center with a soon to be installed teaching kitchen occupies the heart of the facility. Recently, volunteers transformed the front of house space into a public market and meeting space. The GrowHaus continues to evolve, and its growth is marked by a high degree of community involvement in the process including...
health ambassadors, volunteers on construction days and participants in seed to table programs to teach residents and youth about growing food and good nutrition. In keeping with their visionary mission, the GrowHaus included a geothermal heating/cooling system in their designs to help maintain regulate temperatures and offset energy costs. Grass roots partnership, social justice, environmental sustainability, community empowerment and collaboration are defining characteristics of the GrowHaus mission, Board and staff. The project is conscientious about who currently occupies the neighborhood and they work to complement and engage current residents and businesses to meet critical needs for access to opportunity and healthy food.

**Downtown Denver Public Market (Feasibility Analysis)**
The Downtown Denver Public Market and Feasibility Analysis findings concluded that the city’s core is ripe for public market development. The study recommends development of a 40,000 SF market with 25,000 SF of leasable vendor space, located on or close to the 16th Street Mall, structured as a nonprofit and housed in a building provided to the market without cost. The study recommends a large anchor retail space (5,000 SF) with approximately 70 indoor and outdoor vendors.

**DHA Horse Barn project**
The Denver Housing Authority in partnership with a variety of nonprofit organizations will transform a 25,000 SF structure in Five Points, the former Denver City Railway Co building, into a community center for 30 international development nonprofits and food security organizations. The building will feature a farmers market, as well as an on-site demonstration garden. It will include a commercial kitchen featuring healthy cooking demonstrations and nutrition education classes.

**Denver Urban Homesteading**
Billed as an urban farmers market and “reskilling” center, Denver Urban Homesteaders is a grass roots food hub and education center for locally produced food and handmade goods such as fibers and chicken coops located on South Santa Fe south of Downtown Denver. Organizers and partners conduct a wide range of classes to promote urban agriculture, chicken and goat keeping, beekeeping and other self sufficient living skills. The owners are committed to growing a sustainable, local, independent food system that provides consumers with an alternative to conventional, industrial agricultural practices.

**Asian Marketplace at Federal and Alameda**
S. Federal Boulevard and W. Alameda Avenue is one of the city’s top destinations for a variety of Asian shops, restaurants and grocers. The concentration of businesses at this intersection and nearby Alameda Square make it a draw for residents of Asian descent, as well as other visitors seeking unique offerings, particularly culturally relevant grocery items and authentic, specialty restaurants.

**Grocery Stores**
A move away from conventional grocery stores is at hand driven by several factors. A recent industry publication titled, “The Trouble in Aisle Five” predicts that Millennials who are moving into the best customer categories for food purchases will dramatically alter the way people shop for food and the products that stores stock in the future. The article suggests that Millennials (particularly mothers) are driving a shift to more locally sourced and sustainably produced food that translates to the potential for rapid growth of new concepts/products.


Food cooperatives engage the community in an ownership structure based on shared values around social justice, fair trade, local economic development, independent business operation, and health. In some cases, coops manage a physical site for distribution of goods (an alternative to a grocery store), while in others the coop is framed around a coordinating structure for distribution without a terminating market.
Starting a food hub is a capital-intensive prospect. It is particularly true in the case of the project proposed by this feasibility study and business concept. The proposed food hub concept requires extensive planning, land acquisition, site design and planning, as well as construction and operational considerations such as market development, programming and staffing. Despite the magnitude of the project, this document is the starting point, a roadmap for a destination development/terminal market. It illuminates a pathway out of poverty for a community defined by geographic and social isolation, economic and language barriers and a lack of access to fresh healthy food. In light of these issues, this proposal could not simply pick a site and run numbers to determine feasibility and a break even point. To transform this food desert into a food oasis, this project had to consider the place surrounding the proposed development site. While at first glance, this broad perspective appears daunting, it opens the door to many funding opportunities to turn a big vision into a workable reality. Successful implementation of this project demands cooperation and collaboration. It begins with a community funding business model and extends to support from national, state and local partners (in the public, private and nonprofit sectors) to cobble together the financial and human capital to move the proposal to reality.

**Community Funding Business Models**

Community capital funds support small business development in a district. Such a fund mobilizes local residents to invest in new business concepts through a variety of community-based models, including cooperatives and community-owned corporations. These two models offer viable business concepts that will enhance economic vitality in the district by providing a local financing solution, which may advance grass roots economic development.

The general structure of the food hub business operations includes a Board of Directors, a Market Manager (who oversees a staff including the Managers of the various components of the food hub), Market Development Manager (whose primary function is to provide a bridge between producers and the wholesale markets) and a Vendor Selection Committee. The Board (which includes the Vendor Selection Committee) performs other functions such as marketing and promotions, event programming, website development and maintenance, community and government relations and financial oversight. The Market Manager oversees operations of the food hub, develop marketing and outreach strategies, manage additional staff, propose and manage budgets, handle public relations and act as the food hub's spokesperson. The Vendor Selection Committee reviews and approves vendor applications consistent with the food hub's mission and merchandising plan. The precise definition of the food hub management and operations structure should be crafted and vetted by the founders of the facility as would be customary of a community-owned corporation or a cooperative.

**Community-owned Corporations.** Community owned corporations are designed by residents to meet specific local needs. Local customers may have a personal incentive to invest in their favorite businesses. Community-owned corporations are local stock corporations, owned by residents who buy shares in the business. Generally, stock may not be owned by an out-of-towner, which ensures that the business remains locally and democratically controlled. Typically, community-owned stores support other local businesses and products, which further benefits the community at large. This model can be applied to many types of retail businesses including restaurants, department

### Funding a Food Hub

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stores and bookstores. Often, community-owned corporations are social mission driven organizations, which apply market-based strategies to achieve a social purpose.

- The Mercantile – Powell, WY (307) 754-5888
  The Merc was formed by local town leaders as a community-owned, for-profit store run by a manager and overseen by a board of directors. Shares were sold in $500 increments to more than 800 of the town’s 5,300 residents, which generated over $400,000 in start-up funding. This successful community-owned model has kept spending and jobs within the local economy, helped to revitalize downtown and has contributed to the community’s distinctive character in a way that a chain store could not. The Merc maintains an emphasis on customer service and takes special care to meet the needs of their clientele.

- Milagros Coffee House – Alamosa, Colorado
  http://www.lapuente.net/milagro.php
  Milagros Coffee House is considered an enterprise organization under the umbrella of La Puente, a non-profit organization. The purpose of the café is to provide revenue to support La Puente’s programs and services, which endeavors to meet the immediate needs of the underprivileged community in the San Luis Valley. Milagros is the only café in Alamosa and is run by both paid employees and volunteers. La Puente’s Enterprise Board of Directors oversees the operations. Milagros maintains a welcoming environment for the community and provides exposure for La Puente and promotes further awareness of hunger and homelessness.

- Kizuri (fair trade store) – Spokane, WA
  http://experiencespokane.com/kizuri/index.shtml
  This fair trade store is fully funded by the community through a low-interest, 8-year loan. The 11 investors in the business are very committed to fair trade and part of Kizuri’s mission is to educate the community. Not only is the business funded by the community, it also gives back 7.5% of its profits to the “community building”, which houses other businesses.

Cooperatives. The cooperative structure is designed for broad community involvement in ownership and management. Cooperatives (co-ops) generally operate based on ideals and tenets that benefit members and build social capital. Typically, co-ops operate as non-profit organizations and benefits from having wholesale buying, marketing and/or distribution infrastructure advantages. Individuals typically make a one-time purchase for a fully refundable share in the ownership of the cooperative. In exchange, the owners receive discounts, patronage dividends in profitable years (often owners are given the opportunity to waive their dividend so that it may be reinvested in the cooperative and its programs) and the opportunity to run for a seat on the managing board of the cooperative. Ownership is particularly important to community members who share the values of the cooperative which usually include social justice, fair trade, local economic development, independent business operation, organic/sustainable production methods and other environmental or health benefits. One advantage that worker ownership of a cooperative food businesses may provide over a conventional grocery store is a reduction in employee transience and theft. These two issues are frequently cited as impediments to efficient grocery store operation, adding significantly to operational costs.

- High Plains Food Cooperative –
  Kansas/Colorado Front Range
  Launched in 2008, the High Plains Food Cooperative has grown by 40% since then with plans to continue its expansion. Grant-funded expansion plans will focus on improved distribution, market development and production capacity. One goal of the expansion plan is to partner with the development of a food hub in Denver. The HPFC currently maintains 50 farmer/producers and 260 buyer members. The cooperative takes a transaction fee from members – for producer members, a 15% fee is deducted from each sales invoice and from consumer-buyer members, a 10% fee is added to each order. The HPFC maintains 2 paid employees (an accountant/administrator and a
driver), while approximately 20 volunteers receive food credits of $25-$75 for assistance in various roles including route managers. The Cooperative operates a sorting center in central Denver and thirteen satellite sites for distribution in addition to home delivery. The HPFC has an annual operating budget of approximately $120,000.

- Weaver Street Market – multiple locations in North Carolina
  Founded in 1988, Weaver Street Market now serves a cooperative membership of 16,000 consumer and worker member owners. Ownership is split 50-50 between worker owners and consumer owners. In 2011, gross profits approached $27M with nearly $250K in net profits. Much more than a grocery co-op, Weaver Street Markets operates 3 market locations, a restaurant, a Food House (for prepared foods), a bakery and Community Investment Fund which supports affordable housing, local schools and a radio station as well as other worthy community activities. The Cooperative generates $16M in economic impact annually in the local community. Weaver Street Markets collectively employ approximately 300 people.

**Public Finance Strategies**

**Tax Increment Financing (TIF)**
A variety of public financing tools may be applicable to a development such as the proposed City Kitchen site. These strategies include Tax Increment Financing (TIF) where the increment of increased tax revenue generated after property development may be captured to offset costs associated with on-site infrastructure improvements like parking, curb and gutter and sidewalks.

**New Markets Tax Credits (NMTC)**
New Market Tax Credits (NMTCs) are a federal economic development tool designed to encourage private investment in underserved communities. The NMTCs generate private equity when leveraged with other sources of capital to create flexible financing structures. The Colorado Housing and Finance Authority, in partnership with the City of Denver and the Colorado Enterprise Fund (CEF), formed the Colorado Growth and Revitalization (CGR) Fund, LLC, a Community Development Entity. The CGR Fund is committed to deploying its NMTC allocation in a manner that leverages the maximum amount of community impact in low-income neighborhoods.18

**Municipal Bond project**
Municipal bonds allow government agencies to issue debt through public investments. An investor lends money to the issuer (i.e. the government) who promises repayment of the principal plus a fixed or variable amount of interest within a contractually specified time period. The interest is usually determined at a rate lower than market value for privately funded projects. As required by law, money collected from the sale of the bond must be spent at one time on the intended capital project, or spent within three to five years from the time the bond is issued. The investor, as bondholder, receives periodic interest payments on the principal invested until the bond matures, or receives both interest and payment in one lump sum when the bond reaches maturity. The interest that is received by the bondholder may be tax-exempt, although this will depend on the type of project funded. Municipal bonds allow government agencies to fund public interest projects for which immediate funds are not available, such as public building construction/renovation, bike trails, housing facilities and parks. Municipal bonds are guaranteed by the government agency of issue.

**Colorado Housing & Finance Authority (CHFA)**
CHFA’s Business Finance team can help larger nonprofits access tax-exempt rates for commercial real estate projects through Nonprofit Mini-bonds. For working capital needs, CHFA can connect nonprofits with lenders that are making working capital loans through the Colorado Credit Reserve. When funding is available, CHFA can also provide long term fixed rate financing for commercial real estate purchases.19

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Grants/Loans
Grant Programs & Foundations/Funders

The Regional Food Hub Resource Guide contains a comprehensive list of potential food hub funders. The list includes federal grant programs (such as the Farmers Market Promotion Program, and the Value Added Producers Grant), foundations and other organizations working at a national level to promote sustainable development of food systems, particularly those projects which incorporate a triple bottom line of environmental, economic and social sustainability. Kresge, WK Kellogg and Surdna are particularly attractive foundations due to the potential award size and mission alignment. Grants range from a few thousand dollars to millions. Local foundations including Colorado Health Foundation, Gates Family Foundation, the Denver Foundation, Kaiser Permanente, Enterprise Foundation and LiveWell Colorado may be attracted to a food hub development that promotes a variety of health outcomes, community center activity and economic prosperity for communities of color. See: Mile High Connects under partnerships.

Colorado Agricultural Development Authority (CADA)

CADA’s Beginning Farmer Loan Program provides up to $450,000 for agricultural property, up to $450,000 for new farm equipment and up to $62,500 for used equipment. A borrower must qualify with a lender. Since the lender provides 100% of the capital and 100% of the risk (CADA does not guarantee any part of the loan), their approval is necessary as in any other loan they make. The borrower must be a beginning farmer and resident of the state of Colorado, who is actively involved in agricultural production on the land which is purchased. CADA issues a tax-exempt bond to the lender. A bank purchasing the bond should be aware, however, that interest received on the bond will probably have the effect of reducing the interest expense deduction that the bank may otherwise have available for income tax purposes. The lender’s payment for the bond will pass through CADA to the borrower to fund his or her project. The borrower’s payments on the loan are assigned by CADA to the lender, thereby becoming the payments on the bond. The CADA Beginning Farmer Loan Program may be used in conjunction with the Farm Service Agency Beginning Farmer Program. In such cases, the borrower must provide a 10% down payment. FSA will provide 30% (unless the borrower requests less), and the remainder of the loan (60% or more) can be funded through a tax-exempt bond issued by CADA.

Colorado Fresh Food Financing Fund

As an outcome of Denver’s Healthy Food Access Initiative, task force members and partners at the local and state level converged to create the Colorado Fresh Food Financing Fund. This fund will provide both loans and grants to increase access to fresh, healthy food. While the focus of the fund is intended for retail grocery expansion, the fund is forward thinking and will consider innovative types of food retailers such as food hubs, if at least 50% of the retail square footage is dedicated to fresh, staple and/or non-prepared foods, and for non-store concepts, the project must derive at least 75 percent of revenue from the sale of fresh, staple and non-prepared foods. It is important as the fund rolls out to consider alternative formats to conventional grocery stores, which supply marginal jobs that are not a pathway out of poverty for low-income residents. Theft and high turnover are significant operational expenses that create challenges for conventional stores. Worker- and consumer-owned cooperatives may provide an alternative format that resembles a conventional grocer and achieves both fresh food access and community prosperity goals.

Colorado Enterprise Fund – Healthy Food Financing Initiative

The Colorado Enterprise Fund is a certified CDFI established in 1976 that provides microenterprise
and small business loans and small business technical assistance to low-income and other targeted populations throughout Colorado. The organization will use its FY 2012 Financial Assistance award ($1,453,806) for operational expenses as well as for capital for its small business loan program. It will use its 2012 Healthy Food Financing Initiative award ($750,000) to expand and formalize its healthy foods financing activities under the Colorado Fresh Food Financing Fund, which will provide flexible, patient, and affordable financing for healthy foods projects in the form of working capital and inventory loans, equipment loans, and commercial real estate loans.

ACRE – Advancing Colorado’s Renewable Energy Agricultural Grant Program
The State of Colorado offers grant funding through a program called ACRE (Advancing Colorado’s Renewable Energy). ACRE’s Agricultural Grant Program, administered by the Colorado Department of Agriculture’s Value-Added Development Board (CDAVADB), has provided $2M to 36 projects statewide. The CDAVADB receives $500,000 each July first to allocate for renewable energy projects which benefit Colorado’s agricultural sector. The CAVADB makes grants, loans and loan guarantees, and equity investments to promote value-added agricultural products and energy-related agricultural projects. Awards are made in three broad categories: feasibility studies (up to $25,000 with 10% match), project participation (up to $100,000 with a 10% match – may be grant, loan/loan guarantee or equity interest) or research (up to $50,000 with a match of 10%). This program could be leveraged to help fund costs associated with renewable energy infrastructure (such as wind, solar, cogeneration and/or an anaerobic digestor) needed to power the food hub.

Colorado Specialty Crop Block Grant
The Specialty Crop Block Grant program (authorized by the 2008 Farm Bill) provides funding for projects that enhance the competitiveness of specialty crop growers. Specialty crops include the following: fruits and vegetables, tree nuts, dried fruits and nursery crops (including floriculture and sod). Grants focus on marketing, promotion, education, research, trade and nutrition. In FY2012, Colorado received more than $680,000. It is expected that potential impacts from awards under this program accrue to a broader group of similar producers, region or industry segment. It is a particularly attractive funding program for market development that supports food hub patrons (both wholesale and retail) and suppliers, and in an urban area it could be combined with other sources of economic development grant funding for job creation that has mutual benefit for urban and rural workers/growers.

Denver Office of Economic Development
The Denver Office of Economic Development offers a number of potential funding resources and incentives including Community Development Block Grants, low interest revolving loan funds and Enterprise Zone incentives.

Great Outdoors Colorado (GoCo)
Using a portion of proceeds from the Colorado Lottery, GoCo funds open space and trail projects through a competitive grant process. The West Colfax and Villa Park neighborhoods (in the study area surrounding the proposed City Kitchen Food Hub site) currently provide between 2.6 and 5 acres of parkland per 1000 people, and the neighborhoods fall below 50% of the benchmark for play fields. To meet current demand and keep pace with future increases in population and housing densities, Parks and Recreation identified this area as a neighborhood of greatest need for significantly expanded park amenities.

21 Enterprise Zone - http://www.denvergov.org/maps/classic/rprop
Other OED programs: http://www.denvergov.org/SpecialPrograms/FundingOpportunities/tabid/435781/Default.aspx
**Partnerships**

**Mile High Connects**

Mile High Connects is a broad partnership of private, public and nonprofit organizations committed to developing inclusive, affordable and livable communities within walking distance of public transit. The partnership includes 21 national and local funders and advocacy organizations such as Surdna, the Ford Foundation, the Rose Community Foundation, Colorado Health Foundation, the Gates Family Foundation, Enterprise Community Partners, the Denver Foundation, Kaiser Permanente, the Piton Foundation, the Urban Land Conservancy, FRESC and several banking institutions. Mile High Connects’ plan for improving access to transit and opportunity focuses on four key resources: housing, health services (including access to fresh produce), education and jobs.

**Land Trusts**

Land trust organizations provide a source of patient capital for land assemblage, redevelopment and community revitalization. Organizations like the Urban Land Conservancy form long-term partnerships with nonprofit, for-profit, and governmental organizations to assist urban communities with complex real estate transactions. These organizations may acquire and hold strategic sites in anticipation of market changes. The organizations often serve as or partner with the master developer on community developments. While the ULC focuses on urban land development, the Trust for Public buys and holds land for urban parks, greenbelts, trails, farms and other open spaces.

**Denver Housing Authority**

The Denver Housing Authority could be a potential partner in the development of the City Kitchen site. As DHA transforms its conventional public housing projects into mixed-income, mixed-use, affordable neighborhoods, the City Kitchen site presents an opportunity for DHA to invest in additional housing development near the West Corridor line.

**Private Developers**

The City Kitchen site plan includes a variety of uses in the campus design concept that may present appealing partnership opportunities for private developers and investors. The proposed campus includes pad sites for residential, office, cultural facilities and other potential uses. Should the project move forward, project proponents should solicit interest from private developers and investors through a request for proposals process. As Denver looks forward to future partnerships to implement the City Kitchen vision, it is critical to link the original project goals to the case study research and community feedback.

The proposed terminal market/destination food hub contains multiple components that are unlikely to develop at the same time. According to feedback from stakeholders involved in food access around the city and state, it is more likely that individual concepts like a greenhouse, a commissary kitchen, or an aquaponics center may evolve separately. However, the momentum created through the Decatur-Federal Station Area planning effort combined with interested stakeholders, future redevelopment of Sun Valley, and potential re-use of existing industrial facilities in the area has set a foundation for collective thinking around a long-term strategy for food access in Sun Valley. This strategy first looks at the original project goals and how they are integrated into the conclusions of this study. It also identifies funding strategies and partnerships to incorporate into future business planning efforts.

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22 [http://milehighconnects.org](http://milehighconnects.org)
Implementation Strategy
The City Kitchen Food Hub Feasibility Study and Business Concept makes the case for a new food access concept in Denver—more specifically the Sun valley neighborhood (see figure on page 57), parts of which may exist in other Denver efforts (like the Growhaus), but as a whole does not exist today. To aggregate the greenhouse, coordinators, suppliers, and consumers in one place creates synergy that engages community residents, brings together local food champions, and becomes the center of activity for an emerging neighborhood when considered in the context of the development of the Decatur-Federal Station area (see figure on p.58). This study also identifies organizations like Denver Housing Authority and Revision International that have been working on their own efforts to increase ideas like eco-districts can bring together local champions and emerging businesses centered around healthy food access.

Several steps should be taken to advance this project from a conceptual business plan.

1. **Public-Private Food Hub Development Partnership.** Identify a champion to spearhead and form a public-private food hub development partnership to advance the work of this conceptual plan. Potential partners include the City & County of Denver (CPD, PW, OED, Denver Seeds), Rocky Mountain Farmers Union (cooperative development), Mile High Connects (foundation and planning/development technical assistance), CSU Extension, Colorado Dept. of Agriculture, Rocky Mountain Farmers Union, Real Food Colorado, Transition Colorado, Colorado Health Foundation, LiveWell Colorado, Colorado Farmers Market Association, Colorado Department of Agriculture, Denver’s Sustainable Food Policy Council and the state’s Food System Advisory Council. These groups are actively engaged in planning for the food system infrastructure needed to support farm to table initiatives. It is unlikely that an “if you build it, they will come” mentality will lead to a successful conclusion in the development of a food hub.

2. **Site Planning.** To reinforce the long term picture and still let the smaller opportunities find a home, engage in food hub site planning including land assemblage, public infrastructure planning/intersection retrofit at Federal/Colfax.

3. **Fundraising Strategy.** Capital campaign planning and management including grant writing, individual donor development, improvement district strategies and public finance mechanisms.

4. **Terminal Market Food System Infrastructure Planning.** By definition, a supply chain of food system infrastructure precedes a terminal market. As a public-private food development partnership takes shape, coordination with Denver Seeds’ comprehensive food system planning efforts will be imperative. Areas of study needed to ensure the successful development and launch of a food hub include:

5. **Wholesale Market Development Strategy.** A wholesale market development strategy will identify those end-users who need a consistent, reliable supply of fresh produce. The strategy should gauge the current wholesale demand for local food and the potential demand that could be developed with expanded relationships and market development efforts. The strategy should provide reliable information about end-user requirements (such as handling practices), quantity and type of food needed, and market development activities. Support for policy initiatives like a requirement for minimum local sourcing by public institutions may also help drive market development for local producers.

6. **Producer Network Strategy.** On the other end of the spectrum, a successful food hub requires a producer supply network. To that end this strategy should identify those farmers, greenhouse owners and ranchers who would be a source of consistent, reliable supply for the terminal market food hub. This study should also identify opportunities for farmer cooperative development/partnerships, gaps in supply chain infrastructure (like packing houses that may be needed to move food from farm to market), and supply chain logistics.
The project complements the adopted Blueprint Denver and West Colfax Plans. The project complements economic and community development goals near public housing facilities along the West Corridor line. The project furthers goals to reduce the geographic and social isolation of people living in public housing and neighborhoods underserved by fresh food retailers by introducing a community facility that provides access to fresh fruits and vegetables and may attract a variety of visitors/user groups from the larger community.

The Development Concept for Decatur-Federaol Station Area Plan adopted in April 2013, presents the broad foundational components for development of a celebrated, connected, innovative, and healthy Sun Valley. Part of this vision could include one or more multiple elements of a food hub depending on land availability and access to partners, and future consumers. To be transformative the food hub must be developed in an area where it can most directly impact residents (particularly those with limited mobility options and low access to food), and be visible and of a sufficient aggregate size with diverse offerings to attract visitors from outside of the community.

To that end, input from community members indicated that the most appropriate site for a food hub would be either in Sun Valley, along Federal or within a short walk of a transit station area. These locations align with the goals of prior city planning efforts, and point to sites like Mile High Vista in the vicinity of Colfax and Federal, assemblages in Sun Valley or other sites within walking distance of the West Rail Corridor.

The future vision for the station area includes four, new unique character areas within the station area:
- Stadium/Cultural Destination
- Transit Oriented Development area
- Employment TOD area
- Industrial area

Together, these elements create a framework to guide and foster a celebrated, connected, innovative, and healthy Sun Valley.
### Commercial Equipment List

**Steam Processing**
- 150 Gal Steam Kettle
- 75 Gal Agitating Steam Kettle
- 10 Gal Electric Kettle
- Dixie Canning Retort

**Food Processors**
- 40 qt Food Processor
- Table Top Food Processor

**Bottling/Packaging Equipment**
- Simplex Filler (fluid product)
- Per-fil Auger Filler (dry product)
- Shrink Tunnel
- Universal Labeler (round containers)

**Mixers/Blenders**
- Butcher Boy Ribbon Blender
- Univex 20 qt Mixer
- Hobart 60 qt Mixer
- Handheld Immersion Blenders

**Ovens**
- Gas stove
- Zephaire Convection Oven
- Tri-star Convection Oven
- Commercial Microwave Oven

**Miscellaneous Equipment**
- Food Pump
- High Pressure Dishwashing Machine
- Legion Braising Pan
- Proofing Cabinet
- Baking Rack and Commercial Baking Sheets
- Stainless Steel Tables and Basic Kitchen Utensils

**Blenders/Mixers**
- Hobart 60 qt Mixer
- Butcher Boy Blender
- Gemco Dry Blender
- 15 L Tumble Blender
- Blakeslee Mixer

**Canning Equipment**
- Dixie Can Sealer- Small Can
- Dixie Can Sealer- Large Can
- Presto Pressure Cooker
- Reid Brothers Steam Retort Adapted for Steam Distillation

**Centrifuges/Separators**
- IEC Centrifuge
- International Harvester Cream Separator
- International Harvester/McCormick Deering Cream Separator

**Cutters/Slicers**
- Lan-Elec Slicer
- Bloomfield Industries French Fry Cutters
- Robot Coupe Food Processor

**Dryers**
- Laboratory Bin Dryer
- Laboratory Tray Dryer
- Overton Single Drum Dryer

**Evaporators**
- Laboratory 7.5 L Vacuum Evaporator
- Lee 10 Gal Vacuum Evaporator

**Juicers**
- Hollymatic Juice Extractor

**Fryers**
- Wells Deep Fat Fryer

**Grinders/Mills/Finishers**
- Hobart Meat Grinder
- Craftsman Electric Chipper/Shredder
- Buhler Wheat Mill
- Weber Pulverizing Mill
- FMC Vibratory Feeder
- Langenskamp Pulper Finisher
- Suntech Fruit Press w/ Hammer Mill
- Zambelli/Cantinetta Crusher Destemmer

**Kettles**
- 35 L Groen Steam Kettle
- 75 L Steam Kettle
- 150 L Hubbert Steam Kettle
- 150 L Legion Steam Kettle
- 150 L Cleveland Range Steam Kettle
- 35 L Swept Surface Steam Kettle

**Preserves**
- Suntech Fruit Press
- Star Filter Press
- Screw Press

**Pumps**
- Cherry Burrell Heat Exchanger
- Moyno Pump
- Graco Pump
- Tri-Clover Positive Displacement Pump
- Burks High Pressure Pump
- Dayton/Gast Vacuum Pump

**Sifters**
- Sweco Sifter

**Cookers**
- Cleveland Range Steam Cabinet

**Other Support Processing Equipment**
- Hobart 4.5 L Table Top Mixer
- Glen Mills Table Top Grinder
- Champion Juicer
- Westinghouse Electric Stove
- Berron Tray Dryer
- Impulse Bag Sealer
- Hotpack Oven
- Osterizer Electric Blender
- Tyler Sieve Shaker
- Sunbeam Food Processor
- Cenco Moisture Balance
- Ohauw Moisture Balance
- Refractometers
- pH Meters
- Hygrometers
- Digital Velometer
- Digital Tachometer
- Braun Hand Blender
Appendix: Food Hub Case Studies
Aggregation/Distribution-Wholesale
Appalachian Sustainable Development
Appalachian Sustainable Development is a nonprofit with a corporate office in Abingdon, VA and an aggregation/distribution facility in Duffield, VA. In 1999, ASD established Appalachian Harvest (AH), a network of approximately 50 certified-organic family farmers producing organic vegetables and free-range eggs in Southwest Virginia and Northeast Tennessee. Appalachian Harvest grades, washes, labels, and packages products in its 25,000 SF packaging and grading facility and distributes them to 30 food brokers and supermarkets, representing more than 900 individual supermarkets throughout Virginia, Tennessee, North Carolina, South Carolina, Georgia, Maryland, and Washington, DC.

ASD offers training and technical assistance by organizing hands-on trainings for producers and by coordinating a peer network for producers to learn from one another. ASD works directly with farmers to utilize Good Agricultural Practices (GAP) to encourage sustainable production methods and Good Handling Practices (GHP) to encourage food safety. They require farmers to certify (through extension) on GAP/GHP. Many farmers have transitioned (or are in the process) from conventional tobacco production to produce as the market for tobacco production has dwindled. ASD recently conducted a think tank session to explore opportunities to branch out into other incubation services to assist farmers. In the near future, ASD will develop a suite of services for farmers including insurance, startup cost assistance and access to capital. ASD helps identify the best market for individual farm and farmer such as wholesale vs. direct to consumer, depending on farmer aptitude, preferences and farm size, and whether the farmer is in full time production or operating on the side. ASD invests much of its time and resources into market development to identify bulk purchasers including schools, grocers, institutions and restaurants. Work with restaurants also includes a campaign to promote restaurants that buy local. Using donated funds, ASD’s “Healthy Families, Family Farms” purchases seconds - produce that doesn’t meet strict quality standards, but which is still perfectly edible - from farmers. The farmers don’t take a loss and the purchased food is donated to families in need and to food banks. The program also offers cooking demonstrations, other nutrition education and hosts a community garden through a grant. ASD recently started an earth box project that sets families up with home container gardens to promote a “Grow Your Own” campaign. Finally the program supports a learning landscapes program in public schools.

http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=stelprdc5097504

Local Food Hub
Local Food Hub operates as a nonprofit wholesaler of produce, meat, honey and eggs to more than 150 businesses, institutions, schools, restaurants buying clubs, and food banks within 40 miles of their operation in Charlottesville, VA. It operates primarily from a 3,800 SF storage and distribution facility with minimal capacity for processing food (limited to washing to prepare produce for packing). The facility includes refrigerated storage, a loading dock and 2 refrigerated delivery trucks. In addition to the warehouse, LFH also runs a 75-acre organic educational farm that offers farmer apprenticeships, internships, farmer training in organic and sustainable growing methods, volunteer programs, and events; 6 acres function as a production farm for the LFH. Staff includes an Executive Director, Warehouse Manager, Development Director, a part time grant writer and a fulltime driver plus staffing equivalent to 4 FTE (two full-time Farm Managers, part time and seasonal workers) to run the educational and production farm. The organization purchases in bulk from farmers, thus providing a consistent revenue stream and a dependable market, while creating a consistent supply of locally sourced produce for institutions, schools, markets, restaurants and other large quantity purchasers. Prices are set by pound of produce at the beginning of the season.
brokered services relieve the administrative burdens of delivery and sales calls so producers may focus on growing and bulk consumers can find a single point of access to high quality, fresh, local food. Though farmers sell to Local Food Hub at less than direct-to-consumer sales, they have reported a 10% increase in their sales volume. Labeling of products identifies the farm origins and reinforces the partner producer’s name, brand and image, and association with the Local Food Hub. Other marketing services include sales services, web profiles, photographs, promotional materials and media exposure. The LFH holds pre-season planning sessions between buyers and sellers to record buyer demand and inform producer planting and pricing requirements. Some of the LFH educational programming addresses issues such as business plan development and financial management for small farms. The LFH does not require adherence to GAP/GHP. However, it carries a $3M umbrella liability insurance policy that covers all of its vendors. The total cost of all the insurance carried by the LFH (including insurance for their trucks) is $20,000 per year. The hub further serves the community by donating to area food banks, soup kitchens and homeless shelters.

http://www.futureharvestcasa.org/index.php?option=com_content&view=article&id=133

**Goodness Greenness**

Founded in 1991 by CEO Robert Scaman and his brothers Rodney and Rick, Goodness Greenness is the Midwest’s leading supplier of fresh, organic food and the largest privately held organic distributor in the country. Goodness Greenness started out in a 5,000 square foot warehouse with 20 employees in the McKinley Park neighborhood of Chicago and a vision to supply its customers with the finest and freshest organic food available. The Scaman brothers grew up in the produce business, following in the footsteps of their father, Bob Sr., who was a salesman in Chicago’s historic South Water Market. Today, this for-profit driven wholesaler, operates a 25,000 square foot warehouse equipped with state-of-the art technology to make the storing, packing and shipping of organic fruits, vegetables, and juices as efficient as possible. Goodness Greenness sources as much organic produce and fruit as possible from small-scale and cooperative farmers around the Great Lakes. The company has built relationships with growers from Canada to Wisconsin in an effort to bring fresh, local, organic food to its customers. Goodness Greenness has developed their own private label brand of local organic food that is distributed to Midwest area retailers. Goodness Greenness contributes to the hard work of local and national not-for-profits such as Farm Aid, Family Farmed, the Gardener’s Supply Company, a food hub, and a Seven Generations Ahead, each of which promote locally grown organic food and small-scale family farms through marketing, branding, and consumer education programs. The company employs over 60 people and directly supplies over 300 stores that include the region’s largest supermarkets, independent retailers, hospitals, and fine restaurants.

**The Intervale Center**

The Intervale Center is a nonprofit located in Burlington, VT. With its roots in the for-profit Gardeners Supply Company, the Intervale Center blends for-profit management with a nonprofit enterprise, owned by a Board and producer members. Because the site necessitated the purchase of a large and underutilized parcel of land it required a formal partnership with city, county and state entities that provided the leverage to secure the land and needed capital. The site is comprised of farms, a conservation nursery, a corn crib (for storing corn), a farmhouse, the Gardener’s Supply Company, a food hub, and a hay barn. The nonprofit opened the Intervale Food Hub in 2007 to aggregate, distribute, and market products from farmers—mainly in Chittenden County—to the greater Burlington area. The Intervale Food Hub works with 22 farmers who produce primarily fruits, vegetables, meat, and eggs, as well as some dairy, grains, plants, baked goods, prepared foods, and canned and frozen produce. These products are sold year-round to CSA members. Through its CSA program it is able to accept SNAP benefits, and it has partnered with the Northeast Organic Farming Association of Vermont to offer subsidized shares to low-income residents. The Intervale’s food hub provides market development work and support by identifying consumer markets. As a result, the food hub also aggregates and supplies products to restaurants, schools, and a hospital. The Intervale Food Hub stores aggregated produce for quick turn around in a 1600 SF (on 2 floors) renovated barn. The basement contains a regulated cooler, while the upstairs includes a 10’ x 12’ walk in cooler and two chest freezers. The building is not ideal for food hub purposes and a new building is under construction which will have 3000 SF on two levels – 600 SF cooler on main floor plus a 10’ x 12’ walk in freezer, a standard size loading dock and the remainder of the space will be used for aggregation and short term dry storage. The basement cooler in the existing barn will remain available for long-term storage for farmers to rent. The new facility is designed to support $1.2M in sales annually. At present, the Intervale Center does not include a processing kitchen. However, a planned Food Enterprise Center will use waste heat from McNeil Power Plant (a city owned facility) to extend the growing season and power a value-added processing center. Originally, it was conceived that the waste heat would power a brewery whose water waste and mash would feed greenhouse-grown mushrooms and hydroponic veggies/tulapia production. This addition to the Intervale Center is a $5M capital project. Intervale staff members are currently watching VT Food Venture Center a commissary operation to better understand their operations, demand and whether there will be future need for a similar type of facility before investing in a similar operation. The Intervale Center’s Farm Program (founded in 1990) leases land, equipment, greenhouses,
irrigation, and storage facilities to small independent farmers. The farm incubator operates on 350 acres in the heart of Burlington (1/3 of the site supports 12 farms, the rest is maintained in open space and trails). Each year, these farms produce fresh produce and contribute 60 full-time, part-time and seasonal jobs to the Burlington economy. The Farms Program removes start-up barriers that typically challenge new farmers: access to training, land, capital and markets; knowledge of equipment operation and maintenance; isolation. Farm Incubator Program and Success on Farms program (funded by the Vermont Housing and Conservation Board) provides subsidized rental rates, business planning support, access to equipment and mentorship from established growers – fees start low and rise as the farmers’ independent businesses expand over the course of 3 years. Additionally programs specifically help African refugees become farmers. The Intervale Community Connections Project connects city kids to local farmers and brings hundreds of volunteers to the Intervale to work on various projects and functions of the center. There is interest in developing a future teaching kitchen or small community kitchen to support this program (it would require a feasibility study and capital campaign). The Intervale Center hosts a Gleaning Project that provides local food to local social service agencies. Intervale maintains a food shelf in Burlington, stocking it with surplus from the center. The program also provides free food shares to individuals/families. The program partners with local public schools and universities to provide shares to parents and students. The farms program contributes 60 full-time, part-time and seasonal jobs; the center employs 14 full-time staff people; and a 10-member board of directors runs the organization. In 2007 the Intervale surveyed 301 farms to assess current marketing practices, farms’ capacity to expand production, barriers to production expansion and new activities that could increase the marketing capacity of these farm businesses – responses indicated that labor, storage and marketing capacity were the top three barriers to production expansion.

Helpful links:
http://scc.ca.gov/files/2012/03/Coyote-Valley-Ag-Feasibility-Study-Case-Studies.pdf

Brokerages/Cooperatives – Active Coordination

High Plains Food Coop
High Plains Food Coop is a grass roots network of High Plains and Rocky Mountain Front Range producers and consumers uniting interests in locally grown food and other locally made products. Acting as the agent of producer members, the High Food Cooperative posts and markets the products the producers have for sale, receives orders, provides delivery to other members of the cooperative, collects from the consumers and forwards the payments to the producers. Acting as the agent for consumer members, HPFC provides an online catalog of available local food products that includes information about how and where the product was grown or processed. HPFC takes orders and notifies the appropriate producers, arranges for the food to be delivered, and receives and processes payments. The essential business of the cooperative is to provide a marketplace where willing buyers and sellers can meet. Producer members maintain independent storage facilities and follow standards required by the HPFC producer guidelines. HPFC identifies distribution sites and producer members drop off produce at the distribution sites according to the standards in the HPFC guidelines. At no time does the cooperative ever have title to any of the products. HPFC does not maintain inventory. The HPFC will rent space one to two times per month in the Phillips Building (at 36th and Franklin) for product aggregation and sorting before distribution to the 13 pick-up locations. One of the producer members provides a 1000 SF storage facility that includes cold and dry storage in St. Francis, KS. The products that go through HPFC’s distribution system are owned either by the producer, or by the consumer who purchases “title” to the product from the producer. Producers are responsible for GAP/GHP. For both producer and consumer members, HPFC provides a basic screening of products and producers based on our published parameters, as well as education and training regarding the use and the advantages of local foods.

As a broker between producers and consumers the HPFC alleviates administrative burdens that allow producers to concentrate on their primary purpose of growing food. The cooperative takes a transaction fee from members - for producer members, a 15% fee is deducted from each sales invoice and from consumer-buyer members, a 10% fee is added to each order. The HPFC currently maintains 50 farmer/producer members and 260 buyer members (up from 10 producers and 30 consumers in the trial year; the HPFC launched in 2008 and has grown 40% since then). Ninety-percent (90%) of sales are to customers in south metro Denver (I-70 to Castle Rock) and ten percent (10%) come from the rural community near the producers. The HPFC is currently working on a grant-funded expansion plan examining distribution, market development and production capacity. One goal of the expansion plan will be for the HPFC to partner with the development of a food hub in Denver. The HPFC maintains 2 paid employees (one does accounting and administrative work, the other drives the trailers), while approximately 20 volunteers receive food credits of $25-$75 for various roles including route managers.

Iowa Food Cooperative
The Iowa Food Cooperative facilitates farmer-consumer relationships and builds farms and communities through web-based marketing of Iowa products. Consumer members shop online and pick up orders at distribution sites. An eight member Board (½ producer board members, ½ consumer board members) runs the organization. Volunteers manage the distribution
sites and contract paid staff manage operations. Contract staff include a GM, a producer oversight coordinator (maintains producer base and accurate product information, licenses), a database manager, an IT manager and a distribution coordinator. The cooperative is a nonprofit that receives funding and technical assistance from Practical Farmers of Iowa, the Leopold Center for Sustainable Agriculture, the Blooming Prairie Foundation.

The IFC maintains a retail space in a shopping mall as the primary distribution site (that also functions as an aggregation facility) plus 3 other distribution sites in partner buildings. Producers bring products to the IFC aggregation facility. The IFC transports the produce to the distribution sites using a van, hauling frozen and perishable food on dry ice and/or in coolers with frozen water bottles. The IFC needs refrigerated truck and will purchase one as the cooperative expands. Though its primary distribution site functions as both an aggregation and distribution facility, there is no long-term storage or inventory maintenance since all produce and other farm products are preordered – food and other products arrive the day before and morning of consumer member pick up. The primary distribution site (an 1,800 SF space) houses several small (reach-in, not walk-in) commercial refrigeration units for temporary cold storage. As the cooperative grows they will look for warehouse space with commercial walk in refrigeration and freezer capacity. Producers are responsible for GAP/GHP (the IFC requires licenses from producers for products that require any special licensing – such as egg handler or meat has to be processed in inspected facility and appropriately packaged). IFC does not require food safety training, but they do cursory visual inspection of products for cleanliness and condition. IFC requires producers to adhere to certain production and handling rules – they don’t require liability insurance but encourage it. IFC maintains liability insurance for the cooperative entity but not the members.

Healthy Food Hub
Healthy Food Hub is a buying club or consumer operated CSA that purchases in bulk to reduce the cost of healthy foods for members. Unlike grocery stores or cooperatives, all that is needed is a time and a place to distribute the food. This model cuts out overhead costs and prevents the need for upfront working capital. HFH sources food from urban and regional farmers. HFH volunteers host market days at dispersed sites - market/distribution days require 22+ volunteers. Members are responsible for obtaining and sharing educational resources on health and nutrition with other members under a “Seek and Find” ethic adopted by the club. A growing membership will allow the HFH to invest in generating a host of social enterprise opportunities to increase the amount, variety and seasonal availability of local foods. It will also make way for purchasing large volumes of food directly from producers and processors. The intermediate aim of the HFH is to increase the amount of local food that is made available to members year round.

Destination Development/Terminal Market Food Hubs
General Description and Typical Operations.
Destination development/terminal market food hubs typically incorporate aspects of aggregation/wholesale and cooperative/brokerage food hubs, housing these activities within a centralized location (usually an urban setting). Proximity to a dense population base means that these facilities may also provide direct to consumer access (as in a farmers market, indoor vendor arcades, food banks or small market/grocery) or other programs that cater to a general public audience. An urban destination food hub may offer an array of services such as cooking classes, nutrition education, business incubation, on-site production (vertically integrated greenhouse/aquaponics and/or a production garden) and community gathering space. While aggregation/wholesale or cooperative/brokerage food hubs fall into either a farm-to-business/institution model or a farm-to-consumer model, a destination development/terminal market food hub may encompass aspects of both models, functioning as a hybrid that serves a variety of end users. The emerging model for a 21st century food hub in an urban setting is a destination development/terminal market, which has the potential for the greatest triple bottom line (economic, social and environmental) impacts. Operators of these types of food hubs are not just property managers; rather they take an active role in value chain business development, facility programming and community engagement (both urban and rural).

Issues for Further Consideration. As the country’s population concentrated in urban areas, we transferred the responsibility for feeding ourselves to private, industrial agriculture operations. While these operations are essential to our current food system, there is growing awareness that we need to diversify and enhance the contributions of small to mid-sized growers close to home. Doing so will ensure a reliable and sustainable supply of fresh, healthy food that minimizes ecological impacts and the carbon footprint of food production and distribution. Destination development food hubs are gaining popularity as a solution to the inadequate infrastructure available to small to mid-sized farmers. Expansion of this infrastructure will fill a market niche that aids aggregation, distribution and processing of local food and develops market channels to bulk purchasers. Beyond these basic functions, “food hubs provide a number of additional services that build the capacity of local producers and also engage buyers and consumers to rethink their purchasing options and habits.” As such urban food hubs have the potential to bridge the gap, providing needed infrastructure for small to mid-sized local farming operations to meet the growing demand for local food and influence consumer food choices, while collaborating with conventional supply chains to maintain access to fresh produce in off peak months.

Weaver Street Market
Founded in 1988, Weaver Street Market is much more than a grocery cooperative. With cooperative membership reaching nearly 16,000 members (both consumer and worker member owned – ownership is 50-50 consumers/workers), gross profit in 2011 approached $27M (with net profit of $247K). One in four residents of the county are member owners of the cooperative. Weaver Street Market includes 3 grocery cooperative sites, a bakery, a restaurant and the recently constructed Food House (which serves as an aggregation, storage and processing facility for the market operations). Unlike a typical grocery store, Weaver Street Market operates a Cooperative Community Fund that invests in affordable housing, a radio station, local schools and worthy community activities. Sixty percent (60%) of sales are to coop owners. Forty-two percent (42%) of the money spent in the coop stays in the community. The Cooperative generates $16M annually in community economic impact. The mission statement of the cooperative calls for the following: cooperative control of profits, local self-reliance, ecological balance, meeting basic community needs, non-exploitation of the workforce, inclusiveness of the community, education of fellow citizens, social interactivity, empowerment of customers, and integration in the local economy.

A critical expansion of the Weaver Street Market is the recently constructed Food House. This 11,000 SF facility (excluding the administrative offices), contains a kitchen (with refrigerated and freezer storage), a meat and seafood area, loading docks (with a shipping cooler that opens to both the interior and the loading docks, also stores dry goods like canned items and flour). The loading docks can receive up to 3 trucks at any given time. The kitchen is a 3500 SF space which includes all the refrigerated storage, open space, hot/cold production and packaging, a separate room for bulk vegetable processing and cut fruit with a small refrigerator cooler that holds prepped raw ingredients, staging area for pickup and distribution to stores. Two warehouse spaces within the Food House include a warmer space for potatoes and things that need to ripen plus a cooler space for vegetables and fruit, plus a main freezer for frozen products. The Food House also contains a small cold storage area for outside vendors to hold items like sushi. The Weaver Street Bakery is also housed in food house, in a separate building connected by a walkway. The Food House incorporates many green building features. Lighting automatically dims to take advantage of daylight from the skylights and windows. Gray water is used to flush toilets, and waste heat from the refrigeration compressors is used to make hot water for dishwashing. An innovative “Second Nature” refrigeration system uses anti-freeze and water as a refrigerant for the coolers. Foam insulation and 12” walls reduce the heat and air-conditioning load. Variable-speed oven hoods turn on and off automatically when cooking is sensed. Concrete from the demolition was cut into blocks and used to build retaining walls. In all, more than 250,000 pounds of old concrete were diverted from the landfill and reused.

Food House falls under the cooperative business structure – Weaver Street Markets owns the Food House facility and land. The Board elected to build an off site facility rather than integrate the Food House activities into individual markets (3 total) in order to better manage food safety and ensure efficient processing and distribution operations. The aggregation, processing and wholesale distribution functions of the Food House will help accelerate plans to expand the number Weaver St Markets and supply other cooperatives in the region. Weaver St Markets collectively employ approximately 300 people – the Food House employs 70-75 staff (includes kitchen, pastry and bread, purchasing and distribution, dish, and meat and seafood departments). Recently the cooperative shifted from a discount system to a dividend system to ensure the financial sustainability of the coop (primarily allowing the coop to save for the future and self fund capital improvements). The patronage dividend advances the overall goals of the co-op. The five goals for the patronage dividend system established by the Board are:

1. Ensure that WSM has adequate capital to meet current and future needs.
2. Keep profits in the local community.
3. Return any profits beyond the co-op’s current needs to owners.
5. Build the Co-op Community Fund by offering the option to donate the cash portion of individual dividends.

Greenmarket/Grow NYC
Founded in 1976, Greenmarkets/Grow NYC is a quasi-governmental, nonprofit, partnership with private producers, housed within the Council on the Environment of NYC (a privately funded non-profit based in the Office of the Mayor). Annually, Greenmarket produces $2,788,515 in revenue from a vendor fee of 1-5% of gross farmer income. Greenmarket includes a variety of programs including composting, youth markets, textile recycling, wholesale produce sales, EBT at farmers markets, a fresh bodegas program (providing wholesale produce delivery to corner stores), fresh produce donations to food pantries, regional grain production, local seafood production, fresh produce buying clubs for populations with limited food access, school gardens and new farmer development projects.

The New York City Wholesale Greenmarket offers over 100 local and regional farm-fresh products including fruits, vegetables, herbs, plants, and flowers at competitive wholesale prices and quantities. Many products at the Wholesale Greenmarket are harvested less than 24 hours before being sold. The Greenmarket farmers grow their own produce and sell direct to buyers at Hunts Point. Coming straight from the farm each morning, their products travel a very short distance ensuring premium quality, and greater food safety and traceability. The Wholesale Greenmarket

CITY KITCHEN
program facilitates sales in partnership with Hunts Point and the New Fulton St. Fish Market (a state of the art 400,000 SF distribution facility with modern refrigeration, loading space, exec offices, $86M facility). The Wholesale Greenmarket facilitates sales between wholesale buyers such as small grocers, institutions, restaurants, and distributors and small and medium sized growers from New York and adjacent states. Greenmarket consists of multiple producer-only farmer market locations scattered throughout NYC and the five burroughs. Programmatic services through the Greenmarket program include the New Farmer Development Project and Youthmarket which provide training to grow the producer network for the markets and wholesale program. Educational programming about local food and healthy eating help grow demand for regional produce. Greenmarket employs 20 full time staff plus 12-22 seasonal workers.

**Detroit Eastern Market**

In continuous operation since 1841 (at present location since 1891), the Detroit Eastern Market is one of the Nation’s oldest publicly owned wholesale-retail markets. Eastern Market employs eleven paid staff governed by a 20-member Board. The market consists of four individual markets: retail (for consumers), wholesale (for grocery stores, distributors, restaurants, farm stands), flowers, and special events. As many as 40,000 people visit the market’s hundreds of open-air stalls, which feature fresh produce, meat, poultry, fish, flowers and plants, and many other local products. More than 250 vendors and merchants from Michigan, Ohio, and Ontario process wholesale and retail food. Eastern Market coordinates aggregation, distribution, processing, and commercial market outlets for many of the region's small and mid-size farmers. The market plans to redevelop an economic development district to bring in additional business incubators, restaurants, retailers, wholesale services, and a distribution center. The plans to expand the market call for significant renovations to existing structures plus infill development that includes housing. Storage is available throughout the market with concentrated storage in the Grower’s Terminal which serves as the primary loading docks and storage (cold and dry) for the 43 acre market complex. Parking is available throughout the site in lots and a central parking garage, as well as on-street (886 personal vehicle spaces – includes 21 ADA, 164 truck/vendor, 624 overflow spaces) – parking numbers include existing + proposed in recent strategic plan. Detroit Eastern Market operates a number of halls or “sheds” including the 20,000 SF Market Hall. Plans for this space include indoor vendors (produce vendors - 4130 SF, specialty production vendors – 10,000+ SF), an open air farmers market, an urban agriculture demonstration market garden (2.5 acres includes greenhouse, hoop houses to extend growing season, composting center onsite, tool and supply storage), a commercial kitchen plus an education and conference center with a teaching kitchen and convertible classroom/event space. The planned incubator kitchen is a 4,176 SF space (in the Education Center on the second floor) plus a 4,048 SF teaching complex with another kitchen and convertible meeting/confrence space. The Education Center’s classroom complex can accommodate 150 people in one large space that can be divided into 4 smaller classroom or meeting spaces. The Education Center also includes 4,942 SF of office space for the Eastern Market Corporation and shared services facilities for a variety of food system partner organizations, nonprofits and the like. A farm stand program associated with the Market Hall engages small producers to enhance access to markets (for producer) and fresh foods (for consumer).

Helpful links: http://www.detroitmi.gov/LinkClick.aspx?fileticket=Rgrs6eWXkAw %3D&tabid=2875&mid=3837

**San Francisco Ferry Market**

Built in 1898, the Ferry Building and its 240-foot tall clock tower is the iconic landmark of the San Francisco waterfront. The dramatic heart of the building is a three-story tall, sky lit hall, known as the Nave. It runs the entire 660-foot length of the building. Natural daylight fills the Nave from the steel-trussed glass ceiling. The second and third floors of the building house 175,000 square feet of office space and the ceremonial hearing room of the San Francisco Port Commission. Restoration of the building was a $110 M private investment. Many entities attempted to restore the property before, but none came to fruition until a public/private re-development partnership called Ferry Building Investors LLC (FBI) was formed to complete the task. This joint venture is comprised of Equity Office, Wilson Meany Sullivan (WMS), Primus Infrastructure LLC, and Banc of America Historic Capital Assets LLC. Ferry Building Investors, LLC, re-developed the site on behalf of the Port of San Francisco, the building’s owner. Equity Office is the principal investor responsible for the Ferry Building’s historic rehabilitation, and serves as the property manager for the Ferry Building. Equity Office is an established commercial property owner and manager in San Francisco with a strong commitment to serving the San Francisco business community. Equity Office owns and operates more than 16 million square feet of premier office property in the San Francisco area, and more than 120 million square feet nationwide.

The ground floor of the Ferry Building is devoted to a 65,000 square foot public food market showcasing the very best of the Bay Area’s world-renowned food community. The Saturday Farmers Market is one of the most highly acclaimed farmers markets in the United States. The arcades surrounding the Ferry Building becomes a national showcase for organic produce and artisan foods, expanding to locations on the back plaza on Saturdays. Seasonal produce direct from the grower, as well as fine artisan cheeses, breads, preserves, grass-fed meat and organic coffee, prepared foods are typical offerings. The farmers market draws 15-20,000 visitors per week. An on-site catering kitchen serves events held within Ferry Market. The Ferry Plaza Farmers Market is a certified
farmers market operated by the Center for Urban Education about Sustainable Agriculture (CUESA). A CUESA goal is to achieve 100 percent representation by farmers and prepared food vendors whose crops and/or ingredients are grown using sustainable methods. The market currently draws on about 100 farmers and 25 artisan food vendors.


Midtown Global Market
The Midtown Global Market resulted from the redevelopment and adaptive reuse of a long-vacant former Sears building. Collaboration amongst the Neighborhood Development Center, the Latino Economic Development Center, a group of Latino business owners, the Ryan Companies (a private real estate development firm), the African Development Center and the Powderhorn Phillips Cultural Wellness Program brought the project to fruition when the entities collaborated to bring a healthy food access project to this community in need. “The Neighborhood Development Center (NDC) works with entrepreneurs and community organizations to concentrate the power of micro-enterprise development around dynamic “hubs” of community revitalization, linking the energy of people to the vitality of places. This “network of hubs” allows NDC to generate and sustain large-scale impact while communities retain ownership of the process and the results.

NDC’s development model includes six key elements that work together to develop hundreds of entrepreneurs and transform target neighborhoods, while increasing the capacity of community leaders and partner organizations both locally and nationally to revitalize their communities:

1. Finding the untapped, hidden talent of entrepreneurs in low-income communities

2. Eliminating barriers through highly accessible, multi-cultural programs and services

3. Taking a comprehensive, long-term approach that helps entrepreneurs succeed

4. Working at scale while communities retain ownership and enjoy the benefits of success

5. Linking energy to place creating the critical mass needed to revitalize neighborhoods

6. Building local and national capacity of individuals, organizations and communities.”

Midtown Global Market includes residential development (355 apartments, townhomes and condominiums), a 136 room hotel, commercial office and retail development (501,000 SF) and the Global Marketplace (73,000 SF). A total of 1,580 shared parking spaces supply the counter-cyclical traffic and parking demands of workers, residents and visitors. The Global Marketplace provides space for individual stalls to accommodate a variety of tenants with amenities such as water hook-ups, sinks or full kitchen capabilities depending on the vendor’s needs. The market has the capacity for 60 vendor spaces (ranging from 380-1800 SF) plus two full service sit-down restaurant spaces. It currently houses 8 specialty grocers, 15 caterers, 18 dining establishments, 4 meat/poultry/fish markets, 3 produce vendors, 5 bakeries, 2 coffee shops, 2 flower shops plus day tables for local artisans and food business micro-entrepreneurs, plus catering operations and services for food trucks vendors. The Kitchen in the Market offers a unique combination of a commercial kitchen, cooking school, and retail shop. Located in a formerly vacant corner of the Midtown Global Market, KITM provides shared commercial kitchen space for 23 caterers, food trucks, and food manufacturers, who collectively provide more than 60 jobs. Owners Molly and Tracy - together with notable Twin Cities chefs - host and teach a variety of cooking classes which entertain and educate more than 1000 guests annually, bringing new clientele to the market and its vendors. Since opening in 2010, KITM has had a huge impact on the Midtown Global

25 Source: http://www.ndc-mn.org/how-we-work

Market, the surrounding Phillips and Powderhorn neighborhoods, and the local food community. One of the key attributes of the site is its proximity to a regional “Rails to Trails” bike superhighway and rapid transit routes that provide superior alternative mode access. The basement includes dry storage, coolers and freezers. Midtown Global Market employs 4 staff members and supports the vendors and operators of its various subsidiary businesses. The Midtown Global Market is funded by numerous foundations, government entities, corporations and individual donors. Market supporters included nearly 20 donors at the Market Founder level ($250K+), 10 donors at the Market Builder level ($100K-$249,999) and nearly 40 donors at the Market Support level ($1,000-$99,999).

Helpful links:
http://www.macalester.edu/urbanstudies/studentpapers/Papers/midtownglobalmarket.pdf

Classic Foods Urban Food Factory
Classic Foods is a gourmet local foods manufacturer and distributor. Their “Urban Food Factory” resulted from an effort to save money. The owner decided to stay within the city limits rather than move to a suburban location when they outgrew the original space. The owner found a 50,000 square foot art deco factory (originally built as an ice house then converted to a brewery then a paper box manufacturing company). The site purchase price was $1.4M or $28/ SF (significantly under the original list price of $2.9M). The site is 1.53 acres which provides ample parking for a fleet of delivery trucks. The building required extensive renovations conducted by a design-build team of private architects and developers. The $5 million project’s total development cost of $115 per square foot included the 66,500 square feet of
land and all its improvements, 43,458 square feet of improved usable building area, all hard and soft redevelopment costs, and all the new equipment in the building. This was significantly less than the cost would have been for a suburban counterpart. The building site is in a former food desert and the retail space helped eliminate low access to food while creating new revenue streams and building brand loyalty in the community. Rather than locating the processing kitchen in the recesses of the site, the owner created a 6,480 SF exhibition kitchen at the front of the building. Most of the kitchen equipment is on wheels to ensure the space remains flexible. In addition to prepping wholesale items like pastas, the exhibition kitchen also plays hosts to cooking classes and demonstrations, and functions as a site for free and reduced price lunch programs for children. A fifty foot-long sheer glass wall divides the kitchen from a 2,340 SF public community gallery for local artist displays, community events, fundraisers, neighborhood association meetings, etc. (all free of charge). A bank of eleven 5’x12’ windows opposing the shear divider provide daylighting for the gallery and kitchen and, thus, reduce lighting costs. Glowing windows during nighttime events reinforce the sense of community activity and neighborhood revitalization. Local artists display works in the gallery space. Adjacent to the gallery is a 1,407 SF retail space. Patrons in the gallery and retail space may peer into the exhibition kitchen to watch food production firsthand. An 800 SF lower patio with widened sidewalks and parking in addition to a terrace host a weekend farmers market. The terrace is surrounded by an edible landscape of herbs. Multiple tools resulted in an innovative project finance package. A $3.3 million, tax-exempt Oregon industrial bond, at 5 percent interest over ten years, covered two-thirds of the cost. West Coast Bank provided acquisition and construction loan financing for the project, and subsequently purchased from the state the tax-exempt industrial bond for permanent financing. This move passed on interest savings of 175 basis points to Classic Foods, thereby saving nearly $850,000 in interest over the life of the loan. Oregon also approved business energy tax credit (BETC) incentives of about $40,000. The BETC program covers 50 percent of eligible energy improvement costs over standard practice. The Portland Development Commission (PDC) provided a $250,000 acquisition loan for the property and a $200,000 kitchen-equipment loan, both at a 4 percent interest rate over five years. In addition, the PDC granted $20,000 from its Storefront Improvement Program. Another $17,000 in grants came from EnergyTrust of Oregon to offset some costs for sustainable building features. The remaining $1.2 million—about one quarter of total project costs—was paid in as equity from Classic Foods. Longer-term sustainability in project finance comes from energy savings attained through the incorporation of a variety of green building practices, materials, and processes. The building is in the final stages of commissioning and qualifies for Leadership in Energy and Environmental Design (LEED) Platinum certification, making it the first manufacturing facility in Oregon to achieve this designation. Among other savings, a system transfers heat from the refrigeration condensers to preheat water for the kitchen and bathrooms, thereby nearly halving water-heating costs. Upon completion of its LEED Platinum certification, Classic expects to receive about $180,000 in federal energy tax credits. 

The Food Hub at Lafayette Square (planned)
The St. Louis Food Hub at Lafayette Square is a planned adaptive reuse of a former hospital in a redevelopment area. Renovation involves a 4-story 29,950 SF historical building into a four story facility with aggregation and distribution on the 1st floor, food processing and packing on the 2nd floor, aquaculture facility on the 3rd floor and rooftop greenhouse. The project will house three enterprises: Farm to Family Naturally Supermarket, Farm to Family Naturally Food Distribution Center, Farm to Family Naturally Greenhouse – all three will be structured as for-profit social enterprises. Farm to Family Naturally, established in 2007, is a privately held company that aggregates and sells produce from more than 200 family farms within 250 miles of St. Louis, MO. The company offers a wide range of products through its own retail outlet, the Sappington Farmers Market, which has more than 5,000 customers a week and delivers products to daycare centers, buying clubs, schools, and a food-processing center. Farm to Family Naturally offers a variety of producer and consumer services, including accepting SNAP benefits and offering nutrition education. It plans to establish this 67,200-square-foot food hub to expand its reach into the St. Louis area, especially in areas with limited access to healthy fresh food. Plans include distribution to corner stores, human service networks, and institutional food service operations, as well as selling directly to consumers. The facility will include a 27,200 SF food processing and distribution center, a 35,000 SF full-service grocery store specializing in the sale of local foods plus a 5,000 SF on-site aquaponics/greenhouse facility outfitted to grow fish and leafy vegetables. As an economic development generator, the project will create 150 full-time livable wage jobs plus 50 part time livable wage jobs and create destination development that will draw visitors from the immediate area and the greater St. Louis market. Estimated cost of build out and renovation is $15M. The funding structure includes the use of New Market Tax Credits, Missouri Development Finance Bank loans, Tax Increment Financing, Community Improvement District resources, Historic Tax Credits, and conventional financing.

26 Source: http://urbanland.uli.org/Articles/2012/Jan/MachtUrbanFood
Appendix: Community Feedback Summary
Community Outreach Background
During the month of May, project team members met with a variety of residents in a series of four meetings to obtain information about food access in the community, introduce the concept of a food hub and solicit feedback about the core components of a potential food hub. The meetings included a general community meeting conducted in English, as well as three community meetings conducted in the native languages of the Limited English Proficiency (LEP) communities that are heavily represented in the study area (these include Latino/Spanish-speaking, Vietnamese, Somali and Somali-Bantu). Each group responded to the same series of questions.

Themes from the Community Meetings
1. Where do you usually get food for yourself and/or your family (for example, a grocery store, corner store, food bank, or a supermarket that also sells other goods like clothing, home goods and electronics)?

No single grocery retailer stood out as a preferred location for area residents. Responses ranged from King Soopers to more specialty grocers like Mi Pueblo (Hispanic/Latino foods), Sunflower (organic foods), markets on the far east side of the metro area (for Halal meats and specialty spices or other ingredients) and markets on South Federal (for Asian foods). There was a good deal of interest in access to a centrally located consumer choice food bank that would stock fruits, vegetables, dairy and meat in addition to canned goods. Recognition that corner stores offer convenience at a significant price, shoppers were willing to travel for discounts/specials (especially true among the Vietnamese who reported that shopping for a good deal is a culturally ingrained practice). Some preference was mentioned for the convenience of a supermarket (particularly from the Somali and Somali-Bantu community participants).

2. What do you, your family, or your friends’ need/want at the place where you get food? (Grocery delivery, food stamp applications, nutrition education, community gathering space, specific products/types of food, store tours)

Participants in the focus groups expressed a desire for assistance with food stamp/EBT applications and retailers who would accept EBT. Some concerns related to EBT use included inability to qualify due to immigration status (despite need for access to emergency food supplies) and cost of fruits and vegetables with a clear interest in double bucks programs that would make fresh produce more affordable. Grocery delivery was not viewed as a desirable service, though many participants indicated an interest in a neighborhood serving shuttle that would transport residents to the grocery store conveniently. Most participants indicated that they were able to find most of the foods they want with the exception of certain specialty or cultural items that are not customary in American stores.

3. How do you travel to where you get food – do you drive? Take bus? Walk?

English-speaking and Vietnamese residents all indicated that an automobile is the primary means of transport to and from grocery stores, while Spanish-speaking and Somali/Somali-Bantu residents used a variety of modes including transit and carpools. All participants indicated a desire for a more centrally located source of fresh food, preferably within walking distance (a five-minute walk) of their primary residence or a major bus or light rail stop.

4. What could happen in your world that would make you want to grow your own food? If a commercial kitchen/food hub could help you prepare and sell your food such as jams, sauces or salsas to the public, would you use it? How about your friends, family, or neighbors? What sorts of foods would you be interested in selling or buying/receiving?

Overall there seemed to be mixed interest in growing food for sale with some groups showing considerable interest (particularly the Somali and Somali-Bantu residents) and others indicating that growing food would not be considered a profession and too much work on top of a job (Vietnamese). However, a number of participants either grow for family consumption or expressed an interest in doing so. With additional conversation on the subject the participants expressed interest in learning intensive growing methods and generally seemed supportive of including on-site production at a food hub facility (particularly if that production created jobs for community members or increased the supply of fresh produce for the community). Participants cited examples of good, intensive urban growing operations like Harvest Mountain Farm Gardens in Lakewood. All the participants desired a greater supply of fresh produce including tomatoes, chilies, beans, spinach, corn, carrots, potatoes, herbs, broccoli and watermelon.

5. Should a food hub be a place where you could learn how to start a food business and get help to grow that business? Could you see yourself starting a food business? What sorts of help would you need such as access to computers, printers, copiers and other office equipment, business planning assistance, training services, networking groups with other small business people or other services...

All of the groups expressed a preference for a food hub to be an incubator space for small food businesses. There was also particular interest in seeing the development of a cooperative business structure for a food hub that would benefit a greater number of community members (the Somali/Somali-Bantu group was particularly interested in collective economic structure that could accelerate self sufficiency for new immigrants who have many cultural, language and other barriers to employment to overcome.) Participants held a favorable view of a shared services facility that could provide a business address for a small operation and reduce individual overhead costs through shared office equipment and meeting spaces.
6. Do you think a food hub should be a delivery center for fresh fruits and vegetables and foods prepared in a commercial kitchen? Would you want to support local farmers and buy/receive their fruits and vegetables from this site? All of the groups indicated a preference for a food hub to aggregate and distribute produce, particularly if that meant direct to consumer access to fresh fruits and vegetables at a reasonable cost. With the exception of the Vietnamese community, all of the groups expressed an interest in opting for organic, local produce to support small farmers whenever possible (key factors included convenient access and cost). Vietnamese community members indicated that it is a culturally ingrained preference to without exception choose lower cost over local, organic or other branding.

7. If a food hub was built in this community, where do you think it should be located? Would you go to a food hub more if it was by a light rail station or bus stop?

Walking distance from place of residence, centrally located or proximate to a major bus or light rail station were cited as the key location criteria for a food hub.

8. Would you be interested in healthy cooking classes or nutrition education if these were offered at a food hub? What do you think the cooking classes should offer (such as healthy cooking classes and recipe makeovers)? Would you be interested in teaching cooking classes at a food hub?

There was little preference for general cooking classes. However, recipe makeovers – such as how to make a cultural dish using foods found in a conventional grocery or healthy substitutions for favorite recipes – were cited as cooking classes that would have value to community members. There seemed to be greater interest in teaching cooking classes for supplemental income, such as sharing a family recipe for a traditional dish. For example, approximately 10 participants would pay $5 each for the class, providing $50 of pay for an hour of work. Such an arrangement seemed very desirable among respondents. Participants also thought it would be interesting for a food hub to offer cook-offs for traditional dishes like pho (Vietnamese), sambusas (Somali/Somali-Bantu) and tamales (Latino). Each group mentioned the intersection of so many unique cultural identities within the study area including Vietnamese, Latino, African, Jewish and Italian. There was considerable discussion about the opportunity to create a vibrant food hub that unites all of these food traditions under one roof.

9. Would you be interested in learning healthy recipes for dishes that are important to your culture? What sorts of food are important to your culture? Would you want to buy or receive these foods if they were available at a food hub?

Healthy recipe makeovers of traditional dishes were appealing to most of the participants. Participants mentioned that lots of specialty foods were hard to find in conventional grocery stores including fish sauce, green bananas, yucca, rice varieties, hallal meat, couscous varieties and spices, as well as sustainably and humanely raised animal products (particularly dairy, meat, eggs) and local/organic products. Hallal meat is a particularly important staple of the Somali/Somali-Bantu diet and residents are willing to travel great distances to find a good supply. Participants also indicated that goat slaughter is an important cultural activity and there is interest in a facility that would provide small animal slaughter both for a supply of the freshest Hallal meat as well as for a source of jobs that would be prized by Somali/Somali-Bantu residents.

10. Should a food hub host social events, like a festival, that promote cultural traditions around food?

There were clear preferences that community gathering spaces would be an important component of a food hub as there are a lack of such spaces with kitchen facilities, restrooms, adequate parking and sufficient space to accommodate family gatherings and community social events in which food plays a significant part of the celebration. What spaces are available often are too expensive or lacking needed support facilities. Free or low-cost space rental would be highly desirable.

11. Do you have any questions about the food hub concept? Do you think a food hub is important to build in this community? What are the top 2-3 services the food hub could offer that would appeal to you, your friends, families or neighbors?

The Somali/Somali-Bantu group indicated the top three services of a food hub would be a processing center/kitchen (including a small animal slaughterhouse to ensure a supply of hallal meat), a cooperative business structure that incorporates producer-consumer-vendor ownership options with a business incubation center to help individuals grow a food business, and a grocery/market/food bank that provides direct to consumer access to fresh food (include meat, dairy and eggs in addition to fresh produce, dry goods and canned goods). The Spanish-speaking focus group indicated that the key elements of a food hub would be a central location with a little bit of everything, plenty of parking, event space (of a substantial size with a teaching/event kitchen and outfitted with sufficient support facilities including chairs/tables/other equipment, bathrooms, a children's corral within the space for supervision but not removed from the activity; incorporating universal design to accommodate elderly and disabled). The English-speaking group indicated the need for one-stop shopping – staples plus access to dairy products (butter, milk, eggs) and specialty items; emphasis on local/organic/sustainable foods; food hub needs to serve existing community (incorporate them in the decision making process, focus on food affordability, nutrition value and convenience) yet stay visionary; identify ways to integrate more
exchange options (oversupply of certain CSA items, seeds/plants, knowledge/training); partner with other organizations and bring a diversity of food system organizations and activities under one roof (critical mass). The Vietnamese group indicated that a food bank and assistance with food stamp/EBT applications would be critical components of a food hub; also indicated that creating an atmosphere that celebrates food cultural traditions in a non-denominational way would be important; and indicated that Big Heart (a Vietnamese community organizing entity) would be a key partner of food activities.
Conclusion

This study includes a substantial amount of detailed background information about the food access industry and the technical challenges related to initiating any type of food hub project. This information can be useful to future implementers for a food hub project or any of its components. The stakeholder feedback combined with the catalytic project potential of a public market or food hub in the area of Sun Valley and Decatur-Federal station area provides a logical starting point for future implementation. This study also concluded that there are multiple parties involved in solving food access issues, although they are not necessarily working together. Today, these groups are engaged in multiple activities from starting neighborhood cooperative gardens to initiating healthy food access program partnerships with local schools. Program needs are different, thus incentive to partner with other organizations is not always apparent. However, a destination food hub with the assortment of services outlined in this plan will take partnership involvement from different experts involved in production, supply, marketing, and community health. City Kitchen as a concept is a good place to start this partnership conversation, and West Denver proves to be a perfect market to initiate a project in the future.