



*A project of the
Rural-Urban Connections Strategy
(RUCS)*

SACRAMENTO REGION FOOD HUB FEASIBILITY ANALYSIS



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SACRAMENTO VALLEY FOOD HUB BUSINESS PLAN

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The Rural-Urban Connections Strategy (RUCS) is the region's rural economic and sustainable strategy complementary to the Blueprint, the region's overall growth strategy
(<http://www.sacog.org/rucs/>)



EXECUTIVE SUMMARY

The Sacramento Valley Food Hub Business Plan is a component of the Sacramento Regional Agricultural Infrastructure Project which is developing new business tools and assessing models to facilitate increased sales and consumption of locally grown foods in the six-county Sacramento region. Currently, it is estimated that only two percent of regional food consumption is from local sources. The analysis focuses on food hubs, agricultural infrastructure facilities which help connect locally grown and source-identified fresh produce – specialty crops – to local markets and customers, especially by creating new market channels between smaller and medium-sized growers and larger institutional and business buyers.

The Sacramento Valley Food Hub Business Plan presents the results of research, market analyses and extensive stakeholder consultation to recommend a conceptual business model for a Sacramento regional food hub and test the feasibility of the model with a financial feasibility analysis. The following are the results of the analyses:

- The demand for locally and sustainably grown food is strong and growing; major drivers include new initiatives from the California's higher education systems, hospitals, and K-12 schools to procure local produce.
- Sacramento region residents consumed almost 1.9 million tons of food in 2012. More than one million tons was fruits and vegetables – specialty crops (56%).
- There is existing fresh produce aggregation and distribution capacity in the region, but a great deal is oriented to exporting food outside the region; it is difficult for many smaller growers to connect with larger institutional and business markets and for buyers to source produce locally at the scale they need.
- The analysis identified 23 target specialty crops that would be good candidates for a hub. For almost all crops there is an imbalance between acres needed to produce what is consumed in the region and what is actually grown, constituting a strong market opportunity for development of one or more hubs in the Sacramento Valley.
- Scaling up to reach levels of throughput for the food hub model is very manageable – only 27 acres of supporting agriculture production would be needed in Year 1, expanding to 171 acres in Year 4 and 743 acres in Year 7.

Based on the market analyses and assessment of the level of operations needed to get to viable scale of hub operations, the recommended hub model is a for-profit enterprise, to create a supply channel for large-scale buyers primarily, including existing fresh produce distributors and wholesalers, institutions such as schools and hospitals, restaurants, food banks, governments, and other commercial and non-profit customers which are seeking locally grown, source-identified food. Based on the hub model, the initial focus is on wholesale rather than retail pricing structures. The financial analysis tested both the feasibility of the pro forma analytic toolkit and the feasibility of the proposed hub model, based on the operating assumptions about the hub's processing lines, cost of goods (produce), production volumes, facilities and operating costs, scaling up process, and customers and suppliers. The following are some key findings from the feasibility analysis:

- The cumulative capital cost of developing the 22,150 s.f. building and purchasing equipment is approximately \$6.4 million in Year 6. The facility would be ready for use in Year 4. There is a possibility

that state and local economic development and utility incentives and rebates could partially offset costs.

- The hub will have four processing lines by Year 7 which will give it flexibility to handle many different crops with different levels and types of production and processing. Lines will accommodate fresh cut tender produce, fresh cut firm produce, frozen, dehydrated, jams, sauces, purees and aseptic packaging, with packing, storage and custom packaging capabilities.
- While the hub carries an operating loss in the early years, by Year 5, with 2+ processing lines operating and a projected revenue of \$8.8 million, the hub attains a positive cash flow. It attains a positive Internal Rate of Return (IRR) by Year 8 (6%), reaching 15% by Year 10, when annual revenues are over \$18 million.
- The financial analysis is based on a wholesale pricing structure and estimates for more basic levels of processing. The actual level and types of value-added processing functions will vary greatly on the needs of the hub's customers, the marketplace and the pricing structure that can be obtained by the hub operator. The hub is financially feasible at this level of operations. While higher value-added activities will cost the operator more in terms of labor and other costs, the margin will be greater and thus the level of profitability.
- The hub's success will be enhanced with partnerships and collaboration with a wide range of entities involved in various aspects of the regional food system. The food banks in particular can assist the hub's start up with logistics, transportation, and networks, and possibly serving as mini-aggregation sites and transfer stations. The food hub will have a farm advisor who will assist farmers with business and crop planning, marketing and developing trusted relationships which will be vital, especially to assist smaller growers in getting in to larger customer markets.

There are barriers that need to be addressed to realize the opportunities for developing food hub infrastructure throughout the region. They include the need for: serviced and zones sites and facilities; streamlined local permitting processes; more supportive institutional purchasing policies and procurement infrastructure which currently are a disincentive for purchasing locally grown produce; food safety and traceability and liability insurance for growers and the hub; assistance with overall regulatory compliance; and better information on institutional fresh produce purchasing patterns and requirements.

The report also identifies a number of potential financing resources for development of hub facilities, equipment and operations.

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SACRAMENTO VALLEY FOOD HUB BUSINESS PLAN



I. INTRODUCTION

This *Business Plan* is a component of the **Sacramento Regional Agricultural Infrastructure Project** sponsored by the Sacramento Area Council of Governments (SACOG) through its Rural-Urban Connections Strategy (RUCS). SACOG is an association of local governments in the six county Sacramento region providing transportation planning and funding and serving as a forum for regional issues, including linking land use, transportation and air quality (see map on page 2). The Blueprint, a signature SACOG project, is the region's long-term growth strategy. RUCS is the region's rural economic and environmental sustainability strategy complementary to the Blueprint.

Over the past several years, RUCS has identified the need for expanded regional "agricultural infrastructure" to strengthen the local and regional food system and the region's many rural communities. **Agricultural infrastructure commonly is defined to encompass aggregation, packing, processing, storage, marketing and distribution capacity and facilities, including "food hubs."** Overall, agricultural infrastructure:

- Improves the efficiency and sustainability of the local food system;
- Increases access to healthy foods, especially fresh produce (fruits and vegetables), in underserved communities;
- Supports the viability of agriculture;
- Creates new jobs and economic opportunities; and,
- Helps preserve valuable farmlands.

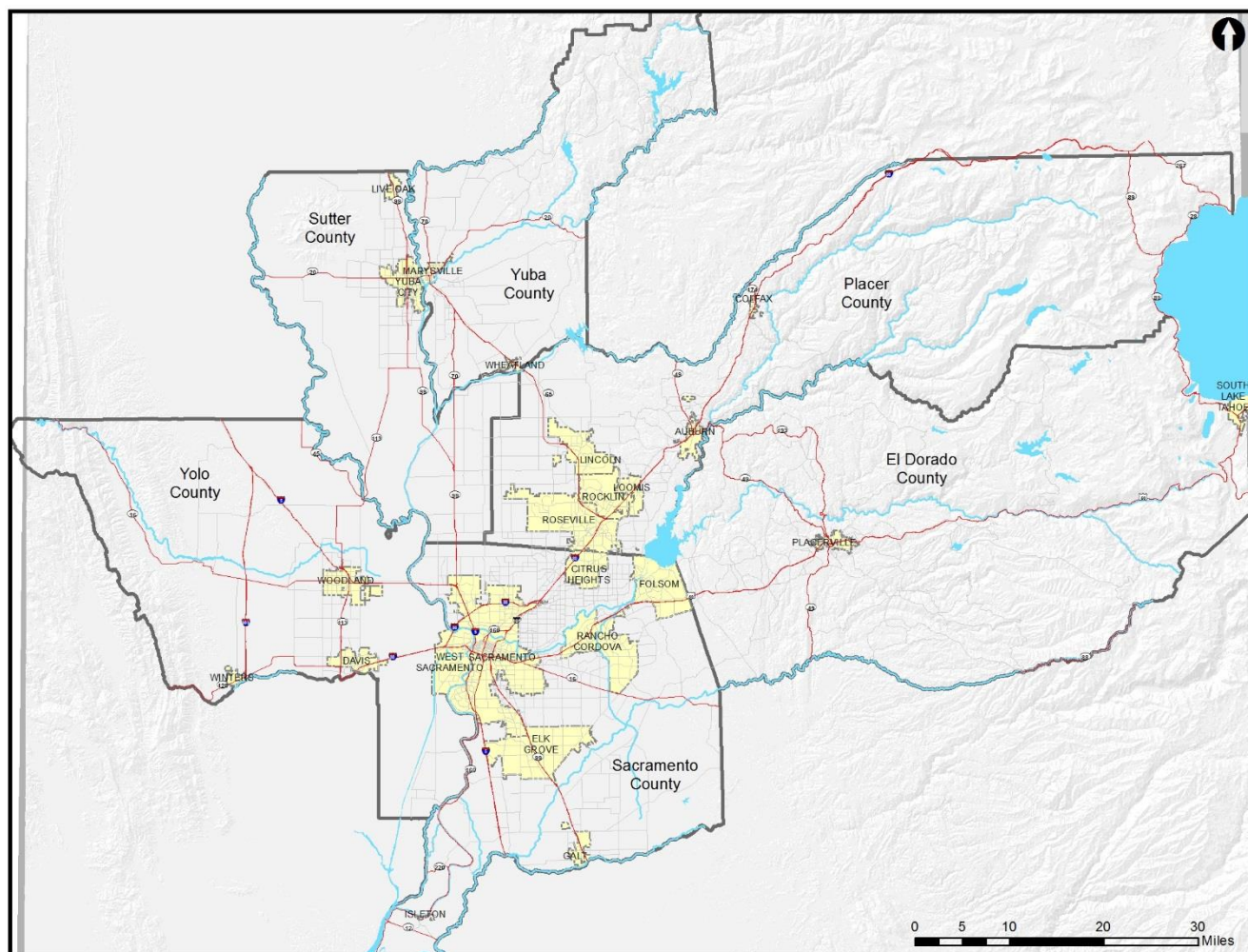
SACOG obtained funding from the California Department of Food and Agriculture, the California Strategic Growth Council and the U. S. Department of Housing and Urban Development to assess the feasibility and costs of models for development of new agricultural infrastructure, focusing primarily on food hubs. Food hubs help connect locally produced and source-identified foods to local markets and customers, especially by creating new market channels between smaller and medium-sized growers and larger institutional and business buyers. This document presents the findings of market analyses and testing of financial feasibility analytic tools, including pro formas, for a Sacramento Valley Food Hub model, with a recommended business plan. It focuses

on specialty crops, defined by the U.S. Department of Food and Agriculture (USDA) as fruits, tree nuts and vegetables.

SACOG contracted with a consulting team (Project Team) led by Applied Development Economics, Inc., in partnership with Foodpro International, Inc., the Hatamiya Group, and DH Consulting, to prepare this business plan. The plan draws on the findings of the other analyses prepared by the Project Team and SACOG: the *Research Analysis of Food Hub Trends and Characteristics* which provides market context and examples of successful and promising types of hub business models; the *Cost Estimate Analysis* which details capital improvement costs for and operating characteristics of a 22,150 square foot hub enterprise; *Impediments to Supplying Locally Grown Food* which identifies barriers for both growers and food hubs in building the local food system; and *Food Banks and Food Hub Development* which assess the role of food banks to incubate and/or support a regional food hub. It is supplemented by the *Financial Feasibility Toolkit*.

The map below shows the SACOG six county planning region.

MAP OF THE SACRAMENTO REGION



BUSINESS OBJECTIVES

The purpose of the Sacramento Regional Agricultural Infrastructure Project (Ag Infrastructure Project) is to:

Provide a business model, financial feasibility analytic tools and business plan for a self-sustaining mid-scale aggregation and distribution operation – a food hub with aspects of processing functions – to serve regional specialty crop producers, including small to medium-sized growers, especially those who lack the capacity to access business and institutional markets. The tools and plans have been developed by SACOG as a resource for entrepreneurs, jurisdictions, investors and other interested stakeholders to advance the development of this infrastructure.

The objectives of the project are to create new market channels and support for small to medium-sized growers, including new farmers, economically disadvantaged farmers, veterans entering agriculture and others. The hub also is intended to be a market resource for growers of any scale. Participation of larger growers, especially in the initial phase of the hub, could help provide the product volumes necessary to achieve economies of scale. In turn, this would help create the capacity to serve larger customers with cost-competitive pricing and reliability of supply, and establish a solid market base for locally grown specialty crops and value-added produce. Another focus is to assess the potential for the region's food banks to incubate and/or provide hub-related services.

A business plan for a Sacramento Valley Food Hub was developed by:

- Assessing regional market demand for fresh fruits and vegetables (specialty crops);
- Identifying illustrative target specialty crops, levels of production, and capital and operating costs for a viable hub operation model;
- Estimating the financial feasibility of the proposed hub model;
- Summarizing policy and other barriers that will need to be addressed; and,
- Identifying potential funding resources.

In the long-term, a financially sustainable business, whether for-profit or nonprofit, will be the best way to provide market opportunities for small and medium-sized growers, working with a wide range of partners to address additional community and social benefit goals. A recommendation will be to leverage existing resources within the region, including the food banks which are leaders in the local food system movement and have transportation, logistics and other capacity to help incubate a regional food hub network. Other options include partnerships with existing fresh produce distribution companies and wholesalers which have a strong presence in the region, to provide them with a new market channel for locally sourced and identified produce and value-added products.

The feasibility analysis shows that over the time needed to scale up market relationships with growers and customers and develop operational capacity, there appears to be enough demand in the region to support more than one hub, and more than one type of hub. This presents a valuable economic development opportunity that can benefit communities throughout the region through creation of new jobs and capital

investment. Information is presented in *Research Analysis of Food Hub Trends and Characteristics* on different types of hub models and lessons from hub operations to help identify complementary approaches to the hub model proposed in this *Business Plan*. These models show how food hubs are evolving in terms of value-added activities and systems approaches, including the changing role of food banks in catalyzing regional food systems.

Expanding diverse types of agricultural infrastructure will help the region capitalize on emerging opportunities related to the burgeoning food economy and address important community objectives such as retaining more food dollars in the local economy; improving food security; reducing food waste; providing alternative opportunities for young and new farmers; and keeping valuable farmland in production. It will begin to rebuild the mid-scale agricultural infrastructure that had previously existed throughout the region but has been lost over time due to changing markets, industry consolidation, economies of scale, regulatory issues, urbanization and other factors.

The following sections of this report provide key research and analysis findings as the foundation for the Sacramento Valley Food Hub Business Plan:

- Market Demand Analysis Findings and Target Crop Analysis;
- Proposed Business Model, Cost Estimate Summary and Hub Services;
- Financial Feasibility Analysis;
- Barriers; and,
- Financing Resources.

II. REGIONAL MARKET ANALYSIS FINDINGS

This section of the Business Plan presents the market case for a food hub including information on trends and market drivers for locally grown produce; existing produce aggregation and distribution capacity within the region – primary suppliers and customers, and market gaps; regional consumption of produce that will drive demand for locally grown and processed produce and thus for the food hub; estimated levels of current crop production for potential target specialty crops; levels of acreage needed to meet regional demand; and target crops to be analyzed to test the financial feasibility of the hub.

THE TREND FOR LOCAL GROWN

The *Research Analysis on Food Hub Trends and Characteristics* describes major trends and market drivers generating demand for local and sustainably produced foods, including specialty crops. These are some key findings:

TRENDS AND MARKET DRIVERS FOR LOCALLY GROWN FOOD

- Demand for locally grown food is strong nationally and growing, driven by diverse consumers including households, businesses, institutions, nonprofits and others. As the nation's Farm to Fork capital, the Sacramento region is a national leader in this movement.
- The National Restaurant Association's 2014 Culinary Forecast of the hottest menu trends is dominated by locally sourced and healthy foods and environmental sustainability. Strong consumer support for local foods in grocery stores was documented by a 2014 national industry survey.
- Organic food sales are also on a strong growth path, reflecting retailers' commitment to wellness and consumers' desire to ensure healthy food for their children. As more mainstream grocery stores carry organically grown food, consumer barriers related to cost will be reduced.
- Project research and interviews with a wide range of stakeholders, including industry associations, hospitals, restaurants, schools, food banks, produce distribution companies, growers, and jurisdictions all validated these trends.
- As examples of demand drivers, in May 2014 the California State University Board of Trustees approved a statewide Sustainable Food Policy wherein each campus will have until 2020 to ensure that at least 20% of all food spending goes to farms and local businesses. In July 2014 the University of California President announced the UC Global Food Initiative wherein campuses will explore purchasing partnerships with K-12 school districts and new policies whereby local growers can become campus suppliers. In Northern California, Kaiser Permanente is asking food service providers to meet certain criteria for procuring sustainably and regionally grown fresh produce, impacting future supply chains. There are many local initiatives such as Yolo Farm to School that are generating demand.
- Food hubs are an emerging and viable business model nationally, enabling local growers to connect to a broader marketplace, improve their bottom line, and better meet consumer and supplier demand for locally grown produce and value-added products. The number of hubs identified by USDA has increased from approximately 230 in July 2013 to more than 300 in April 2014.

EXISTING FRESH PRODUCE AGGREGATION AND DISTRIBUTION CAPACITY

The Sacramento region’s agricultural economy is exceptionally diverse, with beneficial climate and soils; water; long growing season; skilled growers; and supportive public policy. Unlike many other areas in the country, the region has strong – although somewhat unevenly distributed – direct farm to consumer market assets, with a large number of farmers’ markets, Community Supported Agriculture (CSAs) and farm stands, and direct sales to food banks, restaurants, and some grocery stores and schools. However, most business and institutional customers purchase from a variety of distributors and wholesalers, and there are many gaps in connecting local growers with these local customers. The *Research Analysis on Food Hub Trends and Characteristics* provides information on fresh produce distributors serving the Sacramento region and selected institutional customers. This overview highlights opportunities and gaps for developing agricultural infrastructure:

EXISTING SACRAMENTO REGIONAL AGRICULTURAL INFRASTRUCTURE

- There is existing fresh produce aggregation and distribution capacity in the region, a great deal of which is geared for large production volume crops such as almonds, walnuts, rice and processing tomatoes which are mostly exported from the region.
- The regional “food shed” is large, extending to neighboring counties and regions, such as the San Joaquin Valley, the Bay Area, and the North Sacramento Valley. A significant portion of the region’s specialty crops goes to customers in the Bay Area, where growers obtain a good market price.
- There are several fresh produce distributors and wholesalers serving the region’s larger business and institutional customers but they purchase large amounts of produce from outside the region. They also work with some local but mostly out of region suppliers to provide redi-cut produce and value-added food products to customers.
- There is fragmentation of purchasing power across types of customers. Existing procurement policies make it difficult for many institutions to purchase locally grown specialty crops.
- Many stakeholders and key informants identified the need for a dedicated fresh produce market channel to aggregate demand, coordinate with and assist smaller growers, and more efficiently reach business and institutional customers.
- In this region, agricultural infrastructure needs to reach a certain level of operating scale (crop throughput) to be feasible over the long term.
- There is strong interest from jurisdictions in the development of regional food system infrastructure.
- There is enough demand and production to support infrastructure at locations throughout the region.
- Development of this infrastructure needs to be integrated with existing capacity and target its market niche, which is to provide source-identified locally grown and value-added foods to existing distributors and wholesalers, as well as directly to a variety of business, government and institutional customers.

REGIONAL DEMAND FOR FRESH PRODUCE

Regional demand for fresh produce is expressed as the estimated level of consumption of specialty crops by residents of the Sacramento region. To determine this demand, SACOG first calculated the overall consumption of food by major food type for each of the region's six counties and the region overall, using USDA databases to estimate per capita consumption by food type for the region's population of 2,360,844 in 2012. As shown in Table 1, total overall food consumption in 2012 was almost 1.9 million tons, in primary weight tons per year. The Project Team used primary weight as opposed to retail or consumer weight as the unit of measure because it reflects the actual level of crop production needed to supply the final level of consumer weight consumption. Almost 1,055,000 tons of the region's total food consumption (56%) was in fruits and vegetables.

TABLE 1. ANNUAL TOTAL FOOD CONSUMPTION BY COUNTY AND REGION, 2012 (IN PRIMARY WEIGHT TONS PER YEAR)							
Food Group	SACOG Region	Sacramento	EI Dorado	Placer	Sutter	Yolo	Yuba
Fruits	385,393	236,356	29,432	58,956	15,489	33,272	11,887
Vegetables	669,185	410,403	51,105	102,369	26,895	57,773	20,641
Meat	226,009	138,608	17,260	34,574	9,083	19,512	6,971
Nuts	5,968	3,660	456	913	240	515	184
Eggs	48,249	29,590	3,685	7,381	1,939	4,165	1,488
Grains	115,046	70,556	8,786	17,599	4,624	9,932	3,549
Fats/Oils	33,406	20,488	2,551	5,110	1,343	2,884	1,030
Dairy	312,290	191,524	23,849	47,773	12,551	26,961	9,632
Sugars	102,128	62,634	7,799	15,623	4,105	8,817	3,150
TOTAL tons per year:	1,897,673	1,163,818	144,924	290,298	76,268	163,832	58,533

Source: SACOG Regional Food Consumption Calculator analysis of USDA's FICRCD (Food Intakes Converted to Retail Commodities Database) and LAFA (Loss-Adjusted Food Availability) datasets, 2012. FICRCD provides national commodity-level data for food consumption per capita. The LAFA data set serves as a proxy for food consumption for certain more detailed levels of foods.

Existing consumption of fruits and vegetables in the region constitutes the basic demand for locally grown specialty crops and is a strong market driver for the hub, especially as SACOG estimates that most of the produce consumed in the region is not grown in the region. As the region's population continues to grow, so too will the demand (in volume) for fresh produce. Additional growth opportunities to meet fresh produce demand will become available when certain crops that are grown in the region – or that could be grown – become more popular, especially as consumption patterns change with increased awareness of health benefits and availability of certain crops. Kale is a good example of this trend. Demand for fresh produce by visitors has yet to be calculated for the hospitality industry, another important customer base given Sacramento's role as state capital and the region being a thriving business and tourism destination. An additional market would be for the production of specialty crops as a supply input for value-added food processing as this sector evolves locally.

HUB TARGET SPECIALTY CROPS, AND CROP CONSUMPTION AND PRODUCTION LEVELS

With the overall level of regional consumption calculated, the Project Team estimated levels of consumption by major specialty crop type and levels of production in the region for specific crops, to identify potential demand/supply imbalances which might present a market opportunity for the hub in terms of target crops. The documentation of both was a data challenge. SACOG worked across two USDA data sets to arrive at the estimated levels of consumption for specific types of produce. In terms of production, many specialty crops are aggregated into group categories in county reports because their production is relatively small. Thus, the County Agricultural Commissioner Reports and the Pesticide Use Reports – two common data resources used in production estimates – do not always provide crop-specific levels of production. There were many data gaps.

In the late spring of 2014 the USDA released the 2012 Census of Agriculture. SACOG used this database to estimate specialty crop production for each county and the overall region. While it is the most comprehensive and up-to-date dataset comparing agricultural production, it does not necessarily provide a full picture of potential supply and demand imbalances in specialty crop consumption and production. For example, for certain specialty crops such as walnuts or tomatoes, the region grows an abundance that exceeds the amount needed to provide for local consumption levels, yet the Census of Agriculture does not determine how much is retained in the region and how much is sent outside the region. Given this limitation, the Census of Agriculture analysis did provide a good filter for identifying and screening potential target crops for the hub.

Every major crop categorized by crop type was reviewed to identify initial areas of supply and demand imbalance. This information fed into the next level of analysis, to identify potential target crops to supply the food hub, looking across all fresh produce crop type and cultivation categories for seasonal balance and diversity. The Project Team used the criteria listed at right to select potential crops for aggregation, handling, packaging, processing, and distribution at the hub facility. Table A-1 in Appendix A shows a list of 23 potential target crops meeting these criteria initially.

TARGET CROP LIST SCREENING CRITERIA

- Consumption patterns, growing consumer demand
- Availability as locally grown or potential to be grown locally
- High ratio between wholesale/retail price vs. farm price - high margins
- High potential for value-added (including customized packing, redi-cut, processing)
- Seasonal availability
- Ability to extend season (through processing, etc.)
- Innovations in food trends

With the potential target specialty crops identified, SACOG calculated the annual food consumption by county and in the region in primary weight tons per year, which represents the potential demand for these crops. The Project Team identified the average yield per acre in tons referencing a variety of data sources, including consultation with County Agricultural Commissioners and review of UC Davis Cost of Production studies, and calculated the number of acres that would be needed to meet regional consumption if all demand were to be met locally for the target crops. All told, more than 32,000 acres of production would be needed to meet regional consumption levels of these target crops. Detail is shown in Table A-2 in Appendix A.

SACOG then calculated the actual estimated acres in production in 2012 by county and the region for the potential target specialty crops, which totaled almost 140,000 acres. Levels of production include both conventionally and organically grown produce. Table A-3 in the Appendix which shows areas of crop specialization and concentration by county, which could be a factor in determining a location for the hub, given needs for access to crop supply, consumer markets and transportation networks.

Table 2 presents a summary of the acres of current production in the region for the target specialty crops (the supply), compared to the potential acres of production represented by regional consumption (the demand). In almost all cases, the amount of acres needed to meet consumption levels is far larger than the actual number of acres in production. Crops where production is larger than consumption – lima beans, peaches, tomatoes and walnuts – are ones which primarily are exported from the region.

Excluding these four crops, there are currently 3,520 acres in production for the remaining crops, with a demand for consumption totaling almost 21,000 acres. Project analysis suggests that a significant level of these remaining specialty crops also is exported outside of the region, including through CSAs and sales to restaurants and institutions in the Bay Area.

TABLE 2. SACRAMENTO REGION PRODUCTION (SUPPLY) VS. CONSUMPTION (DEMAND) OF TARGET SPECIALTY CROPS, 2012		
Target Crop	Acres in Production	Acres Needed to Meet Regional Consumption
Apples	1,723	8,129
Apricots	118	225
Asparagus	63	1,721
Bell Peppers	32	323
Blackberries	102	10
Blueberries	92	570
Broccoli	56	1,497
Carrots	17	940
Celery	7	167
Chili peppers	144	258
Eggplant	84	79
Kale	10	307
Lettuce (all)	83	2,755
Lima Bean	2,189	940
Onions	222	1,028
Peaches	9,668	747
Raspberries	14	47
Spinach	23	522
Squash	606	729
Strawberries	123	781
Sweet potatoes/yams	2	770
Tomatoes (both fresh and processing)	54,491	9,475
Walnuts	69,175	219
TOTAL	139,041	32,239
TOTAL - Less Lima Beans, Peaches, Tomatoes and Walnuts	3,519	20,858

Sources: For production- 2012 USDA Census of Agriculture
For consumption- SACOG food calculator and USDA National Agricultural Statistics Service NASS
8 year CA average yields per ton

Production would be needed from more than 32,000 acres to meet the needs of regional consumption year round for all the target specialty crops shown in Table 2. The region's target crop supply-demand imbalance presents a strong market opportunity for development of one or more hubs throughout the Sacramento Valley.

RECOMMENDED TARGET SPECIALTY CROP LIST AND ACREAGE NEEDED FOR HUB OPERATIONS

The Project Team review of the target specialty crop list found that for the hub to be successful in returning its investment on the equipment acquired for the operations, the hub's handling and value-added processing equipment as well as the facility as a whole should be utilized through most of the year, with the goal of year-round operations. There should be more than a single crop available during any certain season, to secure the customer base and to average the returns, as they vary by crop between lows and highs. Especially at the initiation of the hub's operations, it may prove to be challenging to secure a sufficient source of a single crop for processing (e.g., cutting, chopping) on the line through the crop's season, for the length of time and volumes required to make the line profitable.

It is strongly recommended that the hub secures the sourcing of not less than 2 and as high as 5 individual crops to be processed, for each of the hub's three proposed lines – tender fresh produce, firm fresh produce and frozen produce, for every month of the year. See the *Cost Estimate Analysis* for detailed description of the hub's processing lines and operations. As operations progress and the hub's market niche is established, transitioning to a larger number of crops is encouraged. Due to seasonal fluctuations of the availability of the crops, the late spring/early summer period may prove to be most challenging for successful competition in the market as the farmers take advantage of the "first fruits of the season" so to speak, when winter is over and the consumers are longing for fresh fruits and vegetables, which increases the purchase price of the produce (Cost of Goods Sold) for the hub.

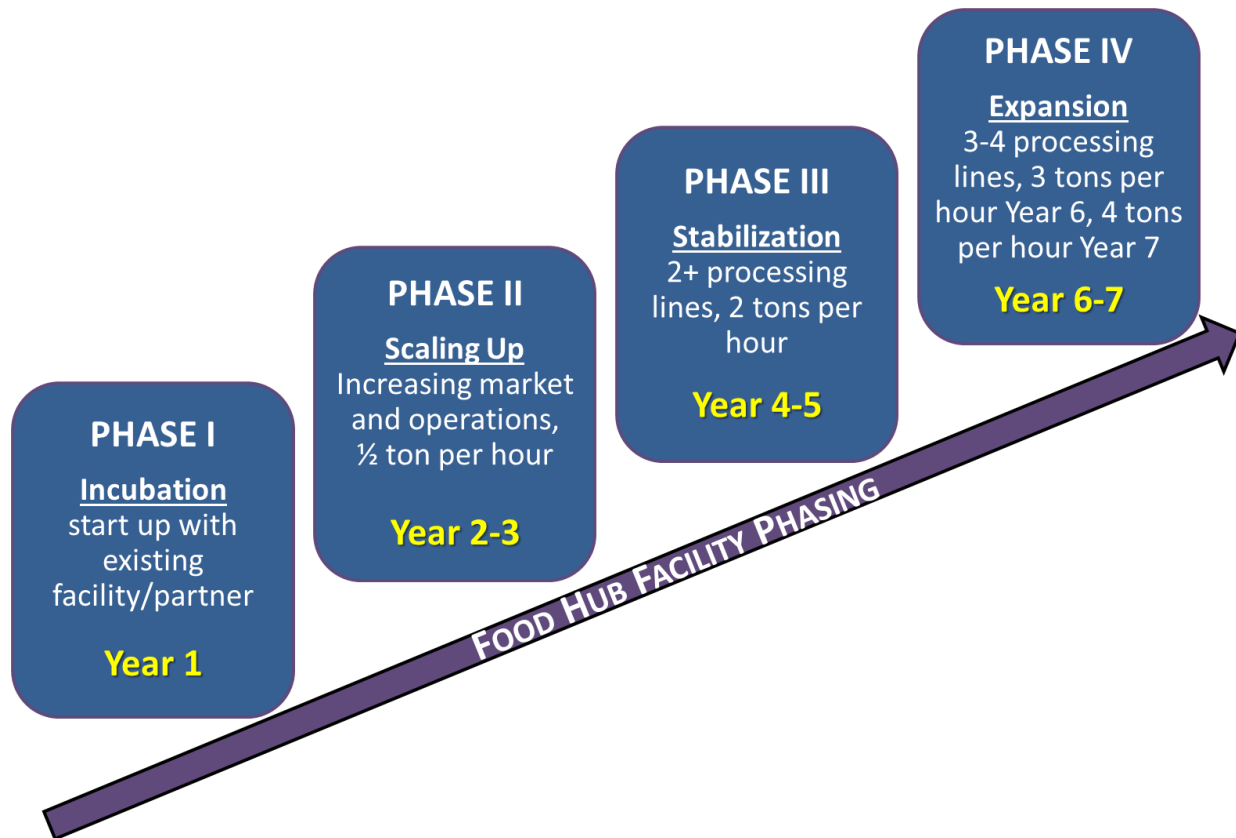
With all this in mind, and with regard to recent market trend surveys and analysis, the Project Team narrowed down the variety of crops for a target specialty crop mix that would be viable candidates for the hub's three processing lines as described in the *Cost Estimate Analysis*.

ILLUSTRATIVE TARGET CROP LIST		
Line 1 (tender produce)	Line 2 (firm produce)	Line 3 (frozen produce)
bell (sweet) peppers broccoli kale lettuces spinach tomatoes blueberries peaches raspberries strawberries	carrots celery eggplant onions squash sweet potatoes/yams	bell (sweet) peppers broccoli spinach blueberries strawberries peaches raspberries (includes some surplus from lines 1 and 2)

The Project Team used the above crop list as the basis for conducting a financial analysis of the proposed food hub operations, using pro forma analytic tools to determine the hub's potential feasibility. To arrive at estimated levels of produce needed for each processing line by project phasing, Foodpro developed assumptions for times of operation and levels of volume by month for the three processing lines, for reaching

target levels of stabilized operations in Year 5. At this time, the hub is trading off processing on the three lines to achieve the requisite volume of production and scaling up of markets and production capacity. Full utilization of all three lines occurs in Year 6. A fourth processing line for higher level freezing is added as part of an expansion phase (year 7), providing the ability to shift one of the other lines to dehydration functions.

See the graphic below for a depiction of the phases of the hub from incubation to scaling up, stabilization and expansion, with the numbers of processing lines and levels of throughput (tons per hour) of fresh produce. The *Cost Estimate Analysis* provides a detailed description of this process and the specific operations of each line.



The assumptions described above were integrated into the pro forma analysis, based on the purchase, processing and sales prices for selected crops. Analyses using alternative mixes of crops is possible (See the *Financial Feasibility Tool Kit*). For example, while apples, apricots and chili peppers (which were in the initial target crop list) were not included in the pro forma analysis, they and other crops could certainly be added in a different product mix scenario.

Appendix B contains detailed information on the recommended target crops, listing crops by processing line by volume (in total pounds and converted to tons), average crop yields per acre, and acres of crop production needed to supply produce for the hub. The information covers Years 4 through 7 which represent phases 3 and 4 of the project. Year 4 is the first year the hub would be located in a larger facility after start-up and scaling up of operations from Years 1 through 3.

This information was generated to provide a realistic estimate of the acreage and levels of crop production required for a feasible hub operation. As seen in Table 3, the total acreage that would be needed to supply produce during the start-up year is less than 30 acres. Given the particular mix of crops analyzed in the pro forma analysis, approximately 171 acres would be needed in Year 4, with 2 lines in operation. In Year 5, three lines will be operational but functioning as 2+ lines, trading off functions. Full operation of all three lines would occur in Year 6. In Year 7, when the facility expands its capacity by adding a fourth processing line, the projected volume of processing would require approximately 740 acres of production.

TABLE 3. ESTIMATED LEVELS OF PRODUCTION AND ACREAGE NEEDED FOR HUB OPERATIONS, YEARS 4-7					
	Year 1	Year 4	Year 5	Year 6	Year 7
Number of processing lines	2 limited	2	2+	3	4
Tons of production per hour	-	1	2	3	4
Total tons	312	2,059	4,076	5,830	7,787
Acreage Needed	27	171	351	539	743

Source: Project Team Analysis

This comes out to an average of about 11 acres per ton of production over the seven years. Using this average, the required acreage for Years 2 and 3 would be approximately 52 and 76 acres respectively. While different crop mixes would result in different acreage requirements, the amounts of acreage at each phase are very achievable levels, especially since the hub managers will have several years to develop relationships with growers so as to reach the targeted level of volume needed over time. There are many existing and new farmers that have indicated an interest to supply a hub.

In summary, the consumption and production analysis conducted for this *Business Plan* has resulted in a target hub specialty crop mix able to be grown and processed in the region that not only meets a verified market demand but would also extend seasonality, add value through processing, respond to innovation in food trends, and provide the hub with branded and source-identified produce that has market value. See Chapter IV for results of the financial feasibility analysis of this crop mix. The proposed crop mix provides an achievable level of acreage – about 350 – in Year 5 to produce a needed level of specialty crops for a single food hub operating at fully stabilized capacity, given the region’s existing agricultural production, capacity and market trends.

III. BUSINESS PLAN MODEL

HUB MODEL RATIONALE

Based upon the analyses conducted over the past year, the recommended business model for the Sacramento Valley Food Hub is for a for-profit food hub. The *Findings of the 2013 National Food Hub Survey* reported that 47% of food hubs were classified as for-profit.¹ The following are the types of legal (business) structures for a for-profit hub as defined in USDA's *Regional Food Hub Resource Guide*:

TYPE OF HUB LEGAL STRUCTURE	DESCRIPTION OF ENTITY
Privately Held Business Corporation – C, S, LLC; Benefit, partnership – joint venture, limited; sole proprietorship, or subsidiary of other entity	Can be various corporate or partnership ownership structures, or other. Primary objectives are to return profits to their owners while providing food aggregation and distribution services to producers and customers. Some companies also include social objectives to respond to consumers or to reflect the values of their ownership.

The Project Team considered a number of important factors in reaching this conclusion, including the following:

- Diversity of current regional crop production as well as the potential for future production;
- Scalability of crop production mix and market distribution opportunities;
- Flexibility of the proposed food hub processing lines to meet market demand;
- Strong potential for short-term profitability and ongoing viability;
- Reasonable initial capital investment; and,
- Lack of need for public subsidy.

As discussed in Chapter II, the regional production and consumption analysis indicates an achievable potential for a target crop mix able to be grown and processed that meets a verified market demand. For the hub to be feasible it has to reach a scale large enough to achieve profitability and continued viability over the long-term, and to serve the region's identified needs. The pro forma analysis summarized in Chapter IV projects revenues of more than \$8.8 million in Year 5 (the year the hub operation shows a net cash flow); \$12.9 million in Year 6; and \$18.3 million in Year 7 as capacity is expanded. Many nonprofit hubs nationally do not operate at this projected level of scale. At the community level, it would be difficult for a nonprofit enterprise to achieve the level of private capital investment needed without some form of public subsidy.

The project's food hub research analysis looked at several for-profit and nonprofit models and determined that given the regional context and the characteristics of the various models, the for-profit model also offered the flexibility needed to respond to market conditions and opportunities well into the future and not be constrained by size and limited funding issues. The hub is designed with the capacity for processing lines to be adapted quickly for different crop mixes depending on market opportunities, including most promising high-

¹ Fischer, M., Hamm, M., Pirog, R., Fisk, J., Farbman, J., and Kiraly, S. (September 2013). *Findings of the 2013 National Food Hub Survey*. Michigan State University Center for Regional Food Systems and The Wallace Center at Winrock International. P. 11.

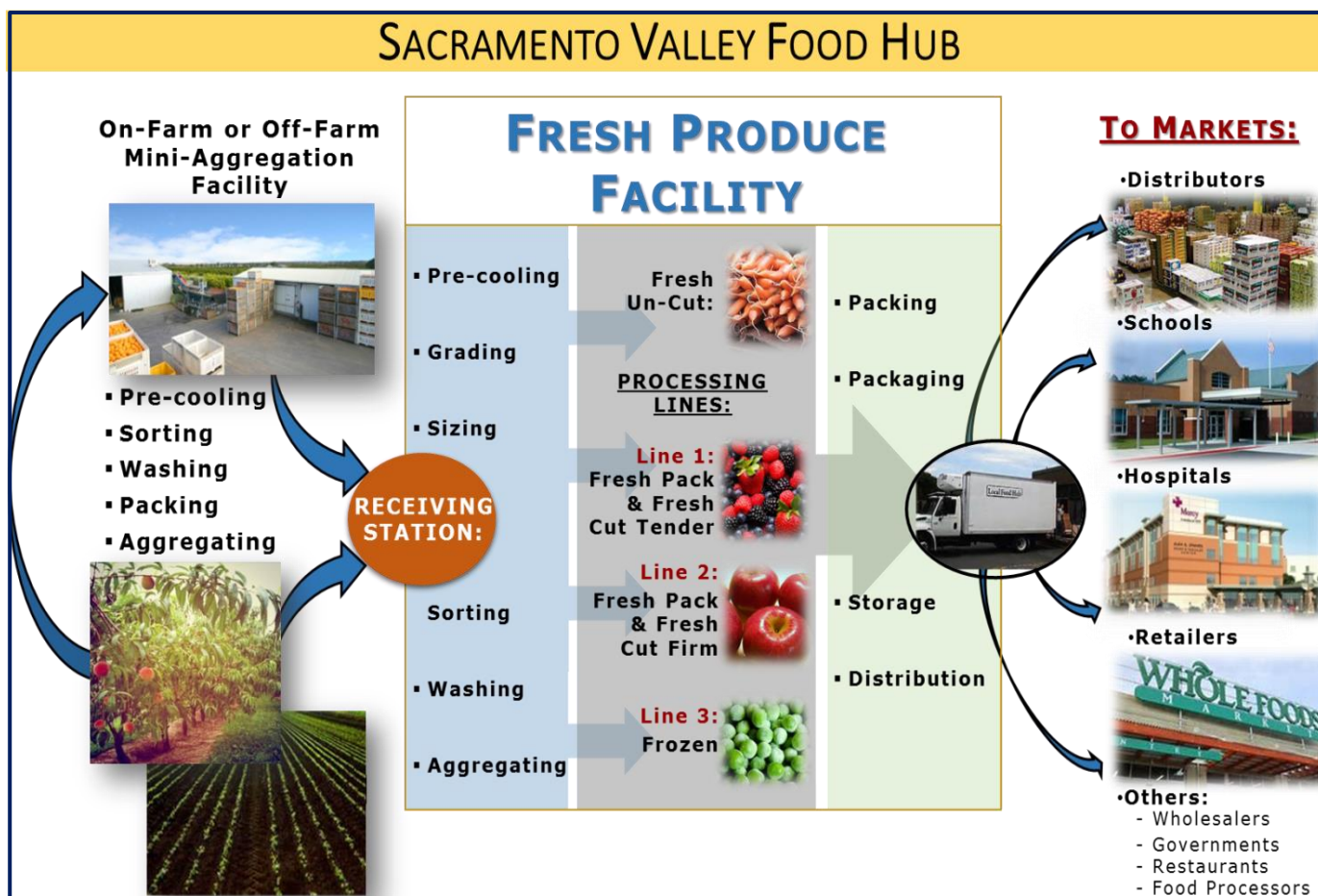
return segments and processing such as flash freezing which is growing in demand across the country. The lines can also be adapted to capture emerging trends such as new protein and food sources.

HUB TARGET MARKET

Over the course of the project, the concept including the target market (customers) was refined based on the regional market analysis, interviews with key stakeholders across the regional food system, and national research on innovations with this rapidly evolving business model. Based on the depth of existing aggregation and distribution capacity in the region – including the diversity of direct to market outlets, identified market gaps and barriers (which are further discussed in Chapter V of this report), and alignment with national “field of practice” trends—it is recommended that the Sacramento Valley Food Hub’s initial focus be to:

Create a supply channel for large-scale buyers primarily, including existing fresh produce distributors and wholesalers, institutions such as schools and hospitals, restaurants, food banks, governments, and other commercial and nonprofit customers which are seeking locally grown, source-identified food.

Serving to facilitate “farm to institution” procurement is a strong and growing food hub trend.² The graphic below illustrates the hub’s proposed functions, described in greater detail in the *Cost Estimate Analysis*.



² Jalonick, M.J., “Locally-Grown Foods Look to Bigger Business,” The Wall Street Journal, July 16, 2014.

The proposed hub can come in the form of more intentional partnerships with distribution and wholesalers, as is beginning to occur in other regions of the country, rather than just sales relationships.³ This approach will help connect local growers to businesses such as restaurants and grocery stores and institutions such as schools and hospitals that already have contracting relationships with existing produce distributors and wholesalers and/or food service contractors, which are looking for a specific market channel for high quality locally sourced and branded fresh produce.

Many hubs focus on developing diverse types of clients. The opportunity to identify and cultivate a range of customers over the longer-term is something that will be part of the hub's business plan, driven by mission and values of the hub owners. Some hub feasibility studies suggest building a business base with the highest end customers possible, because this base is less price sensitive. Institutions and businesses such as schools and foodservice distributors purchase very large quantities of produce but they are more price sensitive. As with any business, having a diversity of customers helps provide stability for the business.

The hub also could focus on a specific market niche such as schools at a larger scale across the region, which would require some specialized expertise and commitment of the part of a distributor, building on the experience of the Farm to School Yolo Initiative locally, and other efforts nationally, to get to scale and food system impact. Two of the hub models profiled in the *Research Findings – Gourmet Gorilla and Revolution Foods* – focus exclusively on schools and early childhood education programs.

In summary, it is difficult for smaller growers to tap into the institutional system and this model would provide them with the market channel to do so.

HUB SUPPLIERS

As shown by the analysis of the level of acres needed to produce the requisite supply of crops for the hub – 27 acres in Year 1, increasing to 171 acres in Year 4 – the hub should be able to engage an adequate number of growers initially and during the scaling up process if the prices are right. This is due to several factors: the small amount of land required to provide produce for the start-up phase; the large number of growers in the region; the region's strong consumer-driven demand for locally grown and branded produce and value-added products; and the large gap in the supply of locally grown produce compared to consumption which creates a strong market opportunity. With the hub serving as a market intermediary to connect growers of all scales to local customers, including distributors and wholesalers as well as a variety of business, institutional and other customer types, the efficiency of the market place should be improved, drawing more suppliers to participate as the hub scales up operations.

According to the *Findings of the 2013 National Food Hub Survey*, food hubs had an average of 80 producers/suppliers of all sizes, but overall, the majority (61%) work with 40 producers or fewer.⁴ The number of producers/suppliers depends on the volume of produce they could provide to the hub, as well as the diversity of crops. Interest in serving the local market is rising. As examples, several growers in the Sacramento region have shifted to growing a more diverse range of specialty crops than in the past, including transitioning some aspects of their operations from commodity-type crop production, to meet increasing levels of local

³ *Food Hubs: Solving Local, Small Farm Aggregators Scale Up with Larger Buyers*, March, 2014.

⁴ Jalonik et al, p. 14.

market demand and to have better connections with their customers. New growers coming out of local farm incubation and training programs are focused on meeting this local demand as well.

Potential suppliers for the hub include:

- Existing larger farmers who have expressed willingness to use a portion of their acreage for specialty crops and would sell to the hub if prices are competitive.
- Existing small scale farmers, including minority and economically disadvantaged growers, organic growers and others seeking to expand and reach broader markets including institutional customers; most of these currently sell directly to consumers at farm stands, farmers' markets, some CSAs and some schools and restaurants. They need assistance and a market outlet to get to the next level of scale and market price.
- New farmers of all ages and backgrounds, increasingly women, who are graduating from training programs such as from the Center for Land-Based Learning Farm Academy, Soil Born Farms, UC Davis and Ubuntu Green. These programs are creating a pipeline of future farmers who primarily are interested in growing sustainably produced foods for local markets. Programs have been developed to assist veterans.
- The hub itself, which could supply produce if it had its own farm operations, or contract with or buy from specific growers for certain crops and volumes. Farm Fresh to You and Capay Valley Farm Shop use this approach as aggregator/growers.

HUB SERVICES

The *Research Analysis of Food Hub Trends and Characteristics* described the types of services and activities that are provided by food hubs and affiliated partners, including functions identified by USDA Rural Development in their documentation of hubs nationally. The foundation for a successful hub is experienced and knowledgeable staff. In addition to management skills and expertise in the food "business," two core functions are essential – marketing and creating a clear and compelling brand for the hub and its products, and providing technical assistance and capacity building to farmers. The hub staffing plan includes positions to provide these services, with the goal of developing the relationships and connections necessary for long-term success.

As noted in a food hub feasibility study prepared for Southern Wisconsin which echoes a common theme across studies nationally, emphasizing a strong relationship with growers will help ensure a consistent quality supply of produce, especially during the first few years of the hub. Two other key recommendations were to "make it easy for customers to do business with the food hub," and "collaborate with other intermediaries and partners to strengthen the market," given the highly interdependent nature of the industry.⁵

The following is a list of recommended food hub services and activities that could be provided by the Sacramento Valley Food Hub. They are based upon the list of potential activities developed by USDA, informed by the hub research and market analyses and input from regional stakeholders. Some of these services such as providing GAP training and certification, liability insurance and technical assistance also will generate a revenue

⁵ Dane County Planning and Development Department. *Southern Wisconsin Food Hub Feasibility Study*, pp. 7-8. September, 2011.

stream for the hub. Research shows that growers working with food hubs improve their business and crop planning, often resulting in better financial outcomes for them.

RECOMMENDED FOOD HUB SERVICES/ACTIVITIES		
Operations Services	Producer Services	Community/Environmental Services
Pre-cooling, sorting, grading, culling, washing, cooling	Actively linking producers and buyers, contracting for product	Increasing community awareness of “buy local” benefits
Producer aggregation	On-farm pick up, crate system, delivery	Distributing to nearby “food deserts”
Packaging and re-packaging	Production and post-harvest handling training	Food bank donations
Light processing (trimming, cutting, freezing, drying)	Management services, business and crop planning	Youth and community employment opportunities
Brokering	Value-added product development	Recycling and composting programs and renewable energies
Branding and market promotion	Food safety and Good Agricultural Practices (GAP) training and certification	Contract with growers & distributors with existing receiving & cleaning stations as mini-aggregation sites
Cold and dry storage, extending seasonality	Liability insurance	Partnering with food banks on logistics and transportation
Distribution	Facilitating access to capital	Education on policy barriers, including local procurement issues

Sources: *The Role of Food Hubs in Local Food Marketing*, *The USDA Regional Food Hub Resource Guide*, Project Team

As a for-profit enterprise, the hub’s success will be enhanced by partnerships and collaboration with a wide range of entities involved in varied aspects of the regional food system. Formalized partnerships with nonprofits and other entities would enable the region to leverage features of nonprofit hub models – including the ability to generate funding support from government and philanthropic sources. As an example, complementary hub-related services such as workforce training and social enterprise activities could be provided by a nonprofit partner such as a food bank, a training organization, or an economic development entity. Additional community and environmental services could be provided by partner organizations to improve access to healthy foods in underserved neighborhoods and strengthen the overall sustainability of the regional food system.

The graphic on the following page illustrates the types of partner organizations in the region and the roles they could play in providing services and support for growers of and customers for locally grown and source identified foods. They include nonprofits and academia, food banks, economic development organizations, Local Grown programs, and regional planning, economic, food access and agricultural stakeholder groups. This network is a strong regional asset that can help address the constraints to development of the Sacramento region’s agricultural infrastructure, including those described in SACOG’s 2014 analysis of *Impediments to Supplying Locally-Grown Food*.

SACRAMENTO REGIONAL AGRICULTURAL INFRASTRUCTURE

Partner Roles and Services for Growers and Businesses

Nonprofits/Academia

- ❖ Center for Land-Based Learning
- ❖ Community Colleges
- ❖ Farmlink
- ❖ Next-Ed
- ❖ Soil Born Farms
- ❖ Ubuntu Green
- ❖ UC Coop Extension/Farm Advisors
- ❖ UC Davis
- ❖ Workforce Investment Boards
- ❖ Business Planning
- ❖ Food Safety Planning/Training
- ❖ OJT/Workforce Training
- ❖ Youth Skills

Sacramento Valley Food Hub

- ❖ Business /Crop Planning
- ❖ Food Safety Training
- ❖ GAP Certification/Training
- ❖ Liability Insurance
- ❖ Source Identification/Marketing

Economic Development

- ❖ Banks
- ❖ Chambers of Commerce
- ❖ Counties
- ❖ GO-Biz
- ❖ Realtors
- ❖ SBDCs
- ❖ SACTO
- ❖ Utilities
- ❖ Yolo/Solano Farmbudsman
- ❖ Yuba-Sutter EDC
- ❖ Facilities/Land Financing
- ❖ Incentives/ Rebates
- ❖ Incubators
- ❖ Marketing
- ❖ Permitting
- ❖ Site Location Assistance
- ❖ Technical Assistance on Business Planning, etc.

Food Banks

- ❖ Placer Food Bank
- ❖ Sacramento Food Bank & Family Services
- ❖ Yolo Food Bank
- ❖ Distribution Networks
- ❖ Incubators
- ❖ Receiving/Sorting/Cold Storage
- ❖ Start-up Support
- ❖ Trucking/Logistics

Others

- ❖ Planning/Infrastructure Tools: SACOG
- ❖ Advocacy: Farm Bureaus
- ❖ Farm to School Yolo
- ❖ Food Access: Food System Collaborative
- ❖ Next Economy: Ag and Food Cluster

Local Grown

- ❖ Apple Hill
- ❖ Capay Valley
- ❖ Delta Grown
- ❖ Farm to Fork
- ❖ North Yuba Grown
- ❖ Placer Grown
- ❖ Aggregation
- ❖ Branding/Marketing

IV. FINANCIAL FEASIBILITY ANALYSIS

Utilizing the results of the analyses described in this document and other research conducted for this study, the Project Team conducted a detailed financial feasibility analysis for the Sacramento Valley Food Hub, developing a set of pro forma analytic business tools for each year of operations, from start-up to scaling up of operations to a profitable level of operation. The analysis tested various alternatives of crop volumes, types and mixes across the hub's processing lines to formulate a realistic operating and capital investment scenario. The analysis determined that the hub could be a feasible operation over time. This chapter presents a summary of the analysis, methodologies used, and findings.

The pro forma tools were developed based on Foodpro's long experience and expertise in food engineering design and analyses; a thorough review of food hub feasibility studies, including newly provided tool kits sponsored by federal agency and foundation partners; and the experience of the project team members in preparing and analyzing development project models. Detailed spread sheets containing input information for the variables are contained in the pro formas which are provided separately and described in the *Food Hub Financial Feasibility Toolkit*. The Toolkit is a user's guide for the materials, and explains how to conduct a sensitivity analysis to assess additional alternatives with different crop mixes and use of the processing lines. The feasibility analysis was developed and tested with actual 2013 commodity price data, described below.

PRO FORMA COMMODITY PRICING METHODOLOGY

In order to most accurately and consistently reflect commodity prices within the market place, the Project Team relied upon available monthly averages of reported data to the United States Department of Agriculture as related to the recommended hub target crops. The Project Team examined prices for point of production (*Shipping Point*) and prices paid at wholesale markets (*Terminal Market*). *Shipping Point* and *Terminal Market prices* are derived from the Monthly Averages as reported by the United States Department of Agriculture, Agricultural Market Service's (AMS) Market News.

For more than 90 years, AMS has provided current, unbiased price and sales information to assist in the orderly marketing and distribution of farm commodities. Reports include information on prices, volume, quality, condition, and other market data on farm products in specific markets and marketing areas. The data is disseminated within hours of collection via the Internet and made available through electronic means, in printed reports, by telephone recordings, and through the news media. Using direct contacts with sales persons, suppliers, brokers and buyers, AMS Market News Reporters collect, validate, analyze, and organize unbiased data on price, volume, quality and condition, making it publicly available within hours of collection at no cost.

Shipping Point prices are f.o.b. (free on board) prices that represent open market (spot) sales by first handlers at point of production or port of entry on product of generally good quality and condition. For purposes of this analysis, the Project Team examined only *Shipping Point prices* from California. *Terminal Market prices* represent sales at first receivers to retailers or other large users of wholesale lots generally of good quality and condition. For the feasibility analysis, the Project Team examined only *Terminal Market prices* reported at San Francisco, as it was the closest reported proximity to Sacramento Region and the region has close market ties with the Bay Area. Prices are a monthly average for both conventionally and organically grown specialty crops.

Wholesale prices are used given the proposed hub business model’s focus on institutional, wholesaler and distribution company customers, at least initially. This is a conservative approach regarding the hub’s price structure; other hub models targeting different markets would expect different price structures.

PRO FORMA ANALYSIS FINDINGS

The commodity pricing data formed the basis for the pro forma analyses along with target crop types, levels of production by month and product mix, types of hub activities/functions, staffing and other operating costs. The *Cost Estimate Analysis* provides a detailed description of proposed hub operations and facility cost categories which is the foundation for identifying capital investment costs for the hub’s facility and equipment. This section provides a summary of the key findings of the feasibility analysis, accompanied by a series of tables with referenced data.

PRO FORMA ANALYSIS SUMMARY- HUB 20 YEAR OPERATIONS

Table 4 summarizes the pro forma analysis from initial investment through Year 20. The top part of the table shows the gross revenue estimates for each year. In this analysis, projected revenues are only from food aggregation, processing, storage, and distribution functions. However, it is recommended that the hub also offers services to other food distributors in terms of brokering product transactions, and/or offering other expertise and services to growers, including activities like providing liability insurance and certification and training to growers.

The expenditures cover the Cost of Goods Sold (COGS – the price the hub operators pay to purchase the produce), including packaging materials, non-personnel operating costs as detailed in Appendix C-1, and labor staffing and costs as detailed in Appendix C-3. The operating characteristics of the hub, in terms of tons of produce processed, revenues, COGS (Cost of Goods Sold) per lbs., and the gross margin (the difference between revenue and COGS), are shown in the lower portion of Table 4.

The pro forma analysis assumes that the hub operators would need to front half of the first year’s operating expenses, including the cost of produce (COGS) to be processed in the facility, as an equity investment in Year 0. Revenues from the sale of goods offsets the additional operating costs in Year 1. The facility runs an operating loss of nearly \$250,000 in the first year. This amount, and subsequent operating losses during the first three years, is added to the required equity investment in the pro forma. If the facility were able to secure an operating capital line of credit, these costs could be financed, but we have not assumed that would be possible in this analysis.

Table 4 also indicates the annual debt service required for the construction of the building and the purchase of the major operating equipment. Combined with the Net Operating Income (Earnings Before Income Taxes, Depreciation, and Amortization - EBITDA), the debt service and the annual equity investments result in the Net Cash Flow for the operation. Assuming financing can be obtained for 80 percent of the capital cost (not including the land), the cash requirement to construct and equip the facility would be about \$1.3 million including land acquisition, with some relatively small capital cost outlay in Year 7 to add a fourth operating line. In addition, about \$2.3 million in operating capital would be needed to sustain the facility until it begins to show positive net cash flow in Year 5. Thus, the total cash investment requirement is estimated to be nearly \$3.6 million to get the hub up to stabilized profitable operation.

TABLE 4. PRO FORMA ANALYSIS - HUB 20 YEAR ANNUAL OPERATIONS

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 10	Year 15	Year 20
Revenue		\$459,030	\$858,000	\$1,248,000	\$4,609,774	\$8,828,863	\$12,980,958	\$18,257,245	\$18,257,245	\$18,257,245	\$18,257,245
Processing Lines		\$459,030	\$858,000	\$1,248,000	\$4,609,774	\$8,828,863	\$12,980,958	\$18,257,245	\$18,257,245	\$18,257,245	\$18,257,245
Add'l Services Revenue											
Expenditures		\$707,462	\$1,113,213	\$1,500,862	\$4,211,981	\$7,530,961	\$10,989,236	\$16,004,295	\$16,004,295	\$16,004,295	\$16,004,295
COGS (w/pkging)		\$383,609	\$734,448	\$1,068,288	\$2,644,131	\$5,018,658	\$7,625,788	\$11,642,894	\$11,642,894	\$11,642,894	\$11,642,894
Labor		\$271,863	\$324,643	\$368,368	\$894,823	\$1,305,793	\$1,678,306	\$2,094,198	\$2,094,198	\$2,094,198	\$2,094,198
Operating Costs		\$51,989	\$54,122	\$64,206	\$673,027	\$1,206,511	\$1,685,141	\$2,267,204	\$2,267,204	\$2,267,204	\$2,267,204
Net Op. Inc. (EBITDA)		(\$248,432)	(\$255,213)	(\$252,862)	\$397,794	\$1,297,902	\$1,991,722	\$2,252,950	\$2,252,950	\$2,252,950	\$2,252,950
Percent of Sales		-54%	-30%	-20%	9%	15%	15%	12%	12%	12%	12%
Debt Serv. On Cap			(\$103,578)	(\$484,660)	(\$541,354)	(\$601,457)	(\$698,523)	(\$744,935)	(\$744,466)	(\$143,611)	\$0
Annual Equity Investments	(\$353,731)	(\$255,213)	(\$695,434)	(\$664,297)	(\$105,140)	(\$105,531)	(\$169,796)	(\$82,369)	\$0	\$0	\$0
Net Cash Flow	(\$353,731)	(\$503,645)	(\$1,054,225)	(\$1,401,820)	(\$248,700)	\$590,915	\$1,123,403	\$1,425,646	\$1,508,484	\$2,109,339	\$2,252,950
Internal Rate of Return							-20%	-3%	15%	22%	24%
Operating Characteristics											
Total Tons Processed		312	572	832	2,059	4,076	5,830	7,787	7,787	7,787	7,787
Revenue per lbs		\$0.74	\$0.75	\$0.75	\$1.13	\$1.07	\$1.11	\$1.17	\$1.17	\$1.17	\$1.17
COGS per lbs		\$0.61	\$0.50	\$0.50	\$0.65	\$0.61	\$0.65	\$0.75	\$0.75	\$0.75	\$0.75
Gross Margin		\$0.12	\$0.25	\$0.25	\$0.48	\$0.46	\$0.46	\$0.42	\$0.42	\$0.42	\$0.42
Percent of Sales		16%	33%	33%	43%	43%	41%	36%	36%	36%	36%

When the hub operation occupies the permanent facility in Year 4, there would be three operating lines: 1) tender fresh produce, 2) firm fresh produce, and 3) frozen processing. In this analysis, all of these operating lines would provide a level of processing and packaging suitable for the wholesale market. That is, there would be washing, sorting, and some cutting or chopping on selected products. Packaging is assumed to be of more generic wholesale quality rather than a retail level. As the hub gains operating experience and more diverse customers, it could likely achieve a level of retail processing and gain a price premium on certain products.

Each of the operating lines is designed to operate at a maximum of one ton per hour. None of these lines is projected to achieve full operating capacity in Year 4, however, since the hub will be scaling up as it continues to develop a buyer/supplier network and to realize full operating efficiencies. This results in a net operating income of about \$400,000 and an EBITDA of 9 percent, but it does not cover the debt service or the continuing cash investments to expand the production capacity of the facility.

In Year 5, it is expected that most of the crop throughput will be on Lines 1 and 2 while Line 3 provides a more deep processing option as operations scale up. The equipment for Line 3 (the freezing tunnel) is flexible and designed to run on either Line 1 or Line 2. In this scenario, Line 3 functions as a “safety valve” for the hub operator, allowing diversion of crops from Lines 1 and 2 and purchase of surplus crops during months when prices are low. Operating adjustments would be made on Lines 1 and 2 to keep to two tons per hour total processing volume for the hub as a whole during this year. The labor and operating costs are tied to this total volume assumption. The *Financial Feasibility Toolkit* version of the pro forma model allows the operator to vary assumptions on product mix by operating line on a month to month basis.

Line 3 provides a higher level of value to the produce by freezing excess product for use in the off season and as inputs for other higher level food processing. To some extent, the freezing allows culls from Lines 1 and 2 to be “rescued” for use in other food processing. For other fresh produce, Line 3 adds value for the hub operations by allowing it to stockpile excess produce from Lines 1 and 2 for sale during off-peak periods when prices are higher. It is important to note, however, that the extra handling on this line and the freezing process itself further reduces the product weight for many crops. Therefore, it is important for the hub operator to coordinate the timing of production and sales on Line 3 to ensure a favorable gross margin from the frozen products.

For example, there are months in which the finished frozen prices for certain crops are lower than the fresh farmgate price, particularly when factoring in the reduced product weight from the freezing. However, the COGS for the diverted fresh crops are accounted for under Line 1 and 2, so they are assumed to be free in calculating the gross margin for Line 3. Therefore, the farmgate price for Line 3 would be a weighted average of diverted produce (at \$0/lbs.) and fresh produce (at the normal farmgate price). The market prices for products from Line 3 would reflect the difference in retail frozen and fresh prices by crop. We have assumed that the finished product from Line 3 would be sold during non-harvesting months for each crop, and therefore would command a premium price (but discounted for the fact that it is frozen and not fresh).

As a result, the revenues produced from Line 3 occur during different months than the costs of production for each crop. This results in uneven operating income for Line 3 on a month to month basis, but the annual contribution of Line 3 is very positive. The EBITDA is 11 percent for the year with only Lines 1 and 2 running but increases to 15 percent by adding Line 3. This is a little lower than anticipated in the *Cost Estimate Analysis*, but it is a function of the price spread on the selection of target crops in the model. For example, we could increase

the percentage above 15% by assuming a much greater volume of raspberries, which is a very high value crop. However, the limited supply data we have suggests the crop mix shown in the model for each line is more realistic at this time. The development of the hub provides an opportunity for growers to make crop pattern shifts over the next several years to meet future demand.

By Year 6, Line 3 would be operated at a full one ton per hour and Lines 1 and 2 are not reduced while Line 3 is operating. This results in a throughput of three tons per hour and a total annual production of 5,830 tons. The hub generates nearly \$2 million in EBITDA (15.3% of sales). Table 5 below shows how the hub performance varies with different combinations of the Lines in operation.

TABLE 5. FINANCIAL PERFORMANCE VARIATION BY OPERATING LINE, YEAR 6					
	All Three Lines	Line 1	Lines 1 and 2	Lines 1 and 3	Lines 2 and 3
Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)	\$1,991,722	\$408,022	\$902,741	\$1,497,003	\$919,205
Percent of Sales	15.3%	8.0%	11.8%	14.3%	11.7%

Year 7 in Table 4 shows the result of adding an Individual Quick Frozen (IQF) Line as Line 4. The additional capital cost for this line is provided in Appendix C-2, Capital Cost and Financing Estimates. With this additional Line, the hub would operate at 4 tons per hour and process 7,787 tons of produce per year. We have assumed this Line would use all newly purchased raw product and any diversion of product from Lines 1 and 2 would go only to Line 3, which is also a freezing line.

The price structure and operating model for Line 4 is similar to Line 3. Raw produce would be purchased for Line 4 during months when the crops are plentiful and farmgate prices are relatively low. The finished product would be warehoused and sold during non-peak months at the highest price available for each individual crop. Even so, since Line 4 does not benefit from “free” diversions of produce off the other Lines, the gross margin is lower than for Line 3. Further research is needed to determine if prices for IQF products might be higher than for standard frozen products, such as those from Line 3. However, Line 4 does contribute in a positive way to the overall bottom Line of the Hub, and the EBITDA at full operation in Year 7 is more than \$2.25 million.

As described in detail in the *Cost Estimate Analysis*, when Line 4 is introduced, Line 3 can be converted relatively easily for dehydrating produce. The hub facility budget provides options and costs for other types of processing such as a jams and sauces line, and one for aseptic packaging.

Overall, the hub achieves a 15 percent Internal Rate of Return (IRR) by Year 10 and by Year 20 has generated an IRR of 24 percent. Under the financing assumptions in this analysis, all debt service would be retired by Year 17, so the EBITDA after that point contributes fully to the bottom line, although increased maintenance costs and capital replacement expenditures can be expected beyond twenty years. Clearly, to achieve these results, a skilled staff and strong marketing and advertising strategies are very important.

It should be noted that there will be various levels of value-added activities on the various processing lines. Functions vary from basic sorting and packing, to customized packaging, cutting, chopping, trimming, freezing, drying and other processing options. The actual level of activity will vary greatly depending on the needs of the

customers and the pricing structure that can be obtained by the hub operator. While higher level value-added activities will cost the operator more in terms of labor and other costs, the margin will be greater. The financial feasibility analysis is based on estimates for the more basic levels of processing, so it can be assumed that if the hub is financially viable at this level of operations, it will have the opportunity to generate higher levels of revenue and return with higher levels of value-added processing activities.

HUB NON-PERSONNEL OPERATING COSTS

In Year 1, the hub is envisioned to start in an existing building with minimal expenditures initially for equipment and supplies. The hub would lease space and pay only for labor and direct operating expenses, such as a forklift, pallets and pallet bins. These costs are detailed for the first few years in the upper portion of Appendix C-1, Non-Personnel Operating Costs. During the initial year, the hub is projected to process 312 tons of produce, operating essentially 26 weeks per year on a reduced daily schedule of 6 hours per day. This would increase to about 572 tons for the second year. During the second year, the hub would add more processing equipment, allowing production to increase to 832 tons in Year 3, before the operation moves to a new permanent facility in Year 4.

HUB CAPITAL COST AND FINANCING ESTIMATE

In Year 6, the cumulative cost of developing the facility and purchasing equipment is estimated at approximately \$6.4 million. The costs for land, building and major equipment are shown in Appendix C-2, Capital Costs and Financing Estimates. They are phased by the year in which the expenditures are needed. A more detailed discussion regarding the facility is contained in the *Cost Estimate Analysis*.

The feasibility analysis assumes the hub operators could obtain financing for 80 percent of the building and equipment costs but would need to fund the remaining hard costs plus the land acquisition from cash (or investor equity). Assuming financing can be obtained for 80 percent of the capital cost (not including the land), the cash requirement to construct and equip the facility would be about \$1.3 million through year 6, including land acquisition, with some relatively small capital cost outlay in Year 7. In addition, about \$2.3 million in operating capital would be needed to sustain the facility until it begins to show net cash flow in Year 5. Thus, the total cash investment requirement is estimated to be nearly \$3.6 million through Year 6. The hub shows a positive rate of return by Year 8.

Based on the assumptions outlined the *Cost Estimate Analysis*, beginning in Year 2 the hub owners would purchase a site and begin design of a permanent facility, which would be built in Year 3 and be ready for use in Year 4. It should be noted that the Project Team and SACOG gathered information on many possible food hub sites and facilities throughout the region and a decision was made to prepare the cost estimate for a new facility in case a suitable site/facility was not available, and to provide an opportunity for the hub to incorporate and possibly help prototype sustainable technologies in building design and operations, especially for food processing, waste and resource recovery and energy and water efficiencies.

The lower portion of Appendix C-2 shows the projected phasing of investor equity and debt service costs. Chapter VI, Financing Resources, provides information on potential facility funding sources, incentives and rebates. There is a good possibility that state and local economic development incentives such as manufacturing equipment sales tax exemptions and other incentives and rebates such as those available

through various utility programs and services, available for both food processing-related facilities and equipment from design through construction and operations, would reduce the overall capital investment required.

STAFFING

In terms of staffing, the hub would begin with three full time employees devoted to buying and sales, with one of these employees also managing the production facility when it is in operation. It is essential that the hub operators develop a buying and marketing network and strategy early on in order to develop a steady supply of raw products and suppliers, and ready customers as the hub's volume increases each year. The production personnel, including a part time supervisor, would begin as hourly employees during the first few years as the production volume scales up. This staff would be supplemented by a part time book keeper, a truck driver and the services of a professional accountant. At the permanent facility, the staff would increase to 35 Full Time Equivalent (FTE) employees by Year 5. See Appendix C-3 for detail.

An important element of the staffing plan is the Agricultural Advisor. The Advisor will be working closely with growers to develop market connections; secure trust; assist with business and crop planning and contracts; and marketing. These functions will increase the opportunity for small growers to participate in the hub and have the opportunity to gain access to new markets, improve skills, and increase their financial prospects.

HUB LOCATION

The hub facility is location neutral, meaning it could be based in a variety of locations throughout the region. Some key location criteria are that the hub should be centrally located to suppliers and customers, have access to major transportation routes, be on a site that is fully serviced with infrastructure if possible, and has expansion potential. As hub operations expand and regional demand for locally grown produce increases, the analysis indicates that there is enough demand to support more than one hub, so there is opportunity for several communities to benefit from serving as a hub location. The concept for the hub also envisions that there would be fresh produce receiving stations at various locations, approximately 30 miles from the hub, that would serve as transfer stations to get fresh produce to a central location where it would then be aggregated and distributed to larger customers throughout the region (or beyond). In this way, the receiving stations also could tap into sub-regional crop specialties and get them into the broader regional marketplace. See the *Cost Estimate Analysis* for additional detail.

SUMMARY

The financial feasibility analysis demonstrates that the proposed food hub model can be a viable business enterprise. Based on the assumptions for target crop mix and volumes by month, using actual 2013 wholesale pricing data, the analysis serves as a proof of concept for the testing of a for-profit food hub model geared to providing a market channel for existing distributors and wholesalers serving institutions and businesses, and directly to the institutions and businesses. The *Financial Feasibility Toolkit* provides the ability to perform sensitivity analysis on alternative operating scenarios. Given that the financial feasibility analysis is based on a wholesale pricing approach, and the hub is viable with this pricing and operating structure, it is expected that the hub would show a higher rate of return with pricing for higher-value added products and processes, including niches products and retail sales.

V. BARRIERS

The food hub market and financial feasibility analyses show that the hub can be a financial viable operation. However, opportunity for success is affected by challenges facing agriculture in general and in the development of local and regional food system infrastructure specifically, an issue that is being addressed across the country, in California and in the Sacramento region. As this project's research findings document, there are many market drivers including increasing consumer demand and new institutional policies that are creating many new opportunities for agriculture and value-added activities. This chapter identifies some of the key barriers and potential solution-oriented actions that will allow the Sacramento region to capitalize on new economic development opportunities related to expansion of local and regional food systems.

Obviously, the farming/production of the region's specialty crops is the foundation for sourcing locally grown fresh produce. While deeply interrelated, the focus for this discussion is on the specialized agricultural infrastructure needs for a local aggregation, processing and distribution system – rather than on the production side, which has been addressed in other analyses. It summarizes issues identified in the SACOG report *Impediments to Supplying Locally Grown Food* (July 2014) based on a survey of 70 growers in getting their produce into local markets. One of the fundamental challenges is the lack of off-farm aggregation, processing and distribution infrastructure, for which this Agricultural Infrastructure Project is intended as a resource, and the lack of a clear market signal to growers on this emerging market opportunity.⁶ Others are described below.

This summary also includes additional issues raised by stakeholders during the course of this project; project research on issues faced by food hubs nationally; and research conducted on behalf of USDA Rural Development California on the regulatory challenges facing small agricultural producers and businesses.⁷ Key policy issues, barriers and actions are summarized as follows:

Policy Issue	Barriers and Actions
Serviced and Zoned Sites and Facilities, Local Permitting Processes	Interest is high on the part of jurisdictions throughout the region to site/develop agricultural infrastructure facilities; not every community has appropriately zoned and serviced sites and facilities. There is inconsistency across jurisdictions on land use and regulatory approaches. Information is needed on status of existing facilities. Actions: Further identify capacity of potential sites and facilities; assess infrastructure and zoning status and policy ordinances, and permitting requirements; and assess project readiness. Local governments should streamline ordinances and permits, building upon ordinances and policies that are working across the region. Consider less restrictive zoning for ag land that would allow for processing and distribution of value-added processing on site. Local public agencies should provide dedicated permit and other technical assistance to small growers and processors. The Yolo Solano Farmbudsman program is an example of cross-jurisdiction approach.

⁶ SACOG. *Impediments to Supplying Locally Grown Food*, p. 4. July, 2014.

⁷ Zhang, Tara, "A Seamless Online Information Service for Business Regulations," UC Berkeley, Goldman School of Public, Policy, eforthcoming, 2014.

Policy Issue	Barriers and Actions
Institutional Purchasing Policy and Procurement Infrastructure	Large scale purchasers of fresh produce such as schools, hospitals and prisons have the potential to have a major impact on the demand for local food, but many are locked into low cost contracts through subsidized government programs or have long-standing contracts with food service and distribution companies that do not focus on local purchasing. Most local governments in the region do not have “local purchase” targets for fresh produce purchasing - bid requirements are usually focused on lowest cost, rather than supporting local businesses. State agencies face similar challenges. Even when institutions have set targets for local, sustainable fresh produce purchases, the local distribution “system” cannot yet deliver at the volumes and levels of consistency needed. Actions: Partners should conduct education and advocacy around “local purchase” targets. Identify model policies and successful practices to help build capacity. Work with existing aggregators/distributors who can partner to facilitate market channel for local supply to meet institutional demand. Entities such as cities, counties, hospitals, schools, hospitality industry and other public institutions should adopt procurement policies to encourage more purchases of locally grown food. To that end, convene institutional representatives within systems (i.e., schools, hospitals) across the region which are facing specific challenges, building on initiatives such as the Farm to School Yolo program of the Yolo County Agricultural Commissioner’s Office, and the Bay Area’s Farm Fresh Healthcare Project for hospital procurement of locally grown produce (Northern California).
Food Safety and Traceability	Regional institutional consumers and distributors underscore the critical importance of ensuring food safety and traceability on the part of suppliers. The Food Safety Modernization Act (FSMA) was signed into law in 2011 to enact comprehensive food safety prevention practices for growers and food facilities. The FDA is in the rulemaking and guidance development process, with planning underway for the next phase of implementation. Stakeholder groups have raised concerns about the complexity of proposed rules, the costs of transitioning to higher food safety standards, and potential negative impacts on smaller and organic operations, food hub and processing facilities, and other partners in local food systems. Final rulings will have implications for the hub in terms of how it is able to work with smaller growers. See the following FDA link for updates: http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm395105.htm The USDA Agricultural Marketing Services, in partnership with The Wallace Center, is developing a Group GAP (Good Agricultural Practices) certification option. This cooperative approach offers a more cost effective means of addressing supply chain requirements for small-and mid-sized farms that the current farm-by-farm GAP certification paradigm. The pilot shows that individual producer costs are reduced significantly. This could result in a USDA-offered program in 2015, with resources identified to assist those participating. Actions: Monitor the implementation process for FSMA and assist local growers and food facilities with the process for compliance. Collaborate with the California League of Food Processors. The hub could assist growers with this transition, GAP certification and other food safety, sourcing and traceability requirements. The region should monitor the availability of the Group GAP certification option.

Policy Issue	Barriers and Actions
Liability Insurance	Smaller growers cannot afford to meet costly liability requirements of food merchandising and food service purchasers, including for schools and hospitals. Action: The hub should provide liability insurance as a fee for service to farmers.
Overall Regulatory Compliance	Regulations affecting agriculture are complex. According to a forthcoming report, there are at least 6 regulatory agencies at the Federal level, 11 agencies at the State level, two agencies at the regional level, and up to 9 agencies at the local level that administer and enforce agricultural regulations for farming which also affect on-farm value-added activities including processing. Hub facilities with cold storage, freezer and processing functions must address additional regulatory requirements. Both produce and processing activities are subject to the requirements of the still evolving Food Safety Modernization Act. There is no one-stop source that can present smaller farmers with clear and comprehensive regulatory compliance, which also affects development of value-added agricultural processing activities. ⁸ The SACOG report Impediments to Supplying Locally Grown Foods has a detailed list of regulatory challenges facing growers wishing to supply to the local market, which are also a challenge for larger growers (but who have better capacity to address them). Action: The report recommends the development of a one-stop online business regulation information service for small growers/businesses. There are some models which could be the basis of a pilot in the region.
Data Needs	It is very difficult to obtain timely and adequate information on institutional fresh produce purchasing patterns – types of crops purchased, pricing, levels of volume, calendar, etc., and specific supplier gaps, so as to target market niches and develop effective market channels. Action: SACOG and partners could conduct targeted market assessments and convene institutions and suppliers to develop system solutions.

Financing challenges and resources for development and operations of food hub facilities are discussed in Chapter VI.

⁸ Zhang, Tara. *A Seamless Online Information Service for Business Regulations*, p. 6, prepared for USDA Rural Development, California. Draft May, 2014, forthcoming.

VI. FINANCING RESOURCES

In order for the Sacramento Valley Food Hub to operate as a for-profit entity, it will require careful consideration of various financing options and opportunities. This chapter presents information on the most accessible financing options as well as some new programs that could prove to be beneficial.

First and foremost, the food hub will have an immediate need for private equity investment. This could come wholly from the initial owner/operator of the food hub and/or a combination of owner/operator investment with individual private investors. Second and no less important, this *Business Plan* assumes an initial 20% private investment with 80% of remaining start-up costs obtained through debt financing.

Debt financing could come in many forms and from various sources, including but not limited to: 1) Direct bank or other lender loans; 2) the Industrial Development Bond (“IDB”) Financing Program; 3) the Rural Economic Development Loan and Grant Programs through the United States Department of Agriculture; and 4) the Small Business Administration’s (“SBA”) Certified Development Corporation (“504”) Loan Program. There are also various business tax credits and utility rebate programs that might be utilized.

More specifically, debt financing could include both secured and unsecured loans, private and/or public debt, syndicated and/or bilateral debt, and any other types of debt. Debt financing for the food hub could be a combination of the programs previously mentioned.

In addition to conventional bank lending, the IDB Program in California provides manufacturing and processing companies low-cost, low-interest financing for capital expenditures. Eligible capital expenditures include the acquisition of land, building construction, building renovation, and the purchase of machinery and equipment. IDB’s require the involvement of local governments as the issuing entity. The local government can be a city, county, economic development authority, or a joint powers authority. However, where local government does not wish to participate in the issuance process, the California Infrastructure and Economic Development Bank can issue IDB’s. The borrower in the IDB process must be a manufacturing company requesting from \$1 million to \$10 million.⁹

USDA’s Business and Industry Guaranteed Loan Programs are another possible option.¹⁰ The Business and Industry Guaranteed Loan Program (B&I) aims to increase opportunities for new and existing businesses in rural areas to borrow money from private lenders. Through the B&I program, the USDA will issue a guarantee to the private lender, giving the borrower more favorable interest rates. The USDA will also cover part of the loss if the borrower becomes unable to make regular loan payments. The 2014 Farm Bill requires USDA to set aside 5 percent of the total B&I guarantee funds to support local and regional food enterprises. Loans can support enterprises that process, distribute, aggregate, store, or market foods produced either in-state or transported less than 400 miles from the origin of the product. To be eligible under the reserved funds, the borrower must be a cooperative, nonprofit organization, federally recognized Native American Indian Tribe, public entity, corporation, or an individual.

⁹ <http://www.treasurer.ca.gov/cidfac/idb.asp>

¹⁰ http://www.rurdev.usda.gov/BCP_gar.html

The B&I program has the authority to fund local food infrastructure in rural areas as long as the project supports farm and ranch income. Priority is given to underserved communities with limited supply of affordable, healthy food and retail grocery stores, as well as a high rate of poverty. The maximum loan guarantee USDA will issue is 80 percent for loans of \$5 million or less, 70 percent for loans between \$5 million and \$10 million, and 60 percent for loans of more than \$10 million. Loan funds can be used for business expansion and development, purchase of land, buildings, equipment and supplies, or to provide working capital.

Additionally, SBA's CDC/504 Loan Program is also available. To be considered for a SBA 504 loan, applicants must¹¹:

- Operate as a for-profit company.
- Do business (or propose to) in the United States or its possessions.
- Have a tangible net worth less than \$15 million and an average net income less than \$5.0 million after taxes for the preceding two years.
- Loans cannot be made to businesses engaged in speculation or investment in rental real estate.
- Be an eligible type of business. While the vast majority of businesses are eligible for financial assistance from the SBA, some are not. Check the program list of eligible and ineligible types of businesses to see if the company qualifies.
- Under the 504 Program, plan to use proceeds for an approved purpose. CDC/504 loan proceeds may be used for the financing of fixed assets like real estate or equipment. The program list explains Eligible and Ineligible Use of Proceeds.
- Not have funds available from other sources. SBA does not extend financial assistance to businesses when the financial strength of the individual owners or the company itself is sufficient to provide all or part of the financing. Both business and personal financial resources are reviewed as part of the eligibility criteria. If these resources are found to be excessive, the business will be required to use those resources in lieu of part or all of the requested loan proceeds.
- Have the ability to repay the loan on time from the projected operating cash flow of the business.
- Good character. SBA obtains a "Statement of Personal History" from the principals of each applicant firm to determine if they have historically shown the willingness and ability to pay their debts and whether they have abided by the laws of their community
- Have relevant management expertise.
- Prepare a feasible business plan

¹¹ <http://www.sba.gov/content/cdc504-loan-program-eligibility>

SBA 504 loan proceeds can be used for the purchase of land, including existing buildings; the purchase of improvements, including grading, street improvements, utilities, parking lots and landscaping; the construction of new facilities or modernizing, renovating or converting existing facilities; and the purchase of long-term machinery and equipment. A 504 loan cannot be used for working capital or inventory; consolidating, repaying or refinancing debt; and/or speculation or investment in rental real estate. Importantly, SBA recently provided the following clarification to its Certified Development Companies (CDCs) regarding the SBA's position on the use of SBA 504 loans and IDBs to finance a single manufacturing project:

SBA may participate in projects financed by federal tax-exempt obligations, such as IDB's. When the 504 loan project includes an IDB, and the IDB requires a lien on the project property, the IDB lien must be junior to the SBA loan. When the IDB portion of the 504 loan project is not secured by a lien on the project property, SBA's debt may be subordinate to the IDB. If a letter of credit serves as collateral on both the SBA and IDB transaction, SBA's right to payment under the letter of credit may be subordinate to that of the IDB. This requirement for IDBs holds true for other forms of federal tax-exempt obligations.¹²

As a result, IDB's secured by a bank-issued letter of credit can be used in combination with SBA 504 loans to finance up to 90 percent of a manufacturing project's capital costs. The proceeds of SBA 504 loans can be used to finance: building purchases and renovations; land purchases; and furniture and equipment purchases. The maximum SBA 504 loan is \$5 million. The following is an example of a possible financing structure for a \$5 million manufacturing project similar to the financing needs of the proposed food hub:

- \$2.5 million (50%) IDB supported by a bank-issued letter of credit (first lien on the collateral);
- \$2 million (40%) SBA 504 loan through a CDC (second lien on the collateral); and,
- \$500,000 (10%) borrower contribution.

As stated above, ultimate financing for the food hub could come in many forms including private equity investment along with multiple options of debt financing.

The following are some additional financing and incentive resources for both investors and jurisdictions, related to infrastructure/site requirements, development of food-related facilities, and business operations. They can help jurisdictions get ready for proposed projects with infrastructure improvements and site preparation, and assist businesses with site specific infrastructure, capital and operating cost financing needs. Some jurisdictions also offer local incentives such as: below market sales and lease costs, site financing, business loan programs, and fast track permitting. They are not described here as they vary by community, but local and regional economic development organizations can provide information and assistance for prospective projects.

¹² <http://www.treasurer.ca.gov/cidfac/news/sba.pdf>

Funding/Incentives Source	Program Description
California Enterprise Development Authority (CEDA) www.ceda.caed.org	A Joint Powers Authority to address gaps in economic development financing. CEDA issues industrial development bonds for small to medium-sized California manufacturers and 501 (c)3 bonds to nonprofit organizations. Both IDB's and bonds help provide low cost financing for acquisition, construction and expansion.
California Freshworks Fund http://cafreshworks.com/about/	This is a public-private partnership loan fund that has raised \$272 million. The fund provides loans and grants to healthy food retailers and distributors willing to locate in Food Opportunity Areas (food deserts). Partners include banks and other investors, foundations, industry associations, hospitals, USDA Rural Development, the California State Treasurer's Office, nonprofits.
Cap and Trade Funding, California Air Resources Board http://www.arb.ca.gov/	The 2013 Scoping Plan Update can link the Cap and Trade Auction Proceeds of the Investment Plan to climate strategies in agriculture that can be supported through incentives, including with farm and food processor renewable energy development. Funding will be set aside for disadvantaged communities which might be a resource.
EB-5 Regional Center	A federal Immigrant Investor program - http://www.uscis.gov/node/42086
Manufacturing Equipment+ Sales and Use Tax Exemption, GO-Biz, State of California www.business.ca.gov	Part of the Governor's Economic Development Initiative, this exemption eliminates the state's share of sales tax (4.2%) on eligible purchases of manufacturing equipment, including food processing equipment. The purchase of the hub's processing equipment would be eligible. The savings would be increased if there was a local government match. See SACOG's analysis of benefits in <i>Impediments to Supplying Locally Grown Food</i> .
Pacific Gas and Electric (PG&E) www.pge.com	Savings by Design Program offers services and incentives to help owners and designers of commercial buildings raise energy performance, in conjunction with the California Department of Public Utilities, with participation of PG&E and SMUD. Owners are eligible for incentives on buildings. Food processors can earn rebates for the installation of solar, wind, fuel cell and other generation systems. Other energy efficiency rebates/incentives are available.
RSF Social Finance http://rsfsocialfinance.org/	Serves nonprofit and for-profit enterprises that meet financial, operational and impact criteria, in food and agriculture. Core lending programs offer mortgage loans, construction loans and working capital lines of credit, ranging from \$200,000 to \$5 million.
Sacramento Metropolitan Utility District (SMUD) www.smud.org	In addition to Savings by Design Program, the Systems Approach program evaluates individual efficiency improvements and provides incentives. Utility representatives meet with building designers early in the process for energy solutions in areas of food processing equipment, lighting, heating, cooling, refrigeration, etc. There are custom incentives for manufacturing process improvements and controls, up to \$450,000.
Slow Money http://slowmoneynorcal.org/	Non-profit that facilitates investment in local food systems, with office in San Francisco serving Northern California.
U.S. Department of Commerce, Public Works and Economic Adjustment Program http://www.eda.gov/	Investments help support construction or rehabilitation of essential public infrastructure and facilities to generate or retain private sector jobs and investments, attract private capital and promote regional competitiveness
U.S. Department of Agriculture, Rural Development www.rurdev.usda.gov	Has several programs for which local jurisdictions are eligible that can provide assistance on development of infrastructure, including the Community Facilities Direct Loan and Grant Program, including for transportation infrastructure and industrial parks, and for business and economic development programs.

SACOG's analysis on impediments to supplying locally grown food describes how incentives could help reduce costs for the food hub. As an example, with the combined state-local sales tax exemption for manufacturing food processing equipment under the new Governor's Economic Development Initiative, it is estimated that the hub could save approximately \$75,000 over its first five years of operation.¹³ Incentives and rebates provided through the region's utilities can provide significant savings for operating processing facilities; an additional resource is the Savings by Design program provided by both PG&E and SMUD wherein utility representatives meet early in the design process with facility engineers and architects to build energy solutions into both buildings and processing operations.

In July 2014 USDA announced the creation of a new U.S. Rural Infrastructure Opportunity Fund that will allow private entities to invest in rural infrastructure projects including water and wastewater systems and regional food systems. CoBank, a national cooperative bank, is the Fund's anchor investor. It has committed \$10 billion in hopes of spurring private investment in rural infrastructure projects, as well as open investment opportunities for endowments, pension funds, foundations and others. These types of resources should be monitored proactively to ensure that the region can participate in forthcoming opportunities.

A valuable information resource is the *Access to Capital* guide developed by the California Financial Opportunities Roundtable. It contains a wealth of information about capital resources and support organizations for agricultural value chain businesses and infrastructure needs, as well as rural community and economic development efforts, including information on alternative investment strategies and sources of funding. (<http://www.rurdev.usda.gov/Reports/CA-CalFOR.pdf>).

¹³ SACOG. *Impediments to Supplying Locally Grown Food*, pp.14-15. July, 2014.

APPENDIX A. Regional Specialty Crop Consumption and Demand

Appendix A provides background information on the analysis used to estimate regional specialty crop consumption and demand for the Sacramento Valley Food Hub.

Data sets used to calculate regional consumption on food by crop, per capita: the FICRCD (Food Intakes Converted to Retail Commodities Database) and LAFA (Loss-Adjusted Food Availability) datasets, 2012. FICRCD provides national commodity-level data for food consumption per capita. The LAFA data set serves as a proxy for food consumption for certain more detailed levels of foods.

The following tables show the initial list of illustrative specialty crops to identify potential target crops to supply the food hub, based on application of target crop list screening criteria by the Project Team, across major crop types and cultivation categories (Table A-1); annual target specialty crop food consumption by county and acres needed to meet regional consumption levels (Table A-2); and acres in production (Table A-3).

TABLE A-1. ILLUSTRATIVE TARGET HUB CROPS	
SPECIALTY CROP TYPE, CULTIVATION CATEGORY	CROP
Apiaceae (salad crop)	Celery
Berries	Blackberries Blueberries Raspberries Strawberries
Brassica Vegetables	Broccoli Kale (also are Greens)
Bulb	Onions
Cucurbit	Squash (winter and summer, variety)
Leafy Greens (Salad Greens)	Leafy Greens (lettuces) Spinach
Legumes (Beans/Peas)	Edible Pea Pods/Chinese Snow Peas Garbanzo Beans (chick peas) Lima Beans
Liliaceae (Lily)	Asparagus
Nightshade Vegetables (Solanaceae)	Chili Peppers Eggplant Sweet Peppers Tomatoes (2 products, fresh pack & heirloom)
Nuts	Walnuts
Pomaceous	Apples
Root Vegetables	Carrots
Stone Fruit	Apricots Peaches
Tuber Vegetables	Yams/Sweet Potatoes

TABLE A-2. ANNUAL TARGETED CROP FOOD CONSUMPTION BY COUNTY/ ACRES NEEDED TO MEET REGIONAL CONSUMPTION LEVELS (2012) IN PRIMARY WEIGHT TONS PER YEAR

Specialty Crop	SACOG Region	Sacramento	El Dorado	Placer	Sutter	Yolo	Yuba	Annual Yield per acre (tons)	Acres Needed to meet Regional Consumption
Apples	65,031	39,883	4,966	9,948	2,614	5,614	2,006	8.0	8,129
Apricots	1,285	788	98	197	52	111	40	5.7	225
Asparagus	2,696	1,654	206	412	108	233	83	1.6	1,721
Bell Peppers	6,218	3,813	475	951	250	537	192	19.3	323
Blackberries	81	50	6	12	3	7	2	8.0	10
Blueberries	2,001	1,227	153	306	80	173	62	3.5	570
Broccoli	11,507	7,057	879	1,760	462	993	355	7.7	1,497
Carrots	14,716	9,025	1,124	2,251	591	1,270	454	15.7	940
Celery	5,938	3,642	453	908	239	513	183	35.6	167
Chili peppers	4,059	2,489	310	621	163	350	125	15.8	258
Eggplant	1,186	727	91	181	48	102	37	15.0	79
Kale	2,571	1,577	196	393	103	222	79	8.4	307
Lettuce (all)	25,487	15,631	1,946	3,899	1,024	2,200	786	9.3	2,755
Lima Bean	1,086	665	83	166	44	94	33	1.2	940
Onions	22,153	13,586	1,692	3,389	890	1,913	683	21.6	1,028
Peaches	11,945	7,326	912	1,827	480	1,031	368	16.0	747
Raspberries	428	262	33	65	17	37	13	9.1	47
Spinach	4,694	2,879	358	718	189	405	145	9.0	522
Squash	7,390	4,532	564	1,130	297	638	228	10.1	729
Strawberries	11,718	7,187	895	1,793	471	1,012	361	15.0	781
Sweet potatoes/ Yams	11,548	7,082	882	1,767	464	997	356	15.0	770
Tomatoes (both fresh & processing)	144,232	88,455	11,015	22,064	5,797	12,452	4,449	15.2	9,475
Walnuts	590	362	45	90	24	51	18	2.7	219
TOTAL	358,560 (tons)								32,239 (acres)

Source: Yield, tons per acre - USDA National Agricultural Statistical Service, CA. 8 year average yields, (2004-2012), with strawberry and lettuce yields per acre adjusted based on county crop reports

**TABLE A-3. ACRES IN PRODUCTION FOR TARGET SPECIALTY CROPS
BY COUNTY AND REGION, 2012**

	El Dorado	Placer	Sacramento	Sutter	Yolo	Yuba	Region
Apples	839	73	629	ND	163	19	1,723
Apricots	3	5	7	1	77	25	118
Asparagus	0	0	1	0	62	0	63
Bell Peppers	2	5	19	4.8	ND	1	31.8
Blackberries	38	29	9	13	2	11	102
Blueberries	61	3	5	1.5	19	2	91.5
Broccoli	0	1	9	4.5	38	3	55.5
Carrots	1	1	2	0	13	0	17
Celery	0	0	6	0	1	0	7
Chili Peppers	4	3	1	2	131	3	144
Eggplant	3	1	23	1	53	3	84
Kale	4	0	1	0.4	4	1	10.4
Lettuce (all)	15	9	48	4	ND	7	83
Lima Beans	0	0	0	1,790	399	0	2,189
Onions	1	3	54	105	55	4	222
Peaches	137	141	26	6,135	210	3,019	9,668
Raspberries	8	2	0	3	0	1	14
Spinach	1.5	1	1	0	19	0	22.5
Squash	12	16	42	1.5	531	3	605.5
Strawberries	16	16	34	3	35	19	123
Sweet potatoes/Yams	0	0	0	0	1	1	2
Tomatoes (fresh & processing)	49	47	2,056	13,051	39,269	19	54,491
Walnuts	281	314	413	37,305	16,640	14,222	69,175
TOTAL	1,475	670	3,386	58,425	57,822	17,363	139,042

Source: 2012 USDA Census of Agriculture; ND denotes data not disclosed

APPENDIX B. Hub Crop Mix Volumes Years 4-7 and Acreage Needed

SACRAMENTO REGIONAL AGRICULTURE INFRASTRUCTURE PROJECT ILLUSTRATIVE HUB CROP MIX VOLUMES – ACREAGE NEEDED, AT YEAR 4 OF OPERATIONS 1 TON PER HOUR, 2 LINES REDUCED CAPACITY (PHASE III)				
Crop	Lbs.	Tons	Yield – tons per acre	Acres
Line 1 – Tender Fresh Produce				
Iceberg lettuce	27,000	13.5	9.3	1.5
Green leaf lettuce	26,750	13.4	9.3	1.4
Red leaf lettuce	26,750	13.4	9.3	1.4
Romaine lettuce	27,000	13.5	9.3	1.5
Spinach	300,000	150.0	9.0	16.7
Broccoli	442,500	221.2	7.7	28.7
Kale	247,500	123.8	8.4	14.7
Tomatoes	605,000	302.5	15.2	19.9
Bell peppers	72,500	36.3	19.3	1.9
Blueberries	62,500	31.2	3.5	8.9
Strawberries	463,000	231.5	15.0	15.4
Raspberries	37,000	18.5	9.1	2.0
Peaches	25,000	12.5	16.0	0.8
Total	2,362,500	1,181.4		114.8
Line 2 – Firm Fresh Produce				
Eggplant	442,500	221.3	15.0	14.7
Celery	75,000	37.5	35.6	1.1
Carrots	495,000	247.5	15.7	15.8
Sweet potatoes	77,500	38.7	15.0	2.6
Onions	435,000	217.5	21.6	10.1
Squash	230,188	115.0	10.1	11.4
Total	1,755,188	877.5		55.7
OVERALL TOTAL	4,117,688	2,058.9		170.5

Sources for Yields per acre data: National Agricultural Statistical Services, USDA, 2003-2011, 8 year average; Sacramento Region County Agricultural Commissioner Reports, 2012; selected UC Davis Cost of Production Studies, 2008-2013.

Note: Average yields per acre might be less for organic crops

**SACRAMENTO REGIONAL AGRICULTURE INFRASTRUCTURE PROJECT
ILLUSTRATIVE HUB CROP MIX VOLUMES – ACREAGE NEEDED, AT YEAR 5 OF
OPERATIONS (2 TONS PER HOUR, 2+ LINES - PHASE III)**

Crop	Lbs.	Tons	Yield – tons per acre	Acres
Line 1 – Tender Fresh Produce				
Iceberg lettuce	54,000	27.0	9.3	2.9
Green leaf lettuce	53,500	26.75	9.3	2.9
Red leaf lettuce	53,500	26.75	9.3	2.9
Romaine lettuce	54,000	27.0	9.3	2.9
Spinach	600,000	300.0	9.0	33.3
Broccoli	885,000	442.5	7.7	57.5
Kale	495,000	247.5	8.4	29.5
Tomatoes	845,000	422.5	15.2	27.8
Bell peppers	145,000	72.5	19.3	3.8
Blueberries	62,500	31.25	3.5	8.9
Strawberries	580,500	290.25	15.0	19.4
Raspberries	37,000	18.5	9.1	2.0
Peaches	50,000	25.0	16.0	1.6
Total	3,915,000	1,957.5		195.4
Line 2 – Firm Fresh Produce				
Eggplant	664,750	332.4	15.0	22.2
Celery	150,000	75.0	35.6	2.1
Carrots	836,550	418.3	15.7	22.6
Sweet potatoes	155,000	77.5	15.0	5.2
Onions	740,550	370.3	21.6	17.1
Squash	620,750	310.4	10.1	30.7
Total	3,167,600	1,583.9		99.9
Line 3 – Frozen (new volume, not diverted from lines 1 and 2)				
Spinach	50,000	25.0	9.0	2.8
Broccoli	300,000	150.0	7.7	19.5
Bell peppers	200,000	100.0	19.3	5.2
Squash	111,500	55.8	10.1	5.5
Blueberries	80,000	40.0	3.5	11.4
Strawberries	200,000	100.0	15.0	6.7
Raspberries	28,750	14.4	9.1	1.6
Peaches	100,000	50.0	16	3.1
Total	1,070,250	535.2		55.8
OVERALL TOTAL	8,152,850	4076.6		351.1

Sources for Yields per acre data: National Agricultural Statistical Services, USDA, 2003-2011, 8 year average; Sacramento Region County Agricultural Commissioner Reports, 2012; selected UC Davis Cost of Production Studies, 2008-2013.

Note: Average yields per acre might be less for organic crops

**SACRAMENTO REGIONAL AGRICULTURE INFRASTRUCTURE PROJECT
ILLUSTRATIVE HUB CROP MIX VOLUMES – ACREAGE NEEDED, AT YEAR 6 OF
OPERATIONS 3 TONS PER HOUR, 3 LINES (PHASE IV)**

Crop	Lbs.	Tons	Yield – tons per acre	Acres
Line 1 – Tender Fresh Produce				
Iceberg lettuce	54,000	27.0	9.3	2.9
Green leaf lettuce	53,500	26.75	9.3	2.9
Red leaf lettuce	53,500	26.75	9.3	2.9
Romaine lettuce	54,000	27.0	9.3	2.9
Spinach	600,000	300.0	9.0	33.3
Broccoli	885,000	442.5	7.7	57.5
Kale	495,000	247.5	8.4	29.5
Tomatoes	845,000	422.5	15.2	27.8
Bell peppers	145,000	72.5	19.3	3.8
Blueberries	62,500	31.25	3.5	8.9
Strawberries	580,500	290.25	15.0	19.4
Raspberries	37,000	18.5	9.1	2.0
Peaches	50,000	25.0	16.0	1.6
Total	3,915,000	1,957.5		195.4
Line 2 – Firm Fresh Produce				
Eggplant	1,015,000	507.5	15.0	33.8
Celery	150,000	75.0	35.6	2.1
Carrots	990,000	495.0	15.7	31.5
Sweet potatoes	155,000	77.5	15.0	5.2
Onions	870,000	435.0	21.6	20.1
Squash	735,000	367.5	10.1	36.4
Total	3,915,000	1,957.5		129.1
Line 3 – Frozen (new, not diverted from lines 1 and 2)				
Spinach	120,175	60.01	9.0	6.7
Broccoli	1,484,375	742.2	7.7	96.4
Bell peppers	350,000	175.0	19.3	9.0
Squash	765,800	383.0	10.1	37.9
Blueberries	234,350	117.2	3.5	33.5
Strawberries	650,000	325.0	15.0	21.7
Raspberries	74,500	37.25	9.1	4.1
Peaches	150,350	75.2	16	4.7
Total	3,829,550	1,915.0		214.0
OVERALL TOTAL	11,659,550	5,830.0		538.5

Sources for Yields per acre data: National Agricultural Statistical Services, USDA, 2003-2011, 8 year average; Sacramento Region County Agricultural Commissioner Reports, 2012; selected UC Davis Cost of Production Studies, 2008-2013.

Note: Average yields per acre might be less for organic crops

**SACRAMENTO REGIONAL AGRICULTURE INFRASTRUCTURE PROJECT
ILLUSTRATIVE HUB CROP MIX VOLUMES – ACREAGE NEEDED, AT YEAR 7 OF
OPERATIONS 4 TONS PER HOUR, 4 LINES (PHASE IV)**

Crop	Lbs.	Tons	Yield – tons per acre	Acres
Line 1 – Tender Fresh Produce				
Iceberg lettuce	54,000	27.0	9.3	2.9
Green leaf lettuce	53,500	26.75	9.3	2.9
Red leaf lettuce	53,500	26.75	9.3	2.9
Romaine lettuce	54,000	27.0	9.3	2.9
Spinach	600,000	300.0	9.0	33.3
Broccoli	885,000	442.5	7.7	57.5
Kale	495,000	247.5	8.4	29.5
Tomatoes	845,000	422.5	15.2	27.8
Bell peppers	145,000	72.5	19.3	3.8
Blueberries	62,500	31.25	3.5	8.9
Strawberries	580,500	290.25	15.0	19.4
Raspberries	37,000	18.5	9.1	2.0
Peaches	50,000	25.0	16.0	1.6
Total	3,915,000	1,957.5		195.4
Line 2 – Firm Fresh Produce				
Eggplant	1,015,000	507.5	15.0	33.8
Celery	150,000	75.0	35.6	2.1
Carrots	990,000	495.0	15.7	31.5
Sweet potatoes	155,000	77.5	15.0	5.2
Onions	870,000	435.0	21.6	20.1
Squash	735,000	367.5	10.1	36.4
Total	3,915,000	1,957.5		129.1
Line 3 – Frozen (new, not diverted from lines 1 and 2)				
Spinach	120,175	60.01	9.0	6.7
Broccoli	1,484,375	742.2	7.7	96.4
Bell peppers	350,000	175.0	19.3	9.0
Squash	765,800	383.0	10.1	37.9
Blueberries	234,350	117.2	3.5	33.5
Strawberries	650,000	325.0	15.0	21.7
Raspberries	74,500	37.25	9.1	4.1
Peaches	150,350	75.2	16.0	4.7
Total	3,829,550	1,915.0		214.0
Line 4 – Frozen (new)				
Broccoli	1,935,000	967.5	7.7	125.6
Bell peppers	699,650	349.5	19.3	18.1
Blueberries	160,000	80.0	3.5	22.9
Strawberries	910,000	455.0	15.0	30.3
Raspberries	60,000	30.0	9.1	3.3
Peaches	150,350	75.2	16.0	4.7
Total	3,915,000	1,957.2		204.9
OVERALL TOTAL	15,574,550	7,787.3		743.4

Sources for Yields per acre data: National Agricultural Statistical Services, USDA, 2003-2011, 8 year average; Sacramento Region County Agricultural Commissioner Reports, 2012; selected UC Davis Cost of Production Studies, 2008-2013.

Note: Average yields per acre might be less for organic crops

APPENDIX C. Pro Forma Financial Analysis

TABLE C-1. HUB NON-PERSONNEL OPERATING COSTS

Year 1				
Annual Costs	Bldg. Sq.Ft.	Lease Rate	Monthly	Annual
Building lease and parking	3,000	\$0.55	\$1,650	\$19,800
Forklift rental			\$1,150	\$6,900
Truck Rental				\$3,250
Subtotal				\$29,950
One-time Costs	Quantity	Unit Cost	Tax/ Freight	Annual
Forklift battery	1	\$3,800	\$570	\$4,370
Forklift bat. charger	1	\$1,400	\$210	\$1,610
Pallet Jacks	1	\$250	\$38	\$288
Pallets	16	\$80	\$12	\$1,472
Pallet bins	16	\$271	\$41	\$4,977
Plastic crates, collapsible	213	\$25	\$4	\$6,011
Plastic crates, non-collapsible	192	\$15	\$2	\$3,312
Subtotal				\$22,039
Year 2 -				
Additional Annual Costs	Bldg. Sq.Ft.	Lease Rate	Monthly	Annual
Forklift rental			\$1,150	\$13,800
Truck Rental				\$3,250
Subtotal				\$17,050
One-time Costs	Quantity	Unit Cost	Tax/ Freight	Annual
Pallet Jacks	1	\$250	\$38	\$288
Pallets	7	\$80	\$12	\$638
Pallet bins	7	\$271	\$41	\$2,157
Plastic crates, collapsible	92	\$25	\$4	\$2,605
Plastic crates, non-collapsible	83	\$15	\$2	\$1,435
Subtotal				\$7,122
Year 3				
One-time Costs	Quantity	Unit Cost	Tax/ Freight	Annual
Pallets	7	\$80	\$12	\$638
Pallet bins	7	\$271	\$41	\$2,157
Plastic crates, collapsible	92	\$25	\$4	\$2,605
Plastic crates, non-collapsible	83	\$15	\$2	\$1,435
Subtotal				\$6,834
Annual Costs				
Additional Truck Rental				\$3,250
Years 4-10				
Cost Item	Notes - Factors used in Initial Cost Analysis			
Transportation cost	0.50%	of revenue (one truck and three automobiles)		
Advertising and promotion	1.50%	of revenue		
Insurance and legal	0.50%	of revenue		
Permits and licenses	0.20%	of revenue		
Misc. annual supplies	0.75%	of revenue (Includes pallets, bins, baskets, hair nets, paper towels, etc.)		
Other Misc. Expenses	6.30%	of revenue		
Utility Cost	1.50%	of revenue		
Subtotal	11.25%	of revenue		
Maintenance supplies	2.00%	2% of equipment cost		

TABLE C-2. HUB CAPITAL COST AND FINANCING ESTIMATE

Cost Investment Category ^{1,2}	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total Costs
Real Estate Site Cost		\$262,500									
Building Improvements ³			\$1,425,521			\$392,000					\$1,817,521
Refrigeration			\$555,012								\$555,012
Processing Equipment		\$498,482		\$144,966	\$245,150	\$48,000					\$936,598
Other Equipment and Systems ⁴		\$59,200	\$528,490	\$275,880	\$2,000	\$240,000	\$328,000				\$1,433,570
Produce Handling/Storing Equipment					\$175,480						\$175,480
Fire Protection			\$193,602								\$193,602
Hard Costs Subtotal		\$557,682	\$2,702,625	\$420,846	\$422,630	\$680,000	\$328,000	\$0	\$0	\$0	\$5,111,783
Permits and Testing			\$153,893	\$2,353	\$2,113	\$3,400	\$3,765				\$165,524
Engineering (@8% of capital cost)		\$260,825		\$33,668	\$33,810	\$54,400	\$26,240	\$0	\$0	\$0	\$664,532
Construction Management (@5%)			\$163,015	\$21,042	\$21,132	\$34,000	\$16,400				
Capital Investment Total		\$818,507	\$3,019,533	\$477,909	\$479,685	\$771,800	\$374,405	\$0	\$0	\$0	\$5,941,839
Contingency (@10%)		\$81,851	\$301,953	\$47,791	\$47,968	\$77,180	\$37,441	\$0	\$0	\$0	\$445,638
Project Grand Totals		\$1,162,857	\$3,321,487	\$525,700	\$527,653	\$848,980	\$411,846	\$0	\$0	\$0	\$6,798,523
Estimated Equity Investment		\$495,071	\$664,297	\$105,140	\$105,531	\$169,796	\$82,369	\$0	\$0	\$0	\$1,622,205
Debt-Financed Capital Costs		\$667,786	\$2,657,189	\$420,560	\$422,123	\$679,184	\$329,476	\$0	\$0	\$0	\$5,176,318
Cumulative		\$667,786	\$3,324,975	\$3,745,535	\$4,167,658	\$4,846,842	\$5,176,318	\$5,176,318	\$5,176,318	\$5,176,318	
Estimated Debt Service Costs ⁵		(\$96,028)	(\$477,185)	(\$533,879)	(\$593,982)	(\$691,048)	(\$737,460)	(\$736,991)	(\$736,991)	(\$736,991)	

Notes:

¹Suggested detailed items for inclusion in each category are illustrated in the detailed FoodPro International capital cost estimate.

²Investments beyond the first few years are speculative and will be driven by the success in implementing the firm's business plan, achieving sales goals and securing financing.

³Includes core and shell improvements, such as structure modifications, general mechanical, engineering and plumbing and most furniture, fixture and equipment.

⁴Includes power services upgrades, crates, pallets, scales and lifts, compressed air, cleaning and maintenance equipment and external improvements, except items included in the operating costs.

⁵Annual debt service estimate is calculated as though a line of credit is expanded each year to accommodate 80 percent the annual increment of capital expense. The remaining 20 percent is assumed to be funded through equity investments.

TABLE C-3. HUB PERSONNEL COST BY EMPLOYMENT TYPE

			Year 1		Year 2		Year 3		Year 4		Year 5	
	Hourly Rate	Workers Comp, Benefits, etc. @ 0.40*	Total Annual Hours	Annual Cost	Total Annual Hours	Annual Cost	Total Annual Hours	Annual Cost	FTE (Full Time Equivalent)	Annual Cost	FTE (Full Time Equivalent)	Annual Cost (2080 Hrs)
Management Staff												
Facility/Marketing Mgr.	\$27.00	\$10.80	2,080	\$78,624	2,080	\$78,624	2,080	\$78,624	1.00	\$78,624	1.00	\$78,624
Supervisor	\$20.00	\$8.00	910	\$25,480	1,820	\$50,960	2,080	\$58,240	1.00	\$58,240	1.00	\$58,240
Professional Staff/Services												
Buying Agent	\$20.00	\$8.00	2,080	\$58,240	2,080	\$58,240	2,080	\$58,240				
Sales and Marketing	\$20.00	\$8.00	2,080	\$58,240	2,080	\$58,240	2,080	\$58,240	2.00	\$116,480	2.00	\$116,480
Bookkeeper	\$20.00	\$8.00	780	\$21,840	1,560	\$43,680	2,080	\$58,240	1.00	\$58,240	1.00	\$58,240
Admin. Assistants	\$12.00	\$4.80							1.00	\$34,944	2.00	\$69,888
Agricultural Advisor	\$20.00	\$8.00							1.00	\$58,240	1.00	\$58,240
Outside Accountant	\$60.00		96	\$5,760	96	\$5,760		\$0				\$0
Skilled Labor												
Operator-Receiving Station	\$15.00	\$6.00							1.00	\$43,680	1.00	\$43,680
Truck Driver(s)	\$15.00	\$6.00	260	\$5,460	520	\$10,920	1,040	\$21,840	1.00	\$43,680	1.00	\$43,680
Misc. Skilled	\$15.00	\$6.00							2.00	\$87,360	5.00	\$218,400
Unskilled Labor												
Full Time Class 1	\$12.00	\$4.80					4,160	\$139,776	2.00	\$69,888	2.00	\$69,888
Full Time Class 2	\$10.00	\$4.00							7.00	\$203,840	15.00	\$436,800
Part Time Class 1*	\$10.00	0.1056/\$100	1,820	\$18,200	1,820	\$18,200			2.00	\$41,600	3.00	\$62,400
Workers Comp Class 1				\$19.22		\$19.22		\$0.00		\$43.93		\$65.89
Part Time Class 2												\$0.00
Workers Comp Class 2												
Total Estimated Personnel Costs			10,116	\$271,863	12,056	\$324,653	13,520	\$368,368	22.00	\$894,860	35.00	\$1,314,626

*For part time employees only workers compensation costs are estimated based on Job Class 2123 (Avg. premium 0.1056/\$100 payroll). More information on workers compensation insurance can be found at <http://www.dir.ca.gov/dwc/employer.htm>

APPENDIX D. Bibliography of Business Model and Financial Analytic Tools – Reports and Resources Guides

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