



Community Prosperity

Seeking the Triple-Bottom-Line

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Vice President, UC ANR

May 28, 2020

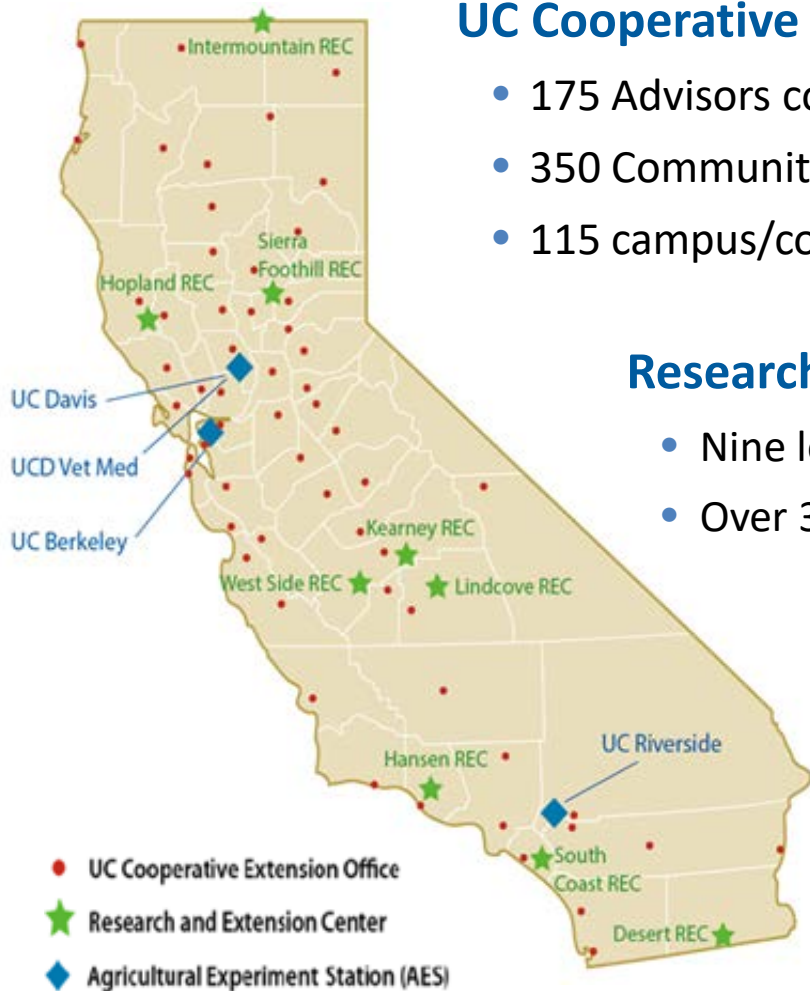
UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UC ANR brings the power of UC directly to Californians by serving communities in all 58 counties.

Our research & education programs support:

- Sustainable, safe, and nutritious food production and delivery
- Economic success in a global economy
- A sustainable, healthy, and productive environment
- Science literacy and youth development





UC Cooperative Extension

- 175 Advisors conduct research in local communities
- 350 Community Educators delivering programs
- 115 campus/county-based Specialists

Research and Extension Center System

- Nine locations statewide; 13,000 acres
- Over 375 research projects annually

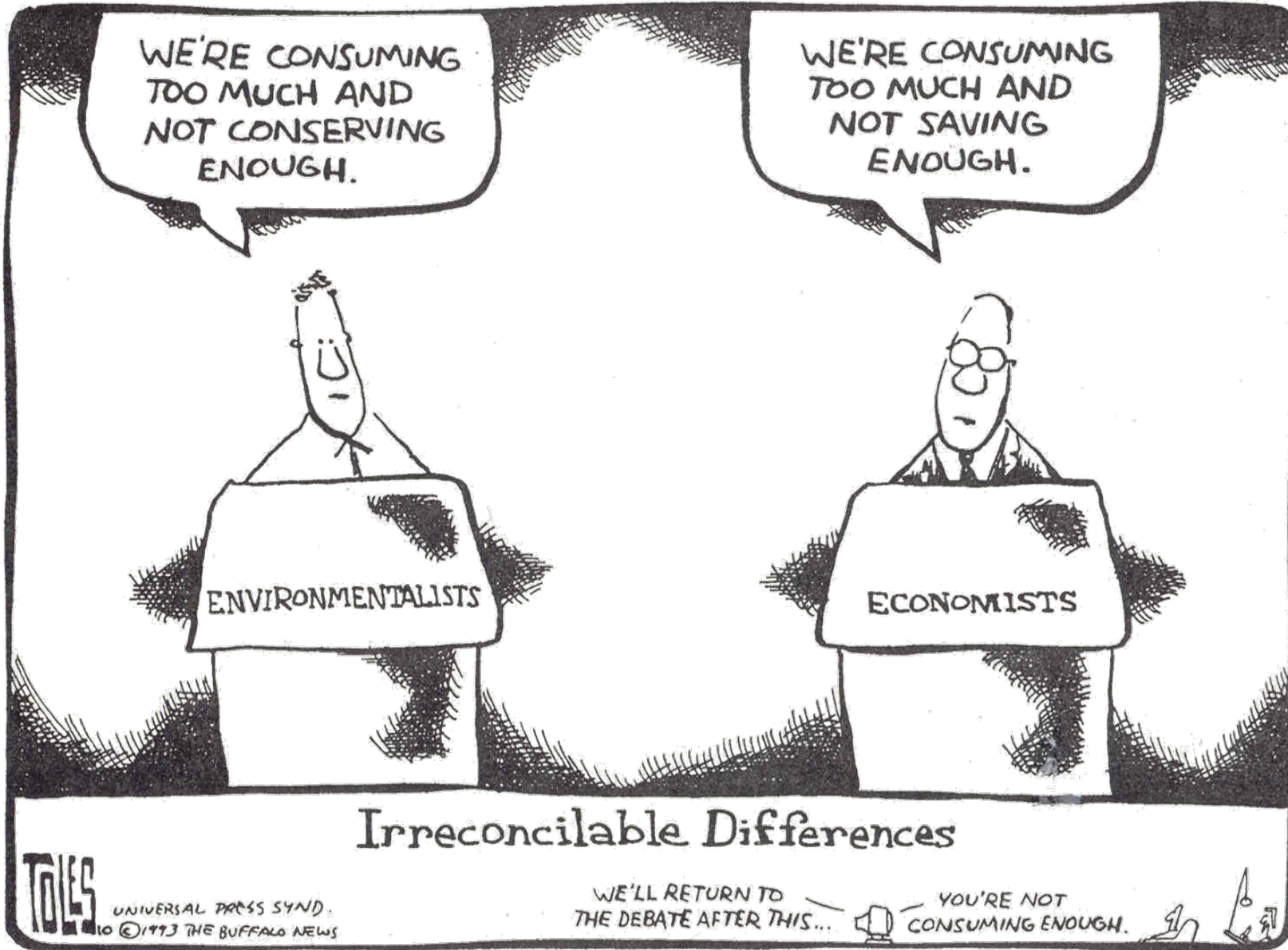
Agricultural Experiment Station

- 600+ researchers on 3 campuses
- 1,300+ research projects annually

11 Statewide Programs and Institutes

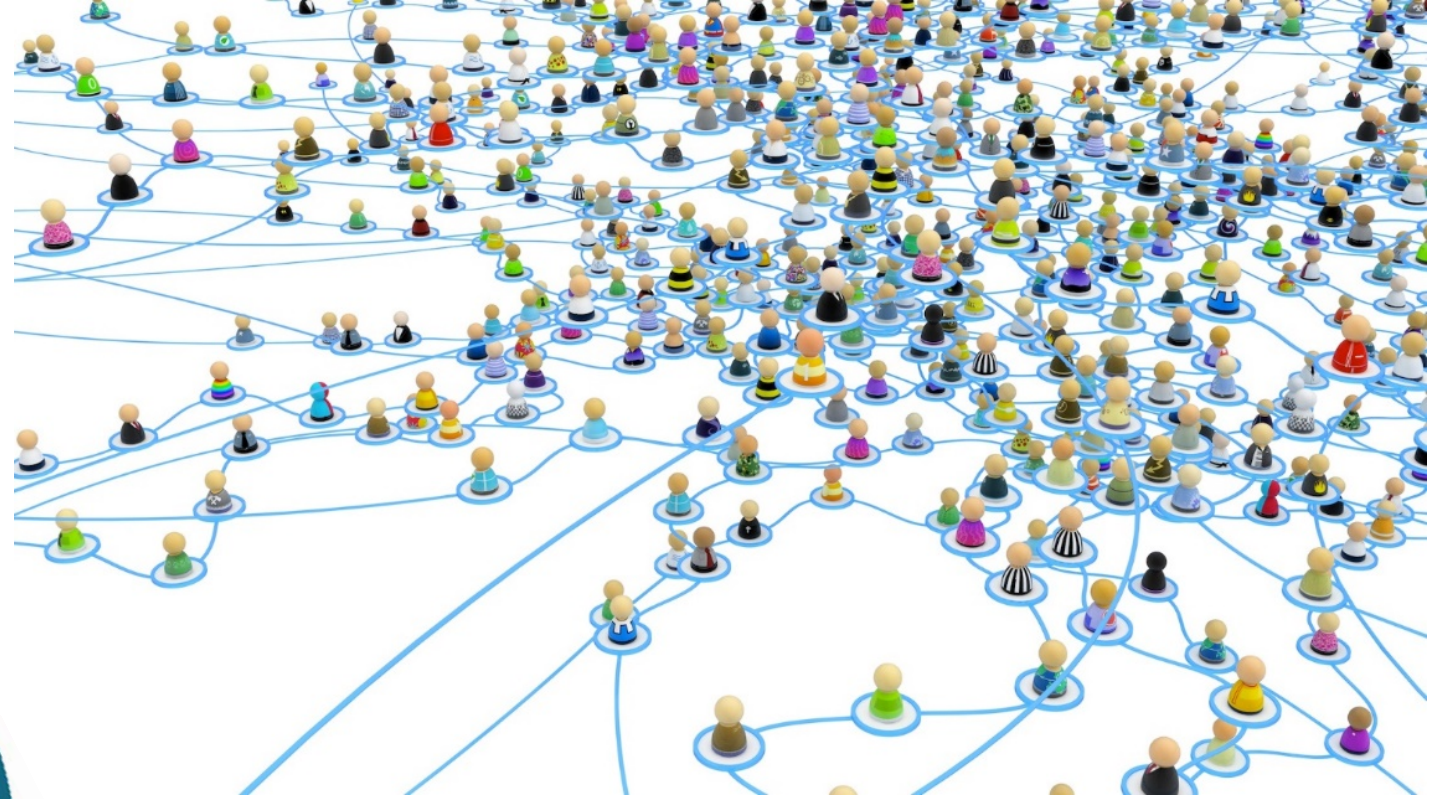
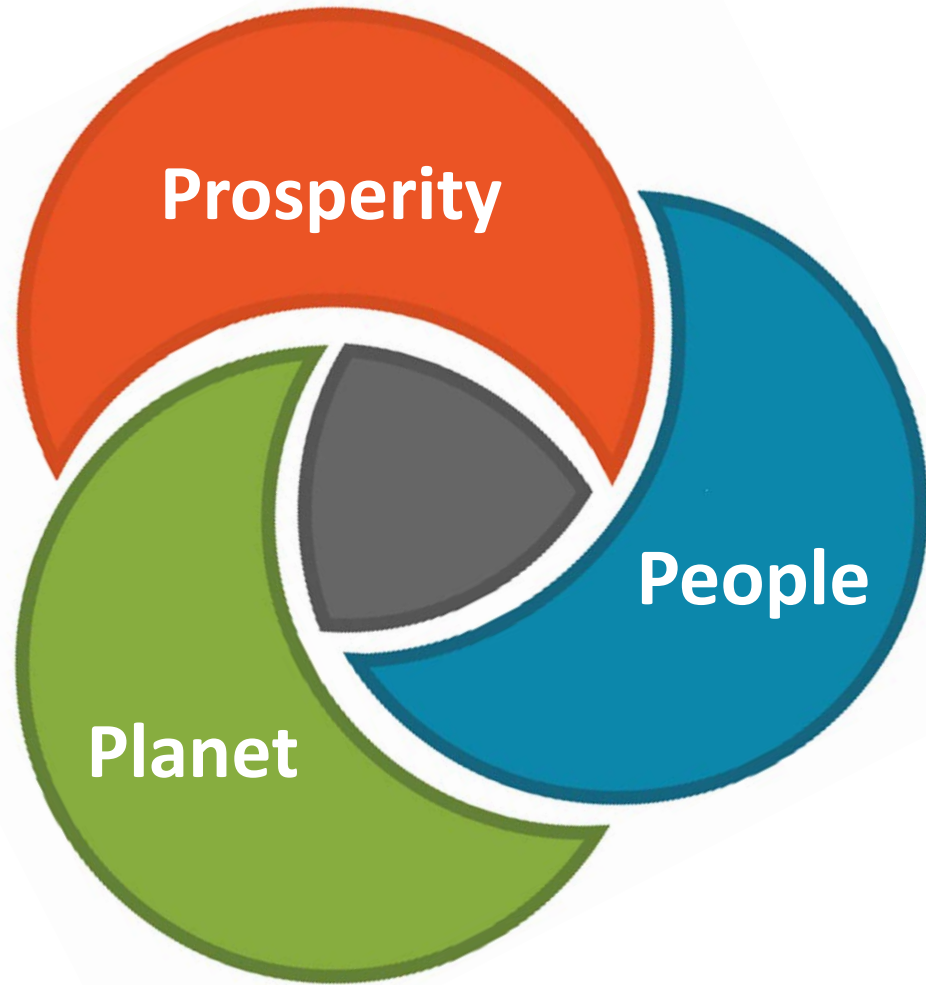


Over 26,500 volunteers contribute 1,144 FTE — the equivalent of \$71 million in donated public service each year



A Much Simpler Time: 1980 - 2000

2000 - 2016

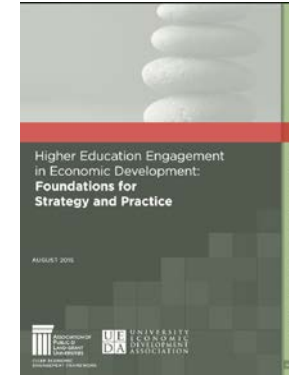


Complexity, Sustainability & the
Millennium Development Goals

**Talent includes knowledge sharing,
workforce development and
developing human capital.**



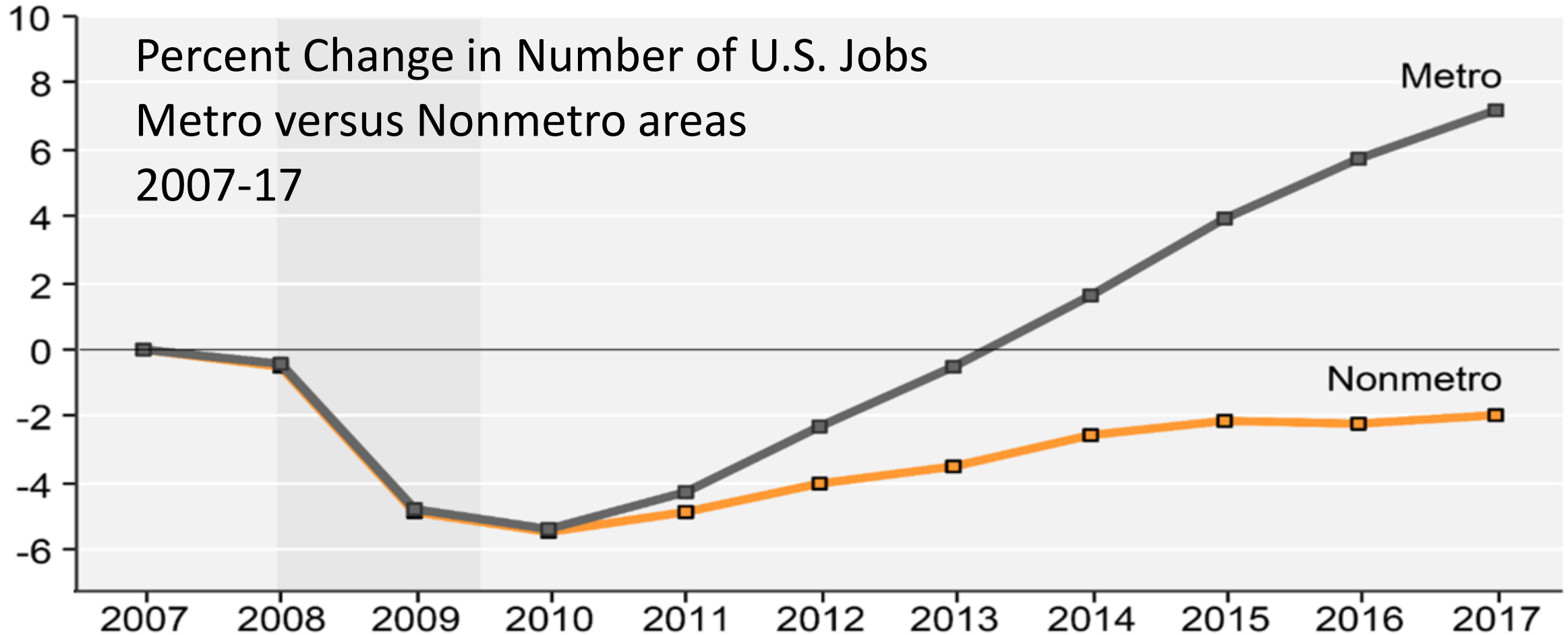
**Innovation begins
With basic research, moves
Into tech transfer and application
in ways that are relevant to society.**



www.aplu.org/library/higher-education-engagement-in-economic-development-foundations-for-strategy-and-practice/file

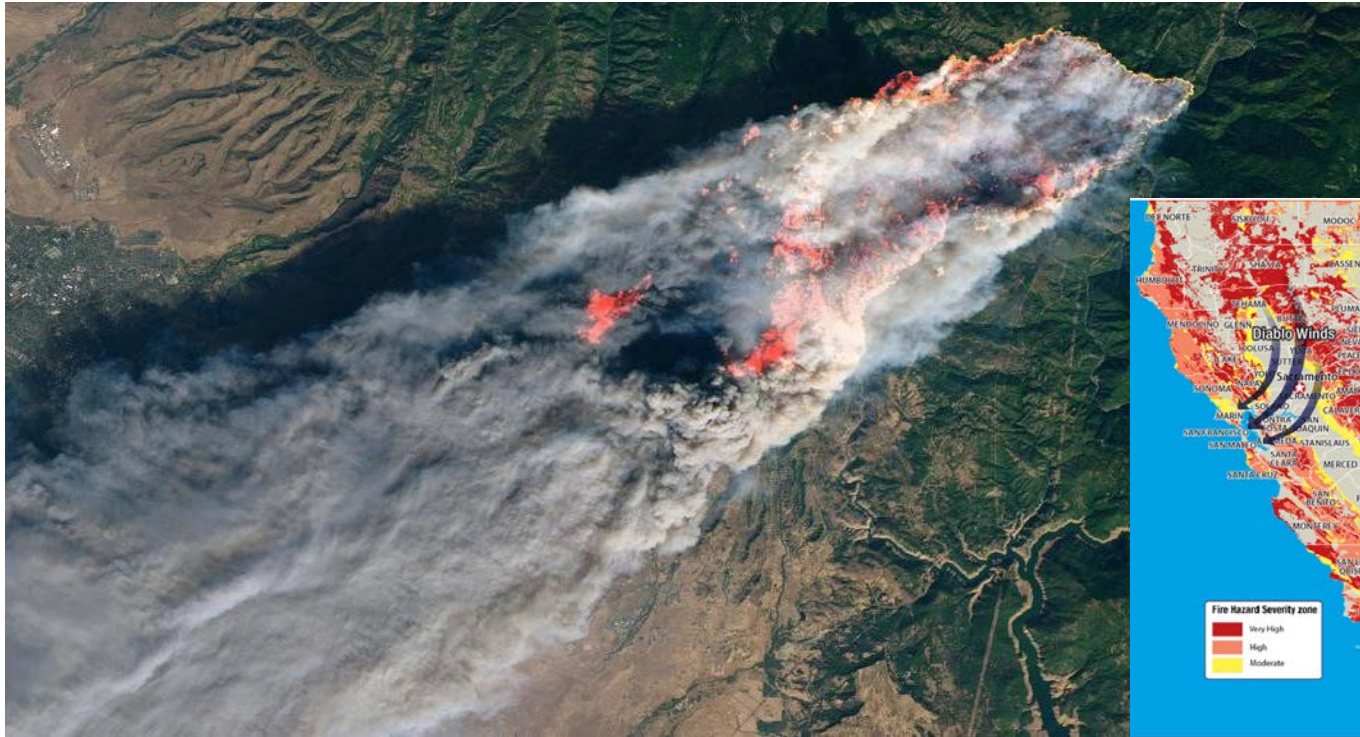
**Place is how
institutions support
strong communities –
places where people want to
live and participate in civic life.**

Rural Communities Never Fully Recovered from the Recession



SOURCE: USDA Economic Research Service using data from Bureau of Economic Analysis, Shaded area indicates recession period.

2018 California wildfires could cost state over \$400B in economic losses



Bay Area schools
cancel classes due
to Camp Fire smoke



Values gone or diminished in property, taxes, lost jobs and wages, business closures and many significant health impacts from particulate pollution

SOURCE: AccuWeather

Agriculture, Ecosystems and Communities Face Huge Challenges

Climate
Change



Less Arable
Land



Lack
of
Labor

Shifting
Consumer
Preferences &
Supply Chain
Fails

More &
New
Pests

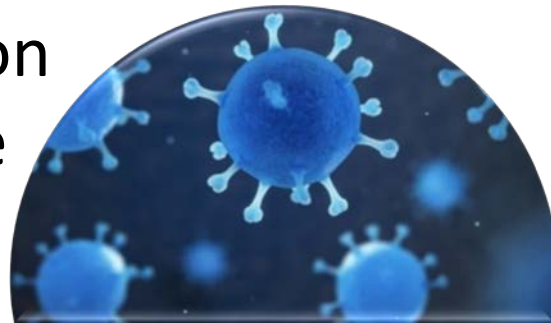


Drought

Food
Safety
& Food
Waste



Substandard
Nutrition
& More
Disease



Food Supply Chains in Chaos: Empty Shelves, Crops Wasted

Grocery Stores

+27%

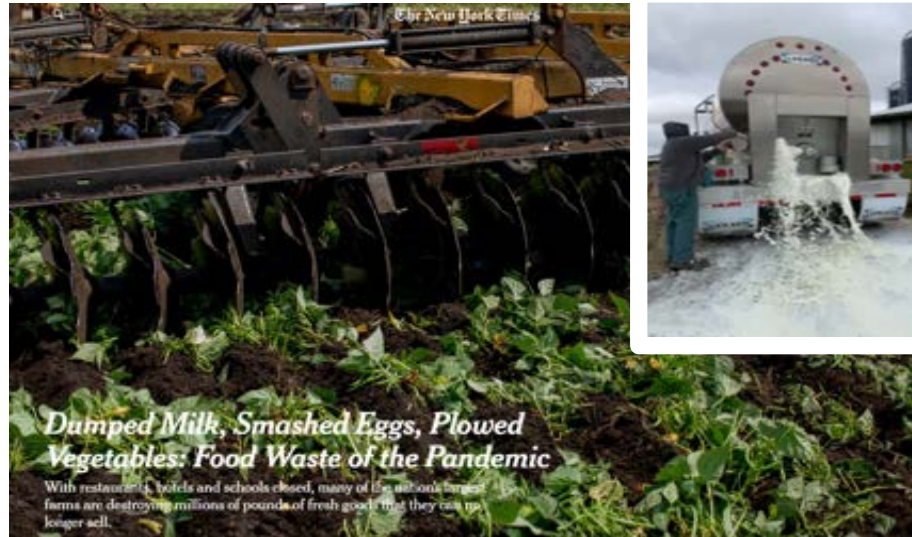
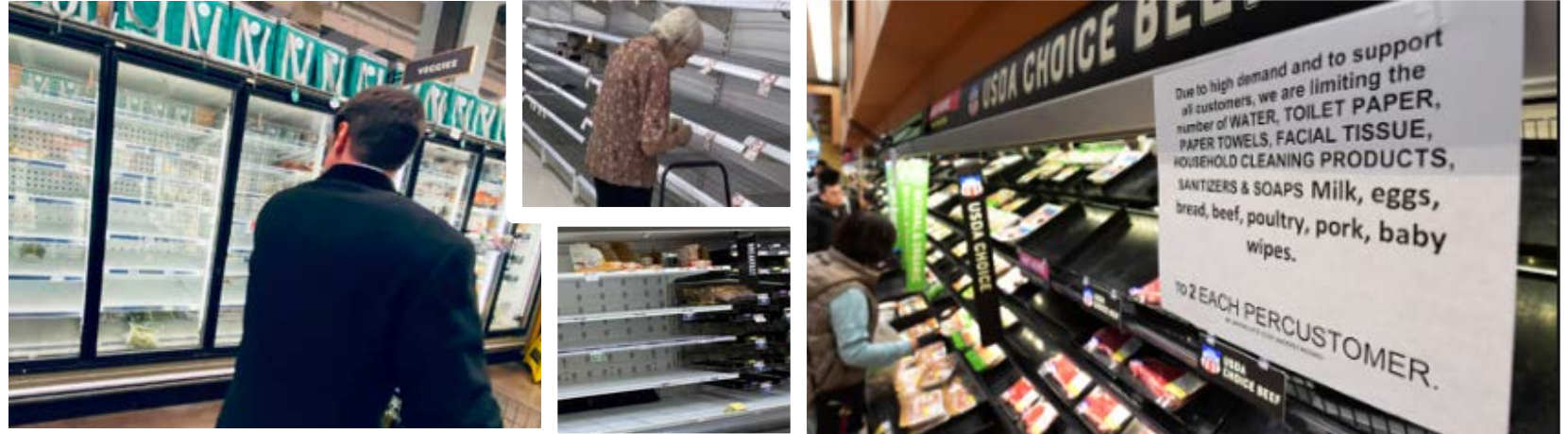
March 2020



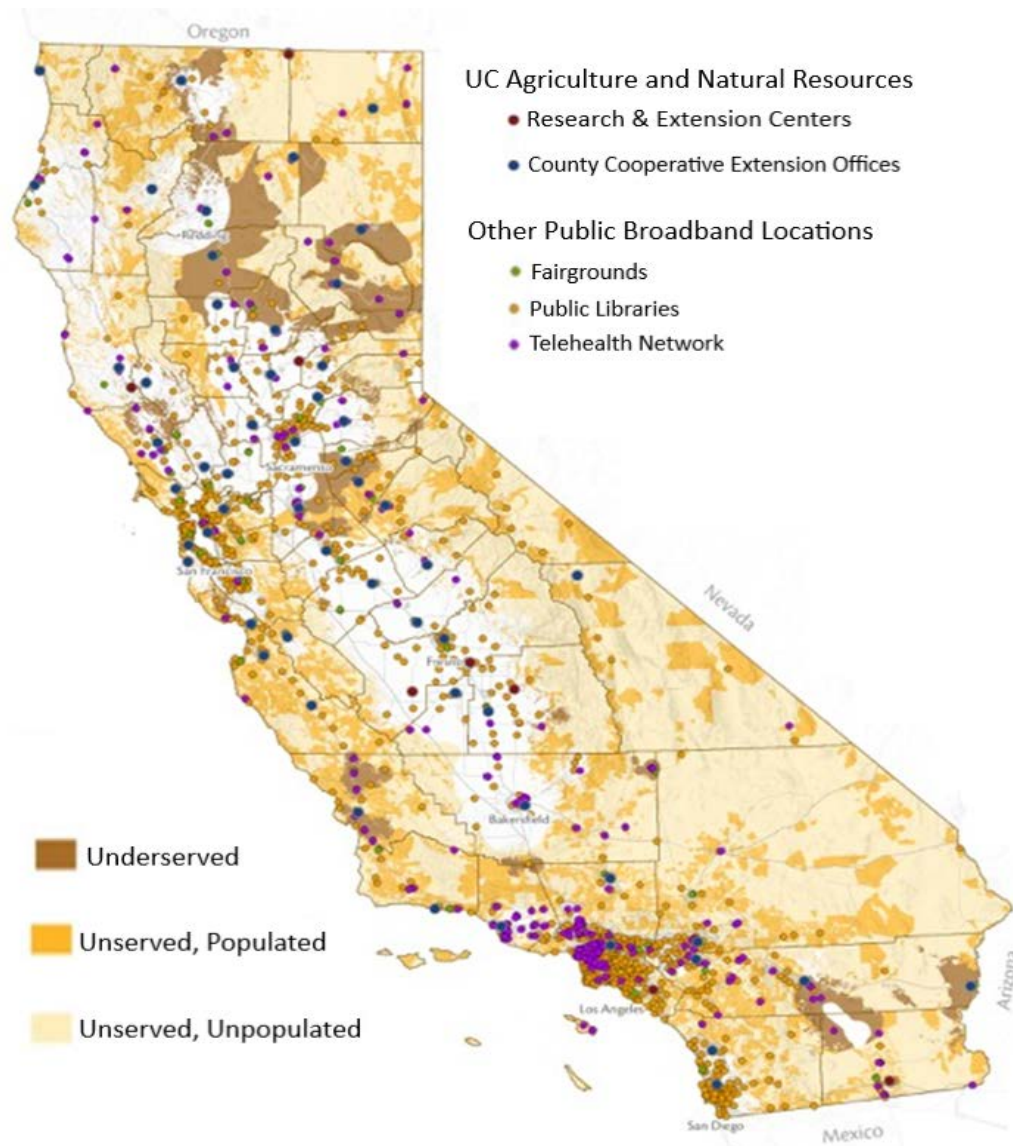
Food Service
& Drinking

-25%

March 2020



Much of California Remains Unserved by Broadband



Urban and Rural Served Households at 6 Mbps download/1.5 Mbps Upload

	Percent Served	
	Urban	Rural
Wireline	97.9%	46.5%
Fixed Wireless	29.7%	47.4%
Mobile	7.7%	9.9%

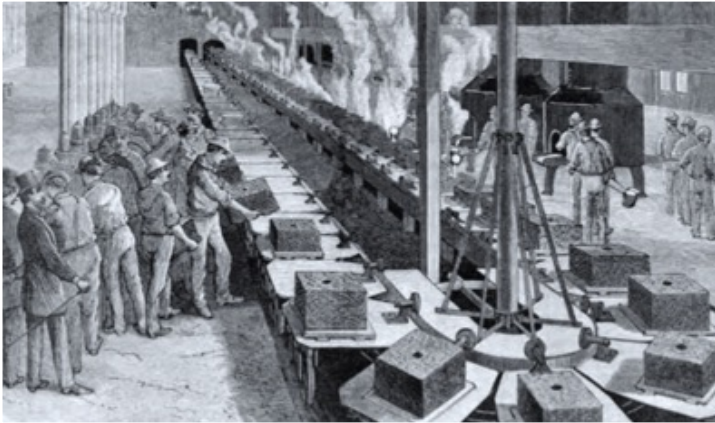
Public/private partnerships can be part of the solution; more public investment is critical!

Better Access to Broadband Coupled with Distance Learning, Telehealth and AgTech Could Greatly Benefit Rural Economies

- Support farmers, producers, and communities
- Leverage California's existing strengths
- Cultivate new food and ag careers
- Create rural high-tech jobs
- Enhance local economic activity
- Expand global competitiveness prospects for natural resource-based sectors



Building the Future of Agriculture, Food, Nutrition & Health



Food 1.0 19th Century

- Basic food safety begins
- Early industrialization of product manufacturing
- Scientific understanding of agriculture grows



Food 2.0 20th Century

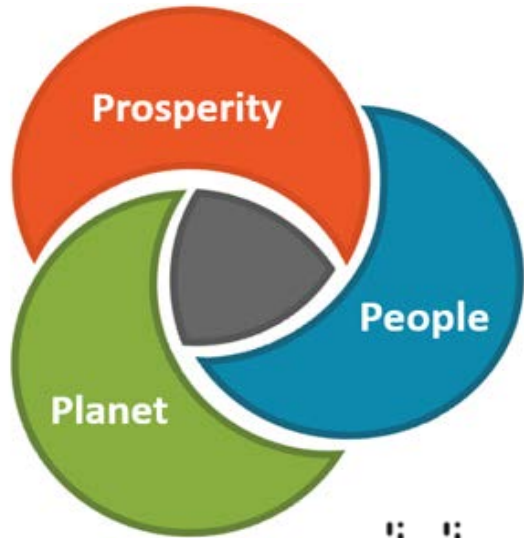
- Nutrition science constantly changing
- Shelf-life extended & more processing
- Globalization of brands & supply chains
- GMO's, inputs & mechanized agriculture
- Globalization of obesity & diabetes
- Calorie security but NOT nutrition security



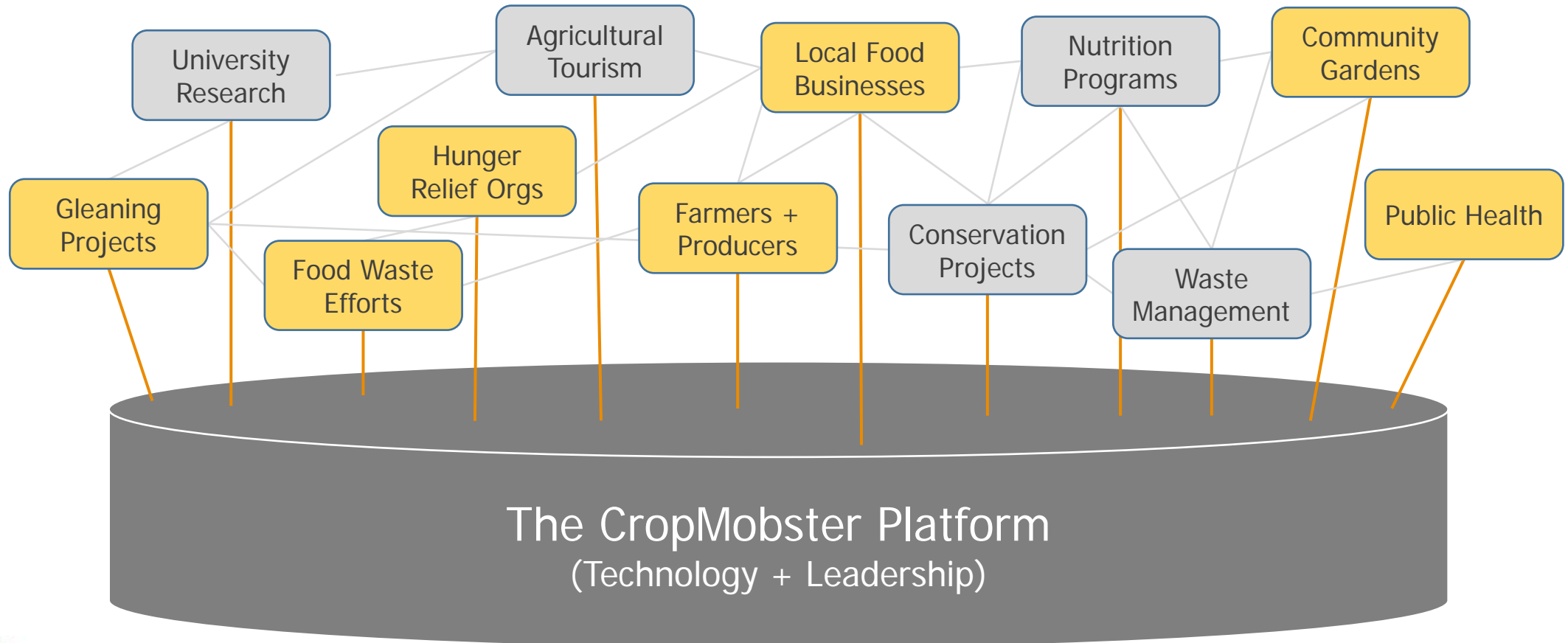
Food 3.0 21st Century

- Precision nutrition: food-for-health
- Supply chain integrity & traceability
- Sustainable agricultural production
- Caloric & nutritional security
- Decreased food waste
- Connected farmers & consumers

An Opportunity to Build New Connections!



An open-source platform to help communities launch and lead local and regional exchanges





WORKFORCE & TRAINING

TRADE / NEW MARKETS

SUPPLIER NETWORKS

ACCESS TO CAPITAL

INFRASTRUCTURE

BUY/PROCURE LOCAL

RESEARCH AND INNOVATION

OPERATIONAL IMPROVEMENTS



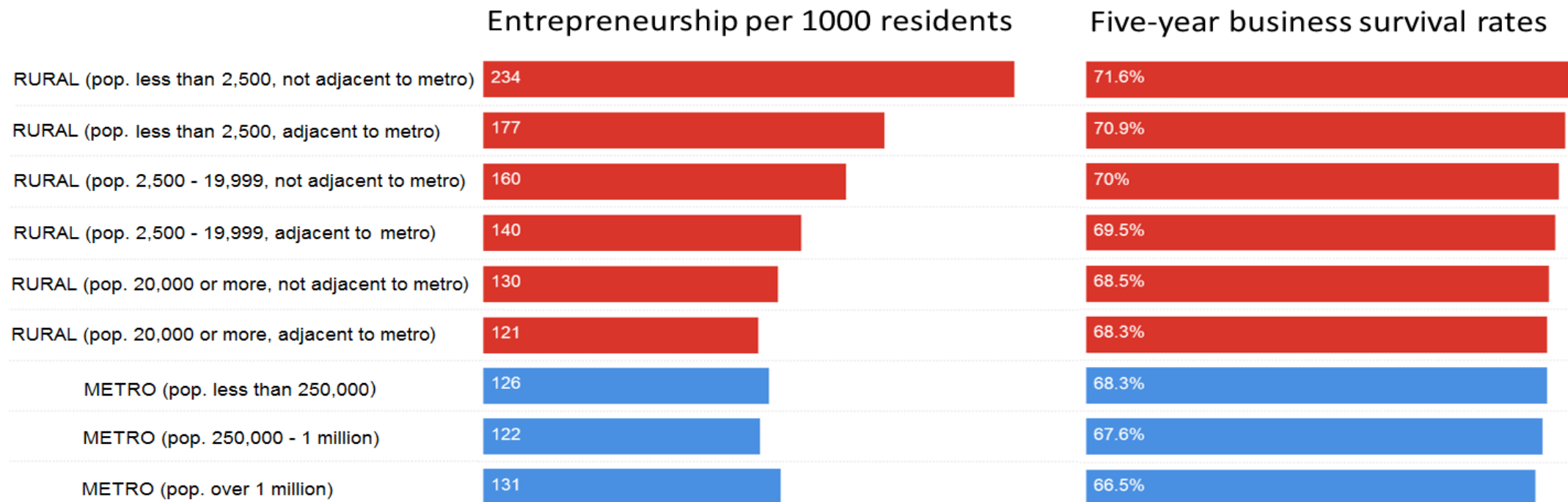


Eureka's Redwood Acres Fairgrounds, the Most Innovative Business Incubator in the Region – currently the home of 15 business – Also Makes Space for a Fleet of Food Trucks



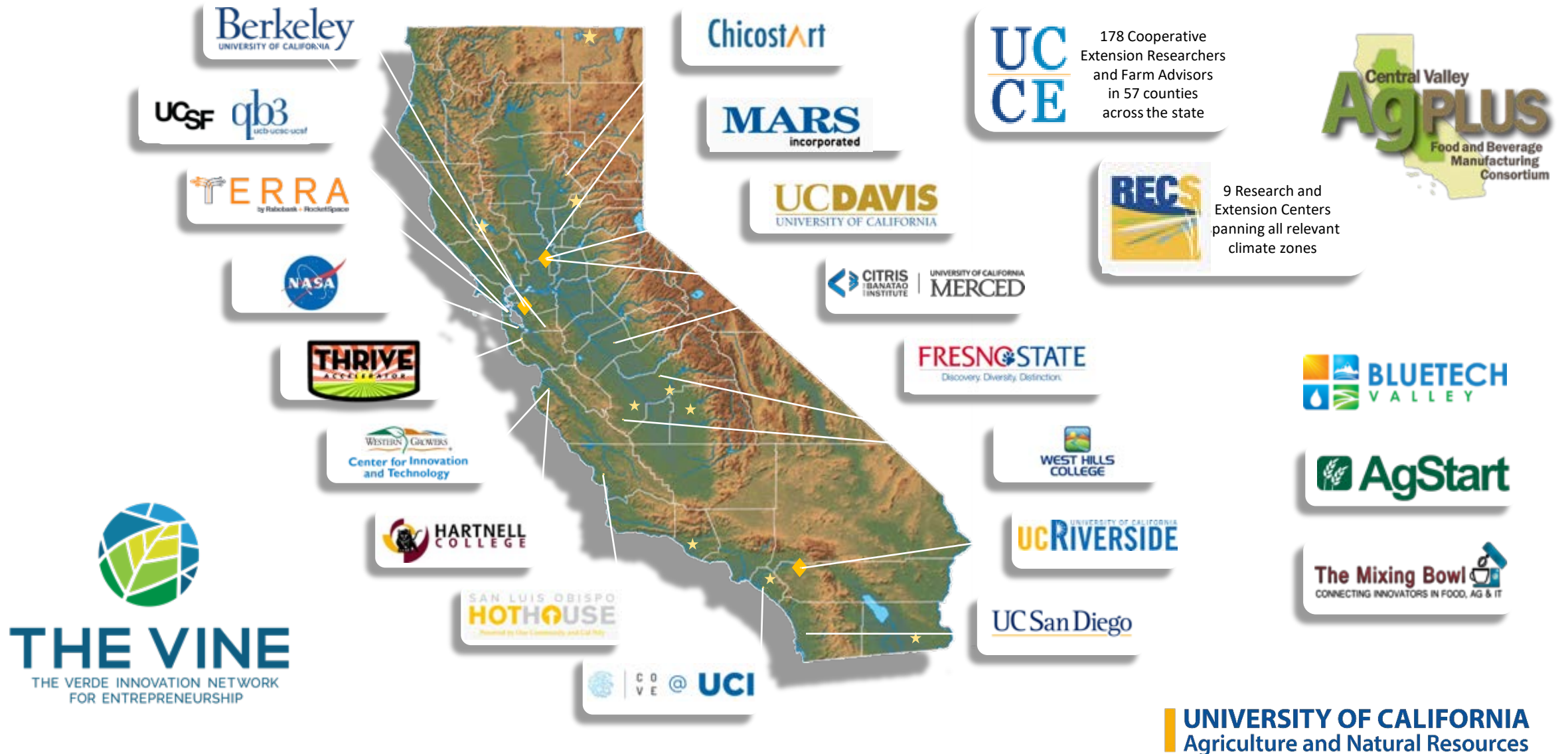
Rural Counties have higher rates of Entrepreneurship

Common Mistake: Assume More Startups in Metro Areas

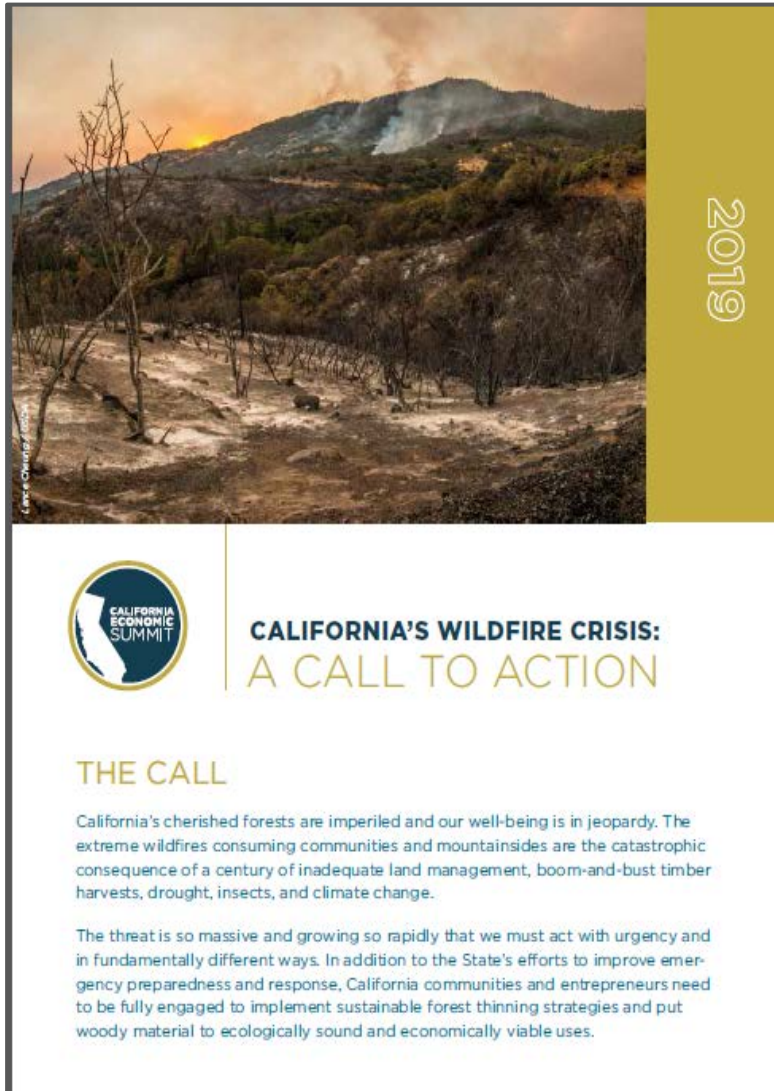


Entrepreneurship is measured by proprietorship, a tax status of at least one self-employed individual, who may also employ others. One proprietor may own multiple businesses.

Catalyzing Ag + Food + Health Innovation Community



A Call to Action on Wildfire and Advanced Wood Products



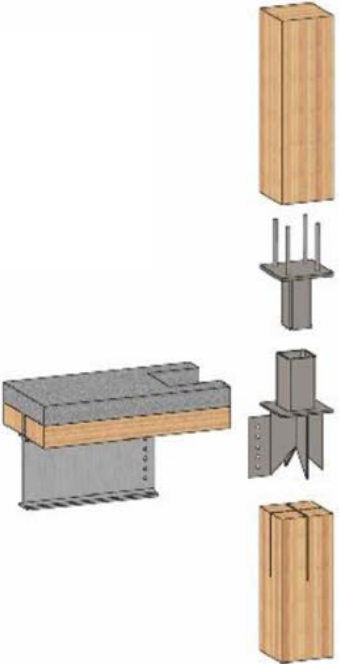
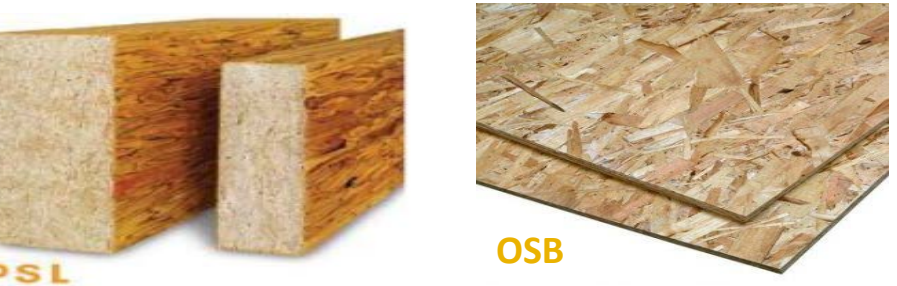
Treat at least 1 million acres a year by linking expanded forest management with a new wood products industry that converts excess woody biomass into biofuels, engineered lumber and other innovative uses.

<https://caeconomy.org/resource/californias-wildfire-crisis-a-call-to-action>

Advanced Wood Products Manufactured from Biomass

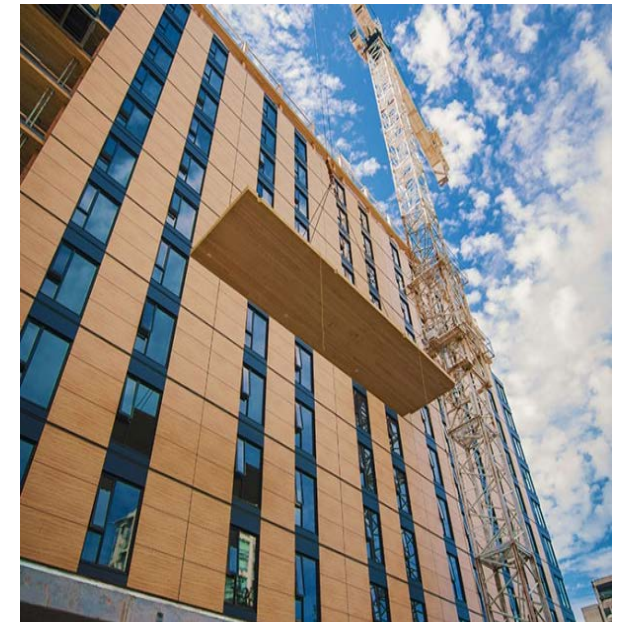
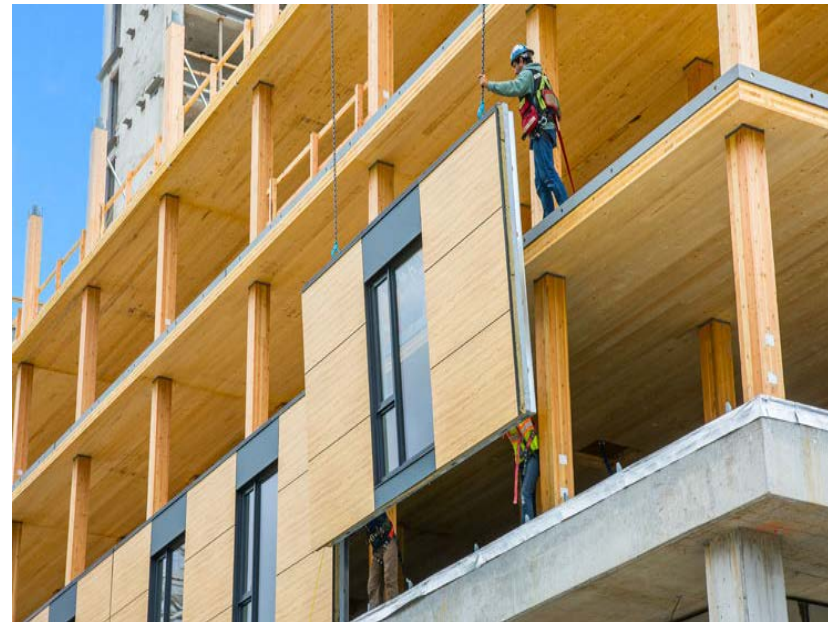
Project savings using CLT \approx 15% vs. conventional building materials

Construction is about 30% faster than comparable steel-&-concrete structures





This 18-story tower, a student residence in Vancouver, was world's tallest wood building (as of 2018). Completed in <70 days using prefabricated components – four months ahead of schedule.



www.woodworks.org

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Biomass Development

- ✓ Reduce risk from fire
- ✓ Improve wildlife habitat
- ✓ Enhance recreation opportunities
- ✓ Expand water production

- ✓ Jobs & economic development in rural & urban communities
- ✓ Advanced wood buildings are more energy efficient, safer in earthquakes and fires and sequester carbon



“Elevate Rural California”



- **Biomass Utilization**

- ✓ Develop a next-generation, advanced forest products industry
- ✓ Expand innovative community college workforce development

- **Broadband Connectivity**

- ✓ Connect various broadband-related efforts to enhance service
- ✓ Deploy internet-of-things in agriculture, tourism, etc.
- ✓ Build support to fund broadband infrastructure

- **Water Infrastructure**

- ✓ Provide technical support & align efforts with statewide work on ecosystem services & integrated watershed management
- ✓ Explore innovative ways to finance drinking water and water treatment infrastructure



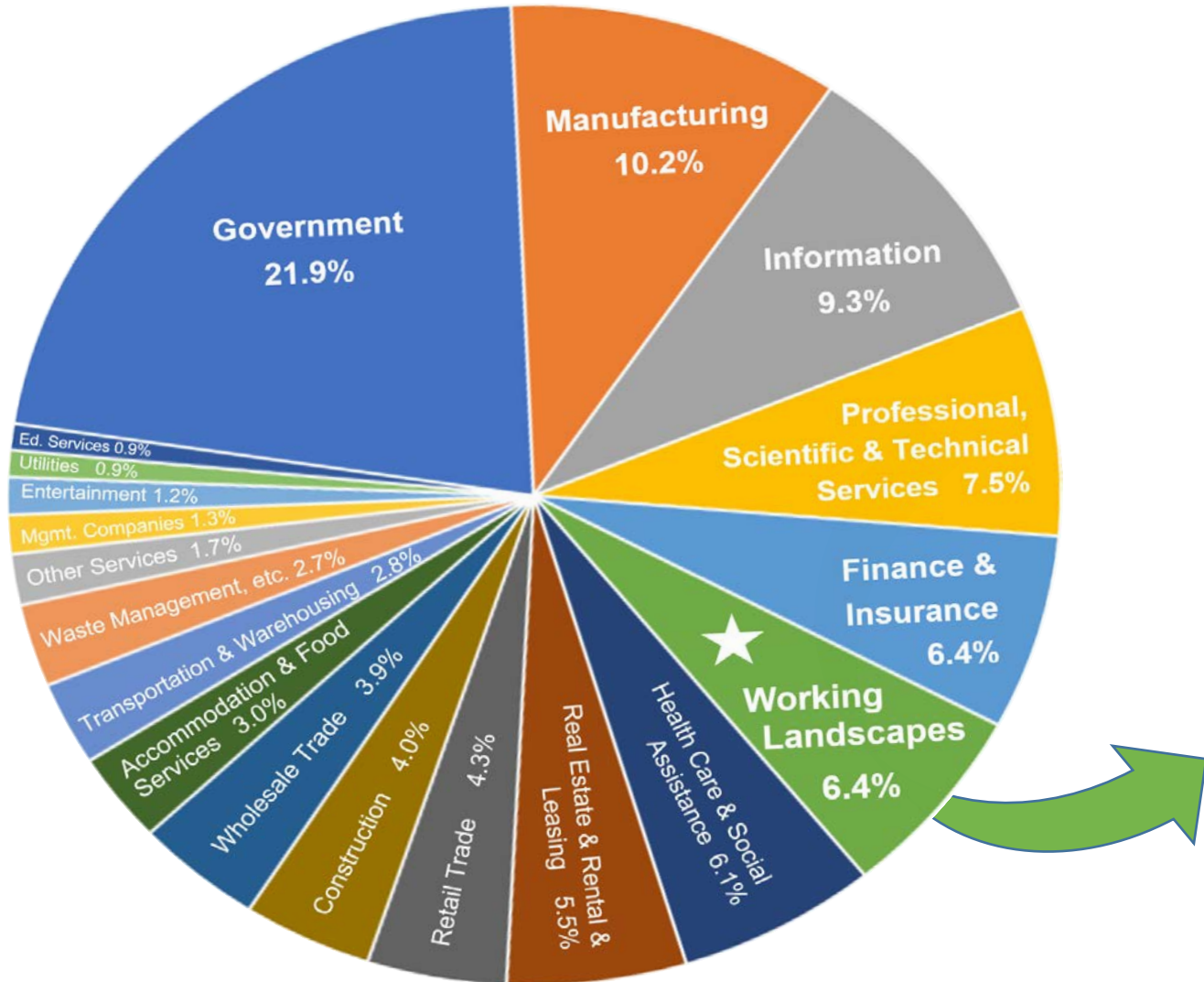


CALIFORNIA'S WORKING LANDSCAPE

<http://ucanr.edu/WorkingLandscapes>

A Key Contributor to the State's Economic Vitality

NOVEMBER 2019



\$333 Billion Sales

Agriculture	\$263.5 B
Mining	\$32.2 B
Forestry	\$23.2 B
Outdoor Recreation	\$6.3 B
Renewable Energy	\$5.9 B
Fishing	\$1.7 B

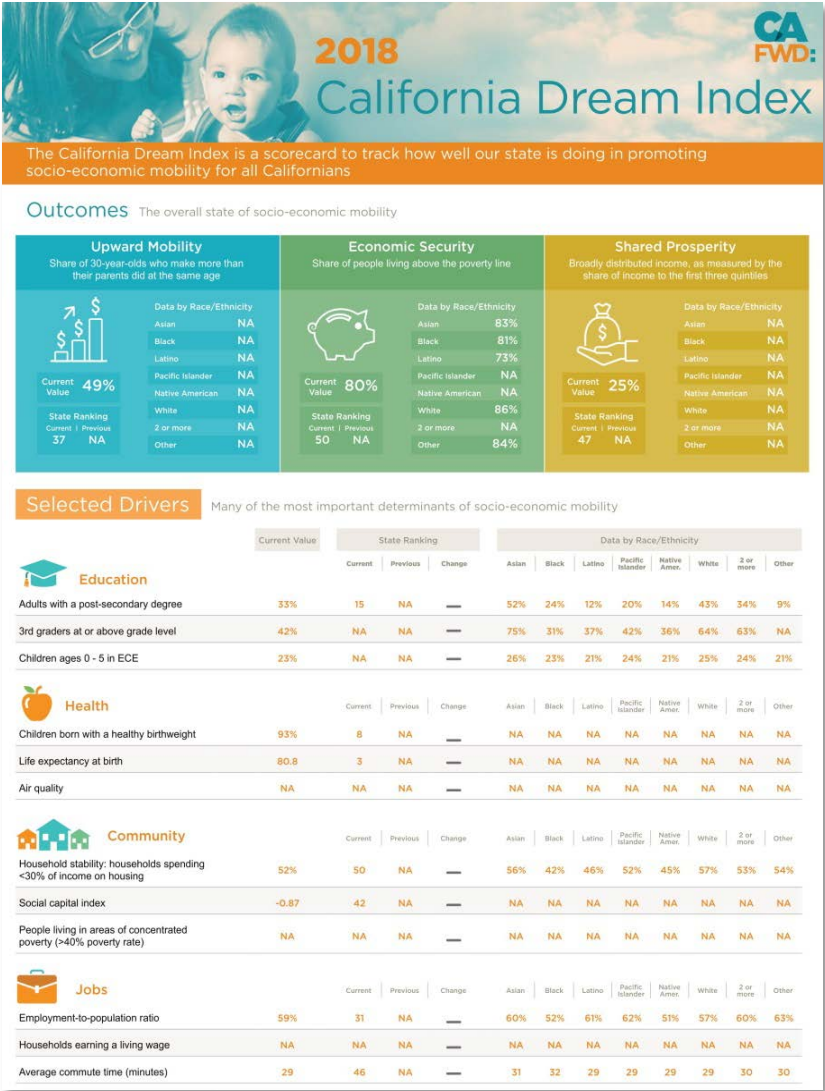
1.5 Million Jobs

\$85 Billion Earnings



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Updating the California Dream Index



- ✓ Expand to include relevant indicators for environment and governance if there are strong ties to inter-generational mobility, poverty, and income distribution
- ✓ Condense each section to a single driver
- ✓ Identify monthly indicators that GO-Biz could use to track progress

“...the gross national product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials.



It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile.”



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