

Logistics and Materials Transportation

Inland Empire/Desert Region (Riverside and San Bernardino counties)

This workforce demand report uses state and federal job projection data developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.

Summary

- Community college logistics and materials transportation programs provide the knowledge, skills, and abilities that prepare students for employment in three community college-level and three high school-level occupations.
- The program recommendation is based on the demand for the three community college-level occupations and educational supply in the Inland Empire/Desert Region.
- Community college-level occupations are projected to have 1,640 annual job openings through 2025, increasing employment by 16%.
- The median hourly earnings for community college-level occupations are between \$28.42 and \$44.41 per hour, above the regional \$24.36 per hour self-sustainable wage standard for a single adult with one child.
- Regional community colleges have issued an annual average of 42 awards in logistics and materials transportation programs over the last three academic years. Other postsecondary education providers have issued four awards annually in programs related to logistics.
- The COE recommends expanding logistics and materials transportation programs. See the [recommendation section](#) for further detail.

Introduction

This report provides data on programs and occupations related to California Community College logistics and materials transportation (TOP 0510.00) programs. Logistics and materials transportation programs prepare students for employment through instruction related to the theory, principles, functions, and procedures for the orderly and economic receiving, manufacturing, shipping, and servicing of products or services (Taxonomy of Programs, 2012).

The knowledge, skills, and abilities trained by logistics and materials transportation programs lead to six distinct occupations, collectively referred to as the logistics occupational group in this report. The logistics occupational group is separated into high school-level and community college-level occupations to illuminate job opportunities for individuals with varying education levels. Definitions for each occupation are available in the Appendix of this report.

The **high school-level logistics support occupations** in this report typically require a high school diploma or equivalent and short to medium term on-the-job training. These occupations may benefit from a community college program to immerse students in logistics terminology and prepare them for various work tasks. Between 34% and 43% of incumbent workers in these occupations have a community college-level education, some college or an associate degree, as their highest level of educational attainment. The high school-level occupations included in the logistics occupational group, further referred to as **logistics support** occupations, are:

- Cargo and Freight Agents (SOC 43-5011)
- Production, Planning, and Expediting Clerks (43-5061)
- Shipping, Receiving, and Inventory Clerks (43-5071)

In this report, the three **community college-level logistics operations occupations** require mid to long-term work experience. While logisticians typically require a bachelor's degree, it is considered a community college-level occupation because a high share of incumbent workers possess a community college-level education as their highest level of educational attainment. About 40% of online employer job ads seeking these workers were looking for a candidate with vocational training or an associate degree. Between 37% and 50% of incumbent workers in these occupations have a community college-level education, some college or an associate degree, as their highest level of educational attainment. The community college-level occupations included in the logistics occupational group, further referred to as **logistics operations** occupations, are:

- First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (SOC 53-1047)
- Logisticians (13-1081)
- Transportation, Storage, and Distribution Managers (11-3071)

This report's educational supply and employment demand portions focus solely on the community college-level jobs students are likely to obtain after completing a community college logistics program.

Job Counts and Projections

In 2020, there were a total of 30,075 total logistics jobs in the region. About 44% of the logistics jobs were community college-level logistics operations occupations. This group's employment is projected to increase by 16% through 2025 and is expected to have 1,640 annual job openings. The high school-level logistics support occupational group is projected to grow by 10% through 2025 and is expected to have 1,941 annual job openings. Exhibit 1 displays the job counts, five-year projected job growth, job openings, and the share of incumbent workers age 55 years and greater in the region.

Exhibit 1: Five-year projections for the logistics occupational group, 2020-2025

Occupation	2020 Jobs	2025 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	9,116	10,575	16%	5,998	1,200	21%
Transportation, Storage, and Distribution Managers	2,509	2,933	17%	1,338	268	22%
Logisticians	1,557	1,731	11%	865	173	14%
Community College-level Total (Logistics Operations)	13,181	15,239	16%	8,201	1,640	19%
Shipping, Receiving, and Inventory Clerks	10,964	11,793	8%	5,968	1,194	18%
Production, Planning, and Expediting Clerks	4,845	5,309	10%	2,825	565	22%
Cargo and Freight Agents	1,085	1,453	34%	914	183	17%
High School-level Total (Logistics Support)	16,894	18,555	10%	9,707	1,941	19%
Total	30,075	33,794	12%	17,908	3,582	19%

Source: Emsi 2021.3

Exhibit 2 shows the number of job ads posted during the last 12 months and the regional and statewide average time filling each occupation. Over the previous 12 months, there were 5,898 job ads for the logistics occupational group in the Inland Empire/Desert Region. Regional employers spent approximately seven days longer filling logistics operations positions than logistics support positions. On average, regional employers fill online job advertisements for logistics workers in 31 days, one day shorter than the statewide time to fill. Job advertisements indicate that regional employers may face similar challenges filling open positions as other employers in California.

Exhibit 2: Job ads and time to fill

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Transportation, Storage, and Distribution Managers	1,433	33	34
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	550	39	38
Logisticians	399	39	39
Logistics Operation Total	2,382	35	36
Shipping, Receiving, and Inventory Clerks	2,353	26	26

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Production, Planning, and Expediting Clerks	831	34	34
Cargo and Freight Agents	332	25	26
Logistics Support Total	3,516	28	29
Total	5,898	31	32

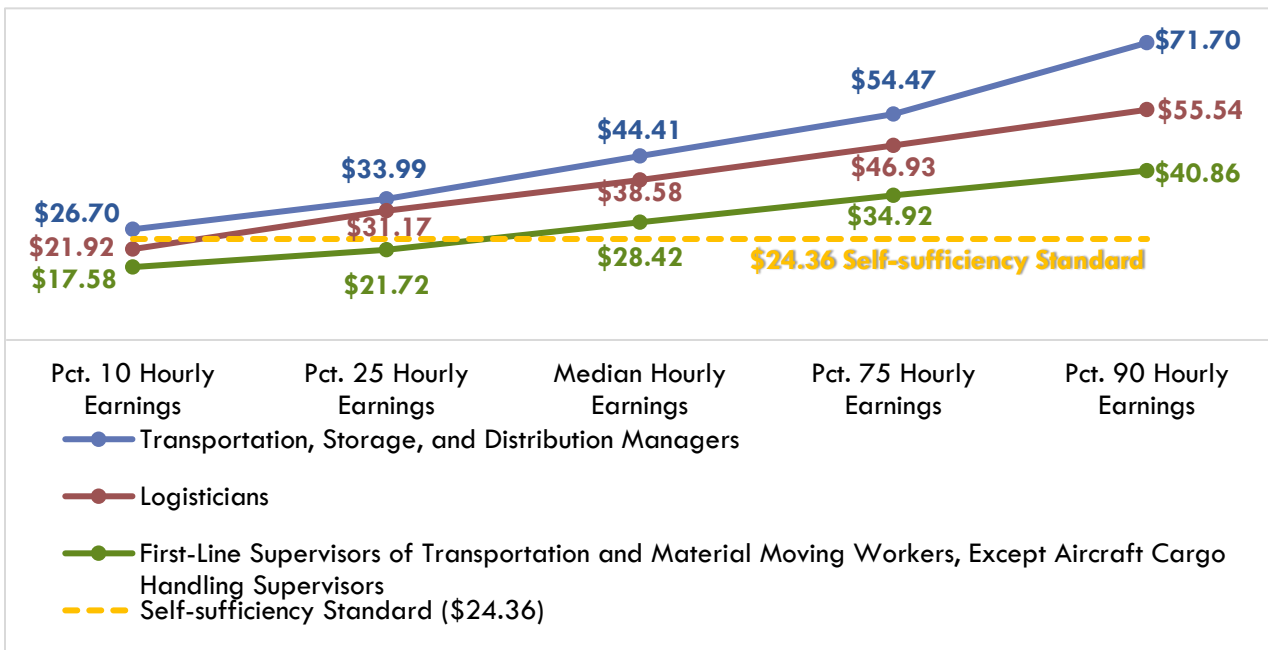
Source: Burning Glass – Labor Insights

Earnings and Benefits

Community colleges should ensure their training programs lead to employment opportunities that provide self-sustainable income. The University of Washington estimates that a self-sufficient hourly rate for a single adult with one school-age child is \$24.36 per hour or \$51,452 annually in Riverside County; \$23.73 per hour or \$50,119 annually in San Bernardino County (Pearce, 2021). For this study, the higher hourly earnings requirement in Riverside County is adopted as the self-sufficiency standard for the two-county region.

Exhibit 3 displays the hourly earnings for the community college-level logistics operations occupational group. The median hourly earnings for all occupations in this group range between \$28.42 to \$44.41 per hour, exceeding the regional self-sufficiency standard.

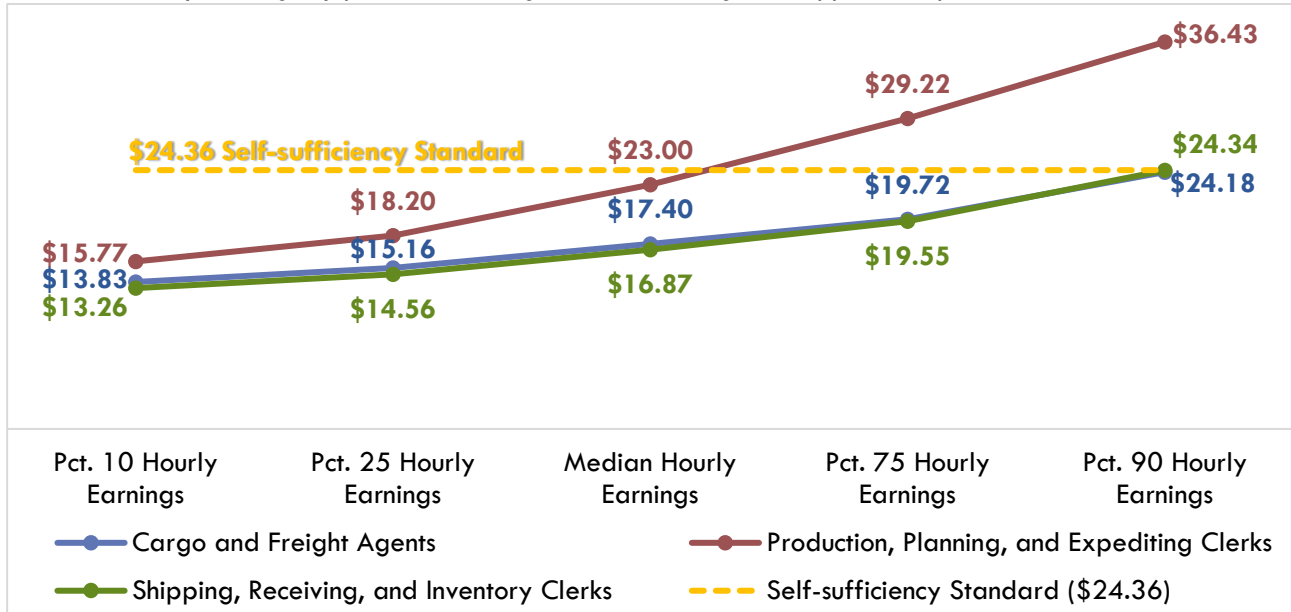
Exhibit 3: Hourly earnings by percentile for the community college-level logistics operations occupations



Source: Emsi 2021.3

Exhibit 4 displays the hourly earnings for the high school-level logistics support occupational group. The hourly earnings for production, planning and expediting clerks exceed the self-sufficiency standard at the 75th percentile, indicating only the top 25% of workers earn a self-sustainable wage. The hourly earnings for cargo and freight agents and shipping, receiving, and inventory clerks do not surpass the self-sufficiency standard, indicating workers in these positions may struggle to support themselves.

Exhibit 4: Hourly earnings by percentile for high school-level logistics support occupations



Source: Emsi 2021.3

Benefits information, provided by the California Labor Market Information Division’s occupational guides, is not available for transportation, storage, and distribution managers and first-line supervisors of transportation and material moving workers, except aircraft cargo handling supervisors. Benefits for occupations in the logistics occupational group typically include medical and dental insurance in addition to vacation, sick leave, and holidays (Detailed Occupational Guides, 2021).

Advertised Salary from Online Job Ads

Exhibit 5 displays online job ad salary data for the logistics occupational group over the last 12 months in the region. Online job ad salary information reveals that employers are willing to pay the logistics operations occupational group between \$49,000 and \$56,000 annually. The advertised wages for transportation, storage, and distribution managers are above the region’s \$51,452 annual (\$24.36 hourly) self-sufficiency standard. Online job ad salary information reveals that employers are willing to pay the logistics support occupational group between \$35,000 and \$50,000 annually, below the self-sufficiency standard for the region. Consider the salary information with caution since only 41% (2,429 out of 5,898) of online job postings for these occupations provided salary information. The salary figures are prorated to reflect full-time, annual wage status.

Exhibit 5: Advertised salary information

Occupations	Real-Time Salary Information					Average Annual Salary
	Number of job postings	Less than \$35,000	\$35,000 to \$49,999	\$50,000 to \$74,999	More than \$75,000	
Logistics Operations						
Transportation, Storage, and Distribution Managers	522	10%	34%	42%	14%	\$56,000
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	183	18%	42%	32%	8%	\$49,000
Logisticians	123	15%	44%	30%	11%	\$49,000
Logistics Support						
Shipping, Receiving, and Inventory Clerks	1,214	51%	47%	2%	0%	\$35,000
Production, Planning, and Expediting Clerks	326	27%	59%	13%	1%	\$41,000
Cargo and Freight Agents	61	25%	46%	16%	13%	\$50,000

Source: Burning Glass – Labor Insights

Employers, Skills, Education, and Work Experience

Exhibit 6 displays the employers that posted the most job ads during the last 12 months in the region.

Displaying employer names provides some insight into where students may find employment after completing a program. Ryder Systems posted the most job advertisements for the logistics operations occupational group in the region. Burlington posted the most advertisements for logistics support occupational group over the last 12 months.

Exhibit 6: Employers posting the most job ads for the logistics occupational group

Occupation	Top Employers	
Logistics Operations		
Transportation, Storage, and Distribution Managers (n=1,433)	<ul style="list-style-type: none"> Ryder Systems Sam's Club The Home Depot 	<ul style="list-style-type: none"> Lineage Logistics Sysco Corporation XPO Logistics
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (n=550)	<ul style="list-style-type: none"> NFI Industries McLane Company, Inc. 	<ul style="list-style-type: none"> KeHe Distributors, LLC Hogan Transportation and Logistics

Occupation	Top Employers	
Logisticians (n=399)	<ul style="list-style-type: none"> • XPO Logistics • CEVA Logistics • Monster Energy 	
Logistics Support		
Shipping, Receiving, and Inventory Clerks (n=2,353)	<ul style="list-style-type: none"> • Burlington • NRI Distribution • Sam's Club • Ashley HomeStore • Lineage Logistics 	<ul style="list-style-type: none"> • Macy's • Sterigenics • FedEx • Lennox International
Production, Planning, and Expediting Clerks (n=831)	<ul style="list-style-type: none"> • McLane Company, Inc. • Gerber Collision and Glass • Penske Truck Leasing 	<ul style="list-style-type: none"> • Monster Energy • Medline Industries • QC Manufacturing
Cargo and Freight Agents (n=332)	<ul style="list-style-type: none"> • The Home Depot • Logistics Dynamics • Emerge 	<ul style="list-style-type: none"> • GLT Logistics • 5P Logistics, LLC

Source: Burning Glass – Labor Insights

Exhibit 7 lists a sample of specialized and employability skills employers seek when looking for workers to fill positions in the logistics occupational group. Specialized skills are occupation-specific skills that employers request for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is often referred to as "soft skills." The skills requested in job postings may be utilized to guide curriculum development. Approximately 25% of job advertisements sought workers with Microsoft Office skills. Microsoft Office is a suite of Microsoft products, including Excel, Word, Access, PowerPoint, and others.

Exhibit 7: Sample of in-demand skills from employer job ads

Occupation	Specialized skills	Employability skills
Logistics Operations		
Transportation, Storage, and Distribution Managers (n=1,382)	<ul style="list-style-type: none"> • Scheduling • Logistics • Warehouse Management • Budgeting • Inventory Management 	<ul style="list-style-type: none"> • Communication Skills • Problem Solving • Organizational Skills • Planning • Teamwork/Collaboration
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (n=505)	<ul style="list-style-type: none"> • Scheduling • Occupational Health and Safety • Warehouse Operations • Customer Service • Forklift Operation 	<ul style="list-style-type: none"> • Communication Skills • Computer Literacy • Physical Abilities • Problem Solving • Planning

Occupation	Specialized skills	Employability skills
Logisticians (n=382)	<ul style="list-style-type: none"> Supply Chain Management Scheduling Inventory Management Enterprise Resource Planning (ERP) Production Planning 	<ul style="list-style-type: none"> Communication Skills Problem Solving Detail-Oriented Teamwork/Collaboration Organizational Skills
Logistics Support		
Shipping, Receiving, and Inventory Clerks (n=2,143)	<ul style="list-style-type: none"> Forklift Operation Lifting Ability Scheduling Sorting Customer Service 	<ul style="list-style-type: none"> Physical Abilities Organizational Skills Communication Skills Detail-Oriented Teamwork/Collaboration
Production, Planning, and Expediting Clerks (n=793)	<ul style="list-style-type: none"> Scheduling Logistics Customer Service Inventory Management Data Entry 	<ul style="list-style-type: none"> Communication Skills Organizational Skills Detail-Oriented Computer Literacy Problem Solving
Cargo and Freight Agents (n=303)	<ul style="list-style-type: none"> Customer Service Receiving Forklift Operation Materials Transport Freight Brokerage 	<ul style="list-style-type: none"> Leadership Communication Skills Multi-tasking Computer Literacy Detail-Oriented

Source: Burning Glass – Labor Insights

Exhibit 8 displays the typical entry-level education, educational attainment, and minimum advertised education requirements for the logistics occupational group. According to the Bureau of Labor Statistics, between 34%-43% of incumbent workers in this field hold a community college-level of educational attainment; "some college, no degree" and an "associate degree."

Exhibit 8: Typical entry-level education, educational attainment, and minimum advertised education requirements

Occupation	Typical Entry-Level Education Requirement	CC-Level Educational Attainment*	Number of Job Ads	Real-Time Minimum Advertised Education Requirement		
				High school or vocational training	Associate degree	Bachelor's degree or higher
Logistics Operations						
Transportation, Storage, and Distribution Managers	High school diploma or equivalent	36%	1,096	45%	9%	46%

Occupation	Typical Entry-Level Education Requirement	CC-Level Educational Attainment*	Real-Time Minimum Advertised Education Requirement			
			Number of Job Ads	High school or vocational training	Associate degree	Bachelor's degree or higher
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	High school diploma or equivalent	40%	392	70%	8%	22%
Logisticians	Bachelor's degree	37%	303	35%	5%	60%
Logistics Support						
Shipping, Receiving, and Inventory Clerks	High school diploma or equivalent	34%	1,094	97%	0%	3%
Production, Planning, and Expediting Clerks	High school diploma or equivalent	40%	585	77%	5%	18%
Cargo and Freight Agents	High school diploma or equivalent	43%	54	74%	2%	24%

Source: Emsi 2021.3, Burning Glass – Labor Insights

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework

Exhibit 9 displays the work experience typically required to enter each occupation and the real-time work experience requirements from employer job ads.

Exhibit 9: Work experience required and real-time work experience requirements

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Logistics Operations					
Transportation, Storage, and Distribution Managers	5 years or more	1,078	34%	55%	11%
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Less than 5 years	363	40%	54%	6%
Logisticians	None	284	51%	40%	9%

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Logistics Support					
Shipping, Receiving, and Inventory Clerks	None	931	89%	10%	1%
Production, Planning, and Expediting Clerks	None	451	71%	27%	2%
Cargo and Freight Agents	None	83	88%	8%	4%

Source: Emsi 2021.3, Burning Glass – Labor Insights

Programs Completions and Student Outcomes

Exhibit 10 displays student completions for logistics and materials transportation programs (0510.00) over the last three academic years. Norco College has issued the most awards in logistics and materials transportation programs over the last three academic years in the region. Program completion and student outcome methodologies can be found in the Appendix.

Exhibit 10: 2017-20, Annual average community college awards for logistics and materials transportation programs in the Inland Empire/Desert Region

TOP 0510.00 – Logistics and Materials Transportation (Local Program Title)	Associate Degree	Certificate requiring 30 to < 60-semester units	Certificate requiring 18 to < 30-semester units	Certificate requiring 16 to < 30-semester units	Total CC Annual Average Awards, Academic Years 2017-20
Barstow (Warehousing and Logistics, Level 1 & 2)	1	-	-	-	1
Chaffey (Supply Chain Management)	6	-	3	1	10
Norco (Business Administration: Logistics, Logistics Management)	10	7	9	4	31
Total	17	7	12	5	42

Source: MIS Data Mart, COCI

California program outcome data may provide a useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 11. The outcome methodology is available in the appendix section of this report.

Exhibit 11: 0510.00 – Logistics and materials transportation strong workforce program outcomes

Strong Workforce Program Metrics: 0510.00 – Logistics and Materials Transportation Academic Year 2018-19, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2019-20)	319	1,381
Completed 9+ career education units in one year (2019-20)	42%	40%
Perkins Economically disadvantaged students	85%	74%
Students who attained a noncredit workforce milestone in a year (2019-20)	-	77%
Students who earned a degree, certificate, or attained apprenticeship (2019-20)	32	164
Transferred to a four-year institution (transfers)	26	66
Job closely related to the field of study (2017-18)	100%	76%
Median annual earnings (all exiters)	\$36,954	\$39,938
Median change in earnings (all exiters)	-1%	20%
Attained a living wage (completers and skills-builders)	73%	65%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 12 displays awards reported by other postsecondary education providers in logistics, materials, and supply chain management (CIP 52.0203) programs. Completion data is compiled from the Integrated Postsecondary Education Data System (IPEDS) for the most recent three years available. On average, one other postsecondary education institution in the region issued four awards annually.

Exhibit 12: Other educational provider logistics, materials, and supply chain management programs, three-year annual average credentials in the Inland Empire/Desert Region

52.0203 – Logistics, Materials, and Supply Chain Management	Award <1 Academic year	Other Educational Providers Annual Average Credentials, Academic Years 2016-19
University of Redlands	4	4
Total	4	4

Source: IPEDS

Recommendation for Logistics Programs

Community college logistics and materials transportation programs provide the knowledge, skills, and abilities that prepare students for employment in three community college-level and three high school-level occupations. The program recommendation is based on the demand for the three community college-level occupations and educational supply in the Inland Empire/Desert Region.

The community college-level logistics occupational group is expected to have 1,640 annual job openings and increase employment by 16% over the next five years. The median hourly earnings for the logistics operations occupational group are between \$28.42 and \$44.41, surpassing the \$24.36 per hour self-sustainable wage standard.

Three regional community college logistics and materials transportation programs have issued 42 awards annually over the last three academic years. One other postsecondary educational institution in the region issued four awards annually over the last three academic years.

The COE recommends creating new and expanding existing logistics and materials transportation programs to meet the regional demand for more workers in the region. Colleges considering this program should partner with relevant employers to verify the demand for these workers and ensure that students have the required knowledge, skills, abilities, and certifications to earn a wage that exceeds the hourly self-sustainable standard of \$24.36 per hour after completing the program.

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Appendix: Occupation definitions, sample job titles, five-year projections, and earnings for logistics occupations

Occupation Definitions (SOC code), Education and Training Requirement, Community College Education Attainment

Community College-level Occupations (Logistics Operations Occupations)

Transportation, Storage, and Distribution Managers (11-3071)

Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.

Sample job titles: Distribution Center Manager, Distribution Manager, Fleet Manager, Global Transportation Manager, Logistics Director, Logistics Operations Manager, Shipping Manager, Supply Chain Logistics Manager, Transportation Manager, Warehouse Supervisor

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Work Experience: 5 years or more

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 36%

Logisticians (13-1081)

Analyze and coordinate the ongoing logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources.

Sample job titles: Client Services Administrator, Logistician, Production Planner, Supply Management Specialist

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Work Experience: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 37%

First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (53-1047)

Directly supervise and coordinate activities of material-moving machine and vehicle operators and helpers.

Sample job titles: Dock Supervisor, Driver Manager, Fleet Manager, On Car Supervisor, Street Supervisor, Trainmaster, Transportation Supervisor, Warehouse Supervisor

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Work Experience: Less than 5 years

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 40%

High School-level Occupations (Logistics Support Occupations)

Cargo and Freight Agents (43-5011)

Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to the loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs.

Sample job titles: Air Export Specialist, Drop Shipment Clerk, Freight Broker, Intermodal Dispatcher, International Coordinator, Load Planner, Logistics Coordinator, Logistics Service Representative, Ship Broker, Traffic and Documentation Clerk

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: Less than one month on-the-job training

Work Experience: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 43%

Production, Planning, and Expediting Clerks (43-5061)

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to the production schedule. Duties include reviewing and distributing production, work, and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs, and production problems.

Sample job titles: Materials Coordinator, Materials Planner, Planner, Production Assistant, Production Clerk, Production Controller, Production Planner, Production Scheduler, Scheduler

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: Between one and twelve months on-the-job training

Work Experience: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 40%

Shipping, Receiving, and Inventory Clerks (43-5071)

Verify and maintain records on incoming and outgoing shipments involving inventory. Duties include verifying and recording incoming merchandise or material and arranging for the transportation of products. May prepare items for shipment.

Sample job titles: Materials Control Associate, Order Fulfillment Specialist, Receiver, Receiving Associate, Receiving Clerk, Receiving Coordinator, Shipper, Shipping Clerk, Shipping Coordinator, Traffic Assistant

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: Less than one month on-the-job training

Work Experience: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 34%

Appendix: Methodology

Exhibit 10 displays the average annual California Community College (CCC) awards conferred during the three academic years between 2017 and 2020 from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variations that might be present in a single year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included in each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2021 a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2021 a).

Job postings data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree, and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014). Online job postings often do not reveal the hiring intentions of employers; it is unknown if employers plan to hire one or multiple workers from a single online job posting or if they are collecting resumes for future hiring needs. A closed job posting may not be the result of a hired worker.

Table 1. 2020 to 2025 job growth, wages, entry-level education, training, and work experience required for the logistics occupational group

Occupation (SOC)	2020 Jobs	5-Year Change (New Jobs)	5-Year % Change (New Jobs)	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (10 th to 90 th percentile)	Median Hourly Wage (50 th percentile)	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (53-1047)	9,116	1,460	16%	1,200	\$17.58 to \$40.86	\$28.42	\$60,100	High school diploma or equivalent & None	Less than 5 years
Transportation, Storage, and Distribution Managers (11-3071)	2,509	424	17%	268	\$26.70 to \$71.70	\$44.41	\$97,500	High school diploma or equivalent & None	5 years or more
Logisticians (13-1081)	1,557	174	11%	173	\$21.92 to \$55.54	\$38.58	\$80,800	Bachelor's degree & None	None
Community College-level Total (Logistics Operations)	13,181	2,058	16%	1,640	-	-	-	-	-
Shipping, Receiving, and Inventory Clerks (43-5071)	10,964	829	8%	1,194	\$13.26 to \$24.34	\$16.87	\$37,100	High school diploma or equivalent & 1 month	None
Production, Planning, and Expediting Clerks (43-5061)	4,845	463	10%	565	\$15.77 to \$36.43	\$23.00	\$50,900	High school diploma or equivalent & 1-12 months	None
Cargo and Freight Agents (43-5011)	1,085	368	34%	183	\$13.83 to \$24.18	\$17.40	\$38,500	High school diploma or equivalent & 1 month	None
High School-level Total (Logistics Support)	16,894	1,661	10%	1,941	-	-	-	-	-
Total	30,075	3,719	12%	3,582	-	-	-	-	-

Source: Emsi 2021.3