To document the need for and benefits of reliable, cost-effective broadband access in rural areas for agriculture. Broadband is defined as technology-neutral, high-speed Internet access from both wired and wireless infrastructure.

Benefits include increased productivity, decreased water and energy usage, reduced pollution, and managing for labor shortages through use of precision agricultural technologies which cannot be deployed without broadband. Valley Vision manages the Yolo County project, and CSU Fresno manages the Fresno County project, both with generous support from the California Emerging Technology Fund.

Project Activities:

1. Research/Best Practices
   We conducted research on broadband deployment in rural communities, summarizing key findings on existing research, studies in progress, and research gaps. Our research includes the first-ever on-farm testing of broadband speeds for 155 farms throughout Yolo County by CSU Chico, funded by the Internet Society of California. Our findings show a gap in reported speeds and levels of service, actual speeds, and a major lack of service.

2. Grower’s Survey
   In partnership with the Yolo County Agriculture Commissioner’s office, Valley Vision administered a survey to 800+ Yolo County growers in 2017 and received 100 responses. The survey results provide qualitative evidence of on-farm broadband access, capacity, and gaps in the county's rural areas. Seventy-three percent (73%) of respondents had some coverage -- no one had 100% coverage. Among those who have some coverage, many are creating mobile hotspots and using other unsustainable methods to create stopgap measures.

3. Field Study
   Valley Vision partnered with AgStart - a nonprofit agtech incubator located in Woodland - and three Yolo County farmers to test cutting-edge precision agriculture technologies for three different types of crops: almonds, grapes, and tomatoes.

   The data documented broadband access and gaps across Yolo County's many underserved and unserved areas. Results show the need for increased research through a multiple season study, given the variations in weather patterns affecting adjacent fields, as well as increased education among farmers on how to maximize the benefits of agricultural technologies in their operations. Overall findings also show the importance of broadband access for off-farm business operations.

   Overall, the pilot project growers and their technology companies reported estimated reduced operating cost of between 10% and 15% savings on average; improved data and reliability; and increases in crop yields ranging between 10% and 30%. Valley Vision leveraged this project to engage with other agencies including partnering with CSU Chico Geographic Information Center; participating in the statewide AgTech Roundtable facilitated by The Gualco Group and including federal agencies, state representatives, community colleges, and large and small providers; and other organizations engaged in promoting increased rural broadband connectivity. These organizations include the Sacramento Metro Chamber, Rural County Representatives of CA, and CA Forward.

CETF, Valley Vision, and Fresno State partnered with a project Advisory Committee: