



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

SACRAMENTO REGIONAL AGRICULTURAL INFRASTRUCTURE PROJECT

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SACOG

In partnership with:

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YUBA COUNTY CASE STUDY EXECUTIVE SUMMARY

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ABOUT THIS PROJECT

Agriculture is a way of life in Yuba County and continues to be the cornerstone of the local economy. As stated in Yuba County's 2030 General Plan, "agriculture represents the single most important economic activity and most prevalent land use in Yuba County." Even compared to other farming regions, agriculture's contribution to the local economy stands out, and the last several years have provided record levels of agricultural value in the county.

Despite agriculture's centrality to both the local economy and way of life, working landscapes in Yuba County are undergoing major changes as market forces, policy and environmental conditions shift. Like other growing areas, Yuba County aims to balance agriculture and other land uses to accommodate long-term population growth, preserve quality of life and foster economic development.

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. 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.
[\(http://www.sacog.org/rucs/\)](http://www.sacog.org/rucs/)

In late 2013, Yuba County Supervisors Hal Stoker and Mary Jane Griego approached SACOG staff with a request to employ tools developed as part of the Rural-Urban Connections Strategy (RUCS) in a case study on the existing agriculture industry in Yuba County. In working with the supervisors, farmers and county staff, SACOG analyzed a range of agriculture scenarios to examine existing and potential future agriculture value in the county associated with production and food processing. These modeling tools provide data and comparisons to help county staff and elected officials to collaborate with farmers and food processors on strategies for capitalizing on Yuba County's unique assets while responding to new market trends, such as increased demand for locally grown food. The study also delves into the market need and finances of a local food hub, a piece of mid-scale agricultural infrastructure that includes aggregation, processing, storage, marketing and distribution functions. Finally, the study analyzes agriculture in the context of urbanization, allowing a comparison of the cost of providing infrastructure and services between land uses, as well as the value of agriculture production loss on lands subject to development.

Together this work forms a suite of data and tools to help better understand potential outcomes from land use decisions and develop strategies that create more value in the county's agriculture sector. The work shows a range of possibilities for how the county can successfully implement its General Plan and economic development opportunities both in development and agriculture. A standalone full case study documents the detailed analysis, mapping and modeled scenarios that inform the project's results. This companion executive summary synthesizes that project work into the below key findings.

KEY FINDINGS

Agriculture's Economic Importance to Yuba County

The last two years have provided record levels of agricultural value in Yuba County, showcasing the strength of the local agricultural sector. In particular, Yuba County's abundant agricultural output benefits from good soil, plentiful water, favorable climate and a long heritage of agricultural knowhow. This environment can provide a competitive advantage relative to other major agriculture areas in the state by granting local growers flexibility to respond to changing market signals and providing the stability for longer term investments.



One major market signal helping fuel agriculture's economic contribution has been the strength of large commodity markets in crops such as walnuts. Growers in Yuba County have responded with an increase of 30 percent in harvested walnut acres between 2008 and 2012; at the same time, the value of this output grew by over 200 percent in constant (inflation-adjusted) dollars. Indeed, other crops in Yuba County such as prunes or almonds also have increased in overall real economic value during the same period even as total harvested acres have declined. In short, agriculture in the county has emerged from the recent recession well positioned to capitalize on favorable market trends such as growing demand and higher international market prices for commodities.

Future Agricultural Production

Looking forward, the case study tests a range of agriculture scenarios that examine changes in market demand and cost of production. The scenarios show Yuba County is well positioned to grow a diversity of crops for a range of markets. Expanding national and international demand for commodity agricultural products presents a continued opportunity for growers in the county, given that commensurate water and labor supply is available. For example, a shift in high value commodity crops within the existing cropping pattern (e.g., orchard lands stay in orchards, but switch to highest value orchard crop) could increase the sector's gross farm gate value by two-thirds in constant dollars, from about \$350 million based on the study's estimates to reach \$591 million a year. This study finding emphasizes the continued contribution of agriculture as an economic driver in the county.

Environmental Considerations of Agriculture Production

While the case study's range of scenarios highlight strategies to create further value and return in the county's agriculture sector, it also calls attention to the tradeoff between economic and environmental considerations. The study notes the positive correlation between agricultural value, water consumption and labor demand, in that these indicators tend to move in the same direction. As such, higher agricultural values and return tend to require more water and labor supply. While Yuba County is relatively water-rich compared to other agricultural areas of the state, this tradeoff can help inform future production decisions, especially if drought conditions persist. Likewise, further demand for agricultural labor can affect an already constricted agriculture labor market in the county.

Local Market Opportunity

In addition to mainstay commodity production, growers in Yuba County increasingly can also look to capitalize on the burgeoning local market as a further economic outlet and means to diversify. The case study documents the rapidly growing demand for locally grown food within the Sacramento region. Yet SACOG estimates that despite being one of the nation's leading agricultural areas, only two percent of the food consumed in the region is grown in the region, with the remaining 98 percent imported from elsewhere. For specialty crops such as fresh fruits and vegetables in particular the study quantifies a marked supply/demand imbalance between local production and consumption in the county. This mismatch between demand for local food and available supply showcases the significant opportunity for growers to tap into a new market segment.

Through scenario analysis the case study illustrates the substantial economic opportunities for the county's agricultural sector by increasing food grown for the local market. A minor shift of 530 acres dedicated to local crops—a small total given the size of the county's overall agricultural sector—could supply a food hub that aggregates, processes and distributes local fresh fruit and vegetables. Growers supplying this hub would share in estimated annual profits of \$2.4 million, while the hub operator could expect a positive cash flow and return on investment after initial project scaling. The local food hub scenario highlights a greater diversity of economic activity as processing and other related activities capture more food dollars, create year-round jobs and generate a higher multiplier effect throughout the county.

A much larger shift in cropping patterns towards fresh fruits, nuts and vegetables that can serve the local market has the potential to build upon the recent economic gains in the agricultural sector well into the future. A scenario testing extensive specialty crop production could generate \$1.8 billion in annual agricultural output, the highest value of any modeled scenario by far, as well as a high return on investment. Compared to the base conditions, the specialty crop scenario quadruples overall agricultural value in the county, increases average return on investment and actually decreases agricultural water consumption by 78,000 acre-feet. Overall, this scenario represents an extreme boundary condition testing the threshold of cropping pattern shifts. However, the county could expect to witness heightened economic outputs from agriculture in both the commodity and local markets, especially as the project team found the market shed for local product in Yuba County includes the population centers of the Sacramento region and can even extend to neighboring regions such as the Bay Area, while processed and shelf-stable product can meet demand far beyond Northern California.



Challenges in the Local Market

While the local market presents one promising economic growth opportunity in Yuba County, the success of this system is predicated on a sufficient supply of local specialty crop production. Farmers and agriculture stakeholders in the county have noted several challenges that can temper the emergence of a local food cluster and influence growers' decisions to supply for the local market.

First, compared to commodity agriculture, growers focused on local markets are seldom provided the security of a contract that provides a guaranteed outlet for their product. Additionally, tapping into local institutions such as hospitals or schools—a key market outlet for local product—is compounded by difficult procurement policies. Specialty crops also tend to require much more on-farm labor, a key challenge in a region already facing agriculture labor constraints, and a shift to new crops would require a grower to recapitalize and incur upfront costs while the crop matures to harvested yield levels. And off the farm, growers have identified the shortage of agriculture and food infrastructure tailored to local aggregation and distribution as a supply chain barrier.



Local Agricultural Infrastructure: Food Hub

Local agriculture infrastructure in the form of a food hub can help address some of the key challenges of growing for the local market (see side box). The added infrastructure can also provide a market outlet for the county's commodity production. A food hub aggregates, processes, packs, markets and distributes locally grown crops to nearby markets and can come to offer contracts for locally-grown crops.

The project team's financial analysis found a food hub to be a feasible business operation in the county. Initially, the food hub facility requires an investment of \$3.5 million and runs at loss in the first years of operation as the facility establishes market share. Once the food hub expands from an incubation stage to reach adequate scale it becomes cash positive, rising to a nearly \$2 million positive annual net cash flow by the tenth year of operation. Over a 25 year pro forma the facility gives a nearly 25 percent Internal Rate of Return (IRR). The advantages of agriculture in Yuba County—such as water supply, productive soils, and established growers to provide crop during the facility's incubation—help enhance the competitiveness of a potential local food hub.

A food hub can also help serve the county's mainstay commodity production. The case study develops a food hub model customized to Yuba County that employs a glazing line for walnuts, the county's top commodity crop by value. This processing function could capture more of the total food system value chain within Yuba County, creates jobs, taps into existing output and produces a shelf-stable product that can be exported to markets outside the region. The study's analysis shows the customized food hub model to be financially feasible in Yuba County.

Overall a food hub would require about 530 acres of dedicated agriculture supply, depending on the crop mix throughput of the facility. The needed agricultural acreage to supply the hub could be met on existing fallow land in the county. The hub facility could meet a quarter of annual fruit and vegetable demand for about 50,000 people; the commodity model can provide shelf-stable products to meet demand and opportunity beyond the region.

Balancing Agriculture and Development

Yuba County's 2030 General Plan includes policies and actions to balance the need for development with the need to preserve the county's agricultural economic base and rural heritage. Overall, the Plan establishes long-term agricultural areas within valley portions of the unincorporated County that preserve valuable farmland, while also establishing areas for new jobs and new residents.

The case study estimates this agriculture conservation effort preserves approximately 10,000 agriculture acres from converting to urban use over the course of the plan, protecting \$31 million in annual agricultural value in today's cropping pattern and up to \$150 million in future yearly farmgate output. The study also estimates this agricultural conservation to have a substantial fiscal benefit to County finances. The study's review of over 200 examples across the nation detail the fiscal contribution of agricultural lands, which tend to generate more in local government revenue than they consume in public services. In contrast, agricultural land converted to urban residential use requires \$1.21 on average in local government expenditure per dollar of public revenue. The case study's modeling analysis estimates that the County's balanced approach to development and conservation saves upwards of nearly \$40 million a year in public sector operations and maintenance compared to the development trends of the last 20 years.

Conclusion

This case study offers modeling, tools and data in support of Yuba County's holistic approach to planning and economic development. The study showcases agriculture's central role in the county's economy, and highlights opportunities for future growth in both the commodity and local markets. The study also provides financial information on food hubs, a promising form of local agricultural infrastructure. Finally, the study's discussion of agriculture in the context of development helps support the county's objective of accommodating growth while capitalizing on natural assets for economic development. As SACOG continues to build upon the RUCS program, this case study and toolkit offers a platform through which new information can inform future work. SACOG looks forward to continued engagement with the Yuba County Board of Supervisors, county staff and private sector stakeholders to continue the analysis and planning contained in this study.



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