



WORKFORCE INVESTMENT BOARD OF VENTURA COUNTY

MANUFACTURING COMMITTEE MEETING

Wednesday, October 8, 2014
8:00 a.m.-9:30 a.m.

NOTE: CHANGE OF LOCATION

Haas Automation Inc.
2800 Sturgis Road (Auditorium), Oxnard

AGENDA

8:00 a.m.	1.0 Call to Order and Agenda Review	Bill Pratt
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.	Bill Pratt
8:07 a.m.	3.0 Committee Chair Comments	Bill Pratt
8:12 a.m.	4.0 Approval of Minutes: August 13, 2014	Bill Pratt
	5.0 Ventura County Regional Strategic Workforce Development Plan	
8:15 a.m.	• Biomedical Device Certificate Status	Subhash Karkare
8:20 a.m.	• MRVC: Manufacturing Day (October 3, 2014)	Tavi Udrea
8:30 a.m.	• AMP SoCal Pillar Committees	Talia Barrera
8:40 a.m.	• AB 86 Update	Teresa Johnson
8:45 a.m.	• Career Pathways Update	Cheryl Moore
8:55 a.m.	• SCCRC Deputy Sector Navigator Update	Joe Klocko
9:00 a.m.	• COE Unmanned Aircraft Systems Application	Cheryl Moore
9:05 a.m.	• SB 850: Community College Baccalaureate Ideas	Cheryl Moore
9:20 a.m.	• Workforce Innovation and Opportunity Act	Cheryl Moore
9:25 a.m.	6.0 Committee Member Comments	Committee Members
9:30 a.m.	7.0 Adjournment <u>Next Meeting</u> December 10, 2014 (8:00 a.m.-9:30 a.m.) Ventura County Community Foundation 4001 Mission Oaks Blvd., Camarillo	Bill Pratt

2.0 PUBLIC COMMENTS

During the WIB Manufacturing Committee meeting on October 8, 2014, Marybeth Jacobson made a public comment and distributed the attached document to the Committee members and staff: "Workforce Education Coalition Industry Tour."

Workforce Education Coalition **INDUSTRY TOUR**

STEM-Equity Manufacturing

MANUFACTURING DAY 2014

Female students from each of SVUSD's six junior highs and high schools toured manufacturing plants to learn about STEM career opportunities for women. The students spoke with a university professor and female manufacturing professionals about manufacturing sector jobs, required skills and where to obtain training. Students learned first-hand about job responsibilities, the history of women in manufacturing, opportunities for promotion, and salaries and benefits in the manufacturing sector.



TOUR STOPS

Vanderhorst Brothers, Inc.:

Students toured a local manufacturer, spoke with the business owner and saw machines in operation up close.

Haas Automation, Inc.:

Students were exposed to a million square foot manufacturing plant and spoke with female employees at every level of the operation.



STUDENT OUTCOMES

Before the tour:

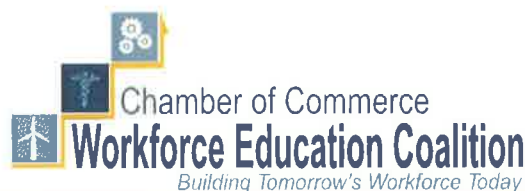
62% of the girls **agreed** that they were considering a career manufacturing

After the tour:

94% of the girls **strongly agreed or agreed** that they were considering a career in manufacturing

100% of the students:

- ◆ Found the tour interesting
- ◆ Believe that other students should have the opportunity to take the tour.
- ◆ Better understand what training they need for a career in manufacturing
- ◆ Learned about technology used in manufacturing.





WIB Manufacturing Committee Meeting **August 13, 2014**

MINUTES

Committee Members

Tavi Udrea (Vice Chair)*	Tiffany Morse
Vic Anselmo*	Scot Rabe
Teresa Johnson*	Alex Rivera*
Joe Klocko	Marybeth Jacobsen
Gregory Liu*	Sharon Woolley

WIB Staff

Talia Barrera
Patricia Duffy
Tracy Johnson
Cheryl Moore
Theresa Salazar Vital

Guests

Ken Goss (MWS Wire Industries)
Brad Hudson (Congresswoman
Julia Brownley)
Dion Jackson (USC Center for
Economic Development)
Celine Park (Ventura College)

**WIB Members*

1.0 Call to Order and Agenda Review

Vice Chair Tavi Udrea called the meeting to order at 8:08 a.m. No changes were made to the agenda.

2.0 Public Comments

No comments

3.0 Committee Vice Chair Comments

No comments

4.0 Approval of Minutes: May 14, 2014

Motion to approve: Alex Rivera
Second: Gregory Liu
Motion approved

5.0 2013-2014 Year-End Review

Committee members reviewed a draft of the PY 2013-2014 Year-End Review and provided input. The final draft of the document would be presented at the WIB meeting on August 28, 2014. (See attached.)

6.0 Ventura County Regional Strategic Workforce Development Plan

- **Workforce Innovation and Opportunity Act (WIOA):** Cheryl Moore provided a brief overview of WIOA recently approved by Congress to replace the Workforce Investment Act (WIA) on July 1, 2015. WIOA will align federal investments to support job seekers and employers, align goals and increase accountability and information for job seekers, increase access to workforce services for individuals with disabilities, and establish unified strategic planning across different programs. More information to follow.
- **California Manufacturing Industries: IAE LAEDC Research:** Committee members received copies of the new "California's Manufacturing Industries: Employment and Competitiveness in the 21st Century" report. This report quantifies the manufacturing sector in California and at the county levels in Southern California, including Ventura County.

- Advanced Manufacturing Partnership of Southern California (AMP SoCal): Dion Jackson, Associate, USC Center for Economic Development, made a presentation on the recently-formed regional consortium. Ms. Jackson described the development of a new structure for the partnership, which brought together aerospace and defense manufacturing businesses, community colleges, universities and government in four counties (Los Angeles, Orange, San Diego and Ventura) to retain and grow a robust manufacturing sector in Southern California. The WIB Manufacturing Committee will be an important component of Ventura County participation in AMP SoCal.
- Biomedical Device Certificate: Scot Rabe reported that he and Subhash Karkare are waiting of notification of final approval of the two-campus certificate program from the state community college system. Students already have expressed interest in the program.
- AB 86 Planning Grant: Teresa Johnson gave a brief summary of the grant and of the Town Hall Meetings held throughout the county. In attendance were businesses, members of the community, and others. The purpose of the project is to create a plan to align, streamline, articulate, and ensure relevance and responsiveness of educational programs, certificates, credentials, apprenticeships, and other support for Ventura County students and businesses. Successful development of the plan could lead to future funding from the State.
- Manufacturing Career Pathways (Education) Workgroup: Tiffany Morse announced that there is work underway to link apprenticeships and career pathways. The Ventura County Office of Education had met with the Department of Apprenticeship and Standards to discuss career pathways.
- SCRC Deputy Sector Navigator Update: Joe Klocko provided an update on the release of the RFA which allowed for possible funding of \$1,000-\$5,000 for high school robotics programs in the region. Mr. Klocko also announced that he would be moving to a different role at College of the Canyons and would invite another Deputy Sector Navigator to join the WIB Manufacturing Committee. Committee members congratulated Mr. Klocko on his promotion and expressed appreciation for his commitment to regional collaboration.
- Manufacturing Employer Engagement: Talia Barrera reported that the WIB Outreach Committee has targeted initiatives to engage youth and employers in manufacturing readiness. Ms. Barrera shared some of the material that has been circulating around different organizations in the county, with the intent to engage youth and employers.
- Simi Valley Chamber Manufacturing Training Survey: Marybeth Jacobsen with the Simi Valley Chamber, reported that the Simi Valley Chamber and California Lutheran University, in collaboration with the City of Simi Valley, had completed a survey of Ventura County manufacturing businesses regarding their workforce needs. Results of the survey would be presented to the WIB on August 28, 2014, and made available to the WIB Manufacturing Committee.
- Manufacturing Roundtable of Ventura County (MRVC): Tavi Udrea announced that National Manufacturing Day would be held on October 3, 2014, with businesses providing opportunities for students, teachers, and counselors to learn about career opportunities and visit manufacturing sites.

7.0 Committee Member Comments

Bruce Stenslie noted that the WIB 30-second TV ad testimonial from Trupart, airing during the month of April 2014 as part of the Ventura County Grows Business initiative, demonstrated the effectiveness and value of a county-wide outreach platform.

8.0 Adjournment

Tavi Udrea adjourned the meeting at 9:51 a.m.

Next Meeting

October 8, 2014 (8:00 a.m.-9:30 a.m.)

Haas Automation, Inc. (Auditorium)

2800 Sturgis Road, Oxnard

2013-2014 YEAR-END REVIEW

Workforce Investment Board of Ventura County

WIB MANUFACTURING COMMITTEE

2013-2014 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 (CDTI, Inc.), Tony Skinner (Tri-Counties Building & Construction Trades Council), Bruce Stenslie (Economic Development Collaborative-Ventura County)

Other Members: Marybeth Jacobsen (Simi Valley Chamber of Commerce), Subhash Kakare (Moorpark College), Joe Klocko (SCRC Deputy Sector Navigator), Tiffany Morse (Ventura County Office of Education), Ali Motamedi (Alcoa Fastening Systems), Scot Rabe (Ventura College), Sharon Woolley (Ventura County Community College District)

Committee Accomplishments

In support of the WIB's *Ventura County Regional Strategic Workforce Development Plan 2013-2017*, and in alignment with the California WIB Advanced Manufacturing Workforce Development Council, the WIB Manufacturing Committee:

- Identified key elements for a two-year manufacturing sector workforce development strategy: engagement of multiple businesses, recognition/value of sector certifications, stackable credentials for career pathways, pre-apprenticeship and apprenticeship programs, positioning the region for grant readiness, and business participation (curriculum development, job shadowing, internships, on-the-job training, outreach).
- Refined the WIB's Ventura County Occupational Employment Data and Growth Projections: Manufacturing chart, using it as a working tool to identify jobs, wages, employment growth projections, growth/replacement job potential, and priorities for workforce education and training. Provided ongoing updates and public access to the information on the WIB website.
- Continued workgroups to develop, recommend, and/or implement plans to address Ventura County manufacturing workforce needs:
 - Manufacturing Readiness Skill Categories: confirmed skills list alignment with industry standards; completed and provided to education for integration into the curriculum (e.g., Career Pathways programs, adult education curriculum, Ventura College certificate); posted on WIB website for public access
 - Biomedical Device Certificate: created a business demand-driven biotechnical/industrial mechanics certificate program using existing courses; initiated the approval process for the first two-campus certificate program in the state community college system; final approval expected in 2014
 - Manufacturing Career Pathways (Education): launched a new group to work with educators on alignment, articulation, and resources for curriculum, certificates, credentials, pre-apprenticeships and apprenticeships, and career readiness related to manufacturing
 - Manufacturing Roundtable of Ventura County (MRVC): continued to provide support to the new organization; recruited manufacturers to open their doors to students for the first National Manufacturing Day event in Ventura County; engaged members in providing letters of support for state and federal grant proposals

2013-2014 YEAR-END REVIEW

Workforce Investment Board of Ventura County

WIB MANUFACTURING COMMITTEE

Committee Accomplishments (Continued)

- Provided research, planning, collaboration, and facilitation of work which helped to create a Ventura County regional platform to help support economic planning, community workforce development initiatives, and grant applications (including two California Career Pathways Trust education grants awarded in Ventura County).
- Discussed and contributed to the development of the manufacturing components of the K-14 Industry Sector Pathways (Ventura County Office of Education) inventory of career readiness programs, certificates, credentials, and apprenticeships. Converted the document to Excel to facilitate data sorting, and posted both versions on the WIB website for public access.
- Participated in the launch of the Advanced Manufacturing Partnership of Southern California (AMP SoCal), a new a four-county consortium (Los Angeles, Orange, San Diego, and Ventura) to retain and grow a robust manufacturing sector in Southern California; provided letters of support from manufacturing, education, economic development, and the WIB for an application to the U.S. Department of Commerce for designation as a priority aerospace and defense region; received one of 12 designations for regional support from 11 federal agencies, with a competitive \$1.3 billion available in federal economic development assistance.
- Partnered with manufacturers, educators, and the Simi Valley Chamber of Commerce to provide input for the development of business/education initiatives, including a youth career manufacturing career awareness program, STEM-related teacher site visits, and formation of a local manufacturing group and a workforce education fund.
- Initiated efforts to develop a structure for pre-apprenticeships by partnering with education, labor, business, the Department of Apprenticeship Standards, and through connections with other regions and entities. Work will continue in 2014-2015.
- Received updates and discussed alignment and opportunities relating to:
 - South Central Coast Regional Consortium of Community Colleges: partnering with the Deputy Sector Navigator for Advanced Manufacturing; research and program alignment/collaboration
 - California Economic Summit-Advanced Manufacturing Committee: represented in ongoing discussions regarding development of state and regional priorities
 - California Association for Local Economic Workforce Development (CALED): represented in ongoing discussions related to the economic impact of, and strategies to address, career readiness in manufacturing

2013-2014 YEAR-END REVIEW

Workforce Investment Board of Ventura County

WIB MANUFACTURING COMMITTEE

Insights

- The strategies and actions that we have been working on for several years are really beginning to pay off. The network of nodes is starting to connect and momentum is building. The more we can streamline and focus our energy, the more we can make things happen.
- We need to work with the WIB Outreach Committee to:
 - Develop ways to raise awareness of, and appreciation for, career opportunities in manufacturing.
 - Engage more Ventura County employers in manufacturing workforce development.
 - Develop a strategy for employer advocacy (local and regional).
 - Get employer perspectives in front of local school boards.
 - Target parents, school counselors, and school officials for manufacturing career awareness.
- In working on manufacturing readiness, education, and training, we need to:
 - Get a better understanding of what certificates/credentials/apprenticeships are valued by our local manufacturers—and what they use (and/or will use) for screening job candidates.
 - Find ways to help overcome the “build it and they will come” culture in education. Having teachers spend quality time in private sector work settings would help.
 - Get local education programs/training to market more effectively to employers and parents.
 - Add labor union apprenticeships, higher education programs, and employer training information to the K-14 Industry Sector Pathways inventory.
 - Include engineering pathways in our work. Engage community colleges and universities to get more involved with mechanical, electronics, and software components of manufacturing.
 - Consider opportunities for incumbent worker training and career development in the workplace.
- The Career Pathways initiatives will go a long way toward strengthening relationships between business and education. For example, our education partners are working toward university A-G course approval for robotics classes, which will help to legitimize robotics as a manufacturing career pathway. Ventura County’s first regional robotics competition will be held at Ventura College—which is a really big deal.
- Our committee needs representatives Naval Base Ventura County and maybe a staffing service. (Many employers use staffing services. We need to connect with them and find out how they can contribute.)
- We need to try to get groups to collaborate more consistently to avoid unnecessary duplication of systems, costs, and programs. Many organizations and projects in the county are working towards the same goals and could be saving time and resources through coordination and cooperation.

MANUFACTURING READINESS SKILL CATEGORIES

Workforce Investment Board of Ventura County



SAFETY	MATH CONCEPTS	MEASUREMENTS	HAND AND POWER TOOLS
<ul style="list-style-type: none"> • Lock-out, Tag-out, Try-out • Bio mechanics • MSDS • Potential energy sources (gravity, pneumatic, hydraulic, chemical , steam/gas pressure) 	<ul style="list-style-type: none"> • Combined operations of fractions and mixed number • Table of decimal equivalents and combined operations of decimals • Degree of precision, tolerance and clearances • Steel rules and gage blocks • Algebraic operations of additions, subtraction and multiplication • Ratios and proportions • Mathematical conversions from standard to metric • RPM, and implication of gearbox reduction to RPM and torque 	<ul style="list-style-type: none"> • Standards • Units of measurement • Mass and weight measurement • Metric measurement • Measuring motion • Measuring fluids • Indicators • Micrometers • Gauging tools • Calipers • Diameter tape 	<ul style="list-style-type: none"> • Electric drills • Pneumatic drills and hammers • Screwdrivers, nut-runners and wrenches • Air supply for pneumatic tools • Wrenches • Hacksaws • Taps and dies • Hammers • Squares • Levels • Pipe threading machines
BASICS OF QUALITY CONTROL	BLUEPRINT CONCEPTS	EMPLOYABILITY SKILLS	COMPUTER SKILLS
<ul style="list-style-type: none"> • Process • Basic quality methodology and inspection techniques • Importance of individual – do it right first time • Manufacturing theory and quality • Lean manufacturing and quality 	<ul style="list-style-type: none"> • Introduction to schematics and symbols • Pneumatics and hydraulic schematics • Piping schematics • Piping symbols • Differences in schematics • Views • Electrical symbols • Hydraulic and pneumatic symbols • Hydraulic and pneumatic diagrams • Assembly instructions 	<ul style="list-style-type: none"> • Basics of interviewing • Work ethic • Communication skills • Continuous Improvement skills • Basic company policy understanding • Time management • Task prioritization • Worker, supervisor, manager etiquette and protocol basics 	<ul style="list-style-type: none"> • Excel • Word • OS basics • Computer navigation • Computer security • Computer etiquette • ERP basics • Viewer basics, PDF, CAD, jpg, png, bmp, TIFF, Solid Works, etc • File extension basics

PROGRAM OF STUDY

Biomedical Device Manufacturing Certificate of Achievement

Biomedical Device Manufacturing Certificate provides skills for the manufacturing of medical devices including basic quality control, government regulations as well as applied skills such as machining and working in an ultra-clean environment. This certificate will prepare students to obtain employment in the field of medical device manufacturing. Students complete 13 specified units.

This Certificate of Achievement is a joint program between Moorpark College and Ventura College. Once the required courses are completed, students can apply to obtain the Certificate of Achievement at either college. To submit an application for the Certificate of Achievement, see a counselor.

Required Courses:

Moorpark College - Complete 3 courses (6 units) from the following:

		Units
BIOT M02A	Environmental Control and Process Support	2
	or	
BIOL M12A	Environmental Control and Process Support	2
BIOT M02B	Manufacturing: Quality Control and Validation Quality	2
	or	
BIOL M12B	Manufacturing: Quality Control and Validation	2
BIOT M02E	Business Practices and Governmental Regulation	2
	or	
BIOL M12E	Business Practices and Governmental Regulation	2

Required Courses:

Ventura College - Complete 3 courses (7 units) from the following:

	Units
MT V02 Applied Machining I	2
MT V05 CNC Machining I	2
MT V15 Manufacturing Processes	3

Total Units

13

PID 277



Media Advisory

NATIONAL MANUFACTURING DAY IN VENTURA COUNTY **Spotlight on Careers in Manufacturing**

Date	October 3, 2014
Time	Morning and afternoon (times vary by site and participant group)
Purpose	<ul style="list-style-type: none">• Ventura County participation in National Manufacturing Day• Highlight the high-tech sophistication and impact of manufacturing• Introduce students and educators to rewarding careers in manufacturing• Demonstrate how education and skills apply to real-world settings
Sponsors	<ul style="list-style-type: none">• Sponsored by: Manufacturing Roundtable of Ventura County (MRVC)<ul style="list-style-type: none">– MRVC Chair: Byron Lindros, Amgen, Inc. (Thousand Oaks)– MRVC Immediate Past Chair: Ali Motamedi, Alcoa Fastening Systems (Newbury Park)– MRVC Manufacturing Day Chair: Tavi Udrea, Haas Automation, Inc. (Oxnard)• In partnership with:<ul style="list-style-type: none">– Ventura County Office of Education– Workforce Investment Board of Ventura County
<u>Business and Education Group</u> 7:00 a.m.- 8:30 a.m.	<ul style="list-style-type: none">• Guests: high school counselors, teachers, principals, and other administrators• Welcomed by: MRVC and representatives from Ventura County manufacturers• Breakfast hosted by: Haas Automation, Inc. in Oxnard
Program Description	<ul style="list-style-type: none">• Discussion of manufacturing workforce needs, career opportunities, and skill requirements• Tour of high-tech manufacturing facility (Haas Automation, Inc.)
<u>Student Groups</u> 9:00 a.m.- 2:00 p.m.	<ul style="list-style-type: none">• Guests: students and teachers/advisors from Ventura County, Orange County, San Luis Obispo County, Monterey County, and Fresno County• More than 300 visitors to manufacturing sites in Ventura County
Program Description	<ul style="list-style-type: none">• Large group introductions to manufacturing, tour of facility, opportunities for questions, and snacks at one of two sites:<ul style="list-style-type: none">– Amgen, Inc.: 10:00 a.m. and 12:30 a.m. (maximum 35 per group)– Haas Automation, Inc.: 9:00 a.m., 10:00 a.m., 11:00 a.m., 12:00 p.m., and 1:00 p.m. (maximum 50 per group)• Small group visits to other manufacturing sites for a company overview, tour of the facility, and opportunities to ask questions (15-25 participants per group, depending on site capacity)

**Participating
Ventura County
Manufacturers**

- ✓ Alcoa Fastening Systems
1300 Rancho Conejo Blvd., Newbury Park
Contact Ali Motamedi: (805) 262-4209; ali.motamedi@alcoa.com
or Maria Calderas: (805) 603-9667; maria.calderas@alcoa.com
- ✓ Amgen, Inc.
One Amgen Center Drive, Thousand Oaks
Contact Byron Lindros: (805) 447-2294; blindros@amgen.com
- ✓ Applied Powdercoat, Inc.
3101 Camino del Sol, Oxnard
Contact Vic Anselmo: (805) 981-1991; vic@appliedpowdercoat.com
- ✓ Dynamic Automation
4525 Runway Street, Simi Valley
Contact Marc Freedman: (805) 584-8476; mfreedman@dynamicautomation.com
- ✓ Haas Automation, Inc.
2800 Sturgis Road, Oxnard
Contact Tavi Udrea: (805-573-0714); tudrea@haascnc.com
- ✓ Kinamed, Inc.
820 Flynn Road, Camarillo
Contact Bill Pratt: (805) 384-2748; wpratt@kinamed.com
- ✓ Milgard Manufacturing, Inc.
355 E. Easy Street, Simi Valley
Contact Alex Rivera: (805) 579-5188; alexrivera@milgard.com

**MRVC
Manufacturing
Day Visitors**

- ACE Charter High School, Camarillo
- Fillmore High School, Fillmore
- Newbury Park High School, Newbury Park
- Rio Mesa High School, Oxnard
- Thousand Oaks High School, Thousand Oaks
- Ventura High School, Ventura
- Westlake High School, Westlake Village
- Esperanza High School, Anaheim
- Fresno City College, Fresno
- King City High School, King City
- San Luis Obispo High School, San Luis Obispo

Contacts

Press and Media

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Ventura County Schools Coordination

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Workforce Investment Board of Ventura County (WIB)

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Talia Barrera, WIB Manager
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AMP SoCal Organizational Roles & Responsibilities

This collaborative effort across and between the six industrial ecosystem pillars will be led by a 13-member Executive Board composed of:

- One rep from each of the six pillars, as selected by each Pillar Committee (six total)
- One rep from each County, as selected by the participants in each county (four total)
- One representative from each of the two Co-Applicants (two total), and
- One representative from the A&D industry

Executive Board

The Executive Board will be responsible for guiding AMP SoCal's long-term vision and integrating the activities of the six Pillar Committees and Implementation Strategy Working Group. The Board will also determine which partner organization (or collaboration of partner organizations) will receive the Manufacturing Community's preference for grant opportunities.

The inaugural AMP SoCal Executive Committee will have a term of 6 months, April 1, 2014 through September 30, 2014. (*Update: extended to 12/31/14*) Its membership is shown in Exhibit 8.

Industrial Ecosystem "Pillar Committees"

All Executive Board members will participate on at least one of the Pillar Committees, which will be convened by and led by their representative to the Executive Committee. Each Pillar Committee will examine the trends of their respective industrial ecosystem pillar and make recommendations to the Executive Board for future investments. Additionally, Pillar Committees will meet on a quarterly basis to review the progress of Implementation Strategy Working Groups.

Implementation Plan "Strategy Working Groups"

Each of the ten implementation plan strategies will be championed by an Implementation Lead Partner as listed in the implementation strategy plan. Each Lead Partner will convene a collaborative Strategy Working Group for their respective implementation strategy. To leverage the full benefit of the AMP SoCal partnership, the Strategy Working Groups will engage partners possessing the skills, resources, and expertise to most successfully achieve the plan's target outcomes. Since each strategy focuses on more than one pillar, Working Group activities will be coordinated with the relevant Pillar Committees (*figure TBD*). This matrix structure will enable Strategy Working Groups and Pillar Committees to share knowledge and resources across implementation strategies, and foster an organizational feedback loop that integrates "on-the-ground" efforts with AMP SoCal's long-term vision for A&D manufacturing.

Exhibit 11: Table of Commitments and Funding Sources for Investments in Implementation Plan

Strategy	Funding			A&D	Gov't	Edu	EDO	WIB	TA
	SoCal	Federal	TBD						
Red Carpet	√				√		√		
Digital One-Stop			√			√			
SMM Growth	√				√		√		√
Model-Based Eng.		√		√		√			
Additive Manuf.		√		√		√			
Managed Career	√			√		√	√	√	
Higher Ed Guides	√					√			
Incubation	√					√			√
Export Accel.	√								√
57/60 Confluence		√			√				

AMP SoCal Structure
4/1/14-12/31/2014

Lead co-applicant: *Leonard Mitchell*, USC CED
Co-applicant: *Glyn Milburn*, Los Angeles Mayor's Office
Industry: *Ivan Rosenberg*, Aerospace & Defense Forum

Executive Board

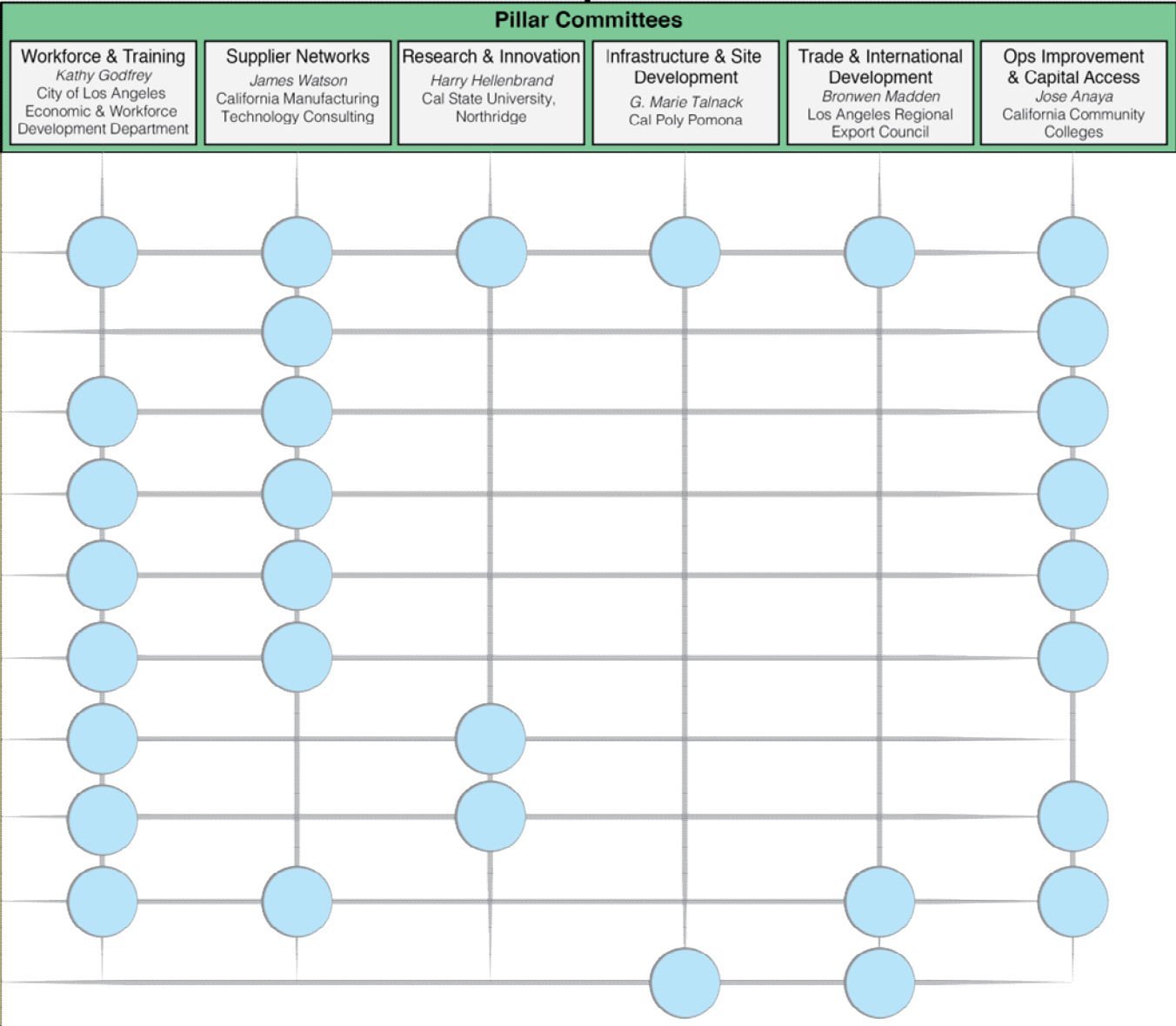
6 pillar committee reps | 4 county reps
2 co-applicant reps | 1 industry rep

Los Angeles: *JoAnne Stewart*, LA County EDC
Orange: *Matthew Jenusaitis*, OCTANE
San Diego: *Theresa Andrews*, CONNECT
Ventura: *Cheryl Moore*, Ventura County WIB



Implementation
Strategy Working Groups

AMP SoCal Red Carpet Lead: Los Angeles County Economic Development Corporation
Accessible Smart Digital One-Stop Lead: UCLA
SMM Growth Acceleration Lead: California Manufacturing Technology Consulting
Model-Based Engineering & Design Lead: Mira Costa Community College
Additive Manufacturing Certificate Program Lead: RapidTech, UC-Irvine
Managed Career Pipeline for Advanced Manufacturing Lead: LA EWDD
Higher Education Guides Lead: Cal State, Northridge
Systematic Innovation, Incubation & Business Development Lead: Cal State, Northridge
Export Acceleration Lead: LARExC
57/60 Confluence: Freight Corridor Bottleneck Relief Lead: City of Industry





THE ONES THAT GOT AWAY

Why Completing a College Degree Is Not the Only Way to Succeed



Acknowledgements

This LearningWorks inquiry guide was prepared in association with WestEd, a research, development, and service agency that works with education and other communities to promote excellence, achieve equity, and improve learning for children, youth, and adults.

The principal author of this guide was Kathy Booth, Senior Research Associate at WestEd. It follows on three previous pieces published by LearningWorks: *The Missing Piece: Quantifying Non-Completion Pathways to Success* (2013), *What's Completion Got to Do With It? Using Course-Taking Behavior to Understand Community College Success* (2012), and *Segmentation Model of Assisting Course-Taking Patterns: A Research Methodology and Discussion Guide* (2012).

See the “Find Out More” section at the end of this guide for a listing of related guides and resources on the topic of skills-builder students.

About

LEARNINGWORKS

LearningWorks aims to strengthen student achievement in community colleges. It does so by facilitating, disseminating, and funding practitioner-informed recommendations for changes at the system and classroom levels, infusing these strategies with state and national insights. LearningWorks is supported by the William and Flora Hewlett Foundation and the Walter S. Johnson Foundation.

WESTED

WestEd is a nonprofit research, development, and service agency that works with education and other communities to promote excellence, achieve equity, and improve learning for children, youth, and adults. WestEd has served as the West's Regional Educational Laboratory for over 40 years. To learn more about WestEd's areas of work, the services we offer, and the impact our agency has had on policies, systems, and people of all ages, visit WestEd.org.



design LIZ MAYORGA
photography ELI ZANTURANSKI
DAN FIGUEROA



Introduction

Recent research on the California community college system has revealed that workforce training programs yield some of the highest earnings for community college students, regardless of whether those students complete a degree or college certificate. Still, most conversations about community college success are limited to whether students graduate. An exclusive focus on degree completion does not fit well with the diversity of workforce training pathways that colleges have built in career and technical education (CTE), because many of these pathways do not lead to a college credential. By expanding definitions of student success to include employment, earnings gains, and third-party credentials, colleges will be able to more accurately measure the outcomes of all their CTE programs. This brief draws on numerous studies to explore alternative approaches to measuring how well community colleges serve CTE students.

UNDERSTANDING CTE PATHWAYS

Community colleges offer many different career training pathways to serve a wide variety of students pursuing different goals. In addition to providing comprehensive programs that teach the fundamental skills of various professions, community colleges support rapidly evolving fields in which retraining is needed, and provide experienced workers an opportunity to retrain for emerging professions. This training may be offered several ways. Some CTE courses are part of for-credit programs, and other CTE offerings are given as noncredit classes or through contract education—custom training designed and paid for by specific employers.

In California, where most workforce training exists within for-credit programs, new research has shown that both short- and long-term community college participation has a significant impact on students' earnings, whether or not students achieve a community college credential (Bahr, 2014). Students in CTE pathways account for most of the earnings gains attributable to community colleges. Furthermore, in many CTE pathways, students who take only a few courses see a larger earnings gain than students who obtain an associate's degree in non-CTE disciplines.

However, because the completion of a community college credential is the gold standard for success, students who participate in short-term CTE training are currently counted as failures. As a result, colleges may push these students to the back of the enrollment priority line (Bahr & Booth, 2012) or elect not to schedule courses that are not part of a completion pathway (Bahr, Gross, Slay, & Christensen, 2014). Students may have to go to for-profit training providers to learn these skills, at a significantly higher price, and community colleges will have fewer ways to address the skills gaps that are reported by many employers.



Research Sources

This brief draws on a number of research studies that measure the success of career and technical education (CTE) students:

Peter Riley Bahr, associate professor at the University of Michigan, has conducted several studies on labor market outcomes of California community college students by matching the state's student records against earnings information from California's unemployment insurance system. www.soe.umich.edu/people/profile/peter_riley_bahr/

The California Community Colleges Chancellor's Office has also investigated wage gains by matching the state's student records against earnings information from California's unemployment insurance system. www.rpgroup.org/resources/exploring-labor-market-returns-california-community-college-awards-comparing-wages-complet

The CTE Outcomes Survey is sent to students in California who completed nine or more vocational units and are no longer enrolled, or who earned a community college CTE credential. Thirty-four colleges (30 percent of the California community college system) participate in the survey. www.santarosa.edu/cteos

WestEd conducted interviews with faculty and administrators at eight colleges that had a significant number of skills-builder students in specific program areas to better understand offerings and student profiles. www.wested.org/project/quantifying-non-completion-pathways-to-success

In California's community colleges, about two-thirds of the students who complete a CTE course are of traditional college age (17–22 years old). A third are older (23–50 years old), so most often enter college with some work experience. Some of these students also already hold a credential, such as an associate's or bachelor's degree, third-party or community college certificate, or journey status in a trade. Given the scale of the California community college system, the number of older students being served is significant. Among students who started community college between 2002–2006, well over a quarter of a million (272,008) “non-traditional” students took CTE coursework—accounting for one-sixth (17 percent) of all students who began community college during that time period. Returning students, particularly in CTE, often

“Certificates have become so popular that **they are now the second-most common higher education credential** in the United States, behind bachelor's degrees but ahead of associate's degrees.”

need to fill in missing skills rather than start from scratch, and can do so either by taking a few courses or participating in certificate programs that can be completed in a year or less. Therefore, several researchers have adopted the term “skills-builders” to describe students who participate in workforce training that does not necessarily lead to a community college credential (Bahr, 2014; Bahr & Booth, 2012; Booth & Bahr, 2013).

Community colleges have adapted to the needs of skills-builder students by working closely with employers to determine how to tailor content to the workplace, creating low-unit certificates, and building sets of “stackable” certificates that focus on discrete skill sets within an overall pathway.

This trend has been growing steadily for the last 30 years. According to Georgetown University's Center on Education and the Workforce (Carnevale, Rose, & Hanson, 2012), 8 percent of post-secondary awards were certificates in 1980. By 2010, certificates accounted for nearly a quarter (22 percent) of awards. Certificates have become so popular that they are now the second most common higher education credential in the United States, behind bachelor's degrees but ahead of associate's degrees. Nationwide, most certificate programs (54 percent) are short-term, meaning a certificate can be earned within a year or less. The trend is even more pronounced in the California community college system, where two-thirds of credentials in CTE fields are short-term (Moore et al., 2012).

Coursework aimed at more experienced workers often is intermingled with content designed for those who are just starting out, as well as for students exploring a concept for personal enrichment—meaning that diverse student types tend to take similar

courses. For example, City College of San Francisco (CCSF) offers the state's most comprehensive real estate training program, which includes an associate's degree, a certificate, and courses that can transfer into the California State University system to fulfill requirements for a bachelor's degree in fields like real estate or business. The program's courses also align with two different state licenses and a federal licensure exam.

Students may enroll at CCSF to take pre-license courses that allow them to become a real estate broker or a real estate agent. These courses also draw workers who may need to build competencies for fields outside of sales or appraisals. According to Carol Jensen, the director of CCSF's Real Estate



Education Center, the property management course might be attended by a security guard who works in large high-rise buildings, a landlord, and a municipal transit worker who wants to transfer to the city's real estate management department. Finally, people who are seeking to buy a home may take courses to become more informed consumers as they prepare for the largest single purchase—and debt burden—of their lives.

CTE course-takers are similarly diverse in other programs of study. Los Angeles Trade Technical College's construction program attracts a broad range of participants—many of whom are likely to leave before they obtain a community college credential; but they leave for different reasons, according to Joseph Guerrieri, Dean of Academic Affairs and Workforce Development. First, enrollment in the program is driven by the local job market. When jobs are scarce, many workers enroll in classes that will make them more competitive applicants. When hiring picks up, students begin to drop out. Second, the Los Angeles Department of Building and Safety offers a certificate considered essential for securing a welding job. Stu-

dents may take only the courses that they need to secure this high-value credential. Third, the college offers training for green construction techniques, which are intended to round out a broader set of competencies. For example, there is little employer demand for a certification in solar installation, but this is a valuable additional skill for working electricians. Fourth, many students start out in construction by learning skills on the job, such as installing dry wall or painting. They then may take a handful of courses to broaden their skills in fields such as heating, ventilation, and air conditioning (HVAC)

“Los Angeles Trade Technical College's construction program attracts **a broad range of participants**—many of whom are likely to leave before they obtain a community college credential.”

or plumbing. To be hired, these workers may simply need to demonstrate newly learned competencies on a job site, rather than present a postsecondary credential. Finally, class participants might be homeowners seeking carpentry or electrical skills to support home-improvement projects.

Supporting this variety of student types makes it difficult for programs to demonstrate success within

the conventional “completion” framework, which measures success by the attainment of a community college credential or transfer to a four-year college. For example, Los Angeles Trade Technical College is working to create stackable certificates that guide students to valuable course combinations and to capture the impact of the coursework by issuing a credential. Nevertheless, certificates are not given automatically. Students have to request them, and if they don’t value the credential, they are unlikely to complete the additional paperwork.

Certificate programs that require students to take a small number of units face other hurdles to inclusion in success metrics. For the purposes of accountability reporting, California community colleges are required to track only certificates of 18 or more units. Although colleges are allowed to voluntarily upload information on lower-level awards, many colleges elect not to do so, meaning that these successes are not included in official reports like the statewide Scorecard or the Salary Surfer, which posts information on the earnings gains of students who complete community college credentials. The Chancellor’s Office has worked to lower the threshold of units required for program approval, which has enabled some 12- or 18-unit certificates to be recognized, but programs that require less than 18-units are not forwarded for consideration. These issues, together with increasing requests for post-college outcomes by accrediting agencies, federal funders, and state agencies, have led some colleges to gather additional information to measure success, including whether students secure jobs, retain their employment, and experience earnings gains.

“A three-week course called “Train for Success” enables students to master ten discrete competencies that are required for work in both the petroleum industry and other local professions, such as agriculture.”



MEASURING THE IMPACT OF COMMUNITY COLLEGE COURSEWORK

In addition to examining data collection efforts at individual colleges and state systems, a number of studies have examined the economic returns of short-term credentials in CTE by analyzing whether students see an increase in their earnings. The research shows mixed results. Some studies found minimal no or no earnings gains (Jepsen, Troske, & Coomes, 2014; Lang & Weinstein, 2012; Dadgar & Weiss, 2012); others reported increases in earnings (Carnevale, Strohl, & Melton, 2012). One confounding factor in these analyses is that earnings gains typically are assessed by comparing the earnings of students who have a community college credential with the earnings of students who do not secure a certificate or degree, which assumes incorrectly that non-completing students are a homogeneous group.

Peter Riley Bahr (2014) sought to provide a more comprehensive analysis by studying simultaneously both the returns to credentials—the awards given—and the returns to credits—the courses taken. Bahr examined the records of 759,489 students who entered California community colleges for the first time between 2002–2006 and matched them to earnings data from the unemployment insurance earnings database, from six years prior to college entry through the final quarter of 2012 (see Table 1). He found that students experienced significant earnings increases after completing a postsecondary credential in any of a wide range of CTE programs, including associate’s degree, long-term certificate (more than 29 units), short-term certificate (6-29 units), or low-credit awards (less than 6 units—or about two classes).

Table 1.
EARNINGS GAINS AT VARIOUS AWARD LEVELS

FIELD OF STUDY	LOW-CREDIT AWARD: LESS THAN 6 UNITS	SHORT-TERM CERTIFICATE: 6 - 29 UNITS	LONG-TERM CERTIFICATE: 30+ UNITS	ASSOCIATE'S DEGREE: 60+ UNITS
HEALTH	+8%	+11%	+39%	+106%
BUSINESS & MANAGEMENT	+12%	+9%	Not significant	+6%
PUBLIC & PROTECTIVE SERVICES	+13%	+32%	+27%	+11%
ENGINEERING & INDUSTRIAL TECHNOLOGY	Not significant	+11%	+11%	+12%
FAMILY & CONSUMER SCIENCES	Not significant	+9%	+6%	+3%
INFORMATION TECHNOLOGY	Too few awards	+9%	Not significant	+12%

Source: Bahr, 2014

Bahr also demonstrated only negligible differences between earnings gains for completers of community college credentials and non-completers who took similar coursework (though completion of a community college credential was a significant factor in earnings gains in some fields, such as health). In explaining this surprising finding, Bahr reasons that community college classes teach skills that are valuable in the labor market, but that many community college credentials have low signaling value to employers. In short, workers are able to translate the competencies that they master in college directly to their work or to earn a certification or license from a third party, both of which hold greater value in the workforce than a community college certificate or degree.

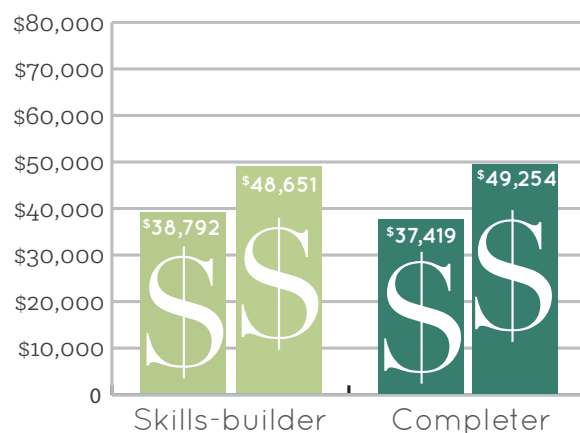
In line with Bahr’s analysis, research is beginning to show that third-party credentials may help to explain earnings gains in CTE fields. The Census Bureau (2014) found that third-party credentials are common among workers at all educational levels, and that they have a significant impact on incomes of workers who report having “some college” or an associate’s degree. California data are also available from the 2013 CTE Outcomes Survey. This study gathered information from 11,595 former community college students, including those who took nine or more vocational units and then stopped taking courses, as well as those who earned a CTE certificate or degree. Almost a third (31%) of these former students went on to earn an industry certification, state license, or journey status (Greaney, 2013).

The CTE Outcomes Survey also found that 35 percent of respondents were “skills-builders”—students who undertook workforce training but did not obtain an award or transfer—and these students had a mean earnings gain of 22 percent. Earnings of the skills-builder group were similar to earnings of those who completed a credential or transferred. Although the end result was similar, the skills-builder students

had higher wages before beginning their studies and saw a smaller percentage increase in earnings (see Figure 1). This pattern may have been a function of both age—skills-builders’ median age was 37—and experience. Twenty-seven per cent of skills-builders had earned a bachelor’s degree or higher prior to enrolling in community college coursework.

Figure 1.

PRE AND POST-COLLEGE WAGES BY COMPLETION STATUS



Source: Greaney, 2013

Other research points to the value of taking short sequences of courses, particularly for older students. Earlier research by Bahr (2013) assessed earnings gains for 204,309 first-time students who were highly successful in their coursework but did not obtain a community college credential or transfer to a four-year institution. About half of these students were skills-builders who enrolled in six or fewer units per semester and stayed for no more than four semesters. As with the CTE Outcomes Survey, the students that Bahr studied had an average age of 37. Bahr found that in 16 of the 24 CTE subfields in which skills-builders are found, students boosted their earnings significantly after a minimal investment of time and money. Students who took just six units—two

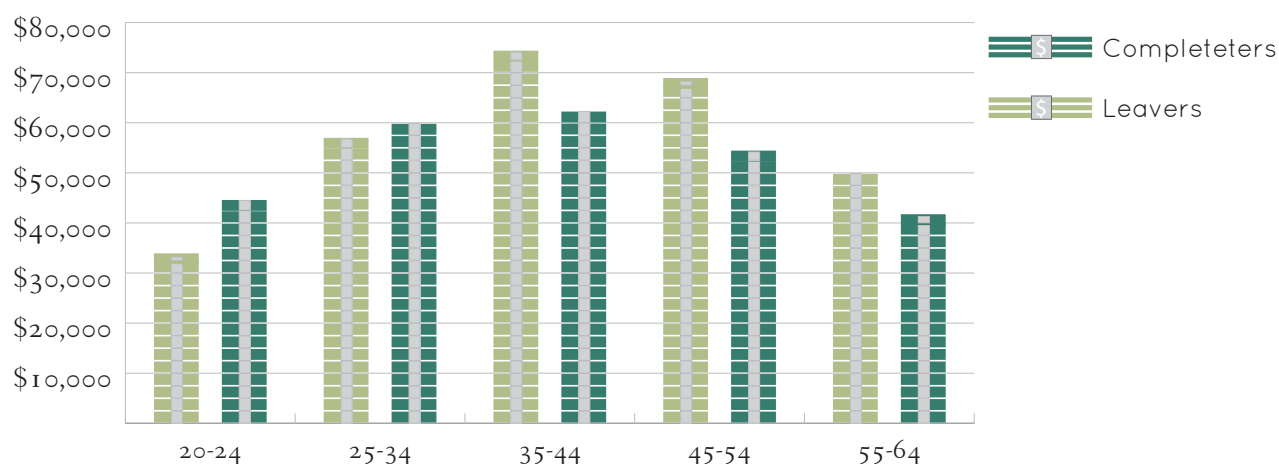
courses—saw median earnings gains ranging from 2–66 percent, depending on the subject area. Bahr found even larger earnings gains for students who took additional credits. For example, earnings gains for students who took 12 units ranged from 3–131 percent, with a median of 8 percent.

The California Community Colleges Chancellor’s Office investigated earnings gains for students who described their college goal in Fall 2010 as “update job skills” (Fuller, 2013). The study matched student-level records with the state’s unemployment insurance earnings data. Of the 67,800 students included in the study, about two-thirds (62 percent) took vocational courses, such as public safety, fire sciences, office technology, and child development. Median earnings for this group increased by nine percent, from \$49,800 to \$54,600. High starting earnings may have been a function of age and experience—the median age of these students was 38, and 33 percent had attended a four-year college prior to enrolling in community college. The study also looked at the issue of job retention within a field of study, finding that 42 percent of students in the study remained in the same industry and of those, 64 percent saw a positive earnings gain.

The Chancellor’s Office (Fuller, 2014) also explored relative earnings gains of those who completed credentials (“completers”) and those who left without a credential and did not transfer to a four-year institution (“leavers”). In a matched comparison of roughly 68,000 students who either stopped enrolling or earned a credential in the California community college system between 2002 and 2007, Fuller found that earnings outcomes for leavers were mixed, particularly when looking at specific demographic groups, genders, ages, programs of study, and economic regions. Overall, completers showed larger increases in earnings than leavers. However, this relationship reversed when examining results for students aged 35 and older, older students taking ten units or less, and those who selected “personal development” or “update job skills” as their goals. In this case, the earnings increase was greater for leavers than for completers (see Figure 2). Furthermore, some fields (e.g., real estate, automotive technology, electronics and electronic technology, and administration of justice) showed either equivalent or stronger earnings for leavers, particularly when looking at lower unit thresholds.

Figure 2.

MEDIAN WAGES OF COMPLETERS VS LEAVERS





CASE STUDY: USING SHORT-TERM TRAINING TO BOOST EARNINGS OF DISADVANTAGED STUDENTS

Taft College is located on the southwestern edge of California's San Joaquin Valley in a region dominated by the oil industry. In 1982, petroleum companies identified the need for a workforce that could meet federal requirements regarding safety and equipment management. To provide support for trainings that targeted trainings this need, Taft partnered with nearby Bakersfield College to create a nonprofit called Westside Energy Services Training & Education Center (WESTEC). WESTEC then partnered with local industries to secure donations of equipment and supplies, and built a dedicated training facility. WESTEC has since expanded and now provides trainings in areas beyond petroleum technology, such as correctional and peace officer training.

To develop WESTEC's Safety and Petroleum program, Taft faculty worked closely with industry representatives to determine key competencies for jobs in the petroleum sector as well as broader safety standards. This content was aligned with state and federal mandates from the Occupational Safety and Health Administration, for instance, and the International Association of Drilling Contractors certification. Content is offered in small chunks within intensive time-frames. This allows employers to get skilled workers in a timely fashion and ensures that students can quickly transition into living-wage jobs. For example, a three-week course called "Train for Success" enables students to master ten discrete competencies that are required by the petroleum job market and local industries like agriculture. This program emphasizes job training for low-skilled adults with limited educations, including homeless adults and former felons. After students finish the course, they receive a set of laminated cards called "passports" that are associated with each core competency. These cards are recognized by employers and certify that workers are ready for specific jobs or could be hired at higher salaries.

As the program evolved, Taft faculty elected to develop coursework that exceeded industry and federal requirements, so that students learn key skills to help them secure better employment opportunities—particularly once the physical toll of working on a rig requires them to find new work. The college ensured that courses on topics such as "well control" or "coil tubing" count toward a certificate in energy technology or an associate's degree in health and safety. Giving college credit

also keeps tuition costs manageable and provides access to the Board of Governors' fee waiver.

These benefits are particularly important because the program aims to reach students who are unemployed or working minimum-wage jobs. The only other petroleum and safety training provider in the area is a for-profit company that charges more than twice as much.

“There is still an urgent need to provide longer-term foundational training for traditional college-age students, but the concept of college needs to be expanded to also encompass the training needs of older workers.”

Participation in these programs is strong, drawing up to 32,000 students for short courses like Petroleum Orientation Safety and Confined Spaces, compared to 300 students in the full Petroleum Technology certificate program. Furthermore, the Safety and Petroleum program generates the strongest increase in employment outcomes of all community college programs in California. Students see an earnings boost of 11 percent after taking one credit, with a spike of 162 percent by the time they have taken 12 units (Bahr, 2014). Once they secure jobs as field technicians or working on a rig, these students can expect to make well over \$100,000 per year.



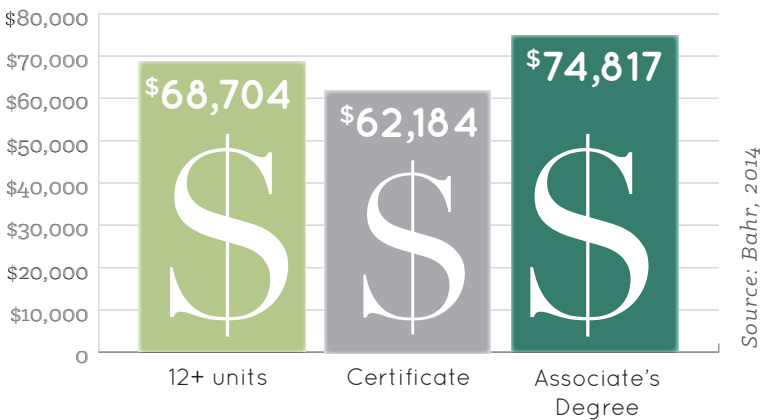
DEFINING SUCCESS

Most CTE programs are assessed using standard community college metrics such as term-to-term retention, completing a certain number of units, and completing degrees or certificates. However, the diversity of pathways and possible successful outcomes in CTE makes it difficult to apply these standard success metrics to all workforce students. A program (such as one focused on early childhood education) may teach the required skill sets in just six units or (as in the case of an aviation program) may require as many as 110 units. Colleges may also support different types of credentials to meet the needs of different industries, such as a quarter-unit certificate in rig safety for petroleum workers, a two-year certificate for sign language interpreters, an associate's degree for accountants, or a third-party credential for graphic designers.

Some disciplines, like information technology, may offer numerous credentialing options within the same program. Colleges might offer an associate's degree in computer software development that both helps students move into jobs requiring coding skills and prepares them for bachelor's degrees in computer science. The same college might also offer short-term certificates designed to

help IT professionals learn new skill sets, like game programming or mobile application development. Some of these short-term options might lead to a community college certificate, and other course clusters might enable workers to pass third-party exams like Cisco or Adobe certifications. All of these options may lead to earnings gains (see Figure 3). However, earnings gains may not be the only metric of success to consider. Some students may

Figure 3.
EARNINGS BY CREDITS AND CREDENTIALS
Computer Software Development



use coursework to secure a new job at a similar salary level, such as moving from networking to databases, and others may use courses to retain an existing job, as with an office worker keeping computer skills up-to-date.

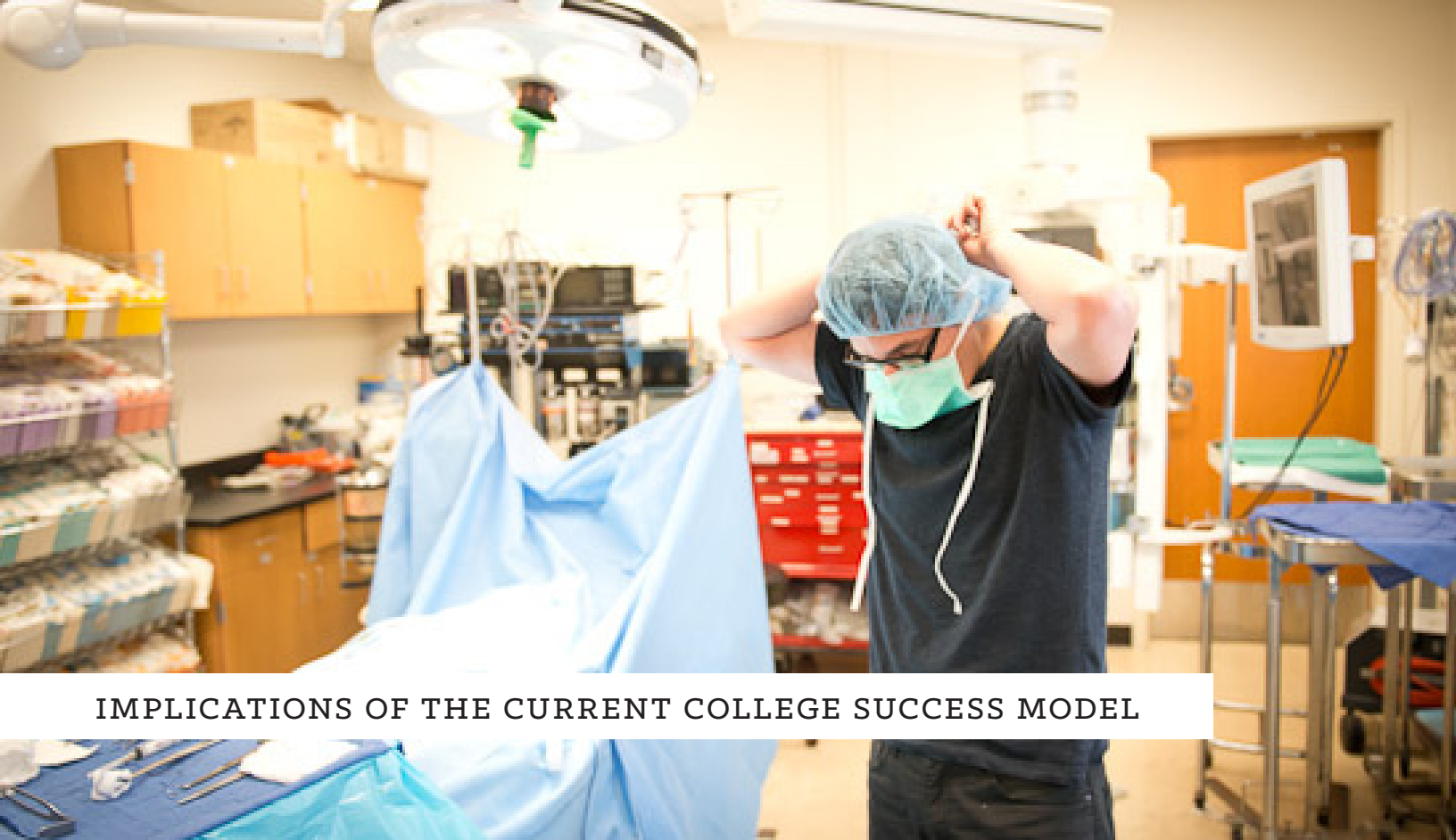
To effectively measure CTE outcomes, college accountability needs to be predicated on the understanding that the modern workforce is no longer driven by single academic credential that remains good for life. As the studies by Greaney, Fuller, and the Census Bureau show, a large number of students entering CTE programs already hold postsecondary or third-party credentials. This indicates that workers use community colleges to continue learning new skills throughout their careers. Many workers are shifting from jobs that no longer exist to professions that didn't exist when they first obtained their education. Increasingly, the credentials that employers seek for these jobs are issued by industry-sponsored entities rather than by academic institutions. As more employers expect job applicants to be ready for work with no additional training, the burden of professional development is falling on individuals. Also, as technology integrates into jobs ranging from auto repair to biotechnology, workers need ongoing training to keep their skills current. There is still an urgent need to provide longer-term foundational training for traditional college-aged students, but the concept of college needs to be expanded to also encompass the training needs of older workers.

Therefore, success metrics for CTE should identify whether students have the needed skills to gain and retain meaningful employment. In addition to the traditional completion metrics, these new metrics could include:

- » Earnings gains
- » Employment and employment retention
- » Third-party certifications

New tools that have been developed by the California Community Colleges Chancellor's Office are helping to bring these metrics to light. For example, the Salary Surfer shows aggregated earnings for students who obtained an associate's degrees or Chancellor's Office–approved certificates and did not transfer to a four-year institution. The CTE LaunchBoard documents a broad range of outcomes for workforce students—both those who complete a college degree or certification and those who do not. The outcomes documented include graduation, transfer, employment, job retention, earnings gains, and third-party certifications, as well as labor market data, though the data sets are not yet comprehensive.

While these tools give the state a running start, they are still being integrated into success conversations happening at state and college levels, and data on positive outcomes for non-completing students are just becoming more broadly known. Some practitioners and policymakers have expressed interest in integrating skills-builder metrics into accountability tools, but discussions about how to do so are hampered by the difficulty of coming up with a simple definition of a skills-builder student. How can a student taking a course or two for self-enrichment be differentiated from a student seeking a promotion or a new career, particularly if these different students take the same courses? What is a realistic credit threshold to set for skills-builder course-taking, given the variability in courses needed across different disciplines and experience levels? Is it acceptable for colleges to take credit for third-party credentials that are earned through a combination of academic and on-the-job learning? Although discussions of this kind are common among CTE practitioners, such considerations often remain at the periphery of institutional and system-wide goal-setting efforts.



IMPLICATIONS OF THE CURRENT COLLEGE SUCCESS MODEL

As educators and college leaders wrestle with these fundamental questions about how to structure and measure students' academic experiences, significant changes continue to ripple through higher education. In California, the Student Success Act has focused statewide efforts on assessing students' preparation for college-level coursework, providing orientation, and developing educational plans—with course scheduling and student registration priority pegged to these activities (Bahr et al., 2014). Meanwhile, as the state economic outlook improves, colleges are evaluating which programs to restore after the steep funding cuts of the past decade. Nationwide, the federal government has proposed a scorecard that could influence financial aid eligibility, driven by overall college completion rates, student earnings gains, and student debt loads. At the same time, a number of states are exploring performance-based funding. Decisions are being made now that will shape which kinds of programs are offered, whether students will get into courses, and how success is measured. There is a risk that the existing focus on preparing students for long-term certificates, degrees, and transfer will de-prioritize short-term training options and skills-builder students, thus exacerbating the skills gap.

In WestEd's interviews with practitioners at colleges with strong skills-builder pathways, CTE directors and faculty noted that colleges opted to preserve low-cost, high-demand courses like remedial English and math over more expensive workforce training offerings. This choice negatively impacted CTE programs in several ways. Because there were fewer course sections offered, many programs were unable to meet student demand, affecting both traditional-aged and older students as well as employers. Furthermore, reductions in offerings often meant that students had to wait years to complete the sequence of courses that would lead to a credential.

“There is a risk that the existing focus on preparing students for long-term certificates, degrees, and transfer will de-prioritize short-term training options and skills-builder students, thus exacerbating the skills gap.”

Recent budget cuts have also pitted college-readiness against career-readiness. It is important to ensure that students have a sufficient grasp of reading, writing, and algebra so that they have the option of pursuing a transfer pathway, and several CTE practitioners reported that their students lacked key English language, communications, and quantitative skills, impeding students' ability to successfully engage in coursework or secure employment. However, CTE practitioners reported that their students were unlikely to take developmental education courses. Older students in particular, who were already struggling to fit workforce-related courses around their jobs, did not see a clear value in taking basic skills courses that were geared toward longer-term academic pathways. If they could get a better job or a promotion by taking a few classes, why would they invest several years in pre-collegiate

coursework? Because these courses are required for associate's degrees and transfer, practitioners reported that students were less likely to pursue a completion goal, even when advised that they would have more career opportunities down the road.

The differing priorities and needs of CTE students—and particularly skills-builders—need to be clearly understood to ensure that they are not inadvertently disadvantaged by new statewide policies and priorities. For example, if students are required to take a college-readiness assessment test to receive enrollment priority, should developmental education offerings be designed to align with their career and college pathways? If educational plans are another critical milestone

for college participation, are counselors sufficiently well-versed in diversity of CTE pathways to provide appropriate guidance? Should comprehensive educational

plans and orientation be required for students who intend to take only one or two courses? While many colleges are examining these policies, CTE practitioners report that skills-builders are expected to navigate complex exemptions to requirements, such as securing letters from their employers certifying that they need to take or retake a single course for their job. Skills-builder students are being treated as individual exceptions to college-going models, rather than as a sizable portion of community college students who are participating in pathways that have been intentionally developed to respond to the job market.



OPPORTUNITIES FOR ACTION

Colleges will be better able to prioritize offerings that are of high value to both students and employers if they have access to data on more comprehensive workforce training outcomes—such as whether students secure an industry-recognized credential, improve their employment status, or increase their earnings—in addition to conventional completion metrics. Some entities have sought to expand success definitions in this direction, such as the California Student Aid Commission, the Accreditation Commission for Community and Junior Colleges, and the federal government through gainful employment reporting. These efforts provide foundations that colleges could build upon when developing appropriate policies for common long-term and short-term CTE pathways in their institutions. Here are examples of possible conversations and actions for various parties:

Policymakers

- » Expand community college success metrics: Incorporate outcomes such as employment, earnings, and third-party credentials.
- » Improve access to data: Explore ways to automatically share information between state licensing agencies and community colleges, or to draw up agreements that provide access to earnings data from other states.

College Leaders

- » Expand community college success metrics: Where available, assess outcomes like employment, earnings, and third-party credentials for accreditation, program review, and resource allocation.
- » Establish policies for skills-builder students: Set appropriate rules for low-unit CTE students, particularly regarding assessment, educational planning, and course repeatability.

CTE Directors and Faculty

- » Examine local pathways: Determine where short-term course-taking fits into overall career pathways, how this relates to industry needs, and who benefits most from particular types of training. Share this information with college leaders to drive goal-setting, program development, and student advising.
- » Assess programs based on more comprehensive metrics: Once program pathways and likely outcomes are clear, ensure that program review and departmental improvement efforts are informed by data that include employment, earnings, and third-party certification outcomes, in addition to completion measures.

FIND OUT MORE

Visit the WestEd site at www.wested.org/project/quantifying-non-completion-pathways-to-success for:

- » A downloadable version of this inquiry guide
- » Short videos and accompanying discussion guides that can be used to further this conversation among faculty, CTE directors, college leaders, and policymakers
- » Scholarly articles by Bahr on skills-builders and earnings gains

Access earlier work on course-taking patterns in California community colleges on the LearningWorks (www.learningworksca.org/whats-completion-got-to-do-with-it-using-course-taking-behavior-to-understand-community-college-success/) and RP Group (www.rpgroup.org/resources/completion-inquiry-guide-and-research-tools) websites. These resources include:

- » “The Missing Piece” inquiry guide and executive summary examine course-taking patterns and earnings gains for students who enroll in a small number of CTE courses rather than complete a degree or certificate.
- » The “What’s Completion Got to Do with It?” inquiry guide applies Bahr’s research to the current conversation on improving completion outcomes and includes a series of questions that could be used to discuss the research.
- » A recorded webinar summarizes Bahr’s research on course-taking patterns and offers practitioner perspectives on the value of short-term course-taking.
- » The “Segmentation Model for Assessing Course-Taking Patterns” document provides a simplified rule set to sort students into the classifications identified by Bahr. This document also includes sample discussion questions on how to use these results to build a deeper understanding of student course-taking behavior and its relationship to student success.

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