

MANUFACTURING LABOR MARKET PROFILE SACRAMENTO REGION



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Important Disclaimer All representations included in this report have been produced from secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, host Districts, nor California Community Colleges Chancellor’s Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

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Economic and Workforce Development Program

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Manufacturing Sector Overview

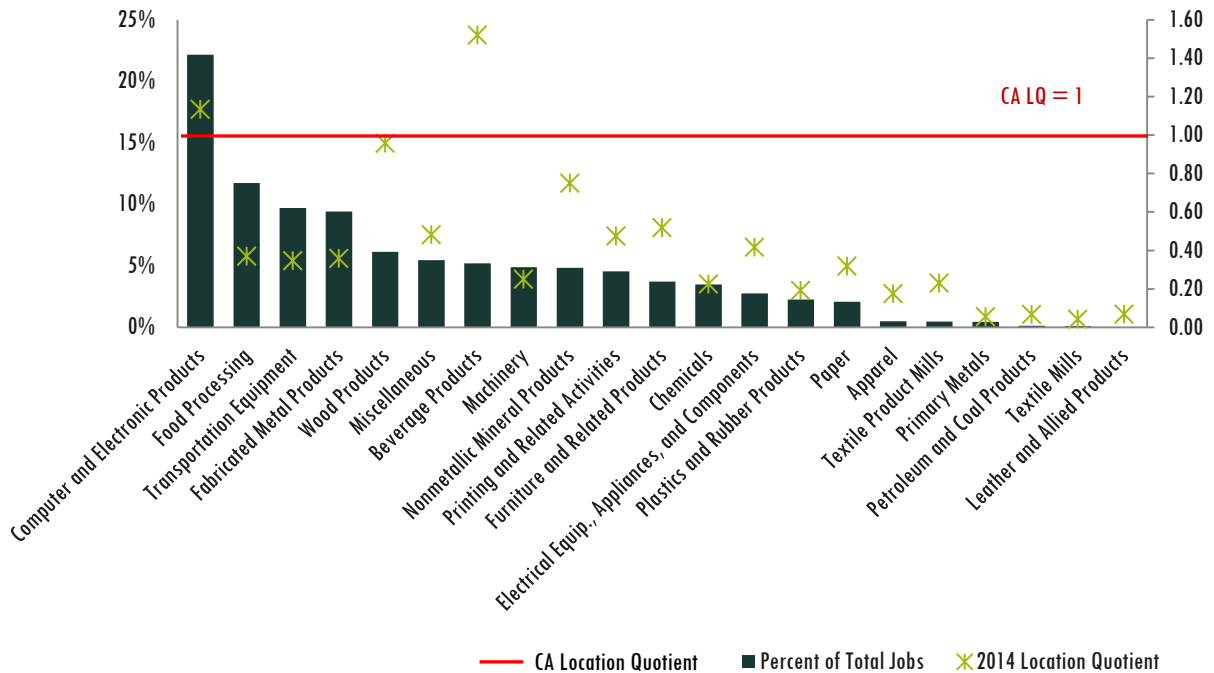
Distribution and Concentration of Employment

In 2013, there were 35,800 manufacturing jobs, about four percent of the total employment in the Sacramento Region. As shown in Exhibit 1, the largest share of jobs were in computer and electronic product manufacturing (22%; 7,900 jobs), followed by food processing (12%; 4,200 jobs), transportation equipment manufacturing (10%; 3,500 jobs), fabricated metal production manufacturing (9%; 3,400 jobs), and wood product manufacturing (6%; 2,200 jobs).

Location quotient analysis compares the total employment in a region relative to the total employment in a larger area in this case, California (which is represented as one). A location quotient of less than one indicates a lower concentration of employment for that industry than in the state overall. A location quotient of more than one indicates a higher concentration of employment than in the state overall.

- Nearly all of the manufacturing subsectors in the Sacramento region have a location quotient that is less than one, indicating a lower concentration of employment than in other areas of the state.
- Beverage manufacturing and computer and electronic products have location quotients greater than one, indicating a higher concentration of jobs in this region than the statewide average.

Exhibit 1: Share of Total Manufacturing Employment and Location Quotient¹



¹ QCEW Employees, Non-QCEW Employees, and Self-Employed, 2014.3

Establishments

The map to the right displays manufacturing establishments in the Sacramento Region by size of employment. Most of the manufacturing establishments in the region employ fewer than 50 workers and only a handful employ more than 500 workers. Most of the firms are clustered in Sacramento County and the western side of Placer County.

Map 1: Manufacturing Establishments, 2013

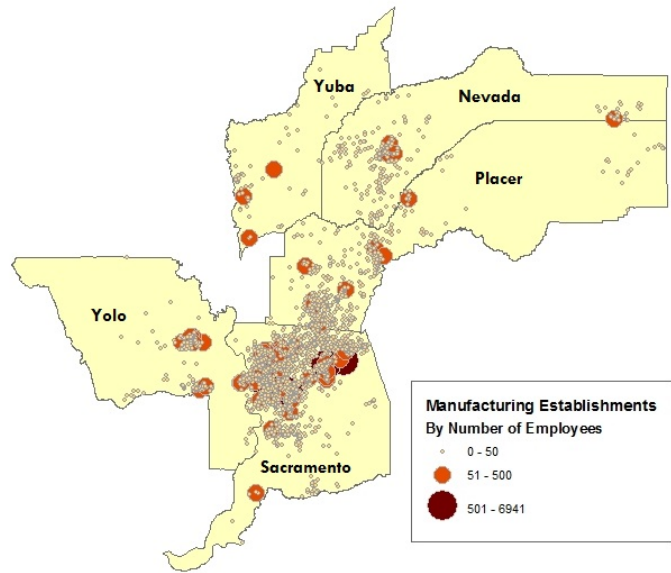
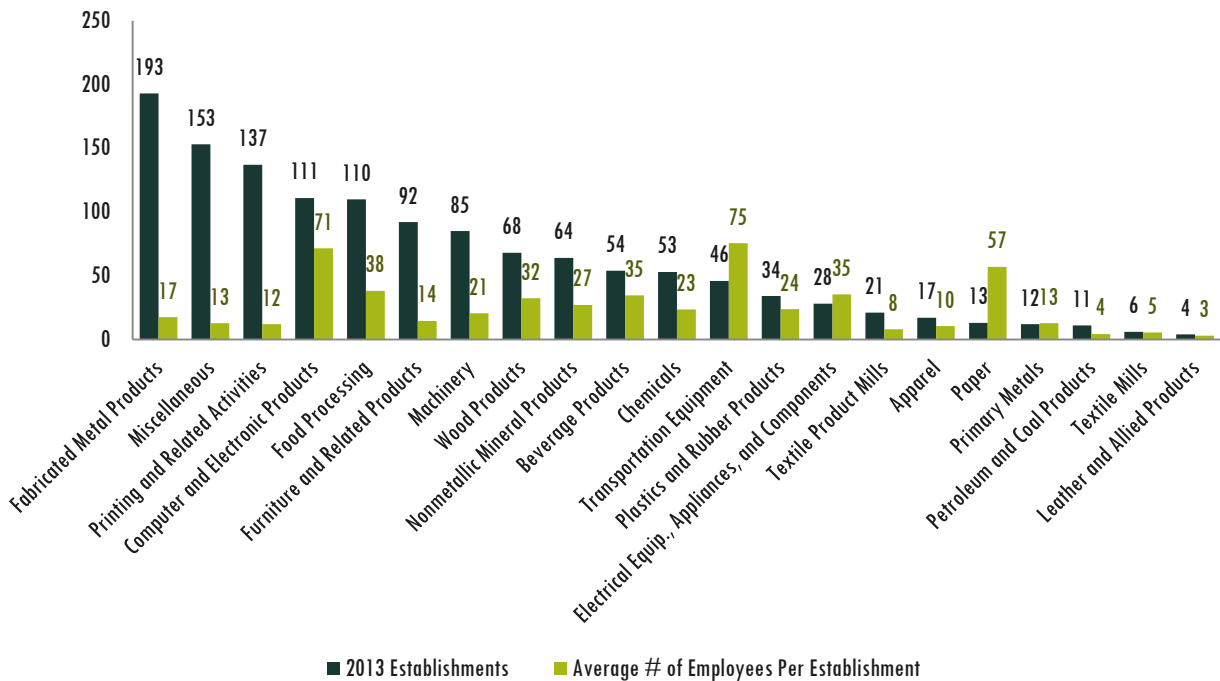


Exhibit 2 displays establishments and the average number of workers per establishment by manufacturing subsector in the Sacramento region. As shown, the fabricated metal product manufacturing subsector has the most firms with a low number of workers per establishment compared to other subsectors in the region. The computer and electronic subsector is the fifth largest subsector in terms of total establishments, and it has a relatively high number of workers per establishment. Food processing is the fifth largest subsector and it also has a relatively high number of workers per region. Transportation and paper manufacturers are somewhat sparse in the region, but the average number of workers per firm is high for both.

Exhibit 2: Establishments and Average Employment by Subsector, 2013²

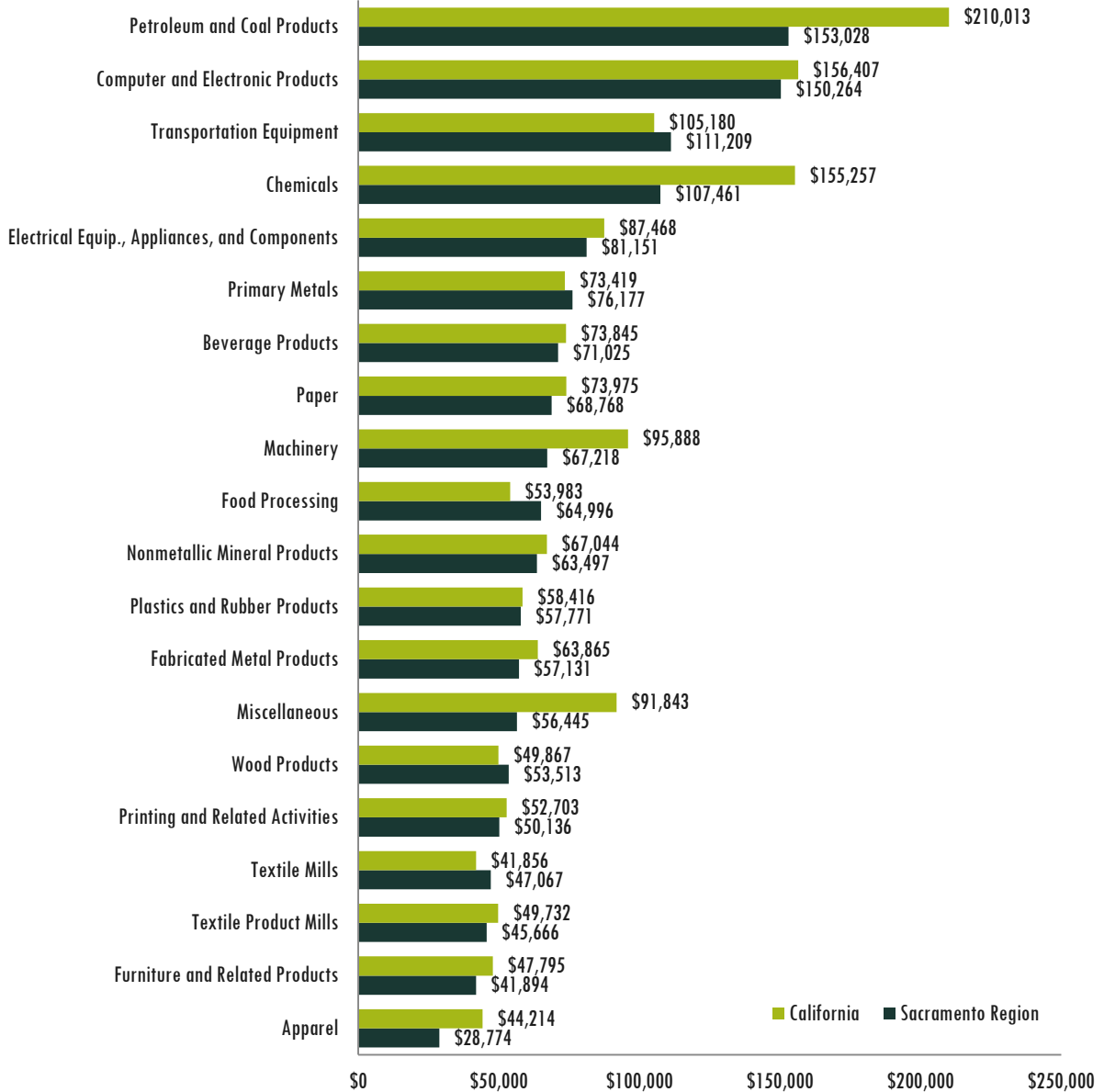


² 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Earnings

The petroleum and coal products manufacturing sector provides the best earnings in the Sacramento Region, followed by computer and electronic product manufacturing and transportation equipment manufacturing. The earning calculation includes an average of all wages, salaries, proprietor earnings and supplemental earnings (such as retirement benefits, bonuses, etc.) for all occupations in the sector. Half of the manufacturing subsectors provide earnings above the average earnings across all sectors in the Sacramento region.³ One-fourth of the manufacturing subsectors in the Sacramento region have higher earnings than the statewide average in manufacturing.

Exhibit 3: Earnings by Manufacturing Subsector, 2014^{4&5}



³ The current average earnings across all sectors in the Sacramento region is \$63,648.

⁴ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

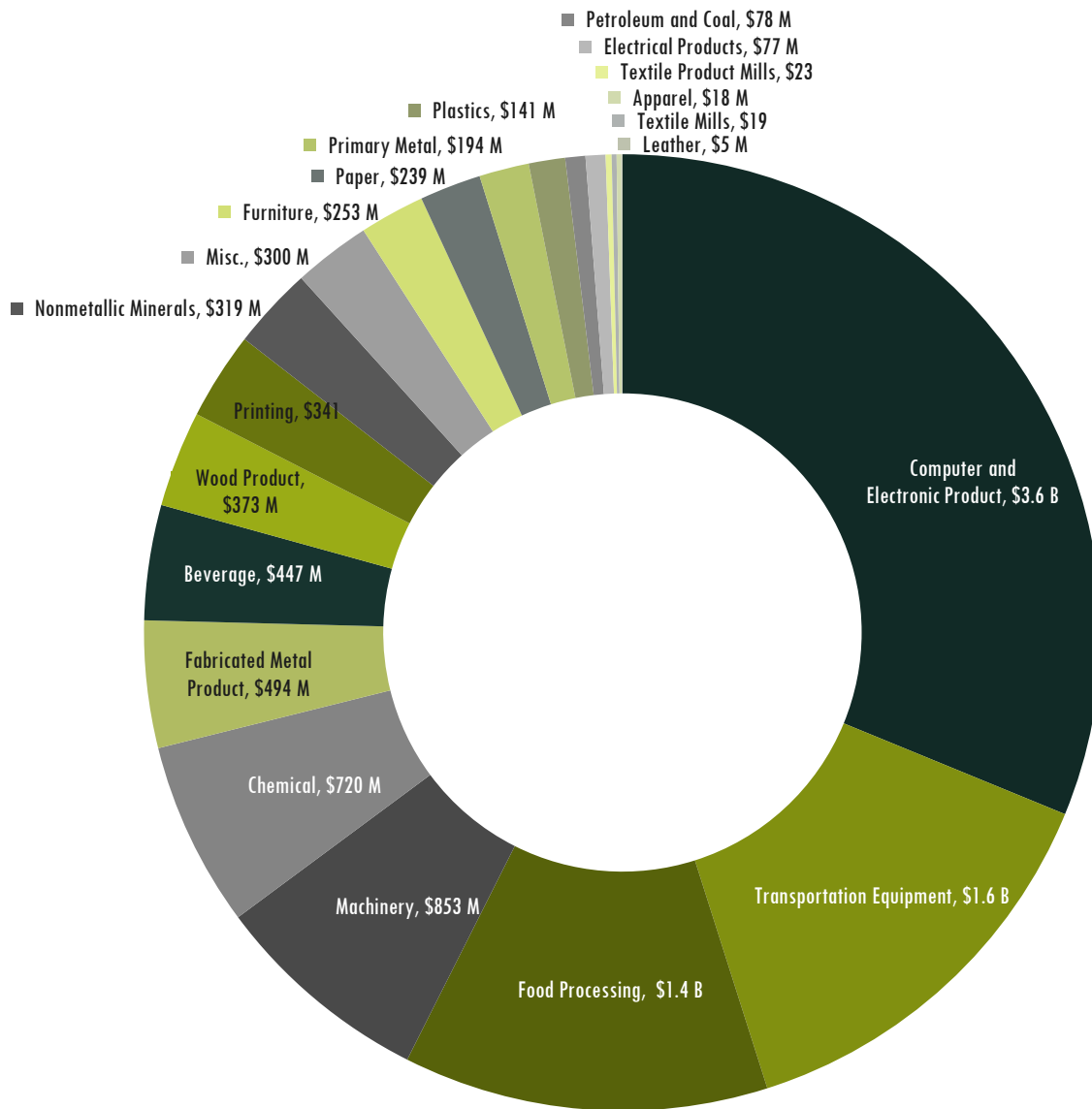
⁵ The earnings calculation is an average of all earnings across the subsector regardless of occupation, including wages, salaries, and proprietor earnings as well as supplemental earnings such as bonuses and other fringe benefits.

Revenue

The manufacturing sector generated nearly \$11.5 billion in revenue in the Sacramento Region in 2013, 21% higher revenue than generated in 2011. Computer and electric products generated the most revenue (\$3.6 billion), followed by transportation equipment (\$1.6 billion), food processing (\$1.4 billion), machinery (\$853 million) and chemical product manufacturing (\$720 million).

Sales in the manufacturing sector have a significant impact on the economy. Not only does revenue generated in these industries contribute to the state and local economies through sales taxes, corporate taxes, etc., it also generates a higher level of activity among firms in the supply chain than other sectors. This equates to more employment and increased local tax revenue as manufacturing industries grow.

Exhibit 4: Revenue by Manufacturing Subsector, 2013⁶



⁶ InfoUSA, 2011

Trends and Projections

During the recession, the manufacturing sector declined significantly, shedding 7,300 jobs in three years (2007 – 09). However, in 2010, the manufacturing sector started to see an uptick in total jobs. Regardless over the next five years, the industry is projected to slowly decline. The poor outlook may be due to how the projections are calculated. Employment projections utilize long-term historic trends in the sector to project future activity. As such, several years of positive growth may have a small impact on the projected outlook. Assuming recent trends continue, it is always possible that the Sacramento Region will see small to moderate increases in total manufacturing employment over the next five years.

Exhibit 5: Manufacturing Employment Trends and Projections, 2008 - 2018⁷

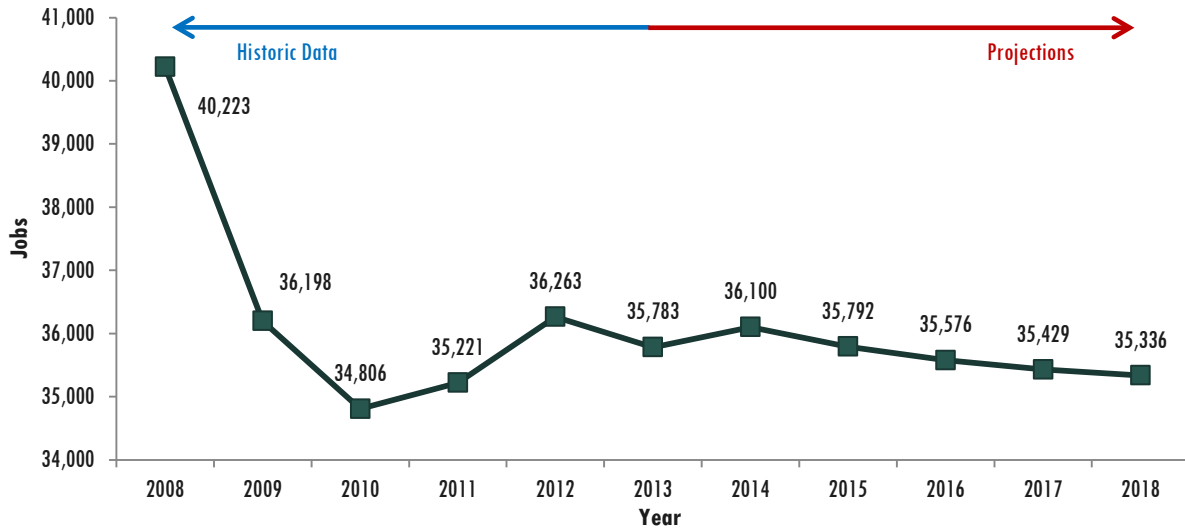


Exhibit 6: Manufacturing Employment Projections by Subsector, 2013-2018⁷

Manufacturing Subsector	2013 Jobs	2018 Jobs	Change	% Change
Computer and Electronic Products	7,929	7,862	(67)	-1%
Food Processing	4,197	3,551	(646)	-15%
Transportation Equipment	3,469	3,819	350	10%
Fabricated Metal Products	3,369	3,378	8	0%
Wood Products	2,193	1,714	(479)	-22%
Miscellaneous	1,949	1,993	45	2%
Beverage Products	1,863	2,165	301	16%
Machinery	1,750	1,956	206	12%
Nonmetallic Mineral Products	1,733	1,997	263	15%
Printing and Related Activities	1,631	1,099	(532)	-33%
Furniture and Related Products	1,333	952	(381)	-29%
Chemicals	1,244	1,428	184	15%
Electrical Equip., Appliances, and Components	988	1,054	66	7%
Plastics and Rubber Products	807	986	179	22%
Paper	741	884	143	19%
Apparel	178	156	(22)	-12%
Textile Product Mills	166	161	(5)	-3%
Primary Metals	152	90	(62)	-41%
Petroleum and Coal Products	47	59	12	26%
Textile Mills	32	23	(9)	-27%
Leather and Allied Products	12	<10		0%
Total Manufacturing Jobs	35,783	35,336	(447)	-1%

⁷ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Top Five Subsectors

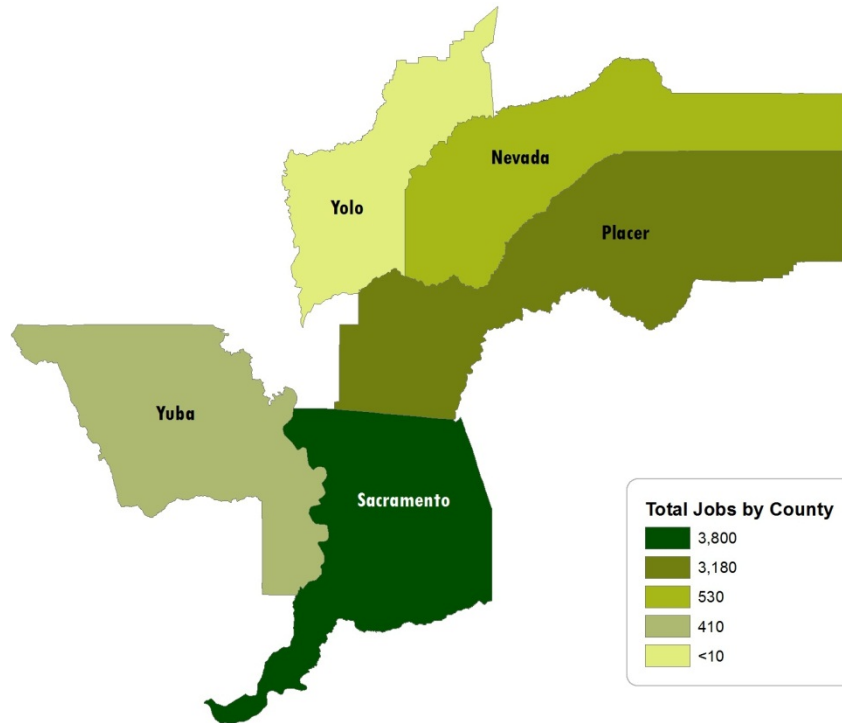
To better understand the impact of the five largest subsectors on the regional economy, this section provides an overview of each subsector, including a description, large employers in the region, geographic distribution, revenue and wages. The top five subsectors is a ranking based on the total subsector employment in the Sacramento region.

Computer and Electronic Product Manufacturing

The computer and electronic product manufacturing subsector includes establishments that manufacture computers, computer peripherals, communications equipment, as well as similar electronic products, and establishments that manufacture components for such products. Last year, the region's computer and electronic product subsector generated \$3.6 billion in total sales. The average wages were \$150,264, slightly below the statewide average for the same subsector. Some of the largest computer and electronic product manufacturers in the region include:

- Intel (Sacramento County) designs and builds the essential technologies that serve as the foundation for the world's computing devices.
- Hewlett-Packard (Placer County) designs, develops and manufactures laptops, desktops, tablets, printers, monitors, etc.
- Agilent Technologies (Sacramento County) designs and manufactures electronic and bio-analytical measurement instruments and equipment for measurement and evaluation.
- Coherent (Placer County) manufactures laser applications, including laser systems and laser system solutions.

Map 2: Computer & Electronic Product Manufacturing Employment, 2013⁸



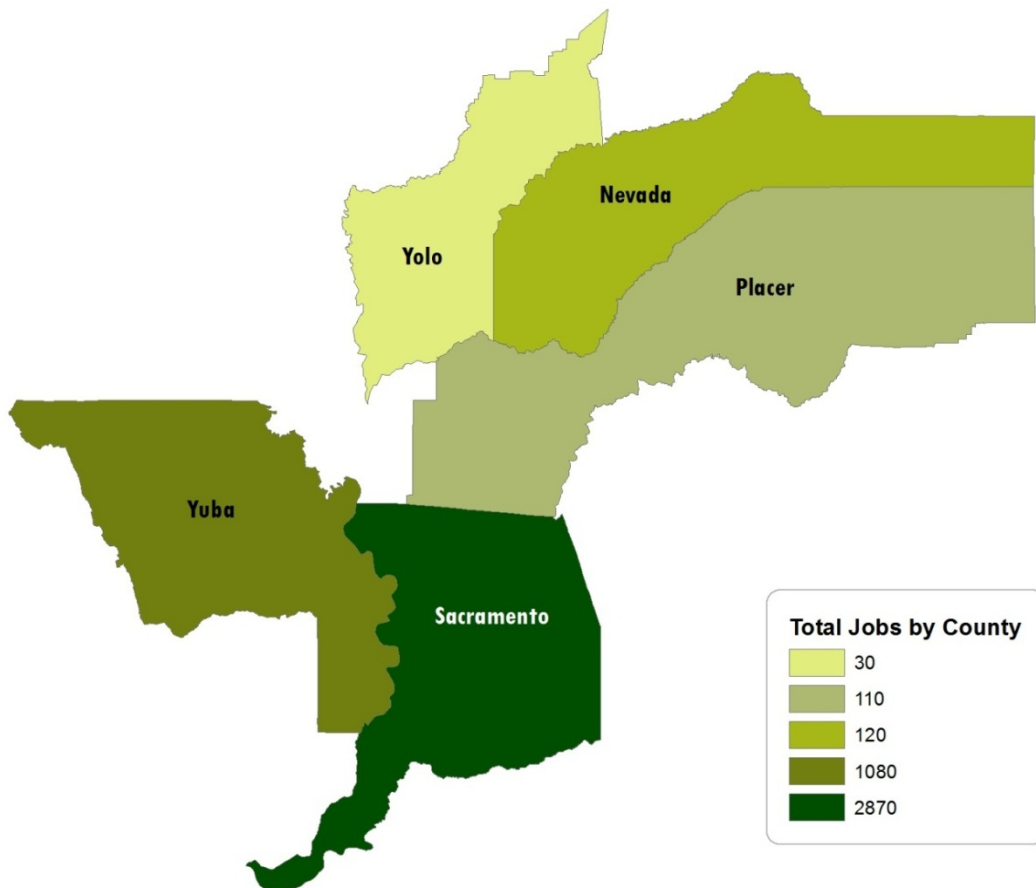
⁸ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Food Manufacturing

The food manufacturing subsector processes livestock and agricultural products into products for consumption, such as grain milling, fruit or vegetable preserving, dairy production, commercial bakeries, etc. Last year, the region’s food manufacturing subsector generated \$1.4 billion in total sales. The average wages were \$65,000, 20 percent higher than the statewide average for the same subsector. Some of the largest food manufacturers in the region include:

- Pacific Coast Producers (Yolo County) is a processing center that preserves locally grown produce, such as tomatoes, peaches, pears, apricots and grapes. They are the processor behind brands like Ralph’s and Western Family.
- PGP International (Yolo County) is a food processing facility that makes an assortment of extruded crisps and snack products, specialty rice flours and blends, and other specialty ingredients.
- Rogers Family Company (Placer County) owns and operates coffee farms in Mexico, Panama and Rwanda. They roast coffee using a slow exclusive temperature/airflow process.
- Mary Ann’s Baking Company (Sacramento County) is a commercial bakery that produces coffee cakes, donuts, apple fritters and cinnamon rolls.

Map 3: Food Manufacturing Employment, 2013⁹



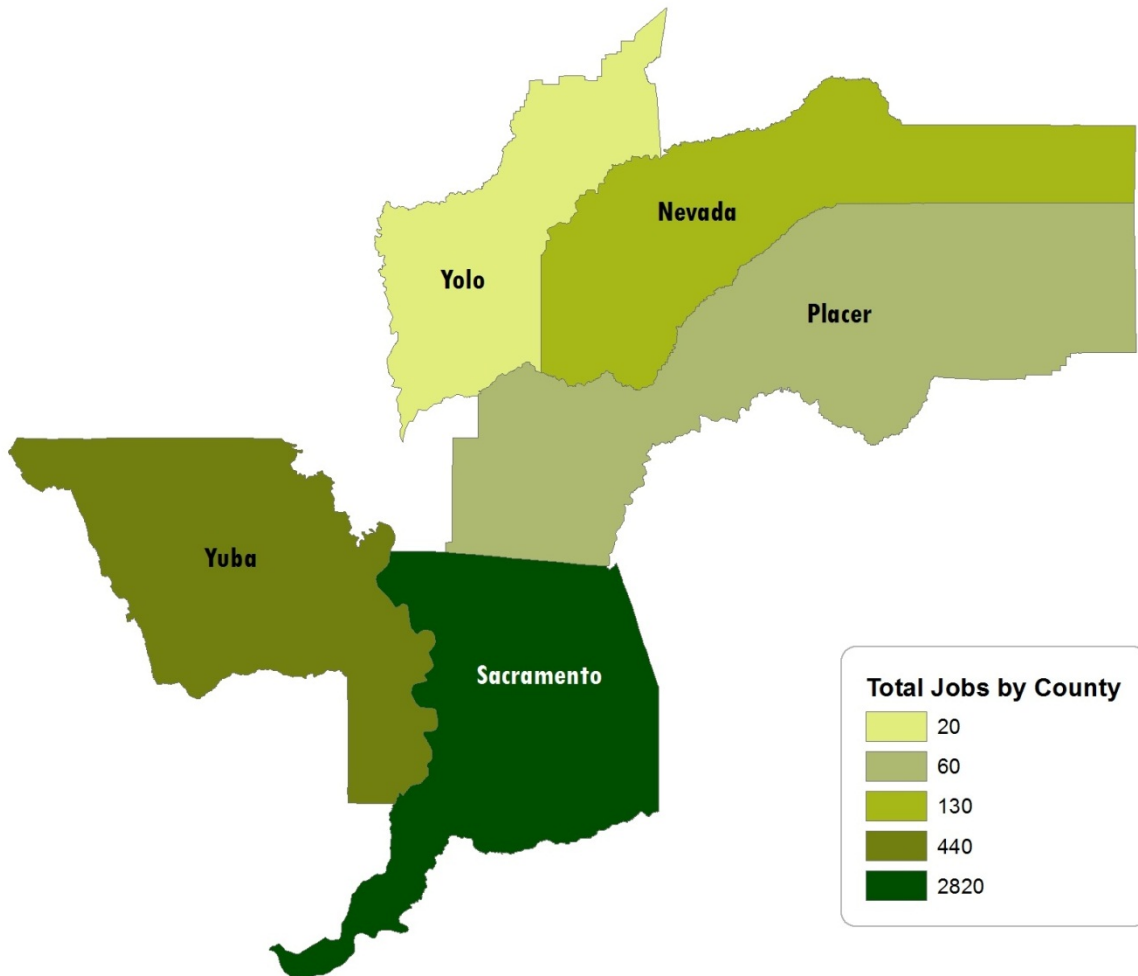
⁹ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Transportation Equipment Manufacturing

The transportation equipment manufacturing subsector produces equipment for transporting people and goods, such as motor vehicles, trailers, aircrafts, boats, related parts, etc. Last year, the region’s transportation equipment manufacturing subsector generated nearly \$1.6 billion in total sales. The average wages were \$111,210, about six percent higher than the statewide average for the same subsector. Some of the largest transportation equipment manufacturers in the region include:

- Siemens (Sacramento County) is an international organization that manufactures transportation systems such as rail vehicles for mass transit, regional and long-distance service.
- Aerojet Rocketdyne (Sacramento County) manufactures rocket and missile propulsion systems.
- Maier USA (Nevada County) manufactures custom and replacement plastics for powersport vehicles.
- Four Wheel Campers West (Yolo County) designs lightweight, durable pop-up campers.

Map 4: Transportation Equipment Manufacturing, 2013¹⁰



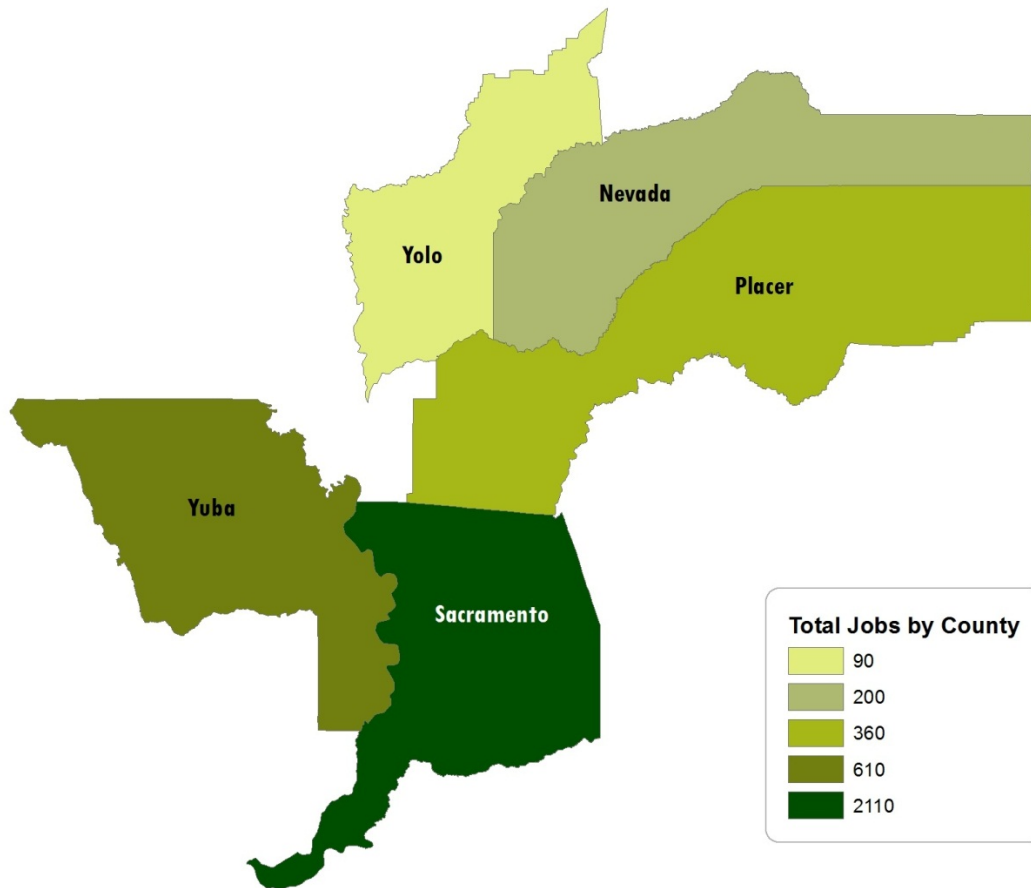
¹⁰ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Fabricated Metal Production

The fabricated metal production manufacturing subsector transforms metal into intermediate or end products, other than machinery, computers and electronics, and metal furniture, or treat metals and metal formed products fabricated elsewhere. Important fabricated metal processes are forging, stamping, bending, forming, and machining, used to shape individual pieces of metal; and other processes, such as welding and assembling, used to join separate parts together. Establishments in this subsector may use one of these processes or a combination of these processes. Last year, the region’s fabricated metal production manufacturing subsector generated \$494 million in total sales. The average wages were \$57,130, about 11 percent below the statewide average for the same subsector. Some of the largest fabricated metal production manufacturers in the region include:

- Progressive Technology (Placer County) manufactures components using ceramic processing.
- AMES Fire and Waterworks (Yolo County) manufactures valves and fittings for all types of pipeline systems.
- Consolidated Fabricators Company (Sacramento County) manufactures fabricated steel containers, such as scrap bins, roll-off containers, and hoppers.
- Gayle Manufacturing Company (Yolo County) manufactures steel buildings.

Map 5: Fabricated Metal Production, 2013¹¹



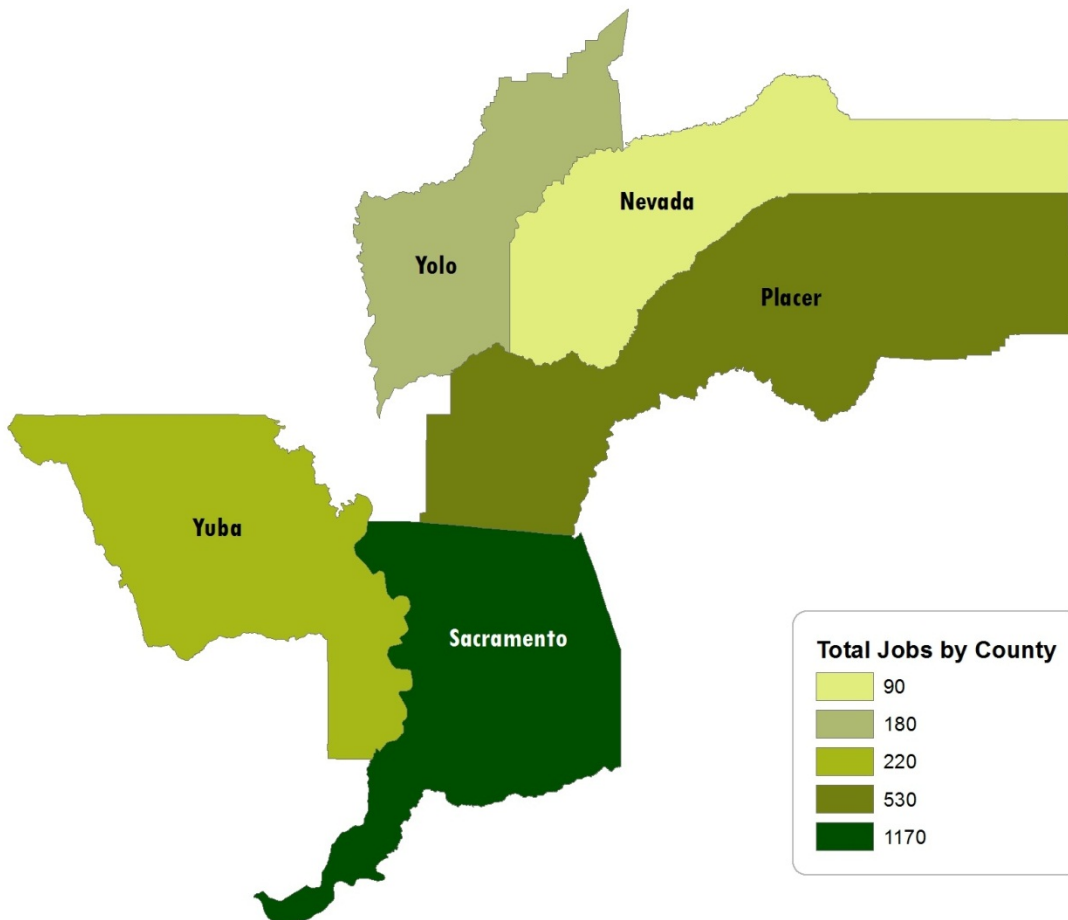
¹¹ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Wood Products Manufacturing

This subsector manufactures wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, manufactured homes (i.e., mobile homes), and prefabricated wood buildings.¹² Last year, the wood products manufacturing subsector generated \$373 million in total sales. The average wages were \$53,500, about seven percent higher than the statewide average for the same subsector. Some of the largest wood products manufacturers in the region include:

- SierraPine Composite Solutions (Placer County) manufactures medium density fiberboard (MDF) and particleboard.
- California Cascade Industries (Sacramento County) produces redwood and cedar decking, fencing, custom wood shutters, treated lumber, and other specialty wood products.
- The Dorris Lumber and Moulding Company (Sacramento County) produces solid lineal mouldings.
- Clarion Custom Shutters (Sacramento County) designs and produces high-tech polymers and hardwood customer shutters.

Map 6: Wood Products Manufacturing Employment, 2013¹³



¹² US Census Bureau, North American Industry Classification System 2012 Subsector Definitions. <http://www.census.gov/eos/www/naics/index.html>. Accessed 7/31/2013.

¹³ 2014.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Challenges and Opportunities

Between 2008 and 2013, the manufacturing sector lost 11 percent of its job base in the Sacramento region, a net decline of 4,440 jobs. To encourage growth, the manufacturing sector must address a variety of challenges, from navigating a complex regulatory environment to developing strategies to compete with low cost economics. National, state and local legislators can support the sector by developing and adopting policies that eliminate barriers to success and create incentives for local production. This section of the report reviews some of the sector's major challenges as well as a few opportunities that may help drive regional growth in the future.

Challenges

There are a number of factors that have inhibited the manufacturing sector's ability to compete locally and internationally. Some of these challenges include:

- Complex regulatory environment. Employers have communicated that California's complex regulatory climate is difficult, expensive and time consuming to navigate, such as conducting environmental impact studies or obtaining permits.
- International competition from low-cost economies such as China, Singapore, South Korea, Russia, etc. According to a 2009 study, California manufacturing firms have:¹⁴
 - Higher health care expenditures compared to countries where health care is paid for by general tax revenues;
 - Higher salaries and other benefits, such as paid leave, insurance, and retirement plans;
 - Higher costs associated with litigation claims;
 - Higher costs associated with environmental compliance;
 - Higher corporate tax rates than most other countries (the United States' tax rate is 40%, the second highest tax rate among major trading partners.)
- U.S. competition. In addition to international competition, California-based manufacturers are targets of state government programs to recruit manufacturers from California through incentive and off-set programs.¹⁵ These programs target high wage jobs that will most likely not return to California.
- U.S. high school students lag behind in math and science based on Program for International Student Assessment (PISA) test scores.¹⁴
- U.S. manufacturers report a shortage of skilled production workers (machinists, operators, craft workers, etc.) which is hindering their ability to expand operations or improve productivity.¹⁶

Opportunities

Competition from low-cost economies is one of the major challenges faced by the manufacturing sector. However, the total cost of outsourcing to other countries is often miscalculated. According to the Reshore Initiative, the sticker price provided by out-of-the-county manufacturing firms does not include costs associated with:

- National policy issues (trade negotiations, etc.),
- Changes in currency exchange rates,
- Trade secret thefts,

¹⁴ The Facts About Modern Manufacturing, 8th Edition

¹⁵ Manufacturing 2.0: A More Prosperous California

¹⁶ Boiling Point? The Skills Gap in U.S. Manufacturing

- Supply chain disruptions,
- Lengthy delivery times, and
- Traveling to the manufacturing site to assess and resolving production issues.

Further, in the last few years many countries have started to raise their prices to adjust for increases in wages and higher transportation/fuel expenses in their own country. By examining the total cost of outsourcing, the Reshore Initiative argues that hiring local production firms is just as price sensitive as hiring firms from low-cost economies. Also, there are several benefits to working local, such as

- Improved quality and consistency of inputs;
- Ability to create just-in-time operations that reduce costs and improve business-to-business relations;
- A reduction of issues related to securing intellectual property;¹⁷ and,
- Good PR/marketing for “made in America.”

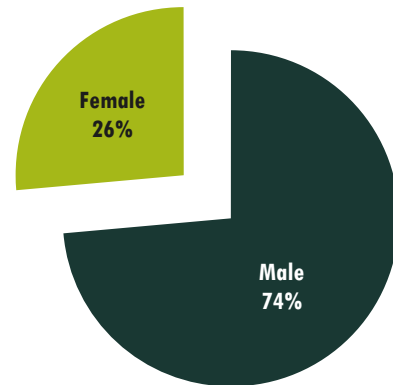
As this viewpoint gains popularity, it may shift production back to the United States, creating jobs in the process.

The Gender Gap

In manufacturing, the workforce is primarily made up of men – 3 out 4 workers are male. Within the subsectors, petroleum and coal product, nonmetallic mineral product, and fabricated metal product manufacturing have the highest percentage of male workers with a ratio of about 85% male to 15% female. Out of the 20 manufacturing subsectors in the region, only apparel and textile manufacturing have a higher percentage of female workers. These subsectors also provide the lowest average wages compared to other manufacturing subsectors.

Community colleges can play a role in helping to diversify the workforce by promoting non-traditional CTE programs to women. For example, colleges can encourage women to pursue engineering degrees by providing tutoring or other special assistance in ‘screener’ courses that often discourage students from pursuing math or science based majors.

Exhibit 7: Percent Male vs. Female



Summary

In 2013, the manufacturing sector contributed significantly to the regional economy, generating nearly \$11.5 billion in revenue. The region’s top five largest subsectors based on total employment estimates include computer/electronic product manufacturing, food processing, transportation equipment, fabricated metal production, and wood product manufacturing. Combined these five subsectors employ 59 percent of the region’s manufacturing workforce. Like most other regions in California, the manufacturing sector must address a variety of challenges to stay competitive at state, national and international levels.

¹⁷ The Reshore Initiative

Appendix A: How to Utilize this Report

This report is designed to provide current industry data to:

- Define potential strategic opportunities relative to an industry's emerging trends and workforce needs;
- Influence and inform local college program planning and resource development;
- Promote a future-oriented and market responsive way of thinking among stakeholders; and,
- Assist faculty, Economic Development and CTE administrators, and Community and Contract Education programs in connecting with industry partners.

About the Centers of Excellence

The Centers of Excellence (COE), in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Technical Education (CTE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The total grant amount (grants #14-305-001 at Los Rios Community College District) represents funding for multiple projects and written reports through the Center of Excellence. The Centers aspire to be the premier source of regional economic and workforce information and insight for California's community colleges.

More information about the Centers of Excellence is available at www.coecc.net.

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