

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

SUPPLY CHAIN MANAGEMENT & LOGISTICS IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

January 2022

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SUMMARY

The North/Far North Center of Excellence for Labor Market Research prepared this report to provide a labor market analysis of educational supply and occupational demand for middle-skilled career pathways in the North (Greater Sacramento) subregion. This report aims to determine if demand in the local labor market is unmet by the supply from existing community college programs and other postsecondary training providers.

This report primarily focuses on training that leads to jobs in middle-skilled occupations - occupations that typically require education beyond a high school diploma but less than a Bachelor's degree - but may include higher-skilled occupations for training pathways that lead to a bachelor's degree. Lowered skilled occupations are rarely considered in this type of analysis due to the lessened barriers for entry-level work, such as no formal education and on-the-job training requirements.

Key findings include:

- The North (Greater Sacramento) region held 1,968 supply chain and logistics jobs in 2020. Supply chain and logistics jobs are projected to increase by 11% over the next five years, adding 216 new jobs to the subregion by 2025.
- Over the next five years, supply chain and logistics occupations will have 209 annual openings in the North (Greater Sacramento) region.
- Wage data shows that supply chain and logistics occupations earn \$17 above the subregion's living wage of \$14.53 per hour.
- Awards data analysis shows no dedicated supply chain management and logistics educational programs in North (Greater Sacramento) community colleges. However, many subregion community colleges offer business administration and management programs to cross-train these occupations.

Recommendations include:

- The North (Greater Sacramento) Center of Excellence recommends that community colleges examine existing educational pathways to understand the current curriculum and programs that would support supply chain management training and logistics occupations.
- The North (Greater Sacramento) Center of Excellence also recommends that community colleges develop a transfer-oriented pathway to support students interested in transferring.

INTRODUCTION

The North (Greater Sacramento) Center of Excellence was asked to provide labor market information for a proposed program at a regional community college. This report focuses on the following Standard Occupational Classification (SOC) occupations and codes:

- One middle-skill occupation requires more education and training beyond a high school diploma but less than a four-year degree:
 - Transportation, Storage, and Distribution Managers (11-3071)
- Students who transfer and earn a four-year degree could pursue the following high-skill occupations:
 - Logisticians (13-1081)

A review of related programs revealed the following Taxonomy of Programs (TOP) title(s) and code(s) are appropriate for inclusion in this report:

- Logistics and Materials Transportation (0510.00)

The corresponding Classification of Instructional Program (CIP) title(s) and code(s) are:

- Logistics, Materials and Supply Chain Management (52.0203)

OCCUPATIONAL DEMAND

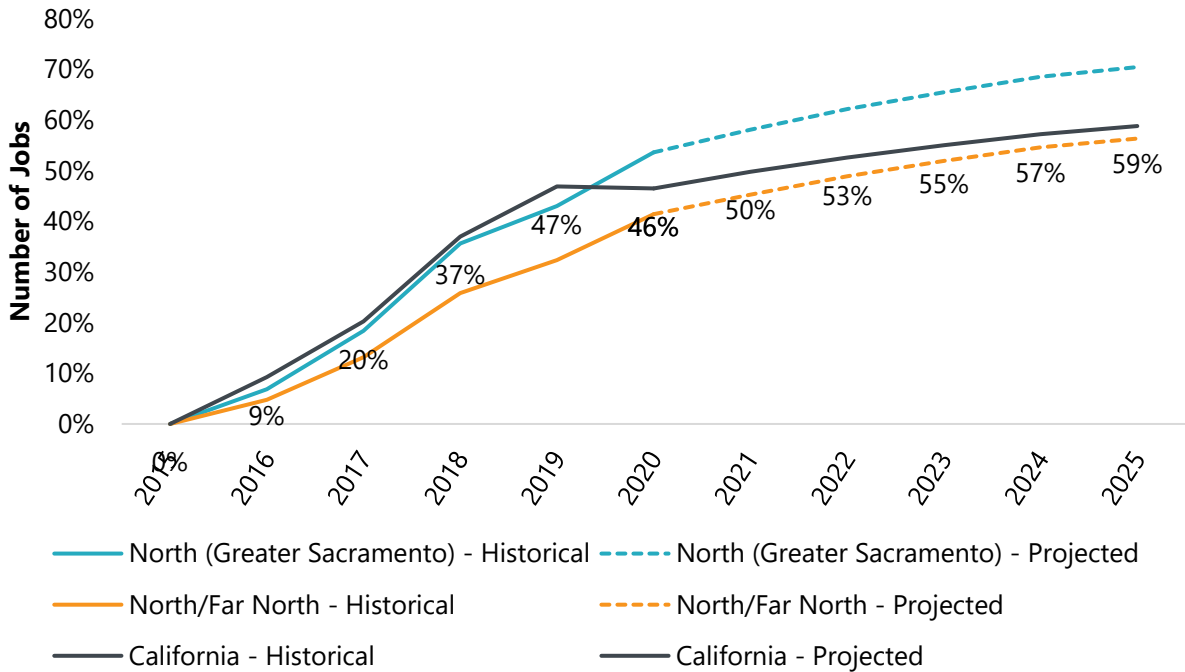
Exhibit 1 summarizes the five-year projected job growth for middle- and high-skill occupations in the North (Greater Sacramento), North/Far North, and California.

Exhibit 1. Employment and projected demand, 2020-2025

Occupation	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	2020-2025 Annual Openings
Transportation, Storage, and Distribution Managers	1,081	1,154	74	7%	98
Logisticians	888	1,029	142	16%	111
North (Greater Sacramento)	1,968	2,184	216	11%	209
Transportation, Storage, and Distribution Managers	1,355	1,437	82	6%	121
Logisticians	1,177	1,362	185	16%	146
North/Far North	2,531	2,799	267	11%	267
Transportation, Storage, and Distribution Managers	19,936	20,599	663	3%	1,659
Logisticians	26,915	30,194	3,279	12%	3,119
California	46,851	50,793	3,942	8%	4,778

Exhibit 2 compares the percent change in jobs between 2015 through 2020 and the projected changes through 2025. The rate of change is indexed to the total number of jobs in 2015.

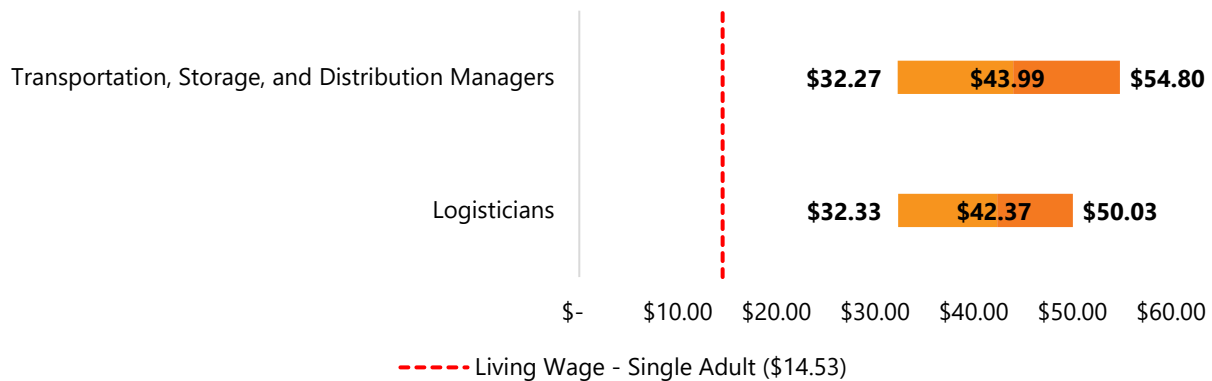
Exhibit 2. Changes in employment, 2015-2025



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupations to the North (Greater Sacramento) living wage for a single adult - \$14.53 per hour.¹

Exhibit 3. Comparison of wages by occupation, 2020



¹ Living wage is defined as the level of income a single adult with no children must earn to meet basic needs, including food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs. The 25th-percentile and 75th-percentile hourly wages are used as proxy for entry-level and experienced-level wages.

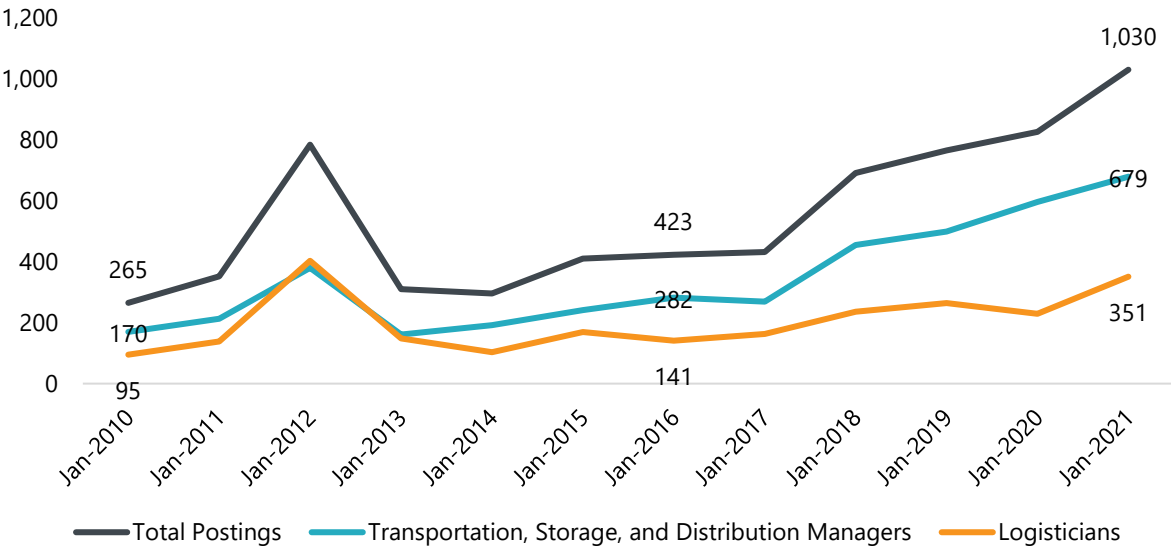
JOB POSTINGS

This section analyzes recent data from online job postings (real-time LMI). Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical trends.

The NFN COE identified 1,030 online job postings for the North (Greater Sacramento) area's selected occupations. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from January 1, 2021, to December 31, 2021.

Exhibit 4 shows the change in job postings for the studied occupations over the last 11 years.

Exhibit 4. Change in job postings by occupation, 2010 - 2021



Occupations and Job Titles

Exhibit 5 details the number of online job postings for the selected occupations.

Exhibit 5. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Transportation, Storage, and Distribution Managers	679	66%
Logisticians	351	34%
Total Job Postings	1,030	100%

Exhibit 6 shows the top 10 job titles with the most job postings and the share. All job postings included a job title.

Exhibit 6. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Warehouse Supervisor	127	12%
Warehouse Manager	85	8%
Production Planner	22	2%
Logistics Specialist	16	2%
Warehouse Supervisor II - Perishable	16	2%
Logistics Associate	15	1%
Logistics Manager	13	1%
Supply Chain Analyst	12	1%
Transportation Manager	12	1%
Supply Chain Specialist	11	1%

Employers

Exhibit 7 shows the top 10 employers with the most job postings for the selected occupations. Eleven percent (n = 109) of job postings did not include an employer.

Exhibit 7. Employers with the most job postings

Employer	Job Postings	Share of Job Postings
Dollar General	28	3%
Sysco Corporation	25	2%
Siemens	20	2%
Walmart / Sam's	14	1%
Carvana Llc	14	1%
Ryder System Incorporated	13	1%

Employer	Job Postings	Share of Job Postings
Intel Corporation	13	1%
Accenture	13	1%
Walgreens Boots Alliance Inc	11	1%
United Natural Foods	11	1%

Certifications, Skills, and Experience

Exhibit 8 shows the most relevant certifications requested by employers for the selected occupations. Seventy-six percent (n = 783) of job postings did not include certification information.

Exhibit 8. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
OSHA Forklift Certification	35	3%
Supply Chain Management Certification	12	1%
Occupational Safety and Health Administration Certification	9	1%
American Production and Inventory Control Society (APICS) Certification	7	1%
Project Management Certification	6	1%
Certified in Production and Inventory Management (CPIM)	6	1%
Six Sigma Certification	6	1%

Exhibit 9 shows the specialized skills most requested by employers for the selected occupations.

Exhibit 9. Most in-demand specialized skills

Specialized Skill	Skill Postings	Share of Skill Postings
Logistics	332	32%
Scheduling	307	30%

Specialized Skill	Skill Postings	Share of Skill Postings
Budgeting	220	21%
Inventory Management	196	19%
Supply Chain Knowledge	166	16%
Supply Chain Management	166	16%
Forklift Operation	164	16%
Inventory Control	149	14%
Supervisory Skills	140	14%
Warehouse Management	130	13%

Exhibit 10 shows employers' minimum level of education for job postings for the selected occupations. Twenty-six percent (n = 272) of job postings did not include a preferred education level.

Exhibit 10. Employer-preferred minimum education levels

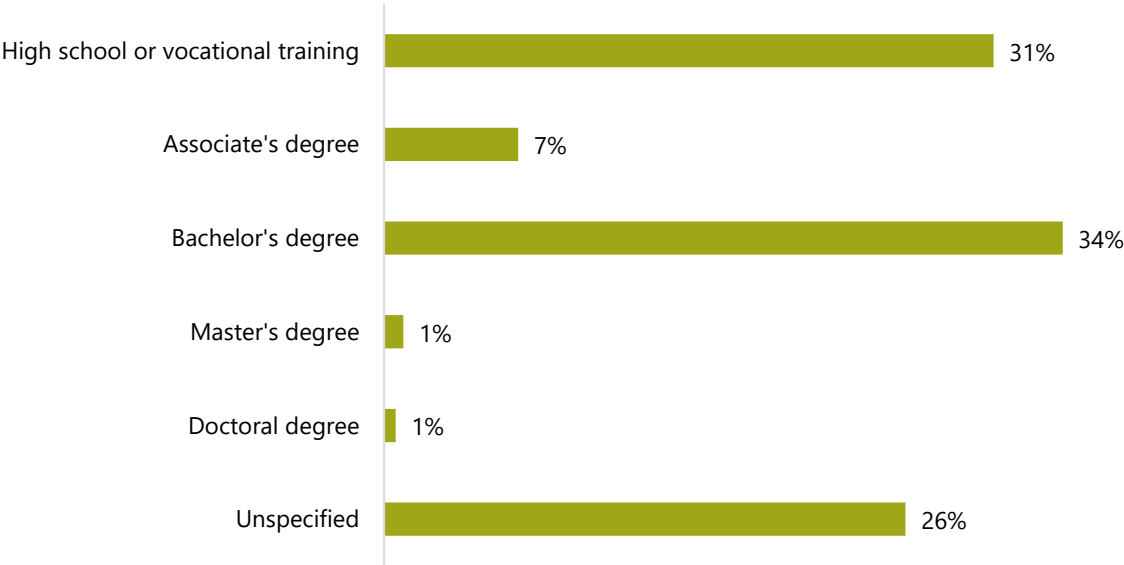
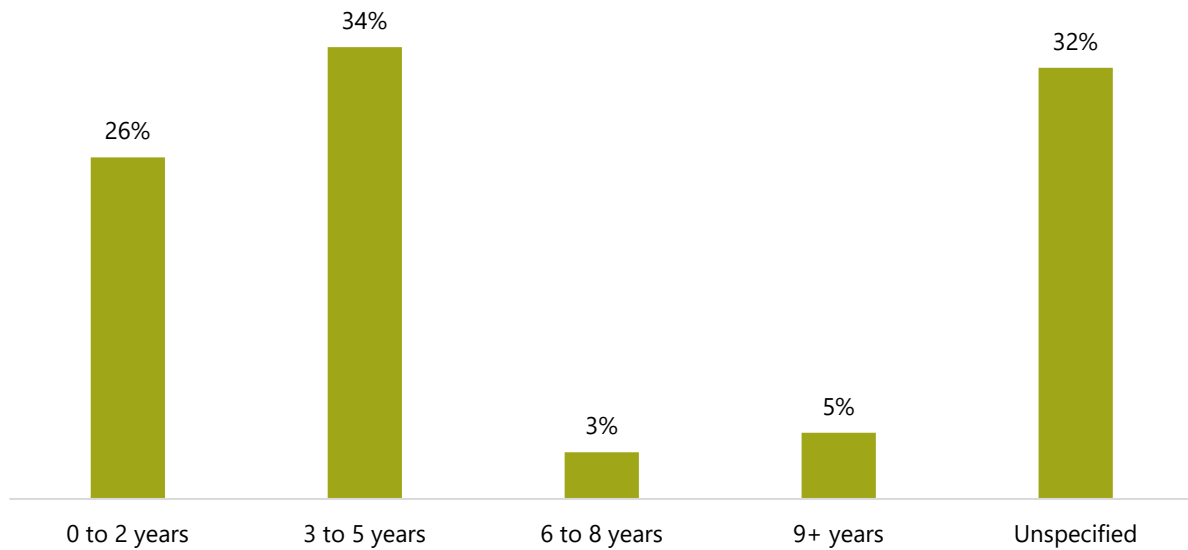


Exhibit 11 shows the experience levels required by employers for job postings for the selected occupations. Thirty-two percent (n = 332) of job postings did not include a preferred education level.

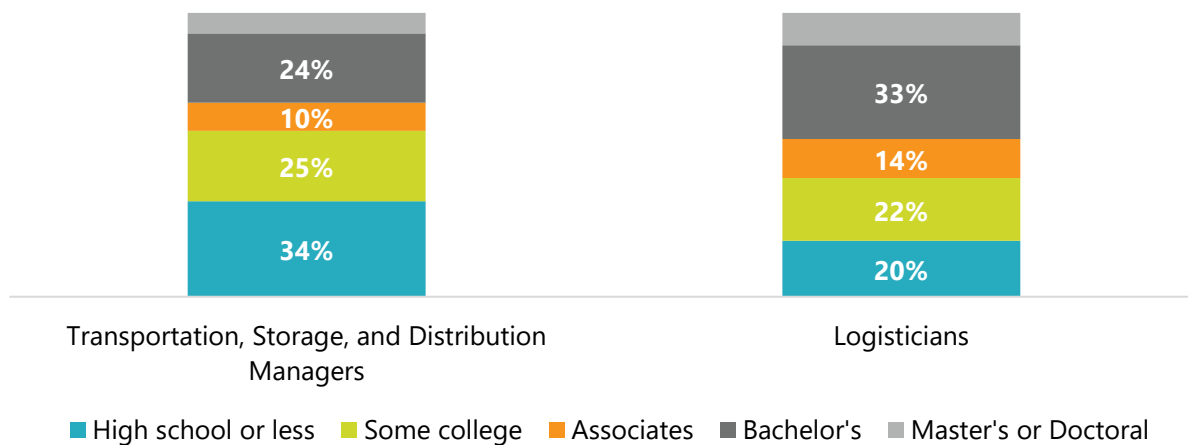
Exhibit 11. Employer-preferred experience levels



EDUCATION AND TRAINING

The U.S. Census Bureau and Bureau of Labor Statistics collected data on education achieved by workers employed in occupations. Exhibit 12 shows the national-level educational attainment of the current workforce in the selected occupations.

Exhibit 12. National worker educational attainment for selected occupations, 2019



The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which the BLS publishes projections data. Exhibit 13 shows the skill level and entry-level job requirements for the selected occupations.

Exhibit 13. Typical education, work experience, and on-the-job training requirements

Occupation	Typical Entry-level Education	Work Experience Required	On-the-job Training Required
Transportation, Storage, and Distribution Managers	High school diploma or equivalent	Five years or more	None
Logisticians	Bachelor's degree	None	None

EDUCATIONAL SUPPLY

Educational supply for an occupation can be estimated by analyzing the number of awards issued in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. Exhibit 14 shows the TOP and CIP codes for educational programs related to the selected occupations.

Exhibit 14. TOP and CIP codes for training programs related to the selected occupations

TOP Programs and Codes	Aligned CIP Programs and Codes
Logistics and Materials Transportation (0510.00)	Logistics, Materials and Supply Chain Management (52.0203)

Community College Supply

No programs are offered under the Logistics and Materials Transportation TOP code (0510.00) in the North (Greater Sacramento) subregion or the North/Far North region.

However, these occupations may be trained for existing business administration and management programs. Exhibit 15 summarizes existing TOP code programs for each community college that may cross-train these occupations.

Exhibit 15. North (Greater Sacramento) Community College Cross Training Programs

TOP Program	ARC	CRC	FLC	LTCC	SCC	Sierra	WCC	Yuba	Avg. Annual Awards
Business and Commerce, General (0501.00)	X	X	X	X	X	X			135
Business Administration (0505.00)	X	X	X	X	X	X	X	X	1,112
Business Management (0506.00)	X	X	X	X	X	X	X	X	96
Management Development and Supervision (0506.30)		X							3
Aviation and Airport Management and Services (3020.00)					X				6

Note: Awards data is based on 2017/18 through 2019-20 academic years.

Other Postsecondary Training Supply

Exhibit 16 summarizes related programs offered by non-community college training providers in the North. Please note that awards data is currently unavailable.

Exhibit 16. Other Postsecondary Education and Training Programs

Training Provider	Program Title	Award Offered
CSU Sacramento	Business Administration (Supply Chain Management)	Bachelor's degree

FINDINGS

- This report focuses on supply chain management and logistics occupations, including transportation, storage, and distribution managers and logisticians.
- The North (Greater Sacramento) region held 1,968 supply chain and logistics jobs in 2020. Supply chain and logistics jobs are projected to increase by 11% over the next five years, adding 216 new jobs to the subregion by 2025.
 - Job growth for logisticians (16%) is more than double that of transportation, storage, and distribution managers (7%). Logisticians are expected to add 142 new jobs by 2025, while transportation, storage, and distribution managers will add 74 new jobs.
- Over the next five years, supply chain and logistics occupations will have 209 annual openings in the North (Greater Sacramento) region. Job openings are almost equally distributed between the two occupations.
- Wage data shows that supply chain and logistics occupations earn \$17 above the subregion's living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 1,030 online job postings for supply chain and logistics occupations between January 1, 2021, and December 31, 2021. Two-thirds of the job postings were for transportation, storage, and distribution managers (n = 679).
- Between January 2016 and January 2021, job postings for supply chain and logistics occupations have more than doubled.
- Between 35% and 36% of incumbent workers in the studied occupations have educational attainment levels consistent with community college offerings (some college or associate degrees). Another 24% to 33% of workers in these occupations hold a bachelor's degree.
- There are no dedicated supply chain management and logistics educational programs in North (Greater Sacramento) community colleges. However, many of the subregion's community colleges offer business administration and management programs to cross-train these occupations.
- CSU Sacramento offers a four-year degree in Business Administration, emphasizing supply chain management. Publicly-available awards data is limited to Sacramento State's entire Business Administration program.

RECOMMENDATIONS

- Based on a three-year average of annual awards in the North (Greater Sacramento) region supply chain management and logistics training programs and projected yearly openings, the supply gap analysis shows that the region seems to have room for additional training.
 - North (Greater Sacramento) community colleges issued an average of 0 awards over the last three years.
 - While CSU Sacramento offers a four-year degree related to supply chain management, detailed awards data for this program is unavailable.
 - There are 209 projected annual openings for supply chain and logistics occupations.
- There seems to be a lack of dedicated educational and training pathways for supply chain management and logistics careers.
 - The North (Greater Sacramento) Center of Excellence recommends that community colleges examine existing educational pathways to understand the current curriculum and programs that would support supply chain management training and logistics occupations.
 - The North (Greater Sacramento) Center of Excellence also recommends that community colleges develop a transfer-oriented pathway to support students interested in transferring.
- The North/Far North Center of Excellence recommends moving forward with the program.

COE Recommendation		
Move forward with the program	Proceed with caution	Program is not recommended
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX A. METHODOLOGY AND SOURCES

This report identified Occupations using the Center of Excellence TOP-to-CIP-to-SOC crosswalk and O*Net OnLine. This report's findings were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

Cal-PASS Plus LaunchBoard. California Community Colleges Chancellor's Office.

<https://www.calpassplus.org/LaunchBoard/Home.aspx>.

Emsi. <https://www.economicmodeling.com/>. EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors).

Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2016-2017.

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"Taxonomy of Programs." California Community Colleges Chancellor's Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.ashx>

"TOP-CIP-SOC Crosswalk." Centers of Excellence for Labor Market Research. November 2015 Edition. <http://coeccc.net/>

COVID-19 Statement: This report includes employment projection data by EMSI. EMSI's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

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

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