

Regional Labor Market Information (LMI)

Webinar Series #2



**SAN DIEGO & IMPERIAL COUNTIES
COMMUNITY COLLEGES**

About the COE

The Centers of Excellence for Labor Market Research (COE) are the number one source of labor market information for the California Community Colleges



C·O·E
CENTERS OF EXCELLENCE
Inform Connect Advance

Statewide site:
coecc.net

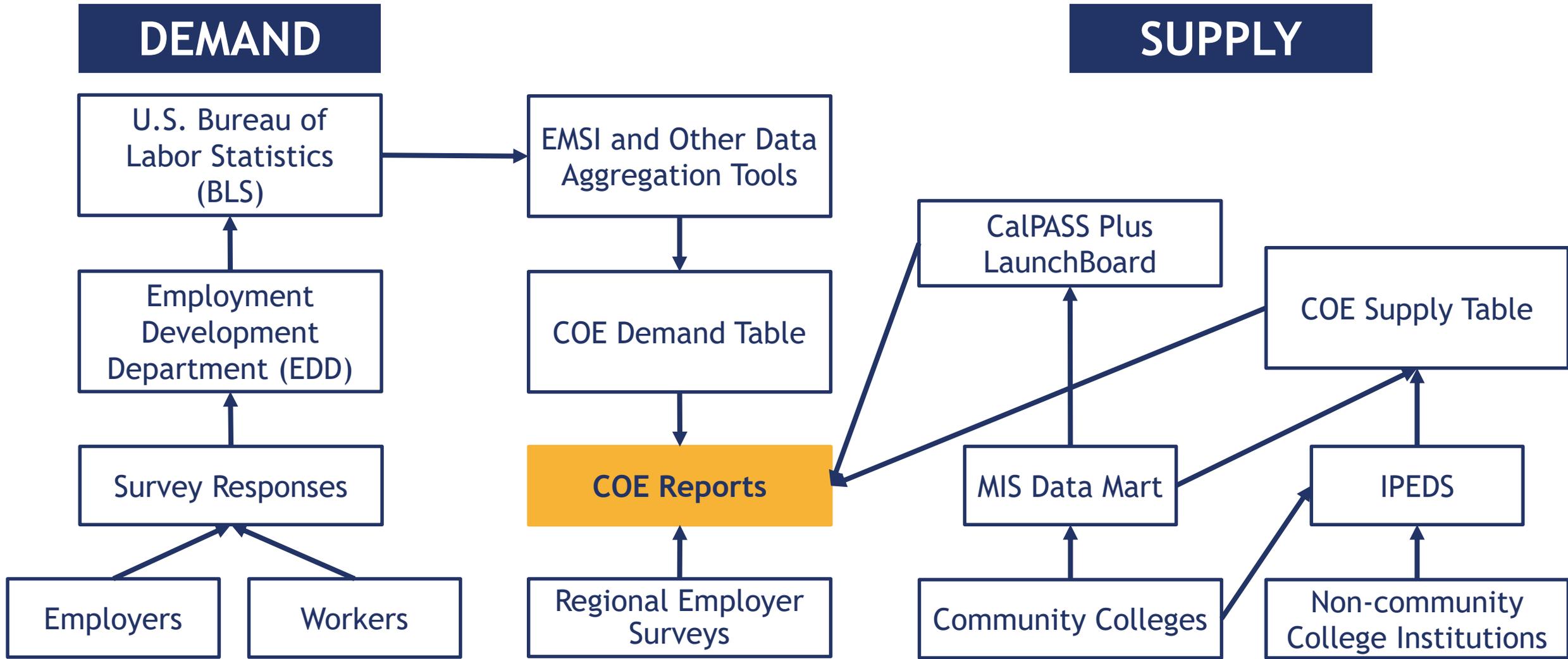
San Diego-Imperial regional site:
myworkforceconnection.org/lmi

Objectives

1. Understand what is labor market information (LMI) and why LMI is important
2. Learn what regional LMI resources are available
3. Gain ideas on how to use LMI in your K12 SWP Application



Where does LMI come from?

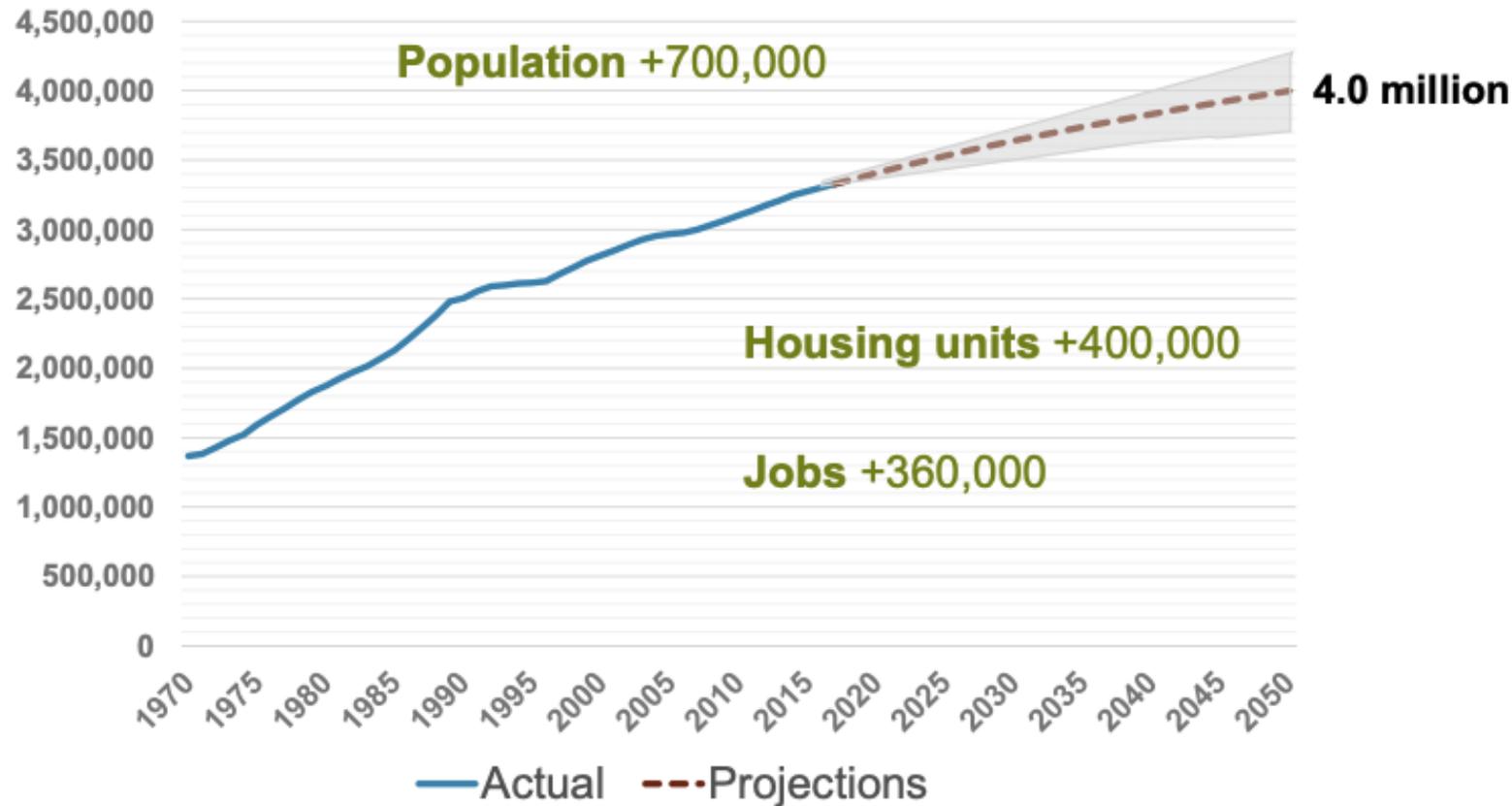


Why respond to labor market demand?

Borrowing from Ray Major, chief economist from SANDAG, at the annual [Economic Roundtable](#)...

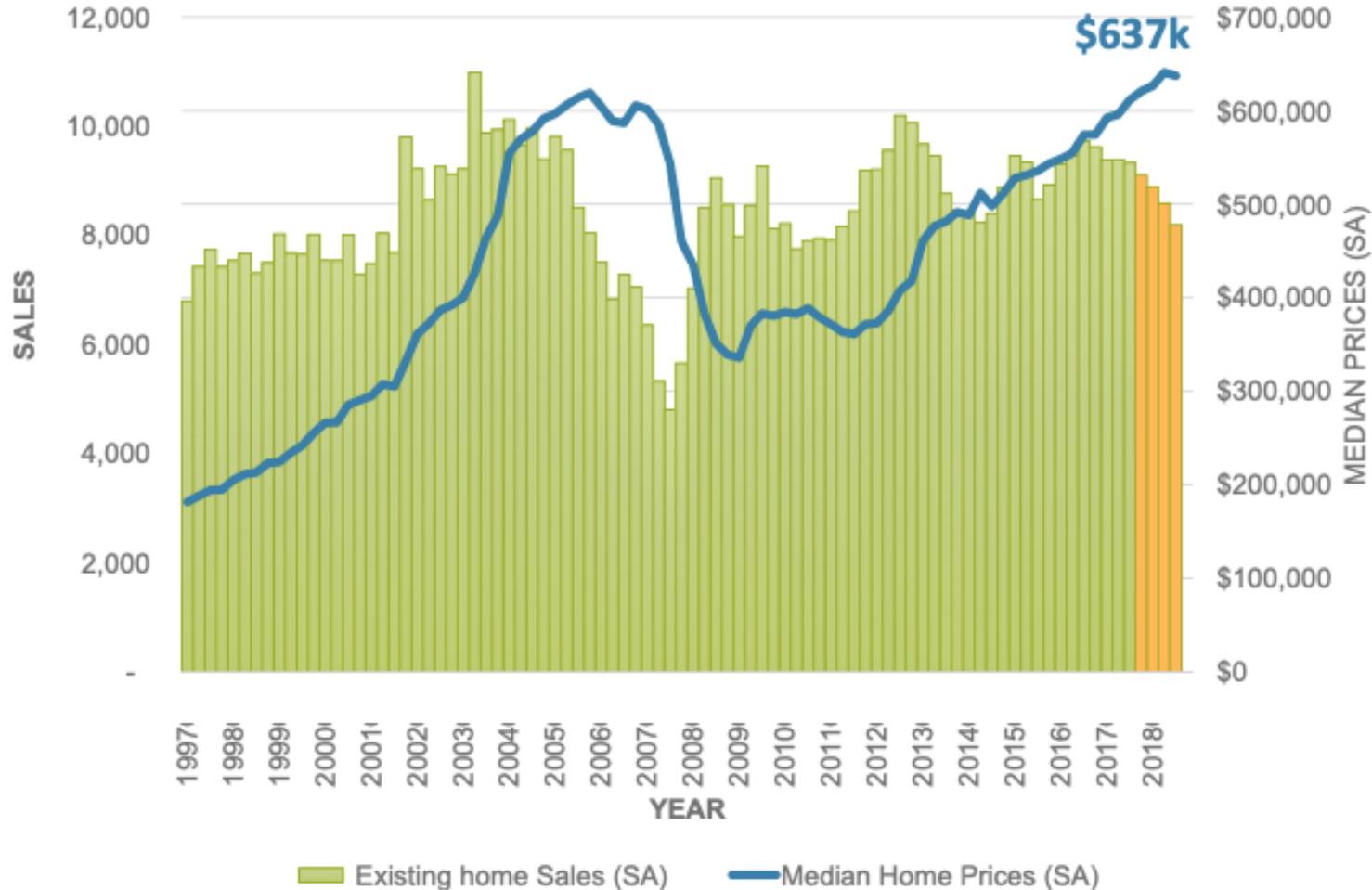


San Diego County: Growth Forecast 2018-2050



That's an increase of 700K people. We will need 400K more housing and 360K more jobs to meet this population growth.

San Diego County: Real Estate Market



Median home prices in SD County are now approximately \$637K.

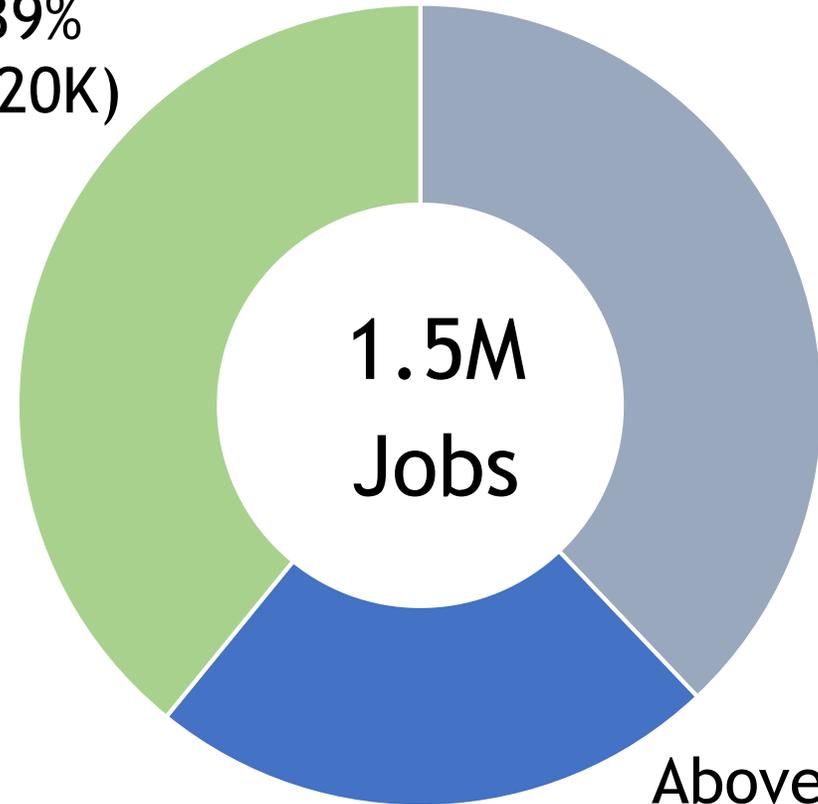
According to the jobs breakdown in San Diego County as of 2017, middle-skill jobs (above a high school diploma and below a four-year degree) make up 38 percent of total employment.

Below Middle-Skill Jobs

39%
(620K)

Middle-Skill Jobs

38%
(600K)

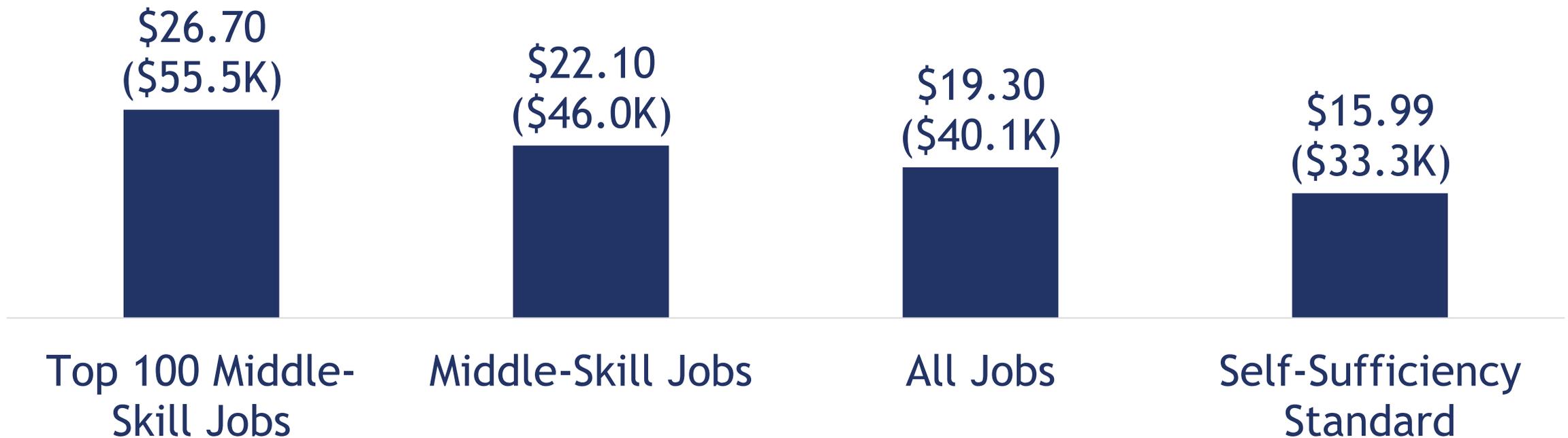


Above-Middle-Skill Jobs

23%
(363K)

Middle-skill jobs have opportunities for economic mobility

Median Hourly Earnings (Annual Salary)
vs. Self-Sufficiency Standard



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myworkforceconnection.org/lmi

**CALIFORNIA COMMUNITY COLLEGES
SAN DIEGO IMPERIAL COUNTIES
REGIONAL CONSORTIUM**

**Doing What MATTERS™
FOR BUSINESS AND INDUSTRY**

WDC GET IN TOUCH

| LABOR MARKET INFORMATION - MY WORKFORCE CONNECTION

LABOR MARKET INFORMATION

The **Centers of Excellence for Labor Market Research (COE)** are the number one source of regional labor market information (LMI) for the California Community Colleges. The San Diego-Imperial COE team consists of:

Tina Ngo Bartel, Director (tngobartel@miracosta.edu)

John Edwards, Research Analyst (jedwards@miracosta.edu)

GET IN TOUCH WITH US

First name Last name

Email

How can we help you?

My question/comment is about:

LEARN MORE. EARN MORE.

CAREER EDUCATION GUIDE

SAN DIEGO & IMPERIAL COUNTIES COMMUNITY COLLEGES



Posters: Priority & Emerging Sectors



ADVANCED MANUFACTURING



ADVANCED TRANSPORTATION AND LOGISTICS



AGRICULTURE, WATER AND ENVIRONMENTAL TECHNOLOGIES

SAN D

FAST FACTS*

- 111,197** people employed
- 4% (4,790)** 5-year projected job growth
- 8%** of the sector's employment in California
- \$99,907** average earnings per job

FAST FACTS*

- 50,443** people employed
- 13% (6,450)** 5-year projected job growth
- 8%** of the sector's employment in California
- \$95,760** average earnings per job

FAST FACTS*

- 36,966** people employed
- 3% (1,188)** 5-year projected job growth
- 5%** of the sector's employment in California
- \$46,398** average earnings per job

DID YOU KNOW?

- San Diego County's Advanced Manufacturing sector includes **aerospace devices and products, pharmaceuticals, sporting goods, beverage**
- 62%** of students who graduated from the San Diego-Imperial community colleges in 2016 were employed after a year of exiting post-secondary education
- Most employers have difficulty finding qualified candidates for **computer programmers, mechanical engineers and machinists**.
- Because **Advanced Manufacturing companies are small, specialized** resources in training their workforce and providing personnel opportunities are limited.

Sources: San Diego-Imperial Center of Excellence for Labor Market Research

DID YOU KNOW?

- The Advanced Transportation and Logistics sector includes **road, marine, and aviation technologies** such as smart ticketing systems, electric/hybrid buses, high-speed rail, and **freight, transportation, delivery, and port operations** are the largest sectors in California. Most jobs in Advanced Transportation are concentrated in the San Diego Air and Space Museum, **San Diego is known** for the aircraft carrier as a maritime weapon occurred between 1920 and 1945.
- 73%** of San Diego-Imperial community college students who completed Advanced Transportation and Logistics programs in 2016 attained a living wage.

Sources: San Diego-Imperial Center of Excellence for Labor Market Research

DID YOU KNOW?

- There are more than **45 certified farmers' markets** in San Diego County.
- More than **83%** of students who graduated from the San Diego-Imperial community colleges' Water and Environmental Technology and Environmental Technology programs in 2016 attained living wages.
- Due to a shortage of agricultural workers in recent years, adoption of new technologies and processes has become prevalent on local farms. Many growers have large machine shops on their properties to fabricate and repair equipment. Demand for occupations related to the **fabrication and repair of mechanized equipment** is high.
- According to the San Diego Farm Bureau, San Diego County has the **12th largest farm economy** in the nation. Additionally, **San Diego has more small farms** (less than 10 acres) than any other county in the nation.

Sources: San Diego-Imperial Center of Excellence for Labor Market Research

TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE DEGREE

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

- Maintenance and Repair Workers, General
- Computer-Controlled Machine Tool Operators, Metal and Plastic

TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE DEGREE

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

- Automotive Service Technicians and Mechanics
- Cargo and Freight Agents

TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE DEGREE

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per year?

Job	Entry-Level (10th percentile)	Median (50th percentile)
Farmers, Ranchers, and Other Agricultural Managers	\$11	\$14
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$15	\$18

San Diego County Posters

Imperial County Posters



FAST FACTS*

36,966
people employed

3% (1,188)
5-year projected job growth

1,478
businesses

5%
of the sector's
employment in California

\$46,398
average earnings per job

6%
of the sector's
businesses in California

DID YOU KNOW?

- There are more than **45 certified farmers' markets** in San Diego County.
- More than **83%** of students who graduated from the San Diego-Imperial community colleges' Water and Wastewater Technology and Environmental Technology programs in 2016 attained living wages.
- Due to a shortage of agricultural workers in recent years, adoption of new technologies and processes have never been more prevalent on local farms. Many growers have large machine shops on their properties to fabricate and repair mechanical field equipment. Demand for occupations related to the **fabrication and repair of mechanized equipment** is expected to rise.
- According to the San Diego Farm Bureau, San Diego County has the **12th largest farm economy** out of 3,000+ counties. Additionally, **San Diego has more small farms** (less than 10 acres) than any other county in the nation.

Source: San Diego-Imperial Center of Excellence for Labor Market Research & Cal-PASS Plus LaunchBoard

TOP JOBS THAT ARE ATTAINABLE WITH A COMMUNITY COLLEGE EDUCATION*

What jobs require a high school diploma + postsecondary training (e.g., certificate)?

How much will I earn per hour?
 Entry-Level (20th percentile)
 Median (50th percentile)
 Experienced (90th percentile)

Farmers, Ranchers, and Other Agricultural Managers	\$11	\$14	\$36
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$15	\$18	\$28



Labor Market Briefs

Imperial County

- Animal Control Workers
- Correctional Officers and Jailers
- Electrical and Electronic Equipment Assemblers
- Electrical and Electronic Repairers, Commercial and Industrial Equipment
- Electrical and Electronic Repairers, Powerhouse, Substation and Relay
- Environmental Engineering Technicians
- Environmental Science and Protection Specialists, Including Health
- Engineering Technicians, Except Drafters, All Other
- Hydrologists
- Police and Sheriff's Patrol Officers
- Security and Fire Alarm System Installers
- Transit and Railroad Police
- Water and Wastewater Treatment Plant and System Operators

[Full Report](#)

[Report Summary](#)

CYBERSECURITY: LABOR MARKET ANALYSIS AND STATEWIDE SURVEY RESULTS FROM CALIFORNIA EMPLOYERS AND POSTSECONDARY INSTITUTIONS



Life Sciences & Biotech Report

SUPPLY AND DEMAND ANALYSIS

LIFE SCIENCES & BIOTECH MIDDLE SKILLS WORKFORCE

In California

SEPTEMBER 2017



Southern Border Region Career Coach

Welcome to Career Coach

Discover San Diego and Imperial County-based career paths that match your interests.

Take Career Assessment

Take a Career Assessment to learn about yourself and Career Coach will give you career suggestions based on your interests.

Take the Assessment

Browse Careers

Browse or search for careers and we will give you relevant data on wages, employment, and the training you need.

Search for Careers



Or Browse all Careers

Browse Programs

Browse or search for the available programs that lead to the career you want.

Search for Programs



Or Browse all Programs

Career Development Continuum

Self Awareness

Career Awareness

Career Exploration

Career Preparation

Career Prep: Practicum and Internships

Career Training

Take Career Assessment

Take a Career Assessment to learn about yourself and Career Coach will give you career suggestions based on your interests.

Take the Assessment

Browse Careers

Browse or search for careers and we will give you relevant data on wages, employment, and the training you need.

Search for Careers



Objectives

1. Understand what is labor market information (LMI) and why LMI is important
2. Learn what regional LMI resources are available
3. **Gain ideas on how to use LMI in your K12 SWP Application**



“Labor market” is mentioned in the app...

- On page 3: “Applications for these funds should be responsive to the regional and local labor market and employment gaps...”
- On page 23: “Describe why the industry sectors and pathways were selected and explain the **regional economic need** the application will address using economic data and labor market information. Using economic data and/or labor market information, justify why the industry sectors and pathways were selected and explain how the application will address the regional economic needs identified in your Career Technical Education Regional Consortia’s regional plan.”

Example:



FAST FACTS*

111,197
people employed

4% (4,792)
5-year projected job growth

3,168
businesses

8%
of the sector's
employment in California

\$99,907
average earnings per job

8%
of the sector's
businesses in California

DID YOU KNOW?

- San Diego County's Advanced Manufacturing sector includes **aerospace, maritime, clean technology, biomedical devices and products, pharmaceuticals, sporting goods, beverage and precision manufacturing.**
- **62%** of students who graduated from the San Diego-Imperial community colleges' Advanced Manufacturing programs in 2016 were employed after a year of exiting post-secondary education.
- Most employers have difficulty finding qualified candidates for **computer numerically controlled machine tool programmers, mechanical engineers and machinists.**
- Because **Advanced Manufacturing companies are small, specialized firms**, employers invest significant resources in training their workforce and providing personnel opportunities for job growth.

Sources: San Diego-Imperial Center of Excellence for Labor Market Research & San Diego Workforce Partnership

“The Advanced Manufacturing (AM) sector accounts for 111,197 jobs in San Diego County and eight percent of all AM jobs in California. There are approximately 3,100 AM establishments in San Diego County, making up eight percent of California’s AM businesses. AM is projected to grow four percent (or 4,792 jobs) in the next five years. The average earnings per AM job is \$99,907.”

CYBERSECURITY: LABOR MARKET ANALYSIS AND STATEWIDE SURVEY RESULTS FROM CALIFORNIA EMPLOYERS AND POSTSECONDARY INSTITUTIONS



Employers plan to add
14,300*
cybersecurity jobs over
the next 12 months

3,200
Awards conferred by California
training programs that are
cybersecurity focused or include
aspects of cybersecurity

Potential training gap of **11,100*** cybersecurity jobs

2018 employment Job increase in the next 12 months



**Systems
Security
Analyst**
(n=112)

15,223
Current jobs

+2,414

↑ 15.9%



**Cyber
Defense
Analyst**
(n=124)

16,164
Current jobs

+1,272

↑ 7.9%



**Cyber
Defense
Infrastructure
Support
Specialist**
(n=112)

10,079
Current jobs

+2,146

↑ 21.3%



**Vulnerability
Assessment
Analyst**
(n=119)

17,189
Current jobs

+1,245

↑ 7.2%



**Cyber
Defense
Forensic
Analyst**
(n=109)

21,293
Current jobs

+2,336

↑ 11%

Alternatively, the statement of need could be...

“The State of California is vastly undersupplying trained workers for cybersecurity jobs. According to the Centers of Excellence for Labor Market Research (COE), employers plan to add 14,300 cybersecurity jobs over the next 12 months (labor market demand) while California training institutions only produce 3,200 awards annually (labor market supply). That is a potential training gap of 11,100 awards per year. Our strategy aims to close that gap by ...”

How to cite the Center(s) of Excellence

- **Statewide reports:**
Centers of Excellence for Labor Market Research (COE)
- **Regional reports/resources:**
San Diego-Imperial Center of Excellence for Labor Market Research (COE)

“Labor market” is mentioned in the app...

On page 23: “Describe why the industry sectors and pathways were selected and explain the regional economic need the application will address using economic data and labor market information. Using economic data and/or labor market information, justify why the industry sectors and **pathways were selected** and explain how the application will address the regional economic needs identified in your Career Technical Education Regional Consortia’s regional plan.”

Example:

“Our pathway strategy will focus on the following Advanced Manufacturing in-demand jobs:

- Computer-Controlled Machine Tool Operators, Metal and Plastic
- Machinists
- Structural Iron and Steel Workers”



SAMPLE OF LOCAL EMPLOYERS

General Atomics	Northrop Grumman	Orbital ATK
BAE Systems	GKN Aerospace	UTC Aerospace Systems
Cymer Incorporated	Teledyne Technologies	




**SAN DIEGO & IMPERIAL COUNTIES
COMMUNITY COLLEGES**

Visit CareerEd.org to find community college programs in Advanced Manufacturing.

Alternatively, the Career Education Guide also matches the K12 California Department of Education (CDE) pathways to the community colleges' Priority & Emerging Sectors as much as possible.

CAREER EDUCATION GUIDE

RELATED PATHWAYS AND PROGRAMS

ENGINEERING AND ARCHITECTURAL DESIGN

The world's future will be propelled by ideas that will be developed in the Engineering and Architectural field. As the population continues to grow, engineers and architects will be called upon to imagine the future and turn it into reality. This sector is designed to provide a foundation in engineering, architecture, and design.

Types of Careers

Mechanical Drafters	\$22.85 - \$28.10
Architectural and Civil Drafters	\$24.68 - \$28.25
Electrical and Electronics Drafters	\$24.75 - \$28.64
Landscape Architects	\$26.01 - \$38.85

WELDING AND MATERIALS JOINING

The Welding and Materials Joining pathway provides students with an understanding of manufacturing processes and systems common to careers in welding and related industries. Topics include the interpretation and layout of welded and assembled parts through cutting, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening.

Types of Careers

Structural Metal Fabricators and Fitters	\$14.05 - \$20.38
Welders, Cutters, Solderers, and Brazers	\$17.10 - \$22.73
Welders, Cutters, and Welder Fitters (Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders)	\$17.66 - \$22.09

MACHINING AND FORMING TECHNOLOGIES

The Machine and Forming Technologies pathway provides students with an understanding of manufacturing processes and systems common to careers in machine tool and materials forming industries. Topics include trade vocabulary; shop math; basic material identification; proper use of hand and machine tools; interpretation of machined and formed-part prints; cutting, shaping, fastening, and finishing of machined parts; forging, molding (casting), cold forming, and shearing processes; and reading precision measuring tools within .001".

Types of Careers

Computer-Controlled Machine Tool Operators, Metal and Plastic	\$16.34 - \$21.60
Machinists	\$16.42 - \$21.67
Electro-Mechanical Technicians	\$18.00 - \$24.03
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	\$22.12 - \$32.41

PRODUCT INNOVATION AND DESIGN

This pathway provides students with an understanding of technologies common to careers in product design and manufacturing. Topics include product design, product development, computer-aided design, fabrication, manufacturing, sustainability, and global design principles.

Types of Careers

Model Makers, Metal and Plastic	\$17.72 - \$23.82
Mechanical Drafters	\$22.85 - \$28.10
Commercial and Industrial Designers	\$23.89 - \$27.80



If more information is needed regarding jobs, the [Southern Border Region's Career Coach](#) is a useful tool.

Welcome to Career Coach

Discover San Diego and Imperial County-based career paths that match your interests.

Browse Careers

Browse or search for careers and we will give you relevant data on wages, employment, and the training you need.



[Or Browse all Careers](#)

Using the lists of occupations in the Priority & Emerging Sectors Posters and Career Education Guide, explore labor market data, programs, and job postings in Career Coach.

Search Results

17 results found related to "machinists"

Machinists

Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to... [Show More](#)



Annual Wage

\$45,217



Top Entry-level Education

A Certificate

50%

A High School Diploma or Less

37%



Save

Tool and Die Makers

Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.



LMI is available at the occupational level

Machinists

♡ Save

Overview

About

Wages

Employment

Live Job Postings

\$45,217

Median Salary

New workers start around \$27,141. Normal pay is \$45,217 per year. Highly experienced workers can earn up to \$64,918.

418

Annual job openings

Openings are regional vacancies due to growth and turnover in this career.

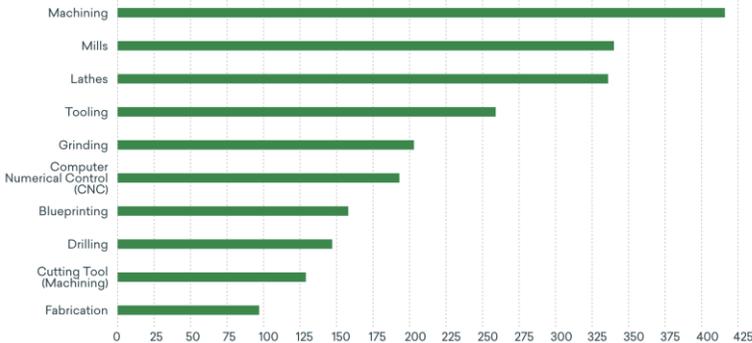


Daily Tasks

- Calculate dimensions or tolerances, using instruments such as micrometers or vernier calipers.
- Machine parts to specifications, using machine tools, such as lathes, milling machines, shapers, or grinders.
- Set up, adjust, or operate basic or specialized machine tools used to perform precision machining operations.
- Measure, examine, or test completed units to check for defects and ensure conformance to specifications, using precision instruments, such as micrometers.
- Align and secure holding fixtures, cutting tools, attachments, accessories, or materials onto machines.

[Show More](#)

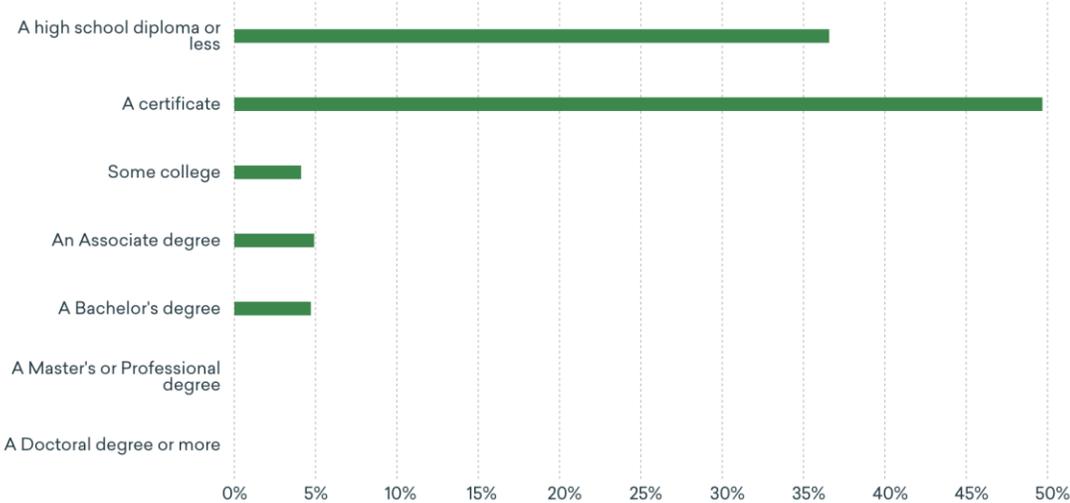
Skills employers are asking for



National Education Attainment Level

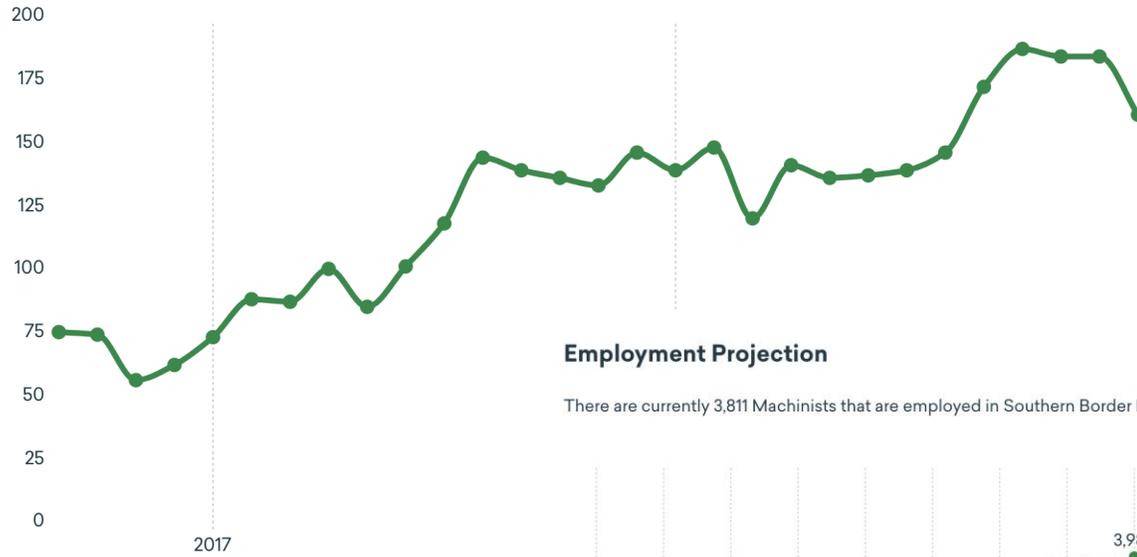
Educational Attainment is a national breakdown of the education levels attained by the occupation's workforce.

The following shows the percentage of Machinists that have achieved different levels of education. This is not meant to represent what you should pursue, but rather to inform what other workers in the field have attained.



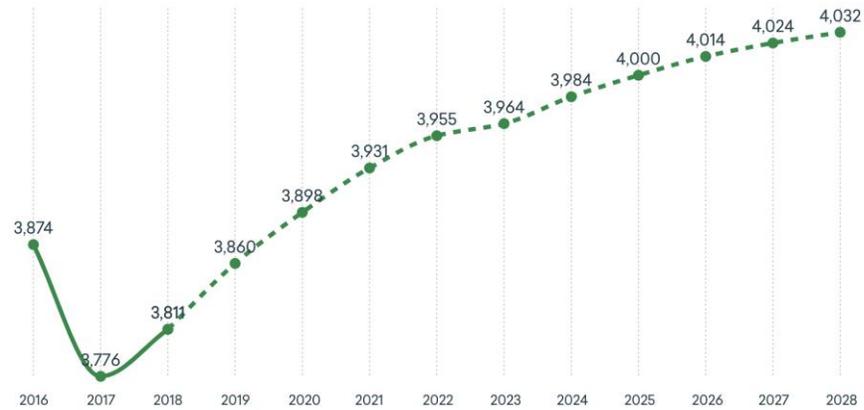
Monthly Job Postings

Over the last year, 174 companies have posted 719 jobs for Machinists.

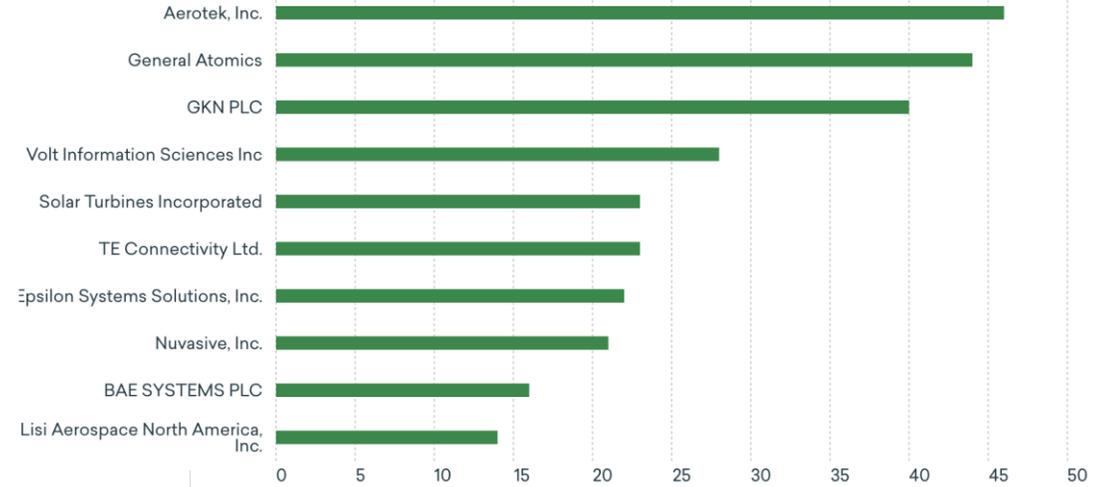


Employment Projection

There are currently 3,811 Machinists that are employed in Southern Border Region.

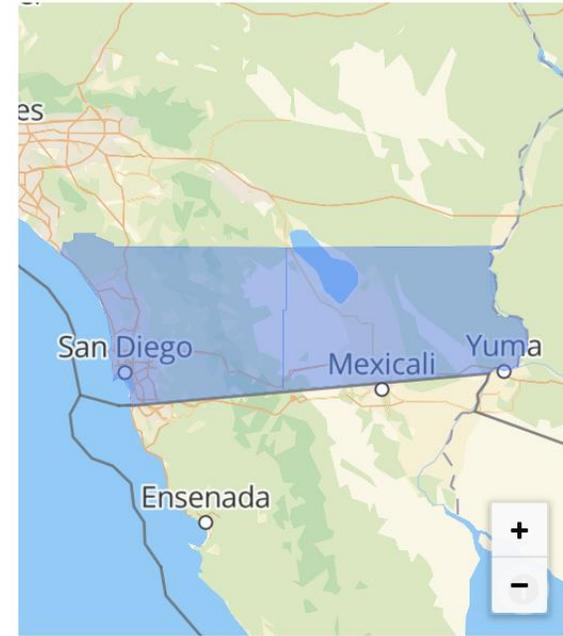


Companies posting jobs



Scrolling to the bottom right of the occupational profile page, a viewer can filter the data by region. By default, the region is set for the Southern Border Region, which includes both San Diego and Imperial Counties.

Career Filters



Region Selection

Southern Border Region ▼

Q Search Regions...

- ✓ Southern Border Region
- San Diego
- Imperial

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Q & A



THANK YOU

tngobartel@miracosta.edu

Tina Ngo Bartel

Director

San Diego-Imperial

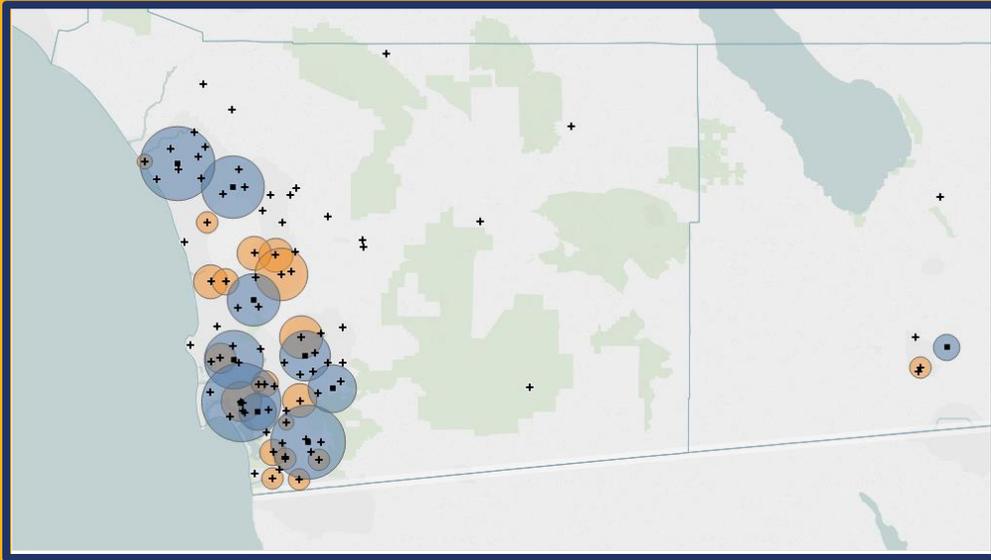
Center of Excellence for Labor Market Research

**SAN DIEGO & IMPERIAL COUNTIES
COMMUNITY COLLEGES**

<https://bit.ly/2RKUpMO>



San Diego Imperial Pathways



Randy Tillery
rtiller@wested.org



**SAN DIEGO & IMPERIAL COUNTIES
COMMUNITY COLLEGES**

Project Goal: To map and inventory every high school and community college career education program in the San Diego Imperial Region.

1. Understand the relationship between high school and college offerings
2. Inform pathway planning between high schools and colleges - fill in gaps, develop new programs, improve existing pathways
3. Develop advising tools to help counselors direct students to CC programs and to support college and career exploration



San Diego Imperial Pathway Mapping and Gap Analysis

Comparison of K12 and College Career
Education Offerings and Regional Demand
Occupations

01.24.2019

Report to the San Diego Imperial Regional
Consortium

Randal K Tillery

rtillery@wested.org

Allie Bollella

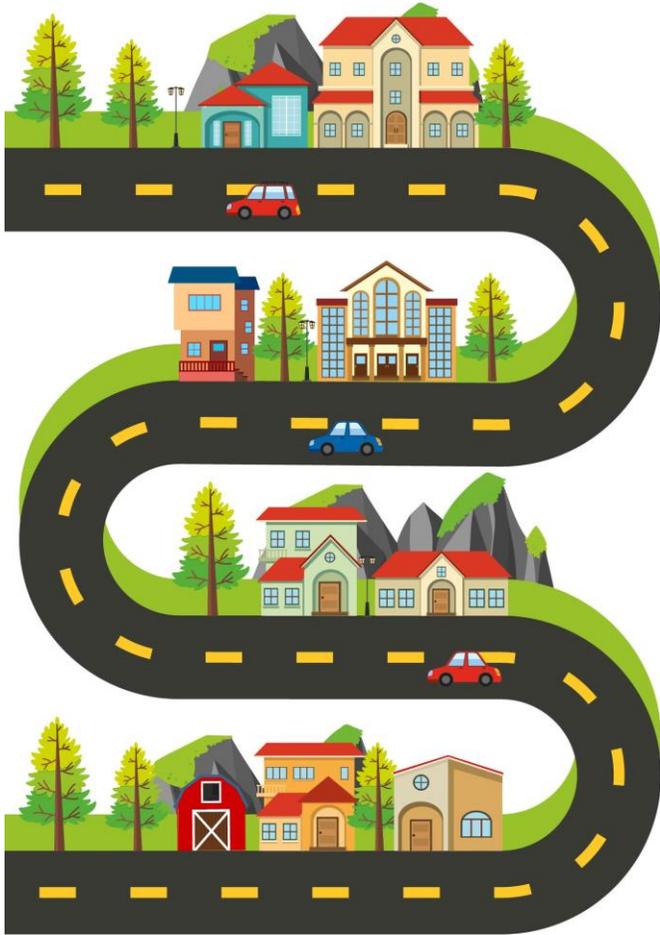
Abollella@wested.org



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Assumptions about Pathway Work



1. The pathway to sustainable wage employment passes through post-secondary education
2. K12 CE pathways are more foundational than occupational
3. A K12 pathway or sector may align to dozens of college programs or occupations
4. A major challenge is how we help students understand what is actually out there

Relationships across systems

Community College Awards (1 district)

(30 awards; 914 course sections)

Associates Degrees

Accounting, Business Administration (ADT), Business Management, Computer Business Technology, Entrepreneurship, Financial Services, Legal Admin Assistant, Marketing, Real Estate, Retail Management, Small Business Accounting, Small Business

Certificates

Accounting, Accountancy, Accountancy for Enrolled Agents, Business Administration, Business Management, Entrepreneurship, Financial Services, Legal Administrative Assistant, Marketing, Real Estate Broker, Retail Management, Small Business Management

Noncredit Certificates

Account Clerk, Accounting, Business Management, Project Management, Small Business Growth, Small Business Planning

K12 Business Pathways

(11 course sections;)

Advanced Accounting

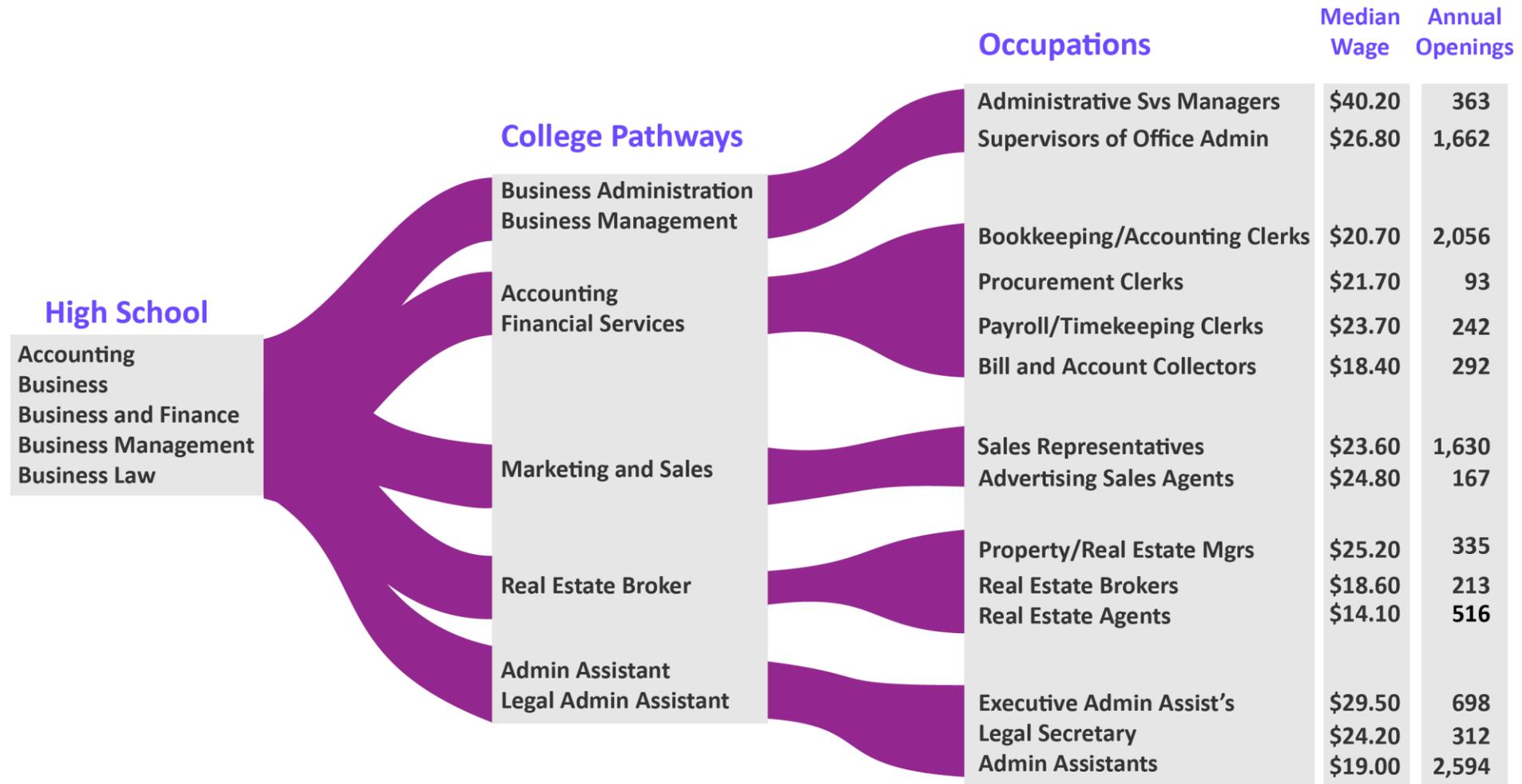
Business

Business & Financial Markets

Business Management

Business Law

...and into employment



Not a Supply and Demand Study

1. Not a direct comparison between number of students produced by K12 and colleges and regional job openings
2. Comparing different kinds of information: course offerings in K12 (sectors); college program awards offered (disciplines)
3. Proportional analysis to help practitioners take a holistic look at how regional systems related to each other and to inform regional priorities for building pathways

San Diego Imperial Pathway Mapping and Gap Analysis

Comparison of K12 and College Career
Education Offerings and Regional Demand
Occupations

01.24.2019

Report to the San Diego Imperial Regional
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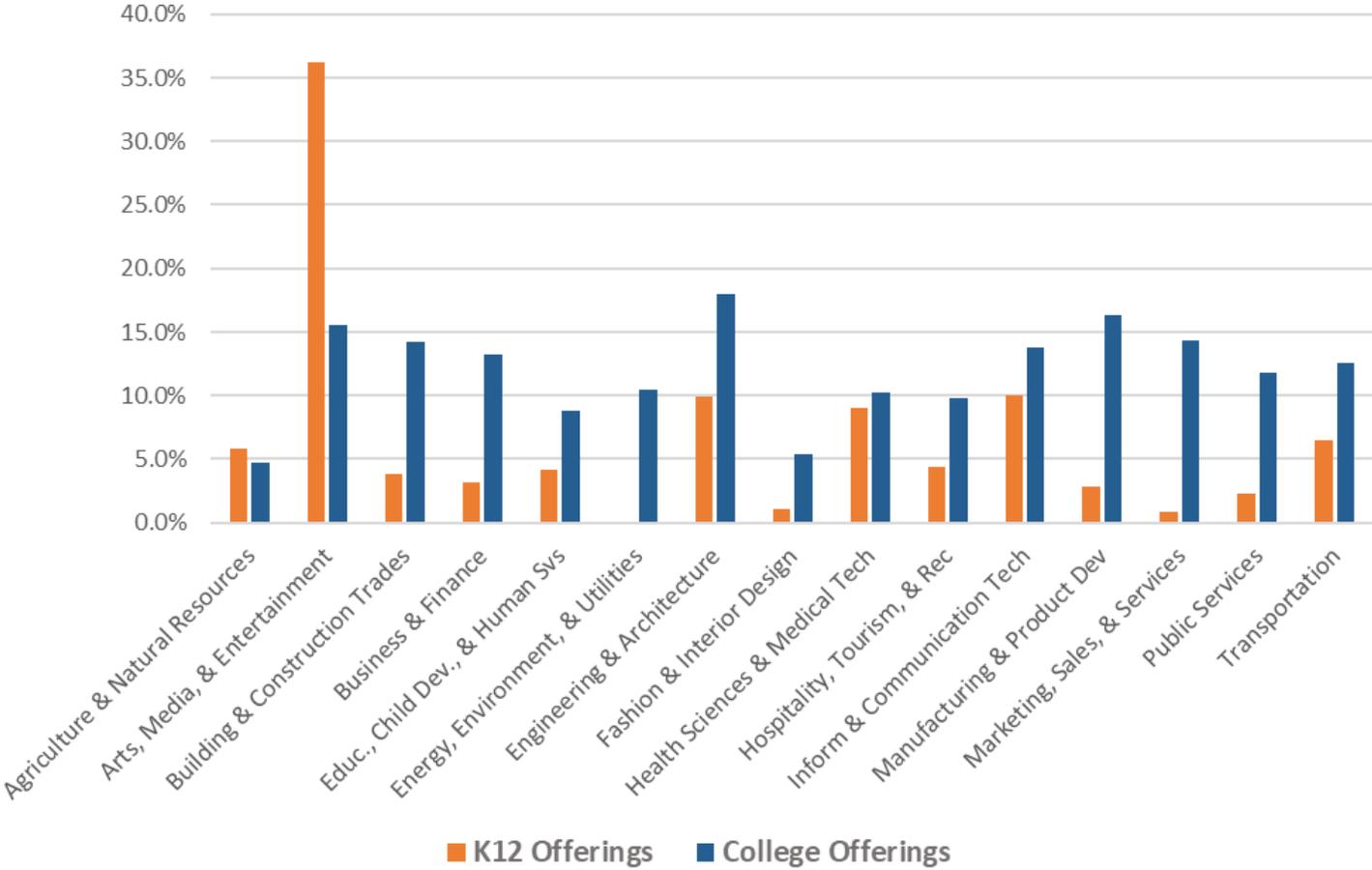
Allie Bollella

Abollella@wested.org

WestEd
WestEd.org

Proportional Analysis

K12 and Community College Offerings



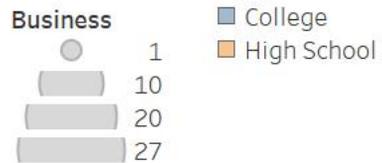
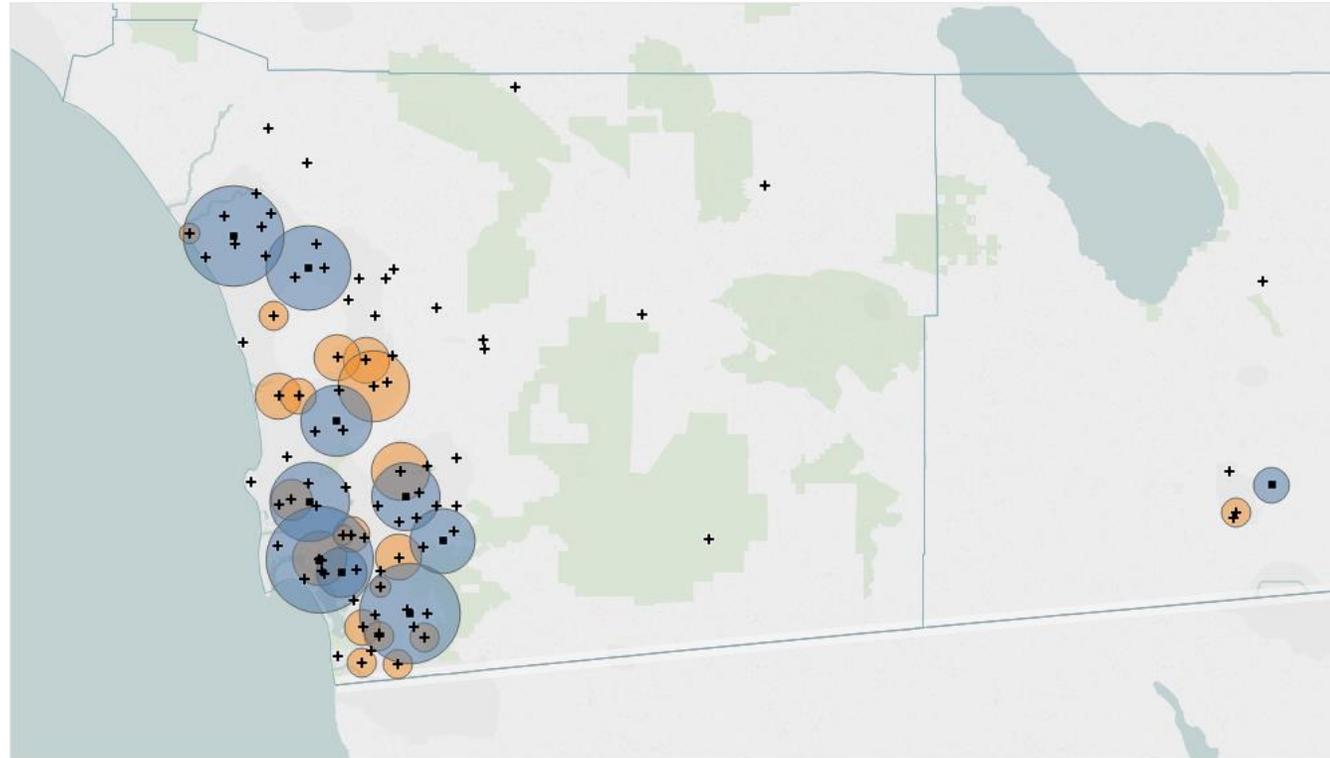
Analysis

SDIC Region - Offerings, Employment, and Wages										
K12 Sectors	K12 Offerings		CC Programs		2017 Employment		Annual Openings		Wages	
	Courses	%	Awards	%	Jobs	%	Openings	%	Entry	Median
Agriculture and Natural Resources	102	5.8%	51	4.8%	25,855	1.6%	3,536	1.7%	\$ 18.10	\$ 26.31
Arts, Media, and Entertainment	634	36.2%	167	15.6%	46,436	2.8%	4,452	2.1%	\$ 14.88	\$ 23.18
Building and Construction Trades	67	3.8%	152	14.2%	99,501	6.0%	11,376	5.4%	\$ 15.39	\$ 24.55
Business and Finance	56	3.2%	142	13.2%	402,968	24.2%	44,299	20.9%	\$ 17.52	\$ 27.82
Educ., Child Dev., and Human Svs	73	4.2%	94	8.8%	108,599	6.5%	14,011	6.6%	\$ 14.50	\$ 23.00
Energy, Environment, and Utilities	0	0.0%	112	10.4%	35,680	2.1%	3,612	1.7%	\$ 23.37	\$ 35.23
Engineering and Architecture	173	9.9%	193	18.0%	46,404	2.8%	4,043	1.9%	\$ 26.86	\$ 39.74
Fashion and Interior Design	18	1.0%	58	5.4%	30,851	1.9%	3,210	1.5%	\$ 14.45	\$ 21.32
Health Sciences and Medical Tech	158	9.0%	110	10.3%	128,788	7.7%	13,774	6.5%	\$ 27.17	\$ 42.90
Hospitality, Tourism, and Recreation	77	4.4%	105	9.8%	242,539	14.6%	47,240	22.3%	\$ 11.25	\$ 15.00
Information and Comm Tech	175	10.0%	148	13.8%	60,310	3.6%	4,899	2.3%	\$ 26.56	\$ 45.04
Manufacturing and Product Dev	50	2.9%	175	16.3%	119,729	7.2%	12,369	5.8%	\$ 15.76	\$ 23.09
Marketing, Sales, and Services	15	0.9%	154	14.4%	187,589	11.3%	26,029	12.3%	\$ 15.47	\$ 25.18
Public Services	40	2.3%	126	11.8%	98,661	5.9%	15,363	7.3%	\$ 18.92	\$ 28.84
Transportation	113	6.5%	135	12.6%	32,365	1.9%	3,304	1.6%	\$ 16.74	\$ 25.09

1. The count of programs is based on the a count of award types offered by the regional programs related to that sector.

Regional Mapping

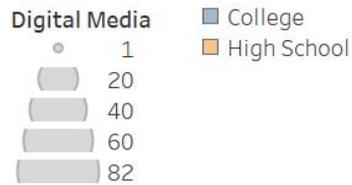
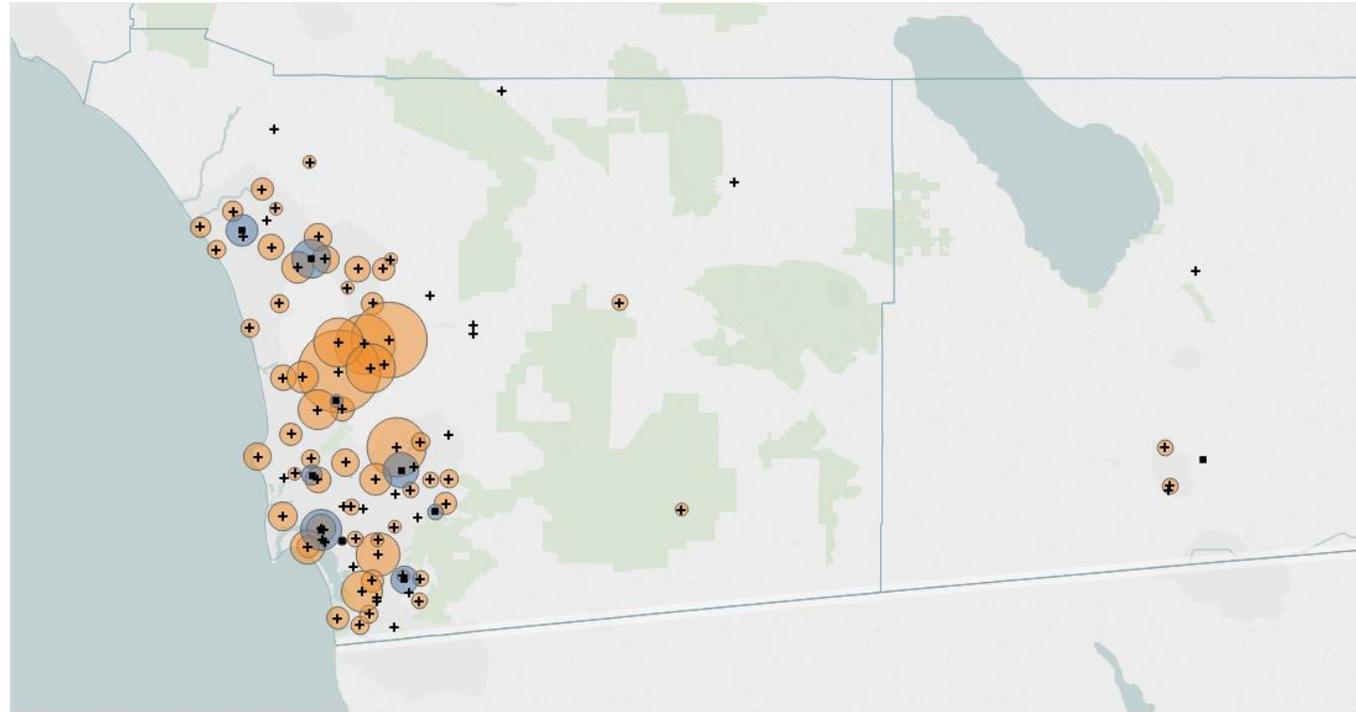
K12: Business and Finance; Marketing, Sales, and Services
CC: Business and Entrepreneurship; Global Trade



Regional Mapping

K12: Arts, Media, and Entertainment

CC: Digital Media (extracted from Information and Communication Technologies Sector)



Pathway Scenarios in the Analysis

1. Over-representation of K12 programs compared to colleges
2. Under-representation of K12 programs compared to colleges
3. Sectors that align to the same or nearly the same college programs
4. Sectors that may be pathways and are foundational



Organizing Across Sectors

K12 Sectors - Metamajor Organizing Opportunities



■ Significant alignment of programs across sectors

■ Alignment of specific pathways or programs within sector

Pathways that are also Foundations

Foundational Pathways

Arts, Media, &
Entertainment

Business & Finance/
Marketing & Sales

Information &
Communication Tech

Engineering

- **College Business and Marketing** programs cross-walked to K12 sectors in Business, Marketing, Fashion, Hospitality, and Information Communication Technology,
- **College ICT** programs cross-walked to K12 sectors in Arts & Media, Construction, Engineering, Business, Engineering, Manufacturing, Marketing, and other sectors,
- **College Arts and Digital Media** programs cross-walked to Construction, Engineering, Fashion, and Manufacturing pathways among other sectors.

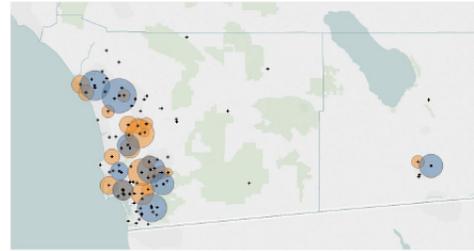
Sector Breakouts

5. Education, Child Development, and Family Services

Comparative Offerings, Employment, and Wages										
K12 Sectors	K12	%	CC	%	Jobs	%	Openings	%	Entry	Median
Educ., Child Dev., and Human Svcs	73	4.2%	94	4.9%	108,599	6.5%	14,011	6.6%	\$ 14.50	\$ 23.00

Education, Child Development, and Family Services (ECF) is smaller in terms of the number of K12 pathway programs in the region and the postsecondary pathway opportunities at the regional colleges. That said, Early Childhood Education and Child Development, which is one of the college pathways related to this sector, is by itself the largest CTE program at many colleges despite the relative low wages in the associated occupations. Additionally, there is significant overlap between the college programs related to ECF and programs that align to Hospitality and Recreation so it would make sense to align pathway development process between these sectors along common pathways (such as nutrition food and culinary arts, gerontology, or recreation which are common to both sectors). The occupations for these pathways differ enough, however, to keep them independent for this study.

K12: Education, Child Development, and Family Services
CC: Education and Human Development



Education
1
5
10
15

College
High School

Education, Child Dev & Family Svcs College Programs
Child Development/Early Childhood
Family Studies
Gerontology
Nutrition, Foods, Culinary Arts
Physical Education
Recreation
Sign Language

Education, Child Dev, & Family Svcs - Comparison to other						
K12 Offerings	College Offerings	Regional Employment	Job Growth	Annual Openings	Median Wage	
8	13	6	5	5	13	

ECF pathways programs rank relatively low as a percentage of all offerings regionally, however regional employment, job growth, and annual openings are all relatively strong for the region. Only 4% of K12 offerings are in this sector compared to 8.8% of college programs. Regional employment in 2017 was 108,599 jobs or 6.1% of all occupations included in this study.

Earnings in ECF occupations are generally much lower than they are for other occupations with the same educational requirements. The most common occupations in this category include primary and secondary school teachers, which require a minimum of a bachelor's degree and teacher assistants working in early childhood and other child development programs where employment

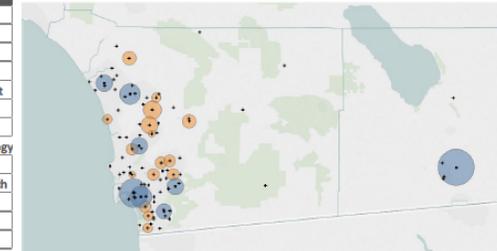
Education, Child Development and Family Services					
Education Requirements	2017 Jobs	5 Year Change	Annual Openings	10% Median	Median Wage
Some college no degree	14,887	7.8%	1,789	\$ 11.50	\$ 15.80
Postsec nondegree	1,270	6.0%	185	\$ 13.60	\$ 20.30
HS diploma/HSE	8,940	11.9%	1,272	\$ 13.37	\$ 19.87
Associate Degree	5,025	6.7%	571	\$ 10.70	\$ 14.90
Bachelors Degree	66,774	8.2%	7,203	\$ 17.47	\$ 27.40
Masters Degree	11,491	9.0%	1,395	\$ 17.09	\$ 26.69

10. Manufacturing and Product Development

Comparative Offerings, Employment, and Wages										
K12 Sectors	K12	%	CC	%	Jobs	%	Openings	%	Entry	Median
Manufacturing and Product Dev	50	2.9%	175	9.1%	119,729	7.2%	12,369	5.8%	\$ 15.76	\$ 23.09

Manufacturing and Product Development Programs (TOP4)
Aeronautical and Aviation Tech
Applied Design
Applied Photography
Commercial Art
Computer Software Development
Digital Media
Drafting Technology
Electronics and Electrical Technology
Graphic Art and Design
Manufacturing and Industrial Tech
Other Fine and Applied Arts
Printing and Lithography
Other Engineering/Related Tech

K12: Manufacturing and Product Development
CC: Advanced Manufacturing



Manufacturing
1
10
20
25

College
High School

Manufacturing and Product Development

(Manufacturing) is relatively small as a percentage of offerings in the K12 systems but a substantial program area in the regional community colleges. Seven SDIC colleges offer programs related to manufacturing, however only 15 regional high schools offer programs. However, in the K12 CE universe there is significant overlap between manufacturing and engineering so these are sectors which should be seen as complementary for any regional pathway development discussions and if taken together constitute a significant level of program activity in regional high schools. Additionally, in the college universe production occupations related to both direct manufacturing and product development includes a very diverse range of design, ICT, and industrial trades skills.

Manufacturing and Product Dev - Comparison to other					
K12 Offerings	College Offerings	Regional Employment	Job Growth	Annual Openings	Median Wage
11	2	5	8	7	12

Many of the underlying competencies (and related college programs) related to manufacturing can apply equally to construction, engineering, energy and utilities, or transportation sectors and their related occupations. These include underlying competencies in digital and graphic design, mechanical systems, electrical and electronic systems, process technology and pneumatics, and welding and joining technology among others. Additionally, applications for processes in additive manufacturing are rapidly expanding into areas such as medical devices manufacturing, dental implants and appliances, and transportation.

Manufacturing and Product Development					
Education Requirements	2017 Jobs	5 Year Change	Annual Openings	10% Median	Median Wage
No Formal Education	3,331	-3.6%	384	\$ 10.89	\$ 13.13
HS diploma/HSE	60,209	1.1%	7,030	\$ 13.79	\$ 19.53
Postsec nondegree	780	2.0%	94	\$ 12.73	\$ 26.60
Some college no degree	290	-16.1%	32	\$ 11.40	\$ 22.00
Associate Degree	13,012	7.0%	1,274	\$ 19.89	\$ 30.69
Bachelors Degree	44,136	8.4%	3,759	\$ 29.63	\$ 46.65

How to use the study

1. **General Analysis**: Helpful for thinking about what programs and pathways you want to work on in your K12 SWP application. Do you have a generally strong case for why you want to do work in a specific sector pathway.
2. **Sector Breakouts**: Useful to provide more background on the pathway or sector you have chosen. Should be supplemented by COE data.
3. **Maps and Other Background Documents (Maps, Award Inventories)**: Helpful for identifying where college programs are in your region and which colleges you should be talking to.



THANK YOU

Randy Tillery
WestEd
rtiller@wested.org

**SAN DIEGO & IMPERIAL COUNTIES
COMMUNITY COLLEGES**

