



WORKFORCE DEVELOPMENT BOARD OF VENTURA COUNTY

MANUFACTURING COMMITTEE MEETING

Wednesday, December 9, 2015
8:00 a.m. - 9:30 a.m.

NOTE LOCATION CHANGE

Career Education Center (Conference Room)
465 Horizon Circle, Camarillo, CA

AGENDA

8:00 a.m.	1.0 Call to Order and Agenda Review	Vic Anselmo
8:02 a.m.	2.0 Public Comments <u>Procedure:</u> The public is welcome to comment. All comments not related to items on the agenda may be made at the beginning of the meeting only.	Vic Anselmo
8:05 a.m.	3.0 Approval of Minutes: October 14, 2015	Vic Anselmo
	4.0 Ventura County Regional Strategic Workforce Development Plan	
8:07 a.m.	• AMP SoCal Pillar Committees: Update	Jason Miller
8:12 a.m.	• Deputy Sector Navigator Update: Manufacturing	Michael Bastine
8:17 a.m.	• Workforce Innovation and Opportunity Act (WIOA): Update	Cheryl Moore
8:20 a.m.	• Manufacturing Committee 2-Year Plan: Discussion	Committee Members
9:05 a.m.	5.0 Committee Spotlight <i>Career Education Center Program and Services</i>	Tiffany Morse
9:25 a.m.	6.0 Committee Member Comments	Committee Members
9:30 a.m.	7.0 Adjournment <u>Next Meeting</u> February 10, 2015 (8:00 a.m.-9:30 a.m.) VCCF Nonprofit Center (Community Room) 4001 Mission Oaks Blvd., Camarillo, CA	Vic Anselmo

Individuals who require accommodations for their disabilities (including interpreters and alternate formats) are requested to contact the Workforce Development Board of Ventura County staff at (805) 477-5306, at least five days prior to the meeting. TTY line: 1-800-735-2922.

For information about the Workforce Development Board of Ventura County, go to workforceventuracounty.org.



WDB Manufacturing Committee Meeting
October 14, 2015

MINUTES

Meeting Attendees

Committee Members

Vic Anselmo (Chair)*
Teresa Johnson*
Gregory Liu*
Byron Lindros
Tiffany Morse
Bill Pratt*
Scot Rabe
Alex Rivera*
Mary Anne Rooney

WDB Staff

Talia Barrera
Cheryl Moore

Guests

Sally Harrison (County of Ventura CEO's Office)
Brad Hudson (Representative from Office of
Congresswoman Julia Brownley)
Jim Rose (Alliance for Linked Learning)
Andrew Dames (Torero Industries)
Joe Klocko (College of the Canyons)
Heidi Hayes (theAgency)

**WDB Members*

1.0 Call to Order and Agenda Review

Chair Vic Anselmo called the meeting to order at 8:09 a.m. No changes were made to the agenda.

2.0 Public Comments

No public comments

3.0 Approval of Minutes: August 12, 2015

Motion to approve: Alex Rivera
Second: Scot Rabe
Motion approved

4.0 Manufacturing Skills Class at Ventura College

Committee member Scot Rabe provided an update on a new 90-hour program geared towards providing manufacturing readiness skills for ex-offenders under the STEPS program that is being developed at Ventura College. The Specialized Training & Employment Project to Success (STEPS) program is a partnership between the Ventura County Probation Agency and the Community Services Department, with partial funding under WIOA through the Workforce Development Board, to provide comprehensive employment services in Ventura County to ex-offenders under the Public Safety Realignment Act. The readiness course is intended to provide an overview of the topics listed in the WDB list of Manufacturing Readiness Skills Categories. Mr. Rabe will provide an update on the course at the next committee meeting.

5.0 Torero Industries: Made in USA – Ventura County

Andrew Dames, representing Torero Industries, shared the upcoming Made in USA event at California State University, Channel Islands. Created and sponsored by Torero, it is a new expo and networking event designed for Ventura County businesses to share their products, network, and build awareness of local manufacturing capabilities and resources. The purpose is to provide a platform from which manufacturers in the region can be mutually supportive and grow an innovative sector environment. Committee members commended Mr. Dames for the initiative and suggested that the Committee's Manufacturing Roundtable of Ventura County would be interested in

discussing plans for future events. Torero Industries is a manufacturer of transport products and specialty products.

6.0 Ventura County Regional Strategic Workforce Development Plan

- AMP SoCal Pillar Committees: Update

Cheryl Moore provided an update on the six-county Advanced Manufacturing Partnership of Southern California (AMP SoCal), congratulating WDB Manufacturing Committee member Jason Miller (CSUCI) on his recent election as Chair of the Research & Innovation Pillar Committee. At the upcoming Innovative Manufacturing Partners Community (IMPC) Summit in Washington, D.C., where AMP SoCal will host a reception and meet with representatives from Congress to discuss AMP SoCal projects and initiatives. The Committee will receive an update at the next meeting in December 2015.

- Manufacturing Roundtable of Ventura County: National Manufacturing

Byron Lindros reported on Manufacturing Day, held October 2, 2015, when more than 300 Ventura County students visited Applied Powdercoat, Alcoa Fasteners & Rings, Amgen, Dynamic Automation, Haas Automation, Milgard, and Ventura College. In addition, Amgen hosted a breakfast for business and education leaders to discuss the importance of raising awareness of good careers in manufacturing. Mr. Lindros shared that both educators and businesses were very engaged, and tours were a success. He also provided information on the skills that manufacturers are looking for and how the educators can partner. (See leader breakfast notes attached.) To increase student and teacher access to site visit opportunities, and to streamline scheduling and logistics, Committee members discussed the possibility of having a manufacturing “week” or “month” next year. Hosting teachers from multiple academic disciplines for site tours, job shadowing, and externships would benefit even more students in the long run.

- SCRC Deputy Sector Navigator Update

Joe Klocko provided an update on the release of a second the RFA of \$100,000 grant which allows for possible funding of \$1,000-\$5,000 for high school robotics programs in the region. Mr. Klocko also gave an update on Manufacturing Day in Santa Clarita. College of the Canyons partnered with the Santa Clarita Economic Development, the City of Santa Clarita and the High School District, to host 300 students for the event this year.

- Career Pathways: Update

- Tiffany Morse reported on *VC Innovates* and on the success of Manufacturing Day. It was a little challenging to find proper bus transportation for students in order to match the schedules given by the manufacturers, but it worked well. The idea of a manufacturing week or month would be good to accommodate more students and businesses and to avoid conflicts on schedules. Dr. Morse also commented on the success of the Entrée to Employment career dinners, which are held at California Lutheran University and California State University, Channel Islands, and are part of a countywide program to build career awareness in different industry sectors. The last event was on October 7, 2015, with students meeting a diverse group of employers from welding, building and construction and transportation.
- Mary Anne Rooney provided an update on *Alliance for Linked Learning* activities related to manufacturing. There will be an event in February 2016 where 50 selected students will be job shadowing. Linked Learning is working to engage businesses in visiting the academy programs and show what the schools are doing for potential partnerships. Ms.

Rooney thanked the Workforce Development Board sector committees for their collaborative work and research, indicating that the information has been valuable in planning and implementing programs at different academies in the region.

7.0 Workforce Innovation and Opportunity Act (WIOA): Update

Cheryl Moore commented on the new Workforce Innovation and Opportunity Act (WIOA). Noting that sector strategies will be a critical component of the new WDB regional workforce development plan, Ms. Moore encouraged the Committee to review their current two-year plan and consider what direction and updates they want to make going forward. WIOA will focus on aligning federal and state workforce development programs and support services with sector, regional, economic development and training and education activities.

8.0 Committee Member Comments

No comments

9.0 Adjournment

Vic Anselmo adjourned the meeting at 9:35 a.m.

Next Meeting

December 9, 2015 (8:00 a.m. - 9:30 a.m.)

Career Education Center

465 Horizon Circle, Camarillo, CA



Manufacturing Day 2015

Educator and Business Leaders Breakfast at Amgen
October 2, 2015

Educator Community			Business Community		
Ann	Bonitatibus	Conejo Valley Unified School District	Vic	Anselmo	Applied Powdercoat
Tammy	Herzog	Moorpark Unified School District	Andrew	Dames	Torero Industries
Velma	Lomax	Ventura Unified School District Board	Patrick	Grimes	Dynamic Automation
Stan	Mantooth	Ventura County Office of Education	Ken	Goss	MWS Wire Industries
Tiffany	Morse	Ventura County Office of Education	Heidi	Hayes	theAgency
Jason	Peplinski	Simi Valley Unified School District	Byron	Lindros	Amgen
Roger	Rice	Ventura County Office of Education	Cheryl	Moore	Workforce Development Board
Kathleen	Schrader	Ventura College	Ali	Motamedi	Alcoa Fastening Systems & Rings
Gabe	Soumakian	Oxnard Union High School District	Bill	Pratt	Kinamed, Inc.

Skills Manufacturers Are Seeking	How Manufacturers and Educators Can Partner
<ul style="list-style-type: none"> • Good work ethic • Technical aptitude • Creativity, Flexibility (Challenge Status Quo) • Experiential Learning – Focusing on Transformation of Materials (raw material → finished product). E.G., hands-on experience with machining, wood/metal working • Math proficiency – through pre-algebra/trigonometry (must understand 3-axes) • Continuous improvement mindset / Quality focus • Self-motivated • Prioritization skills • Ability to follow Standard Operating Procedures • Internalizing Quality – teach this as a strategic advantage vs. other cultures • Project Management skills / proficiency • Ability to manage meetings and action items • Ability to work in teams • Process orientation 	<ul style="list-style-type: none"> • Externships • Manufacturing Day for Educators (e.g. tours) • National Academy Foundation Model • Open doors to students • Provide bank of tutors, particularly for math skills which degrade in upper levels • Target ALL teachers not just math / shop teachers – they have a broader audience and manufacturers need a variety of skills • Target parents to convey importance and value of manufacturing careers • Pose a real-world problem and have schools compete • Provide coaching on Project Management – PMBOK • Use technology to link businesses and schools – e.g., YouTube channels, Skype • Internships and “preferred applicant” programs – e.g., students with manufacturing prep certification get priority application review for jobs

Potential next steps:

- Capitalize on the idea of posing a real-world problem to have schools compete focusing on the use of technology to link businesses and schools. Perhaps the first real-world problem could be:
 1. Identify available web-based technology that would allow schools to request manufacturing partners / tutors and allow manufacturing staff to sign up
 2. Identify available web-based technology (hardware, software) that would allow manufacturers to conduct virtual sessions (tours, lessons from inside the facilities) direct to the classroom.



WORKFORCE DEVELOPMENT BOARD OF VENTURA COUNTY

Role

The Workforce Development Board of Ventura County (WDB) is a public board of leaders from business, labor, education, economic development, government, and community-based organizations, who are appointed by the Ventura County Board of Supervisors to:

- Administer federal Workforce Innovation and Opportunity Act (WIOA) funds.
- Provide oversight for workforce development programs and services to benefit job seekers, workers, youth, and employers in Ventura County.
- Facilitate regional collaboration, alignment, and leveraging of private/public resources to support the workforce needs of employers in Ventura County.

Vision

The Ventura County region will have a high quality, appropriately-skilled workforce that is ready and able to support the changing business needs of employers in a dynamic, competitive, global economic environment. The regional workforce strategy will include ongoing skills attainment that is supportive of regional growth industry sectors and clusters and enabled by a braided, leveraged workforce system that addresses business-driven demands and worker needs for well-paid, steady employment.

2013-2017 Goals

- **Business**: Meet the workforce needs of high-demand industry sectors in the Ventura County regional economy.
- **Job Seeker**: Increase the number of adults in the Ventura County region who obtain a marketable and industry-recognized credential or degree and are placed in a related sector job. Focus WIOA programs on unemployed, underemployed, low-skilled, low-income, veterans, individuals with disabilities, and other at-risk populations.
- **Youth**: Increase the number of youth in the Ventura County region who graduate prepared for post-secondary vocational training, further education, and/or a career. Focus WIOA programs on out-of-school youth.
- **Systems**: Support workforce development system alignment, service integration and continuous improvement in the Ventura County region.

Commitment

Working in partnership with other regional leaders, the WDB is committed to serving as a convener, workforce analyst, broker, facilitator, and unifying community voice in advancing the achievement of the *Ventura County Regional Strategic Workforce Development Plan 2013-2017* for the benefit of the Ventura County region and the people of California.

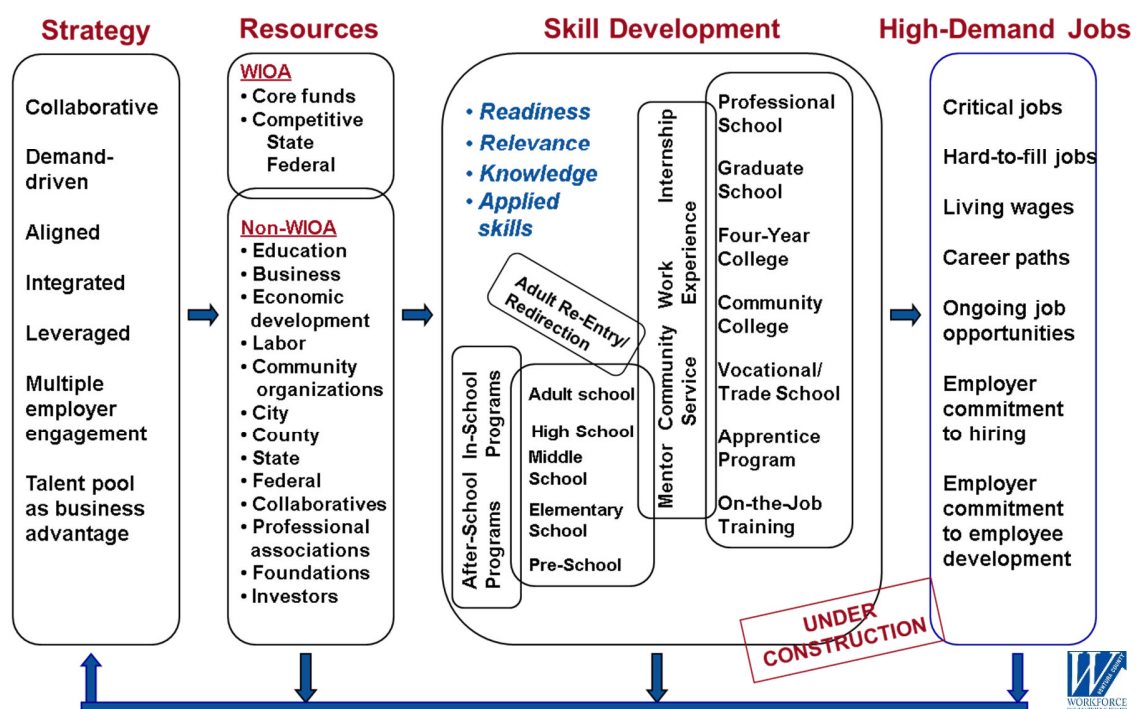


WORKFORCE DEVELOPMENT BOARD OF VENTURA COUNTY

Workforce Development Board at Work

- Executive Committee
- Clean/Green Committee
- Healthcare Committee
- Manufacturing Committee
- Membership Committee
- Outreach Committee
- Resource Development Committee
- Youth Council

BUILDING A COMPETITIVE WORKFORCE PIPELINE IN VENTURA COUNTY



WIOA Programs and Services

- Adult, dislocated worker, and youth support: job preparation and training, searches, transitions
- Employer support: recruitment and training, business transitions, business consulting
- American Job Center: in-person assisted services for job seekers and employers at locations in Oxnard and Simi Valley
- American Job Center: on-line resources for job seekers and employers at www.CalJOBS.org
- Other Ventura County workforce development resource connections
 - Regional information and services for employers: www.venturacountygrowsbusiness.com
 - Ventura County youth career awareness and preparation: www.vcjobswithafuture.org
 - Workforce Development Board: (805) 477-5306; www.workforceventuracounty.org



2014-2015 YEAR-END REVIEW

Workforce Investment Board of Ventura County

WIB MANUFACTURING COMMITTEE

2014-2015 Members

WIB Members: Bill Pratt, Chair (Kinamed, Inc.), Tavi Udrea, Vice Chair (Haas Automation, Inc.), Vic Anselmo (Applied Powdercoat, Inc.), Mark Fegley (Deckers Outdoor Corporation), Teresa Johnson (Ventura Adult and Continuing Education), Gregory Liu (Jaxx Manufacturing, Inc.), Alex Rivera (Milgard Manufacturing, Inc.), Tony Skinner (Tri-Counties Building and Construction Trades Council), Bruce Stenslie (Economic Development Collaborative-Ventura County)

Other Members: Cameron Bruce (Naval Air Warfare Center Weapons Division, US Navy), Marybeth Jacobsen (Simi Valley Chamber of Commerce), Subhash Karkare (Moorpark College), Joe Klocko (SCRC Deputy Sector Navigator), Byron Lindros (Amgen, Inc.), Larry McLaughlin (College of the Canyons and Deputy Sector Navigator), Jason Miller (California State University, Channel Islands), Tiffany Morse (Ventura County Office of Education), Ali Motamedi (Alcoa Fastening Systems), Scot Rabe (Ventura College)

Committee Accomplishments

In support of the WIB's *Ventura County Regional Strategic Workforce Development Plan 2013-2017*, the WIB Manufacturing Committee:

- Completed a high-impact, two-year collaborative effort between business and education with the launch of a new Biomedical Device Manufacturing Certificate of Achievement, the first two-campus certificate program in the Ventura County Community College District (and in the California community college system). First cohort of students awarded certificates in May 2015.
- Provided business perspectives on workforce needs for the development of a community college manufacturing skills readiness curriculum that would include hydraulics, mechatronics, and pneumatics; discussed the growing importance of manufacturing readiness skills in 3D printing and quality control.
- Identified the need for interdisciplinary education (e.g., mechatronics) to prepare for career flexibility and long-term success in manufacturing; learned about the importance of engineering within the three Navy Warfare Centers and the impact on other job creators in the region; emphasized cross-training middle and high school students in robotics, science, and engineering.
- Served in an advisory role and provided a neutral platform for facilitating employer interaction with educators in support of the California Career Pathways Trust Grants (*Alliance for Linked Learning* and *VC Innovates*) to develop curriculum aligned with manufacturing industry needs; responded to questions about the California Manufacturing/Engineering Pathways Standards and provided feedback on the Manufacturing and Engineering Career Pathways Career Ladder Chart; worked with industry liaisons on job shadowing, internships, on-the-job-training, summer internships, Entrée to Employment career dinner series, and site tours; suggested the development of additional applied learning curriculum related to production, maintenance and facilities, engineering, quality assurance, regulatory affairs, and supply chain positions.
- Partnered with the Manufacturing Roundtable of Ventura County (MRVC) and Amgen to organize a networking event for manufacturing professionals in Ventura County; included an Amgen presentation on Improving Manufacturing Operations Using Lean Six Sigma; plan to partner with city representatives on future MRVC manufacturing network events to foster engagement and collaboration on regional business and workforce issues.



2014-2015 YEAR-END REVIEW

Workforce Investment Board of Ventura County

WIB MANUFACTURING COMMITTEE

Committee Accomplishments (Continued)

- Collaborated on planning for 2014 National Manufacturing Day with the MRVC, local manufacturers, and the Ventura County Office of Education (VCOE), an event to introduce careers in manufacturing to 300 students, teachers, counselors, and school administrators from 10 high schools in Ventura County and four other counties; expressed appreciation to the participating manufacturers: Alcoa Fastening Systems, Amgen, Inc., Applied Powdercoat, Inc., Dynamic Automation, Haas Automation, Inc., Kinamed, Inc., and Milgard Manufacturing, Inc.
- Provided a business/education communication platform for the new VC STEM Regional Network Grant funded by Amgen, led by California State University, Channel Islands, and supported by the P-20 Council; received updates on plans for Science, Technology, Engineering, and Math (STEM) regional networking to enhance K-16 education, beginning with elementary and middle schools.
- Discussed bimonthly updates from the Deputy Sector Navigator for manufacturing, representing the South Central Coast Regional Consortium of Community Colleges; topics included awarding of STEM robotics program funding for six schools in Ventura County, employer participation in a community college regional study on in-demand manufacturing jobs, and grants to help teachers develop curriculum and obtain new equipment for robotics and 3D printing manufacturing.
- Served as a point of coordination and reporting for Ventura County representatives to the six Pillar Committees (Workforce and Training, Supplier Networks, Research and Innovation, Infrastructure and Site Development, Trade and International Development, and Operations Improvement and Capital Access) of the Advanced Manufacturing Partnership for Southern California (AMP SoCal); leveraged professional networks to help connect educators with aerospace and defense manufacturers to support for federal grant proposals.
- Provided a letter of support in response to a request from the County of Ventura Department of Airports for a UC Berkeley-led federal Center of Excellence (COE) Unmanned Aircraft Systems Application; connected with the AMP SoCal Executive Council for a regional letter of support to help leverage the AMP SoCal preferential status for grant applications.
- Engaged in an informative maker space discussion regarding MAKE Ventura, a non-profit organization which provides access to tools and training for creating and building things; noted the potential opportunities for to collaborate with innovative thinkers and to connect business and education; recommended that the information be presented to the WIB, which resulted in the formation of a new WIB Innovation Ecosystem Workgroup.



2014-2015 YEAR-END REVIEW **Workforce Investment Board of Ventura County**

WIB MANUFACTURING COMMITTEE

Insights

- Continue our forward movement on getting different entities to collaborate and prevent the unnecessary duplication of staff time and system costs.
- Development of pre-apprenticeship programs should be a priority for us next year.
- Continue our forward movement to tie together the manufacturing education/training work that everyone is doing and support the development of a four-year engineering program at California State University, Channel Islands.
- Groups across the nation talk more about STEM than we do in Ventura County. STEM skills are an important entry point for manufacturing, and we need to demonstrate our support.
- Schools and businesses need to connect for more project-based learning experiences in support of common core standards.
- Job shadowing for teachers is a great way to convey the manufacturing career message to students, and more businesses need to be involved.
- Summer seminars are a good way to introduce teachers to different businesses and to skills for student hands-on learning.
- Consider building on the NASA HUNCH partnership concept and develop ways to enable local businesses to request student help to produce parts for local manufacturing projects.
- The Entrée to Employment dinner series have been a success. They bring a unique opportunity to engage education and business. Students from high schools, adult schools and community college participate in dynamic conversations with real-world employers.



MANUFACTURING COMMITTEE 2-YEAR PLAN

Workforce Development Board of Ventura County 2016-2018

Goal

*Strive to create a diverse pipeline of workers to fill manufacturing positions in Ventura County, working to bring together partners in business, economic development, education, labor, government, and community-based organizations to address workforce shortages in manufacturing.**

Components of Plan

1. Engage

Maintain a core team of Ventura County employers, key agencies and organizations most involved in manufacturing workforce development. Develop ways to identify, engage, and communicate effectively with the core team and other manufacturing workforce partners.

- *Ventura County Manufacturers*
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- *California State University, Channel Islands*
- *Ventura County Community College District*
- *Deputy Sector Navigator*
- *Adult Education*
- *Career Technical Education*
- *Elected Officials*
- *Chambers of Commerce*
- *Others*

2. Analyze Data

Conduct annual research to analyze manufacturing workforce needs and changes.

3. Take Inventory

Inventory current training providers in the region in relation to manufacturing workforce development needs. Examples:

- *Industry-recognized certification programs*
- *Apprenticeships*
- *Pre-apprenticeships*
- *Internships*
- *Externships*
- *High school academies*
- *Regional Occupational Program*
- *Adult education*
- *Community colleges*
- *Universities*
- *Trade associations*
- *Community organizations*



MANUFACTURING COMMITTEE 2-YEAR PLAN

Workforce Development Board of Ventura County

2016-2018

- 4. Determine Priorities** *Determine focus area priorities for manufacturing workforce development. Examples:*
- *Sector workforce readiness skills*
 - *Career pathways*
 - *Sector certifications*
 - *Stackable credentials*
 - *Pre-apprenticeship programs*
 - *Apprenticeship programs*
 - *Business participation:*
 - *Curriculum development*
 - *Job shadowing*
 - *Internships*
 - *Externships*
 - *On-the-job training*
 - *Career awareness/outreach*
- 5. Identify Gaps** *Identify the gaps between education and manufacturing workforce needs and work to provide a bridge to fill those gaps.*
- 6. Take Action** Action Plan
- *Determine follow-up activity in support of the new Biomedical Device Manufacturing Device Certificate program.*
 - *Pursue options to integrate Manufacturing Readiness Skill Categories training within the Ventura County educational institutions (e.g. Ventura College Applied Science Center).*
 - *Continue working with College of the Canyons to identify, approve and establish local training programs with increased levels of industry-recognized certification attainment.*
 - *Continue partnership with the Manufacturing Roundtable of Ventura County to establish a training institute (possibly in Simi Valley) which builds on the successful practices of the Technical Employment Training, Inc. program in San Bernardino.*
 - *Continue to identify and pursue options in support of a sustainability strategy for the Manufacturing Roundtable of Ventura County.*
- 7. Monitor Progress** *Report on committee accomplishments and insights in the Workforce Development Board Year-End Review process and review progress against the 2-Year Plan.*



Ventura County Occupational Employment Data Growth Projections

MANUFACTURING

SOC / ONET Code*	Occupations	2013 Education and Training Level***	2010 VENTURA COUNTY Median Annual Wages**	2020 CALIFORNIA Employment Growth Projection	CALIFORNIA Average Annual Job Openings****	2020 VENTURA COUNTY Employment Growth Projection	VENTURA COUNTY Average Annual Job Openings****	2010 CALIFORNIA Average Annual Employment	2010 VENTURA COUNTY Average Annual Employment
51-9198	Helpers--Production Workers	Less Than H.S.	\$21,855	7.9	970	14.3	22	39,400	700
51-9031	Cutters and Trimmers, Hand	Less Than H.S.	\$22,883	-8.3	50	N/A	N/A	2,400	N/A
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	Less Than H.S.	\$23,210	5.9	40	N/A	N/A	1,700	N/A
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	H.S. Diploma + OJT	\$23,984	-3.6	140	0.0	2	8,300	120
49-9098	Helpers--Installation, Maintenance, and Repair Workers	H.S. Diploma + OJT	\$24,772	16.9	820	17.4	14	13,000	230
51-2092	Team Assemblers	H.S. Diploma + OJT	\$25,210	8.8	2,180	7.7	58	76,400	2,070
51-9022	Grinding and Polishing Workers, Hand	Less Than H.S.	\$26,200	0.0	130	18.2	4	4,200	110
51-9194	Etchers and Engravers	H.S. Diploma + OJT	\$27,215	9.1	20	N/A	N/A	1,100	N/A
51-2099	Assemblers and Fabricators	H.S. Diploma + OJT	\$27,555	11.2	740	12.4	33	24,200	1,050
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	H.S. Diploma + OJT	\$28,387	-2.4	150	15.4	7	4,100	130
51-9399	Production Workers, All Other	H.S. Diploma + OJT	\$28,538	12.3	840	12.1	23	21,900	580
51-2091	Fiberglass Laminators and Fabricators	H.S. Diploma + OJT	\$28,556	-6.7	30	N/A	N/A	1,500	N/A
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$29,329	-2.0	110	8.3	4	5,100	120
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$29,769	-2.3	100	11.1	3	4,400	90
51-2022	Electrical and Electronic Equipment Assemblers	H.S. Diploma + OJT	\$29,870	12.2	580	-3.6	20	22,200	1,370
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	H.S. Diploma + OJT	\$30,018	-2.6	80	0.0	3	3,800	90
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$31,455	3.7	90	N/A	N/A	2,700	N/A
51-4199	Metal Workers and Plastic Workers	H.S. Diploma + OJT	\$31,468	5.6	20	N/A	N/A	1,800	N/A
51-9196	Paper Goods Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$31,472	-12.3	60	3.2	4	6,500	310
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	H.S. Diploma + OJT	\$31,674	-7.7	100	N/A	N/A	1,300	N/A
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	H.S. Diploma + OJT	\$32,135	4.1	110	0.0	5	4,900	270
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$32,637	3.6	380	0.0	6	11,200	190
51-2031	Engine and Other Machine Assemblers	H.S. Diploma + OJT	\$33,638	14.3	50	0.0	2	1,400	60
51-9141	Semiconductor Processors	Associate's Degree	\$34,633	2.3	110	-16.7	4	4,300	180



Ventura County Occupational Employment Data Growth Projections

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51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	H.S. Diploma + OJT	\$36,100	13.4	1,690	7.8	45	47,900	1,540
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$36,244	4.2	70	14.3	3	2,400	70
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	H.S. Diploma + OJT	\$36,514	21.1	390	16.7	7	9,500	180
51-2041	Structural Metal Fabricators and Fitters	H.S. Diploma + OJT	\$36,971	13.9	240	28.6	3	7,200	70
51-4121	Welders, Cutters, Solderers, and Brazers	H.S. Diploma + OJT	\$37,621	11.1	820	20.4	23	21,700	490
51-4041	Machinists	H.S. Diploma + OJT	\$40,242	13.1	950	10.0	23	30,500	800
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	H.S. Diploma + OJT	\$41,015	26.5	290	N/A	N/A	6,800	N/A
51-9011	Chemical Equipment Operators and Tenders	H.S. Diploma + OJT	\$44,949	8.0	60	N/A	N/A	2,500	N/A
19-4099	Life, Physical, and Social Science Technicians	Associate's Degree	\$46,349	14.1	440	6.3	36	7,800	950
51-4111	Tool and Die Makers	H.S. Diploma + OJT	\$49,015	0.0	10	0.0	0	2,800	90
51-8091	Chemical Plant and System Operators	H.S. Diploma + OJT	\$51,522	8.3	60	N/A	N/A	1,200	N/A
17-3026	Industrial Engineering Technicians	Associate's Degree	\$51,790	15.6	160	N/A	N/A	4,500	
17-3024	Electro-Mechanical Technicians	Associate's Degree	\$52,618	13.9	120	N/A	N/A	3,600	
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	H.S. Diploma + OJT	\$53,872	17.4	80	16.7	2	2,300	60
17-3013	Mechanical Drafters	Associate's Degree	\$54,580	10.4	140	13.3	5	4,800	150
49-9041	Industrial Machinery Mechanics	H.S. Diploma + OJT	\$55,655	26.9	880	33.3	16	19,300	330
17-3012	Electrical and Electronics Drafters	Associate's Degree	\$55,771	10.0	120	0.0	3	4,000	120
17-3027	Mechanical Engineering Technicians	Associate's Degree	\$56,163	10.0	110	6.7	4	4,000	150
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Vocational / OJT	\$59,680	10.6	230	0.0	3	6,600	140
17-3023	Electrical and Electronics Engineering Technicians	Associate's Degree	\$61,504	8.3	570	-1.2	16	20,400	810
27-1021	Commercial and Industrial Designers	Bachelor's Degree	\$63,105	22.5	210	26.7	9	4,000	150
51-8021	Stationary Engineers and Boiler Operators	H.S. Diploma + OJT	\$64,384	5.9	100	0.0	1	3,400	60
17-2141	Mechanical Engineers	Bachelor's Degree	\$90,973	9.8	940	6.4	30	22,500	780
17-2112	Industrial Engineers	Bachelor's Degree	\$92,771	11.1	630	3.1	8	19,000	320
11-3051	Industrial Production Managers	Bachelor's Degree	\$94,671	10.1	590	11.8	23	17,800	680
17-2071	Electrical Engineers	Bachelor's Degree	\$102,201	10.5	740	1.9	15	21,000	530
11-9199	Managers, All Other	H.S. Diploma + OJT	\$119,786	11.7	2,980	14.0	84	87,900	2,360



Ventura County Occupational Employment Data Growth Projections

MANUFACTURING

SOC / ONET Code*	Occupations	2013 Education and Training Level***	2010 VENTURA COUNTY Median Annual Wages**	2020 CALIFORNIA Employment Growth Projection	CALIFORNIA Average Annual Job Openings****	2020 VENTURA COUNTY Employment Growth Projection	VENTURA COUNTY Average Annual Job Openings****	2010 CALIFORNIA Average Annual Employment	2010 VENTURA COUNTY Average Annual Employment
11-9041	Architectural and Engineering Managers	Bachelor's Degree	\$144,681	13.9	1,010	9.6	15	30,200	520
51-8000	Plant and System Operators		N/A	6.7	980	8.5	23	26,700	590

*2010 Standard Occupational Classifications and Occupational Information Network provided by the Department of Labor

**Median Annual Wages are the estimated 50th percentile of the distribution of wages; 50 percent of workers in an occupation earn wages below, and 50 percent earn wages above the median wage. The wages are from 2010-1st quarter and do not include self-employed or unpaid family workers.

***Occupational training and education classifications were developed by the Bureau of Labor Statistics (BLS).

****Average Annual Job Openings includes new jobs and replacement needs.

Data Source: State of California Employment Development Department - Labor Market Info

Additional Information:

Living Wage in Ventura County as of December 2013 (California Budget Project)

\$34,109.00 Single Adult

\$79,549.00 Single-Parent Family*

\$64,203.00 Two-Parent Family* (one working)

\$85,713.00 Two-Working-Parent Family*

*All family types are assumed to have two children.

Current Employment Data
2020 Growth Projection Data
Priority Occupations Identified by WIB Manufacturing Committee
WIA Placement and Training Data

**VENTURA COUNTY ECONOMIC SUB-MARKET
REGIONAL ECONOMIC ANALYSIS PROFILE***

Labor Market Information Division
California Employment Development Department
July 2015

WDBVC Sector Priorities

Related LMID/EDD Industry Clusters

Clean/Green Committee

Hospitality and Tourism (1)
Agriculture, Food, and Beverage Processing (4)
Construction Materials and Services (8)
Transportation and Logistics (16)
Oil and Gas Products and Services (21)
Energies and Utilities (23)
Forest Products, Forestry, and Primary Wood Processing (25)

Healthcare Committee

Health Care Services (3)

Manufacturing Committee

Fabricated and Other Metal Manufacturing (12)
Automotive Products and Services (18)
Manufacturing Industry (19)
Chemical Products Manufacturing (22)
Textile and Apparel (24)
Furniture Manufacturing (26)
Aerospace (not reported)
Biotechnology (not reported)

Other LMID/EDD Industry Clusters

Business Services (5)
Financial Services and Real Estate (7)
Professional and Technical Services (9)
Information and Communication Technologies (10)
Entertainment, Media, Publishing, and Printing (15)

Education and Training (6)
Social Services (13)
Community and Civic Organizations (17)

Retail (2)
Wholesale and Distribution (11)
Household Goods and Services (14)
Personal Services: Non-Medical (20)

() = Rank according to largest total number of new and replacement job openings projected for 2012-2022

*Complete report available at www.workforceventuracounty.org

**VENTURA COUNTY ECONOMIC SUB-MARKET
REGIONAL ECONOMIC ANALYSIS PROFILE***

Labor Market Information Division
California Employment Development Department
July 2015

LIST OF SECTIONS IN INDUSTRY CLUSTER REPORTS

- a. Definition of the cluster
- b. Top 10 occupations in the cluster (based on projections of total new and replacement job openings 2012-2022)
- c. Top 10 occupations and recent job demand (total job openings; median hourly wage; median annual wage; entry level education; job ads)
- d. Top occupations by education level (bachelor's degree or higher; some college, postsecondary non-degree award, or associate's degree; high school diploma or equivalent or less)
- e. Skill requirements by occupation (18 skills: e.g., active listening)
- f. Work activities by occupation (27 activities: e.g., analyzing data or information)
- g. Other occupations (related to the top 10 occupations) by education level
- h. Local employers and demand for jobs in the cluster (recent job ads; prior year ads; numerical change; year-over percent change)
- i. Instructional programs at California community colleges related to top 10 occupations
- j. California map of counties and relative percentage of total county employment in the occupation cluster
- k. California map of counties and relative percentage of total county employment in the occupation cluster

**Complete report available at www.workforceventuracounty.org*

INDUSTRY CLUSTER DEFINITIONS

Aerospace

- 3364 Aerospace Product and Parts Manufacturing
- 9271 Space Research and Technology

Agriculture, Food, and Beverage Processing

- 1111 Oilseed and Grain Farming
- 1112 Vegetable and Melon Farming
- 1113 Fruit and Tree Nut Farming
- 1114 Greenhouse, Nursery, and Floriculture Production
- 1119 Other Crop Farming
- 1121 Cattle Ranching and Farming
- 1122 Hog and Pig Farming
- 1123 Poultry and Egg Production
- 1124 Sheep and Goat Farming
- 1125 Aquaculture
- 1129 Other Animal Production
- 1151 Support Activities for Crop Production
- 1152 Support Activities for Animal Production
- 3111 Animal Food Manufacturing
- 3112 Grain and Oilseed Milling
- 3113 Sugar and Confectionery Product Manufacturing
- 3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing
- 3115 Dairy Product Manufacturing
- 3116 Animal Slaughtering and Processing
- 3117 Seafood Product Preparation and Packaging
- 3118 Bakeries and Tortilla Manufacturing
- 3119 Other Food Manufacturing
- 3121 Beverage Manufacturing
- 3122 Tobacco Manufacturing
- 3253 Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing
- 3261 Plastics Product Manufacturing

Automotive Products and Services

- 3262 Rubber Product Manufacturing
- 3361 Motor Vehicle Manufacturing
- 3362 Motor Vehicle Body and Trailer Manufacturing
- 3363 Motor Vehicle Parts Manufacturing
- 8111 Automotive Repair and Maintenance

Biotechnology

- 3254 Pharmaceutical and Medicine Manufacturing
- 3391 Medical Equipment and Supplies Manufacturing
- 5417 Scientific Research and Development Services

Business Services

- 5511 Management of Companies and Enterprises
- 5611 Office Administrative Services
- 5612 Facilities Support Services
- 5613 Employment Services
- 5614 Business Support Services
- 5616 Investigation and Security Services
- 5617 Services to Buildings and Dwellings
- 5619 Other Support Services
- 5621 Waste Collection
- 5622 Waste Treatment and Disposal
- 5629 Remediation and Other Waste Management Services

Chemical Products Manufacturing

- 3251 Basic Chemical Manufacturing
- 3255 Paint, Coating, and Adhesive Manufacturing
- 3256 Soap, Cleaning Compound, and Toilet Preparation Manufacturing
- 3259 Other Chemical Product and Preparation Manufacturing

Community and Civic Organizations

- 8131 Religious Organizations
- 8132 Grantmaking and Giving Services
- 8133 Social Advocacy Organizations
- 8134 Civic and Social Organizations
- 8139 Business, Professional, Labor, Political, and Similar Organizations

Construction Materials and Services

- 2123 Nonmetallic Mineral Mining and Quarrying
- 2213 Water, Sewage and Other Systems
- 2361 Residential Building Construction
- 2362 Nonresidential Building Construction
- 2372 Land Subdivision
- 2373 Highway, Street, and Bridge Construction
- 2379 Other Heavy and Civil Engineering Construction
- 2381 Foundation, Structure, and Building Exterior Contractors

INDUSTRY CLUSTER DEFINITIONS

Construction Materials and Services (continued)

2382	Building Equipment Contractors
2383	Building Finishing Contractors
2389	Other Specialty Trade Contractors
3211	Sawmills and Wood Preservation
3271	Clay Product and Refractory Manufacturing
3272	Glass and Glass Product Manufacturing
3273	Cement and Concrete Product Manufacturing
3274	Lime and Gypsum Product Manufacturing
3279	Other Nonmetallic Mineral Product Manufacturing
3339	Other General Purpose Machinery Manufacturing
3351	Electric Lighting Equipment Manufacturing

Education and Training

6111	Elementary and Secondary Schools
6112	Junior Colleges
6113	Colleges, Universities, and Professional Schools
6114	Business Schools and Computer and Management Training
6115	Technical and Trade Schools
6116	Other Schools and Instruction
6117	Educational Support Services

Energy and Utilities

2211	Electric Power Generation, Transmission and Distribution
2371	Utility System Construction

Entertainment, Media, Publishing, and Printing

3231	Printing and Related Support Activities
4512	Book Stores and News Dealers
5111	Newspaper, Periodical, Book, and Directory Publishers
5121	Motion Picture and Video Industries
5122	Sound Recording Industries
5151	Radio and Television Broadcasting
5152	Cable and Other Subscription Programming
7111	Performing Arts Companies
7112	Spectator Sports
7113	Promoters of Performing Arts, Sports, and Similar Events
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
7115	Independent Artists, Writers, and Performers

Fabricated and Other Metal Manufacturing

2122	Metal Ore Mining
3311	Iron and Steel Mills and Ferroalloy Manufacturing
3312	Steel Product Manufacturing from Purchased Steel
3313	Alumina and Aluminum Production and Processing
3314	Nonferrous Metal (except Aluminum) Production and Processing
3315	Foundries
3321	Forging and Stamping
3322	Cutlery and Handtool Manufacturing
3323	Architectural and Structural Metals Manufacturing
3324	Boiler, Tank, and Shipping Container
3325	Hardware Manufacturing
3326	Spring and Wire Product Manufacturing
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing
3328	Coating, Engraving, Heat Treating, and Allied Activities
3329	Other Fabricated Metal Product Manufacturing
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing
3335	Metalworking Machinery Manufacturing
3369	Other Transportation Equipment Manufacturing

Financial Services and Real Estate

5211	Monetary Authorities-Central Bank
5221	Depository Credit Intermediation
5222	Nondepository Credit Intermediation
5223	Activities Related to Credit Intermediation
5231	Securities and Commodity Contracts Intermediation and Brokerage
5232	Securities and Commodity Exchanges
5239	Other Financial Investment Activities
5241	Insurance Carriers
5242	Agencies, Brokerages, and Other Insurance Related Activities
5251	Insurance and Employee Benefit Funds
5259	Other Investment Pools and Funds
5311	Lessors of Real Estate
5312	Offices of Real Estate Agents and Brokers
5313	Activities Related to Real Estate

INDUSTRY CLUSTER DEFINITIONS

Forest Products, Forestry, and Primary Wood Processing

- 1131 Timber Tract Operations
- 1132 Forest Nurseries and Gathering of Forest Products
- 1133 Logging
- 1153 Support Activities for Forestry
- 3212 Veneer, Plywood, and Engineered Wood Product Manufacturing
- 3219 Other Wood Product Manufacturing
- 3221 Pulp, Paper, and Paperboard Mills
- 3222 Converted Paper Product Manufacturing

Furniture Manufacturing

- 3371 Household and Institutional Furniture and Kitchen Cabinet Manufacturing
- 3372 Office Furniture (including Fixtures) Manufacturing
- 3379 Other Furniture Related Product Manufacturing

Health Care Services

- 6211 Offices of Physicians
- 6212 Offices of Dentists
- 6213 Offices of Other Health Practitioners
- 6214 Outpatient Care Centers
- 6215 Medical and Diagnostic Laboratories
- 6216 Home Health Care Services
- 6219 Other Ambulatory Health Care Services
- 6221 General Medical and Surgical Hospitals
- 6222 Psychiatric and Substance Abuse Hospitals
- 6223 Specialty (except Psychiatric and Substance Abuse) Hospitals
- 6231 Nursing Care Facilities (Skilled Nursing Facilities)
- 6232 Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities
- 6233 Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly
- 6239 Other Residential Care Facilities

Hospitality and Tourism

- 4871 Scenic and Sightseeing Transportation, Land
- 4872 Scenic and Sightseeing Transportation, Water
- 4879 Scenic and Sightseeing Transportation, Other
- 5615 Travel Arrangement and Reservation Services
- 7121 Museums, Historical Sites, and Similar Institutions
- 7131 Amusement Parks and Arcades
- 7132 Gambling Industries
- 7139 Other Amusement and Recreation Industries
- 7211 Traveler Accommodation
- 7212 RV (Recreational Vehicle) Parks and Recreational Camps
- 7213 Rooming and Boarding Houses
- 7223 Special Food Services
- 7224 Drinking Places (Alcoholic Beverages)
- 7225 Restaurants and Other Eating Places

Household Goods and Services

- 4232 Furniture and Home Furnishing Merchant Wholesalers
- 4236 Household Appliances and Electrical and Electronic Goods Merchant Wholesalers
- 4249 Miscellaneous Nondurable Goods Merchant Wholesalers
- 4421 Furniture Stores
- 4422 Home Furnishings Stores
- 4442 Lawn and Garden Equipment and Supplies Stores
- 8114 Personal and Household Goods Repair and Maintenance

Information and Communication Technologies

- 3341 Computer and Peripheral Equipment Manufacturing
- 3342 Communications Equipment Manufacturing
- 3344 Semiconductor and Other Electronic Component Manufacturing
- 3359 Other Electrical Equipment and Component Manufacturing
- 4251 Wholesale Electronic Markets and Agents and Brokers
- 5112 Software Publishers
- 5171 Wired Telecommunications Carriers

INDUSTRY CLUSTER DEFINITIONS

Information and Communication Technologies (continued)

- 5172 Wireless Telecommunications Carriers
(except Satellite)
- 5174 Satellite Telecommunications
- 5179 Other Telecommunications
- 5182 Data Processing, Hosting, and Related
Services
- 5191 Other Information Services
- 5415 Computer Systems Design and Related
Services
- 8112 Electronic and Precision Equipment Repair
and Maintenance

Manufacturing

- 3252 Resin, Synthetic Rubber, and Artificial Synthetic
Fibers and Filaments Manufacturing
- 3331 Agriculture, Construction, and Mining Machinery
Manufacturing
- 3332 Industrial Machinery Manufacturing
- 3333 Commercial and Service Industry Machinery
Manufacturing
- 3336 Engine, Turbine, and Power Transmission
Equipment Manufacturing
- 3343 Audio and Video Equipment Manufacturing
- 3345 Navigational, Measuring, Electromedical, and
Control Instruments Manufacturing
- 3346 Manufacturing and Reproducing Magnetic
and Optical Media
- 3352 Household Appliance Manufacturing
- 3353 Electrical Equipment Manufacturing
- 3399 Other Miscellaneous Manufacturing

Oil and Gas Products and Services

- 2111 Oil and Gas Extraction
- 2121 Coal Mining
- 2131 Support Activities for Mining
- 2212 Natural Gas Distribution
- 3241 Petroleum and Coal Products Manufacturing
- 4247 Petroleum and Petroleum Products Merchant
Wholesalers
- 4543 Direct Selling Establishments
- 4861 Pipeline Transportation of Crude Oil
- 4862 Pipeline Transportation of Natural Gas
- 4869 Other Pipeline Transportation

Personal Services (Non-Medical)

- 8121 Personal Care Services
- 8122 Death Care Services
- 8129 Other Personal Services

Professional and Technical Services

- 5411 Legal Services
- 5412 Accounting, Tax Preparation, Bookkeeping,
and Payroll Services
- 5413 Architectural, Engineering, and Related
Services
- 5414 Specialized Design Services
- 5416 Management, Scientific, and Technical
Consulting Services
- 5418 Advertising, Public Relations, and Related
Services
- 5419 Other Professional, Scientific, and Technical
Services

Retail

- 4411 Automobile Dealers
- 4412 Other Motor Vehicle Dealers
- 4413 Automotive Parts, Accessories, and Tire
Stores
- 4431 Electronics and Appliance Stores
- 4441 Building Material and Supplies Dealers
- 4451 Grocery Stores
- 4452 Specialty Food Stores
- 4453 Beer, Wine, and Liquor Stores
- 4461 Health and Personal Care Stores
- 4471 Gasoline Stations
- 4481 Clothing Stores
- 4482 Shoe Stores
- 4483 Jewelry, Luggage, and Leather Goods Stores
- 4511 Sporting Goods, Hobby, and Musical
Instrument Stores
- 4521 Department Stores
- 4529 Other General Merchandise Stores
- 4532 Office Supplies, Stationery, and Gift Stores
- 4533 Used Merchandise Stores
- 4542 Vending Machine Operators

INDUSTRY CLUSTER DEFINITIONS

Social Services

- 6241 Individual and Family Services
- 6242 Community Food and Housing, and
Emergency and Other Relief Services
- 6243 Vocational Rehabilitation Services
- 6244 Child Day Care Services

Textiles and Apparel

- 3131 Fiber, Yarn, and Thread Mills
- 3132 Fabric Mills
- 3133 Textile and Fabric Finishing and Fabric
Coating Mills
- 3141 Textile Furnishings Mills
- 3149 Other Textile Product Mills
- 3151 Apparel Knitting Mills
- 3152 Cut and Sew Apparel Manufacturing
- 3159 Apparel Accessories and Other Apparel
Manufacturing
- 3161 Leather and Hide Tanning and Finishing
- 3162 Footwear Manufacturing
- 3169 Other Leather and Allied Product Manufacturing
- 4243 Apparel, Piece Goods, and Notions Merchant
Wholesalers

Transportation and Logistics

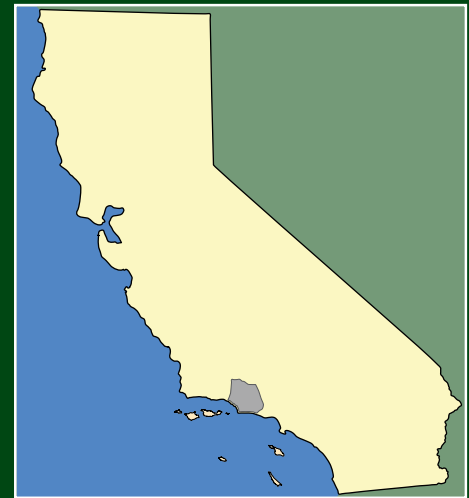
- 3365 Railroad Rolling Stock Manufacturing
- 3366 Ship and Boat Building
- 4811 Scheduled Air Transportation
- 4812 Nonscheduled Air Transportation
- 4821 Rail Transportation
- 4831 Deep Sea, Coastal, and Great Lakes Water
Transportation
- 4832 Inland Water Transportation
- 4841 General Freight Trucking
- 4842 Specialized Freight Trucking
- 4851 Urban Transit Systems
- 4852 Interurban and Rural Bus Transportation
- 4853 Taxi and Limousine Service
- 4854 School and Employee Bus Transportation
- 4855 Charter Bus Industry
- 4859 Other Transit and Ground Passenger
Transportation
- 4881 Support Activities for Air Transportation

Transportation and Logistics (continued)

- 4882 Support Activities for Rail Transportation
- 4883 Support Activities for Water Transportation
- 4884 Support Activities for Road Transportation
- 4885 Freight Transportation Arrangement
- 4889 Other Support Activities for Transportation
- 4921 Couriers and Express Delivery Services
- 4922 Local Messengers and Local Delivery
- 4931 Warehousing and Storage
- 5321 Automotive Equipment Rental and Leasing
- 8113 Commercial and Industrial Machinery and
Equipment (except Automotive and
Electronic) Repair and Maintenance

Wholesale and Distribution

- 4231 Motor Vehicle and Motor Vehicle Parts and
Supplies Merchant Wholesalers
- 4233 Lumber and Other Construction Materials
Merchant Wholesalers
- 4234 Professional and Commercial Equipment and
Supplies Merchant Wholesalers
- 4235 Metal and Mineral (except Petroleum)
Merchant Wholesalers
- 4237 Hardware, and Plumbing and Heating
Equipment and Supplies Merchant
Wholesalers
- 4238 Machinery, Equipment, and Supplies
Merchant Wholesalers
- 4239 Miscellaneous Durable Goods Merchant
Wholesalers
- 4241 Paper and Paper Product Merchant
Wholesalers
- 4242 Drugs and Druggists' Sundries Merchant
Wholesalers
- 4244 Grocery and Related Product Merchant
Wholesalers
- 4245 Farm Product Raw Material Merchant
Wholesalers
- 4248 Beer, Wine, and Distilled Alcoholic Beverage
Merchant Wholesalers
- 5323 General Rental Centers
- 5324 Commercial and Industrial Machinery and
Equipment Rental and Leasing



Occupational Analysis: Manufacturing Cluster

Ventura County Economic Sub-Market

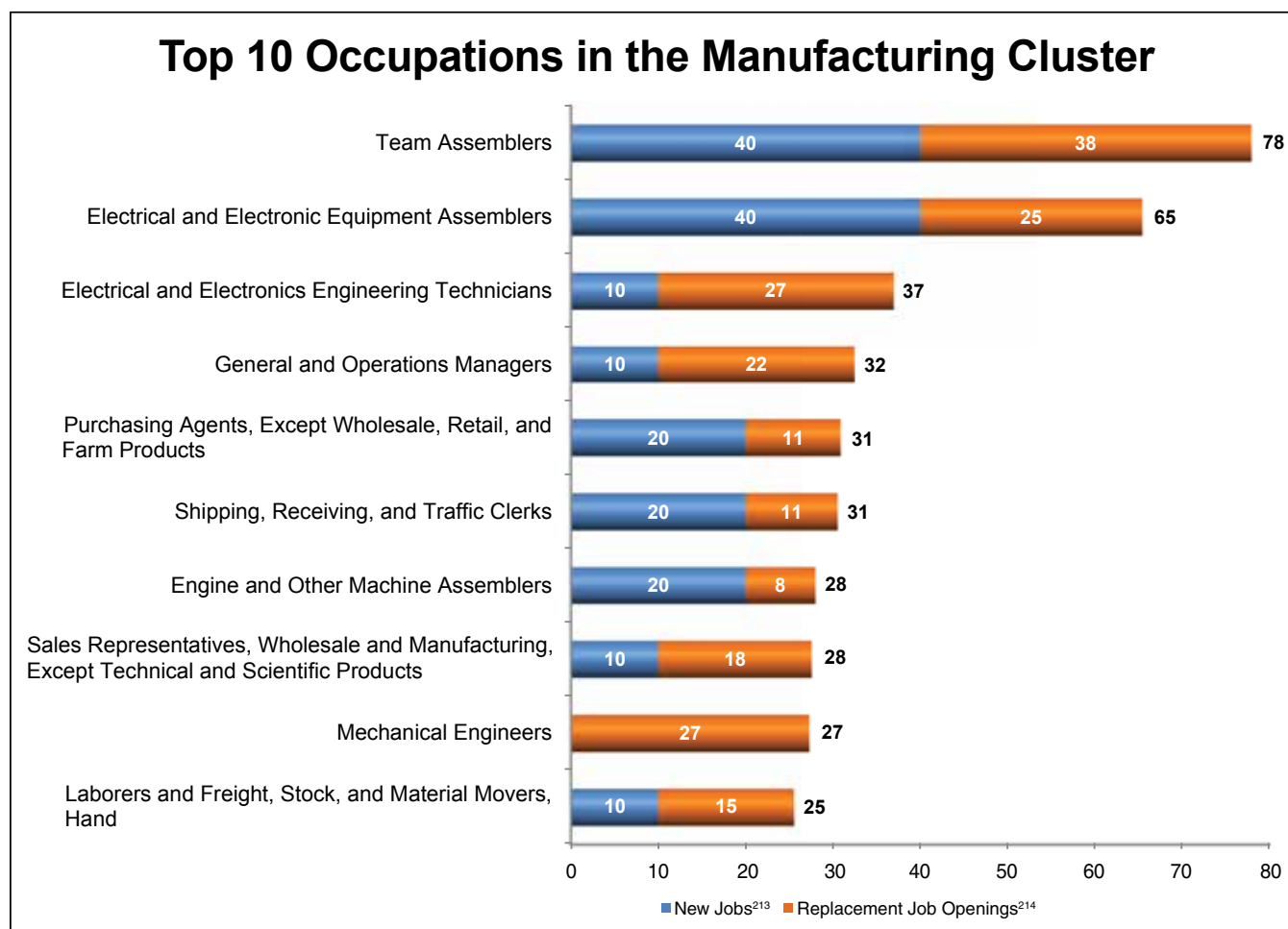
July 2015

What is the Manufacturing Cluster?

The Manufacturing cluster is comprised of 11 industries that manufacture machinery, engines, household appliances, or other items such as electrical, audio, or video equipment. The workers employed within this cluster share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Manufacturing Cluster

The graph below identifies the top 10 occupations in the Manufacturing cluster, based on the Ventura County Economic Sub-Market's new job growth plus replacement openings. In sum, these 10 occupations represent more than one-third of the 970 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active learning, active listening, critical thinking, monitoring, reading comprehension, and speaking.²¹²



Source: California Employment Development Department, *Projections of Employment 2012-2022*. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

²¹² U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

²¹³ New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.

²¹⁴ Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Manufacturing Cluster

The table below further profiles the Ventura County Economic Sub-Market's top 10 occupations in the Manufacturing cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBSSM (www.caljobs.ca.gov), California's online job listing system.

Occupations	Total Job Openings ²¹⁵ (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	Entry Level Education ²¹⁶	HWOL Job Ads ²¹⁷ (120 days)
Team Assemblers	78	\$12.90	\$26,842	High school diploma or equivalent	53
Electrical and Electronic Equipment Assemblers	65	\$11.39	\$23,694	High school diploma or equivalent	91
Electrical and Electronics Engineering Technicians	37	\$34.74	\$72,271	Associate's degree	95
General and Operations Managers	32	\$51.15	\$106,377	Bachelor's degree	202
Purchasing Agents, Except Wholesale, Retail, and Farm Products	31	\$30.05	\$62,515	High school diploma or equivalent	97
Shipping, Receiving, and Traffic Clerks	31	\$14.45	\$30,050	High school diploma or equivalent	139
Engine and Other Machine Assemblers	28	\$17.64	\$36,708	High school diploma or equivalent	1
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	28	\$28.61	\$59,514	High school diploma or equivalent	466
Mechanical Engineers	27	\$46.37	\$96,449	Bachelor's degree	83
Laborers and Freight, Stock, and Material Movers, Hand	25	\$11.78	\$24,495	Less than high school	259

Source: California Employment Development Department, *Projections of Employment 2012-2022*; *Occupational Employment Statistics Wage Survey*, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending July 24, 2015.

²¹⁵ Total job openings are the sum of new jobs and replacement job openings.

²¹⁶ U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.

²¹⁷ Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Manufacturing Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Manufacturing cluster. The table includes the Ventura County Economic Sub-Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

Occupations	Total Job Openings ²¹⁸ (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	HWOL Job Ads (120 days)
Requires a Bachelor's Degree or Higher				
General and Operations Managers	32	\$51.15	\$106,377	202
Mechanical Engineers	27	\$46.37	\$96,449	83
Electronics Engineers, Except Computer	24	\$52.18	\$108,536	64
Accountants and Auditors	22	\$34.49	\$71,730	334
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	18	\$41.19	\$85,662	190
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree				
Electrical and Electronics Engineering Technicians	37	\$34.74	\$72,271	95
First-Line Supervisors of Production and Operating Workers	23	\$26.22	\$54,534	341
Electrical and Electronics Repairers, Commercial and Industrial Equipment	14	\$30.77	\$64,000	2
Environmental Engineering Technicians	10	\$28.14	\$58,532	12
Medical Equipment Repairers	6	\$24.40	\$50,766	6
Requires a High School Diploma or Equivalent or Less				
Team Assemblers	78	\$12.90	\$26,842	53
Electrical and Electronic Equipment Assemblers	65	\$11.39	\$23,694	91
Purchasing Agents, Except Wholesale, Retail, and Farm Products	31	\$30.05	\$62,515	97
Shipping, Receiving, and Traffic Clerks	31	\$14.45	\$30,050	139
Engine and Other Machine Assemblers	28	\$17.64	\$36,708	1

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending July 24, 2015.

²¹⁸ Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Manufacturing Cluster

The table below lists the 10 top skills required for top occupations in the Manufacturing cluster, categorized by entry-level education requirements. Critical thinking and reading comprehension are the most commonly shared skills, followed by active listening, monitoring, and speaking. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

Occupations	Skills																			
	Active Learning	Active Listening	Complex Problem Solving	Coordination	Critical Thinking	Equipment Maintenance	Judgment and Decision Making	Management of Personnel Resources	Mathematics	Monitoring	Negotiation	Operation and Control	Operation Monitoring	Operations Analysis	Persuasion	Quality Control Analysis	Reading Comprehension	Repairing	Science	Social Perceptiveness
Requires a Bachelor's Degree or Higher																				
General and Operations Managers	•	•	•	•	•		•		•							•			•	•
Mechanical Engineers	•	•	•	•	•	•	•	•	•	•			•			•	•	•	•	
Electronics Engineers, Except Computer	•	•	•	•	•											•	•			•
Accountants and Auditors ²¹⁹	•	•		•	•	•	•	•	•							•			•	•
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	•	•	•	•	•					•				•		•			•	•
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																				
Electrical and Electronics Engineering Technicians ²²⁰	•	•	•	•	•				•	•		•				•	•			•
First-Line Supervisors of Production and Operating Workers		•	•	•	•		•		•							•	•		•	•
Electrical and Electronics Repairers, Commercial and Industrial Equipment		•	•	•	•	•					•	•				•	•	•		•
Environmental Engineering Technicians	•	•		•	•	•	•	•	•	•						•	•	•		•
Medical Equipment Repairers	•			•	•			•	•			•				•	•	•		•
Requires a High School Diploma or Equivalent or Less																				
Team Assemblers		•		•	•					•		•	•			•	•		•	•
Electrical and Electronic Equipment Assemblers	•	•		•	•					•		•	•			•			•	
Purchasing Agents, Except Wholesale, Retail, and Farm Products	•	•		•		•			•	•				•		•			•	•
Shipping, Receiving, and Traffic Clerks		•	•	•	•	•			•	•						•			•	•
Engine and Other Machine Assemblers		•		•	•					•		•	•			•	•		•	•

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

²¹⁹ Skills represent Accountants, a specialty occupation of Accountants and Auditors.

²²⁰ Skills represent Electrical Engineering Technicians, a specialty occupation of Electrical and Electronics Engineering Technicians.

Work Activities in the Manufacturing Cluster

The table below lists the 10 top work activities required for top occupations in the Manufacturing cluster, categorized by entry-level education requirements. The most common include communicating with supervisors, peers, and subordinates; establishing and maintaining interpersonal relationships; and making decisions and solving problems.

Occupations	Work Activities																																
	Analyzing Data or Information	Coaching and Developing Others	Communicating with Persons Outside Organization	Communicating with Supervisors, Peers, or Subordinates	Controlling Machines and Processes	Coordinating the Work and Activities of Others	Developing Objectives and Strategies	Documenting/Recording Information	Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment	Establishing and Maintaining Interpersonal Relationships	Evaluating Information to Determine Compliance with Standards	Getting Information	Guiding, Directing, and Motivating Subordinates	Handling and Moving Objects	Identifying Objects, Actions, and Events	Inspecting Equipment, Structures, or Material	Interacting With Computers	Making Decisions and Solving Problems	Monitor Processes, Materials, or Surroundings	Monitoring and Controlling Resources	Organizing, Planning, and Prioritizing Work	Performing Administrative Activities	Performing General Physical Activities	Processing Information	Provide Consultation and Advice to Others	Repairing and Maintaining Electronic Equipment	Repairing and Maintaining Mechanical Equipment	Resolving Conflicts and Negotiating with Others	Scheduling Work and Activities	Selling or Influencing Others	Thinking Creatively	Updating and Using Relevant Knowledge	
Requires a Bachelor's Degree or Higher																																	
General and Operations Managers			•	•		•				•								•		•	•								•	•		•	
Mechanical Engineers	•			•				•	•	•								•			•				•							•	•
Electronics Engineers, Except Computer				•					•		•	•			•		•							•		•						•	•
Accountants and Auditors ²²¹	•			•						•	•	•						•			•	•		•								•	
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products			•	•						•		•						•			•				•				•		•		•
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																																	
Electrical and Electronics Engineering Technicians ²²²				•	•			•							•	•	•			•	•	•								•			
First-Line Supervisors of Production and Operating Workers					•				•			•		•			•			•			•	•						•		•	
Electrical and Electronics Repairers, Commercial and Industrial Equipment					•			•	•		•						•	•		•			•						•		•		
Environmental Engineering Technicians		•		•	•	•	•	•		•	•													•		•	•						
Medical Equipment Repairers				•				•	•			•		•			•			•			•							•		•	
Requires a High School Diploma or Equivalent or Less																																	
Team Assemblers				•			•	•	•			•						•			•					•		•		•			
Electrical and Electronic Equipment Assemblers		•		•	•		•	•	•		•									•	•											•	
Purchasing Agents, Except Wholesale, Retail, and Farm Products							•	•			•	•					•	•		•	•	•								•			
Shipping, Receiving, and Traffic Clerks			•	•			•	•		•							•				•	•				•		•					
Engine and Other Machine Assemblers					•					•	•	•				•	•	•			•			•								•	

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

²²¹ Work Activities represent Accountants, a specialty occupation of Accountants and Auditors.

²²² Work Activities represent Electrical Engineering Technicians, a specialty occupation of Electrical and Electronics Engineering Technicians.

Related Occupations for the Manufacturing Cluster

The table below lists top occupations in the Manufacturing cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Manufacturing cluster occupations.

Manufacturing Occupations	Related Occupations
Requires a Bachelor's Degree or Higher	
General and Operations Managers	<ul style="list-style-type: none"> Purchasing Managers Storage and Distribution Managers Wholesale and Retail Buyers, Except Farm Products
Mechanical Engineers	<ul style="list-style-type: none"> Electrical Engineers Manufacturing Engineering Technologists Photonics Engineers
Electronics Engineers, Except Computer	<ul style="list-style-type: none"> Aerospace Engineers Computer Systems Engineers/Architects Industrial Engineers
Accountants and Auditors	<ul style="list-style-type: none"> Budget Analysts Financial Analysts Risk Management Specialists
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	<ul style="list-style-type: none"> Advertising Sales Agents Marketing Managers Sales Managers
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree	
Electrical and Electronics Engineering Technicians	<ul style="list-style-type: none"> Manufacturing Production Technicians Mechanical Engineering Technicians Medical Equipment Repairers
First-Line Supervisors of Production and Operating Workers	<ul style="list-style-type: none"> First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand Industrial Production Managers Non-Destructive Testing Specialists
Electrical and Electronics Repairers, Commercial and Industrial Equipment	<ul style="list-style-type: none"> Avionics Technicians Industrial Machinery Mechanics Robotics Technicians
Environmental Engineering Technicians	<ul style="list-style-type: none"> Environmental Science and Protection Technicians, Including Health Geological Sample Test Technicians Precision Agriculture Technicians
Medical Equipment Repairers	<ul style="list-style-type: none"> Electrical Engineering Technicians Medical Appliance Technicians Telecommunications Equipment Installers and Repairers, Except Line Installers
Requires a High School Diploma or Equivalent or Less	
Team Assemblers	<ul style="list-style-type: none"> Adhesive Bonding Machine Operators and Tenders Packaging and Filling Machine Operators and Tenders Solderers and Brazers
Electrical and Electronic Equipment Assemblers	<ul style="list-style-type: none"> Adhesive Bonding Machine Operators and Tenders Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic Engine and Other Machine Assemblers
Purchasing Agents, Except Wholesale, Retail, and Farm Products	<ul style="list-style-type: none"> Cost Estimators Logistics Managers Supply Chain Managers
Shipping, Receiving, and Traffic Clerks	<ul style="list-style-type: none"> Inspectors, Testers, Sorters, Samplers, and Weighers Mail Clerks and Mail Machine Operators, Except Postal Service Marking Clerks
Engine and Other Machine Assemblers	<ul style="list-style-type: none"> Coating, Painting, and Spraying Machine Setters, Operators, and Tenders Welders, Cutters, and Welder Fitters Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

Employer Demand for the Manufacturing Cluster

The following table lists the Ventura County Economic Sub-Market employers in the Manufacturing cluster who posted the most job advertisements during the 120-day period ending July 24, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

Manufacturing Cluster Employers	Recent Job Advertisements ²²³ (120-day period)	Prior Year Job Advertisements (120-day period)	Numerical Change	Year-Over Percent Change (HWOL Job Advertisements)
Rexnord	19	43	-24	-55.8%
Danaher Corporation	16	1	15	1,500.0%
Eaton Industries	11	12	-1	-8.3%
Skurka Aerospace	4	3	1	33.3%
Verify, Inc.	3	0	3	—
ESI Motion	3	0	3	—
Fastsigns of Ventura	3	1	2	200.0%
Bendpak, Inc.	2	1	1	100.0%
Illah Sports, Inc., A Corporation	2	0	2	—
Bemco, Inc.	2	0	2	—
Altec Industries	1	0	1	—
Bruker Corporation	1	0	1	—
Skytech Systems, Inc.	1	0	1	—
Advanced Motion Controls	1	0	1	—
Pride Industries	1	0	1	—
The Sports Authority	1	1	0	0.0%
Penn Detroit Diesel Allison, Inc.	1	1	0	0.0%
MCG - Midwest Consulting Group	1	0	1	—
Weatherford International, LTD.	1	0	1	—
Teradyne, Inc.	1	0	1	—

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending July 24, 2015.

²²³ Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Manufacturing Cluster Occupations

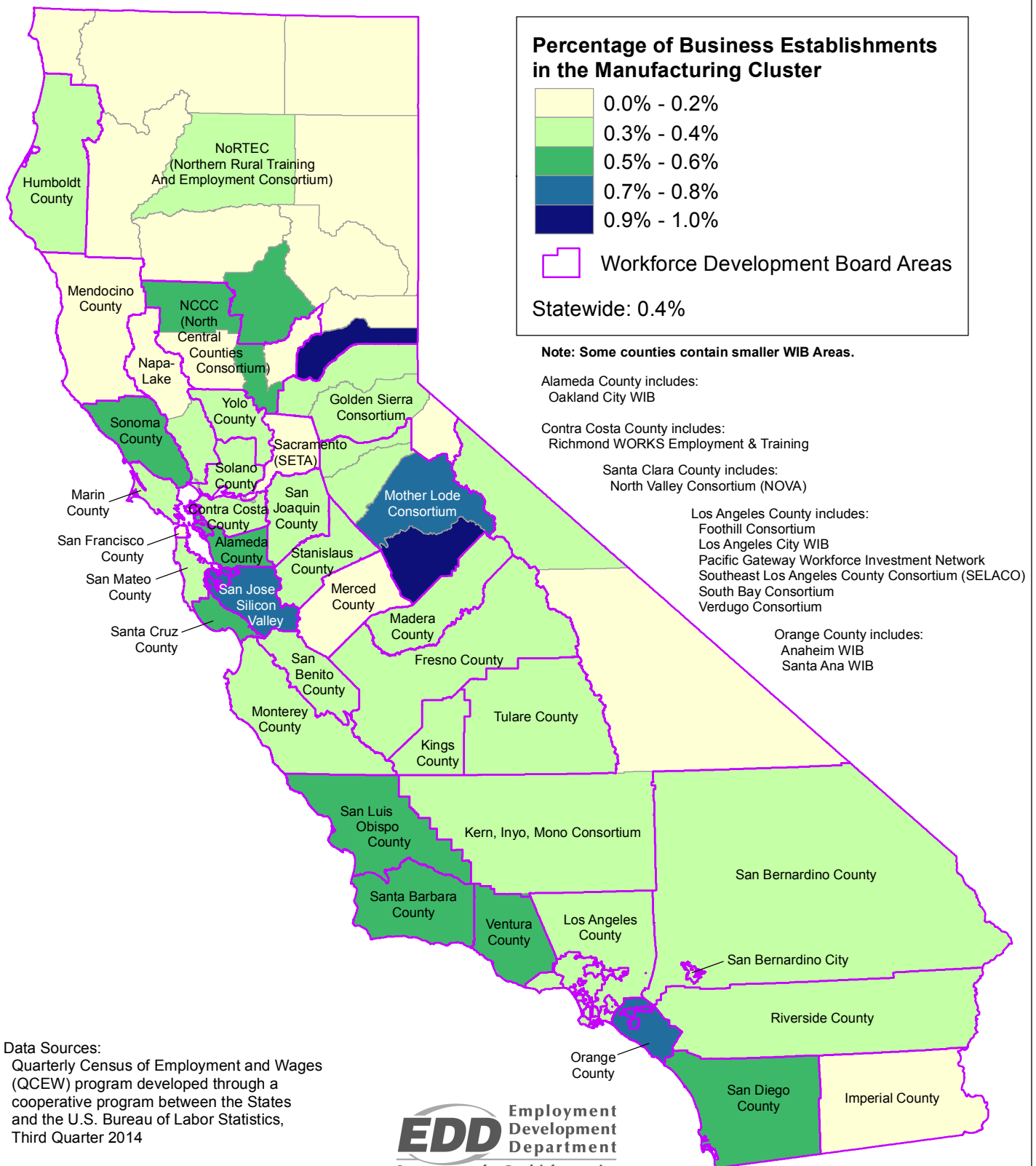
The table below provides examples of instructional programs related to some of the top occupations in the Manufacturing cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Manufacturing cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

Occupations	Classification of Instructional Program (CIP)		Taxonomy of Programs (TOP)	
	CIP Code	CIP Title	TOP Code	TOP Title
Electrical and Electronics Engineering Technicians	15.0303	Electrical, Electronic and Communications Engineering Technology/Technician	N/A	N/A
	15.0305	Telecommunications Technology/Technician		
	15.0306	Integrated Circuit Design		
First-Line Supervisors of Production and Operating Workers	52.0205	Operations Management and Supervision	N/A	N/A
Electrical and Electronics Repairers, Commercial and Industrial Equipment	47.0104	Computer Installation and Repair Technology/Technician	093410	Computer Electronics
	47.0105	Industrial Electronics Technology/Technician	093420	Industrial Electronics
Environmental Engineering Technicians	15.0507	Environmental Engineering Technology/Environmental Technology	N/A	N/A
	15.0704	Hazardous Materials Information Systems Technology/Technician		
Medical Equipment Repairers	15.0401	Biomedical Technology/Technician	043000	Biotechnology and Biomedical Technology
			093460	Biomedical Instrumentation
Purchasing Agents, Except Wholesale, Retail, and Farm Products	52.1801	Sales, Distribution, and Marketing Operations, General	050900	Marketing and Distribution
	52.1899	General Merchandising, Sales, and Related Marketing Operations, Other	050960	Display
Engine and Other Machine Assemblers	47.0615	Engine Machinist	N/A	N/A

Source: U.S. Department of Education [Integrated Postsecondary Education Data System \(IPEDS\)](http://www.nces.ed.gov/ipeds) at www.nces.ed.gov; [California Community Colleges TOP-to-CIP Crosswalk](http://www.cccco.edu) 7th Edition (2010), www.cccco.edu.

California Manufacturing Cluster

Percentage of Total County Establishments, 2014



Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2014

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
September 2015

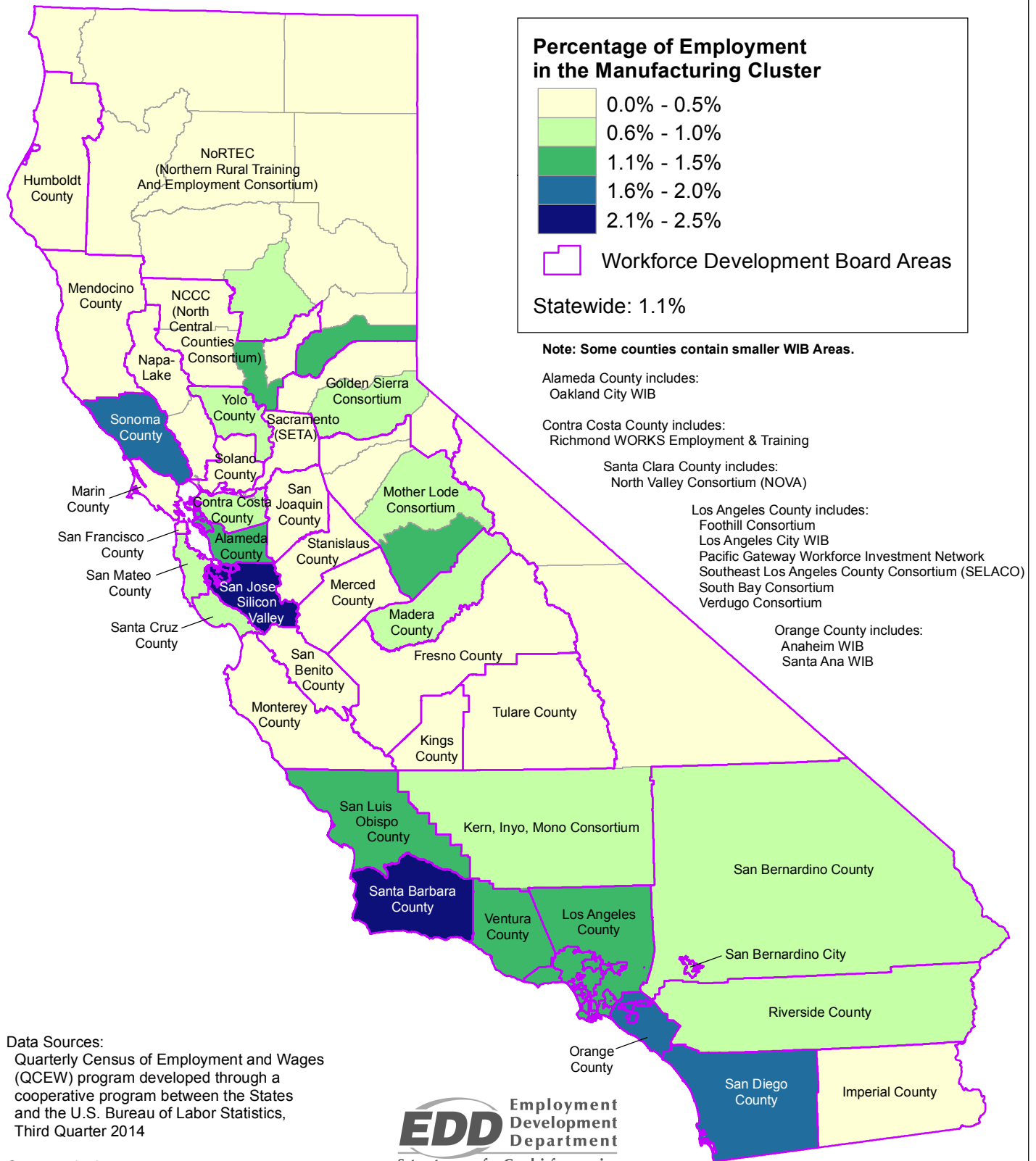
EDD Employment Development Department
State of California

LaborMarketInfo

File T036

California Manufacturing Cluster

Percentage of Total County Employment, 2014



Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2014

Cartography by:
Labor Market Information Division
California Employment Development Department
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September 2015

EDD Employment Development Department
State of California

LaborMarketInfo

File T036



Manufacturing Career Pathways

Production

Industrial Production Manager \$101,224 Bachelor's degree	Commercial or Industrial Designer \$79,749 Bachelor's degree	CNC Machine Tool Programmer \$70,841 Vocational	Manufacturing Production Technician \$79,728 Vocational
Mechanical Drafter \$52,442 Vocational	Supervisor of Production Workers \$59,645 HS Diploma	Tool & Die Maker \$58,108 HS Diploma	Electrical Repairer, Commercial & Industrial Equipment \$57,773 Vocational
Industrial Machinery Mechanic \$56,100 HS Diploma	Structural Metal Fabricator or Fitter \$44,560 HS diploma	Computer Machine Tool Operator/CAD \$42,637 HS Diploma	Electromechanical Equipment Assembler \$31,929 HS diploma
Machinery Maintenance Worker \$41,253 HS diploma	Machinists \$41,385 HS Diploma	Quality Control Inspector or Tester \$39,919 HS diploma	Metal & Plastic Machine Tool Setter or Operator (Drilling, Cutting, Extruding, Grinding, Turning, Milling, Coating) \$27,349 - \$35,380 HS diploma
Welding Machine Setter or Operator \$39,593 HS diploma	Welder, Cutter, Solderer, or Brazier \$37,375 HS diploma	Semiconductor Processor \$36,947 HS diploma	
Assembler \$30,331 HS diploma	Fabricator \$30,331 HS diploma	Team Assembler \$27,563 HS diploma	Packaging & Filling Machine Operator \$31,756 HS diploma

Trending professions in demand in Ventura County
 Require at most 1 - 2 years of community college and offer an entry-level wage of at least \$13/hour.

- Occupation and wage data taken from the Occupational Employment Statistics survey by the US Department of Labor released July 2015.
- Salary data is mean annual salary specific to the Oxnard-Thousand Oaks-Ventura MSA, CA, when available, or to the state of CA.
- Trending jobs data SB1070 Career Pathways grant, the Deputy Sector Navigators in the Doing What Matters framework, and the California Community College Center of Excellence.
- Educational data from O*NET OnLine by the U.S. Department of Labor.

Low Impact

Work-based Learning Activity Matrix

High Impact

Online only

Large group

Not connected to learning

Not engaging



Experiential

Individual or small group

Feedback provided

Reflective of Diversity

Financial commitment

During work hours

Full day commitment

Multiple people needed



No financial commitment

After work

Flexible time

Details prearranged

High Resource

Low Resource