LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION

C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

AUTOMOTIVE TECHNOLOGY
IN THE FAR NORTH

Far North
Center of Excellence

April 2022

TABLE OF CONTENTS

Contents

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SUMMARY

The 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 Far North 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 - jobs 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 Far North subregion held 1,970 jobs for automotive service technicians and mechanics in 2020. Jobs for automotive service technicians and mechanics are projected to remain stable over the next five years.
- Over the next five years, automotive service technicians and mechanics jobs are projected to have 205 annual openings in the Far North subregion.
- Wage data shows that automotive technology occupations earn $2 above the subregion's living wage of $12.74 per hour.
- Awards data analysis shows that Far North training providers conferred an average of 52 awards (certificates and associate degrees) in automotive technology programs over the last three academic years.

Recommendations include:

- The Far North Center of Excellence recommends moving forward with the program.

INTRODUCTION

The Far North Center of Excellence (COE) 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) occupation and code:

- This middle-skill occupation requires more education and training beyond a high school diploma but less than a four-year degree:
    - Automotive Service Technicians and Mechanics (49-3023)

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

- Automotive Technology (0948.00)

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

- Automobile/Automotive Mechanics Technology/Technician (47.0604)

OCCUPATIONAL DEMAND

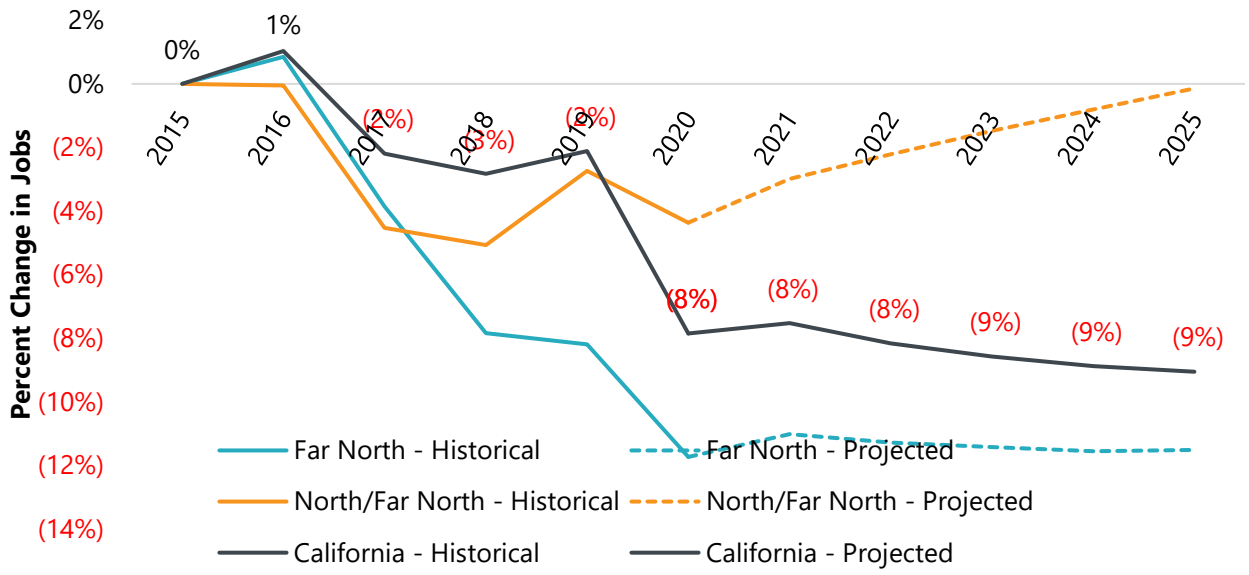
Exhibit 1 summarizes the five-year projected job growth for a middle-skill occupation in the Far North, North/Far North, and California.

Exhibit 1. Employment and projected demand, 2020-2025

Occupation	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	2020-2025 Annual Openings
Automotive Service Technicians and Mechanics	1,970	1,975	5	0%	205
Far North	**1,970**	**1,975**	**5**	**0%**	**205**
Automotive Service Technicians and Mechanics	7,995	8,348	353	4%	884
North/Far North	**7,995**	**8,348**	**353**	**4%**	**884**
Automotive Service Technicians and Mechanics	77,971	76,953	(1,018)	(1%)	7,930
California	**77,971**	**76,953**	**(1,018)**	**(1%)**	**7,930**

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.

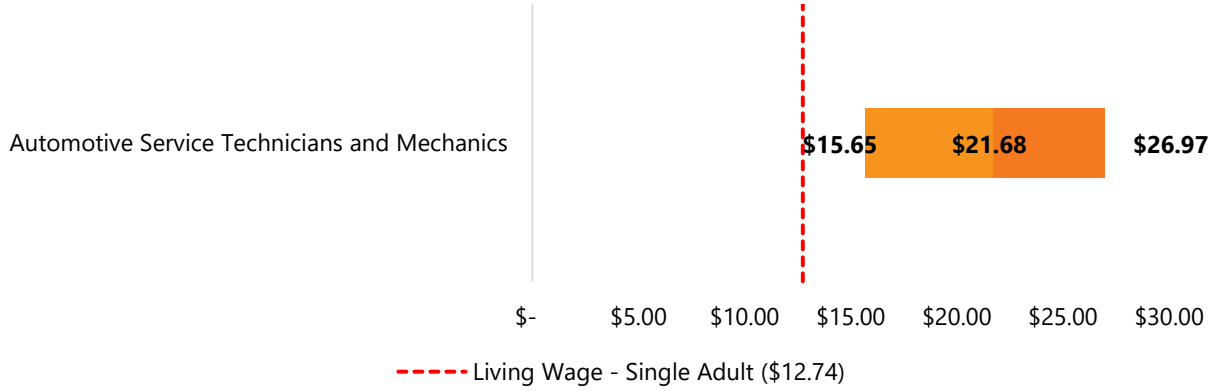
Exhibit 2. Changes in employment, 2015-2025



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupation to the Far North living wage for a single adult - $12.74 per hour.[1]

Exhibit 3. Comparison of wages by occupation, 2020



JOB POSTINGS

This section of the report 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 Far North COE identified 275 online job postings for the selected occupation in the Far North subregion. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from April 1, 2021, to March 31, 2022.

Occupations and Job Titles

Exhibit 4 details the number of online job postings for the selected occupation.

Exhibit 4. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Automotive Specialty Technicians	263	96%
Automotive Master Mechanics	12	4%
Total Job Postings	**275**	**100%**

[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.

Exhibit 5 shows the top 10 job titles with the most job postings and the share of job postings. All job postings included a job title.

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Automotive Technician	26	9%
Service Technician	14	5%
Lube Technician	12	4%
Truck Service Onsite Technician	8	3%
Truck Service Oil/Lube Technician	6	2%
Auto Mechanic	5	2%
Automotive Service Advisor	5	2%
Automotive Technician/Mechanic	5	2%
Shop Technician	5	2%
Automotive Mechanic/Dismantler	4	1%

Employers

Exhibit 6 shows the top 10 employers with the most job postings for the selected occupation. Fifty-six percent (n = 155) of job postings did not include an employer.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Share of Job Postings
Lithia Motors Incorporated	15	5%
TravelCenters of America	14	5%
Les Schwab	7	3%
Goodyear	6	2%
Pep Boys	5	2%

Employer	Job Postings	Share of Job Postings
Amerit Fleet Solutions	5	2%
Pape Group Incorporated	4	1%
Pacific Gas and Electric Company	4	1%
Mendocino Redwood Company Llc	4	1%
Totally Trucks	3	1%

Certifications, Skills, and Experience

Exhibit 7 shows the most relevant certifications requested by employers for the selected occupation. Fifty-six percent (n = 154) of job postings did not include certification information.

Exhibit 7. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
Driver's License	99	36%
Automotive Service Excellence (ASE) Certification	27	10%
Diesel Mechanic Certification	2	1%
Certified in Small Engine Repair	1	0%
Air Brake Certified	1	0%

Exhibit 8 shows the top 10 skills across three categories for the studied occupation: specialized, human-centered, and technical skills. Twenty-eight percent (n = 76) of job postings did not include a preferred education level. The most sought-after skill in job postings is repair and auto repair.

Exhibit 8. Most in-demand specialized skills

Top 10 Specialized Skills	Top 10 Human Skills	Top 10 Technical Skills
Repair	Teamwork / Collaboration	Microsoft Excel
Auto Repair	Physical Abilities	Computer-Assisted Auditing Technology (CAAT) services
Automotive Services Industry Knowledge	Troubleshooting	Microsoft Office
Customer Service	Organizational Skills	Microsoft Windows
Hand Tools	Communication Skills	Apple iWork
Vehicle Maintenance	Detail-Oriented	Microsoft Word
Welding	Preventive Maintenance	Oracle
Tire Repairs	Computer Literacy	
Cleaning	Multi-Tasking	
Tire Mounting	Self-Starter	

Exhibit 9 shows the minimum level of education required by employers for job postings for the selected occupation. Seventy-four percent (n = 204) of job postings did not include a preferred education level.

Exhibit 9. Employer-preferred minimum education levels

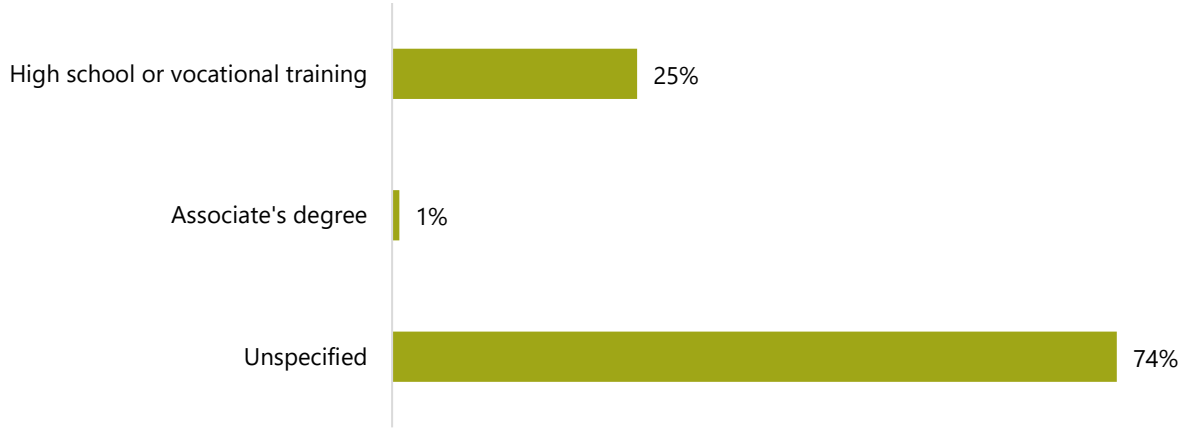
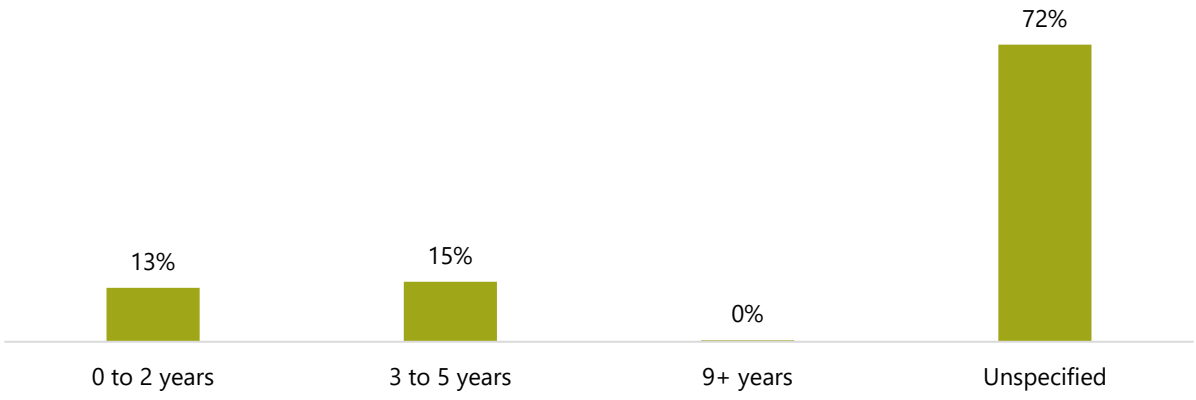


Exhibit 10 shows the experience levels required by employers for job postings for the selected occupation. Seventy-two percent (n = 198) of job postings did not include a preferred education level.

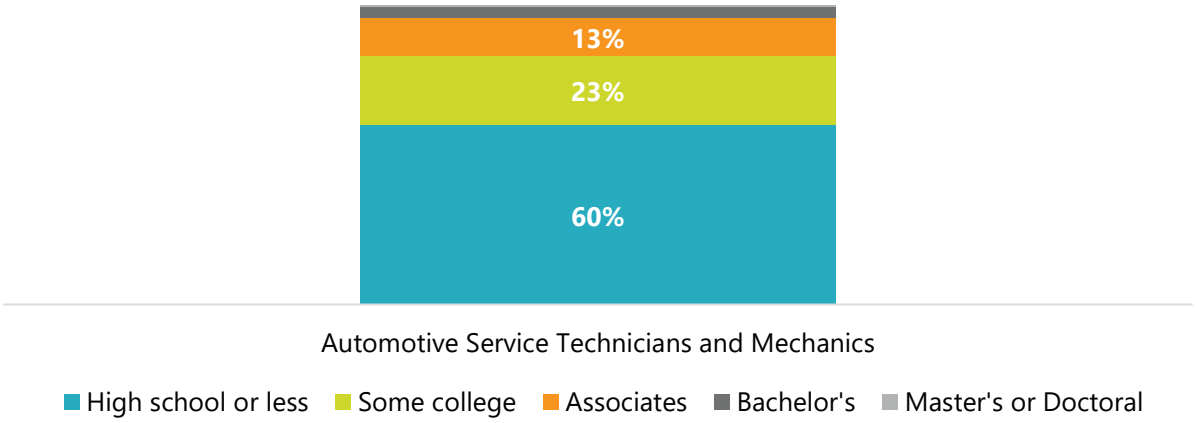
Exhibit 10. Employer-preferred experience levels



EDUCATION AND TRAINING

The U.S. Census Bureau and Bureau of Labor Statistics collects data on education achieved by workers employed in occupations. Exhibit 11 shows the national-level educational attainment of the current workforce in the selected occupation.

Exhibit 11. 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 12 shows the skill level and entry-level job requirements for the selected occupation.

Exhibit 12. Typical education, work experience, and on-the-job training requirements

Occupation	Typical Entry-level Education	Work Experience Required	On-the-job Training Required
Automotive Service Technicians and Mechanics	Postsecondary nondegree award	None	Short-term on-the-job training

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 13 shows the TOP and CIP codes for educational programs related to the selected occupation.

Exhibit 13. TOP and CIP codes for training programs related to the selected occupations

TOP Programs and Codes	Aligned CIP Programs and Codes
Automotive Technology (0948.00)	Automobile/Automotive Mechanics Technology/Technician. (47.0604)

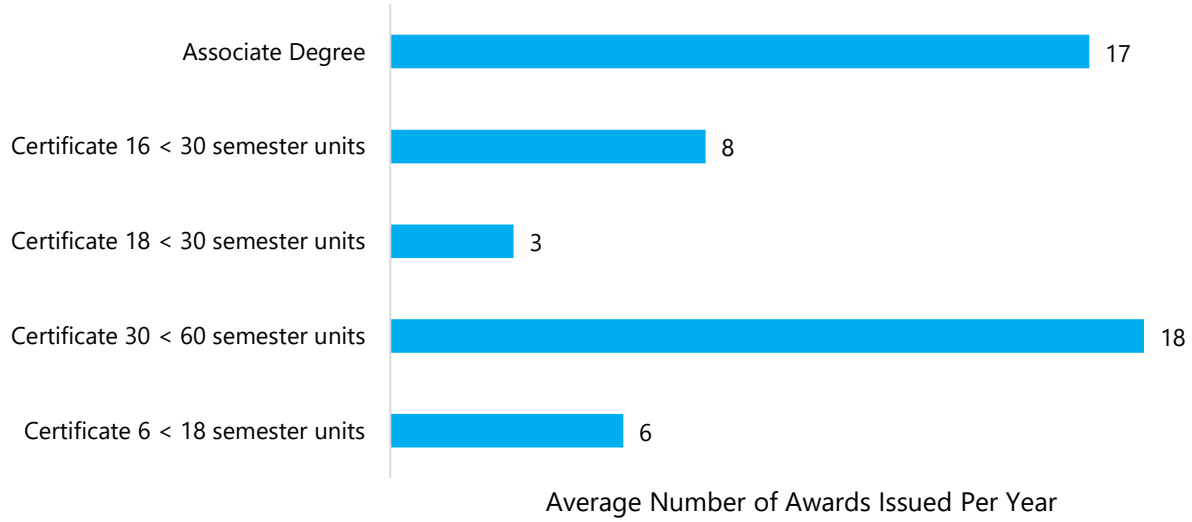
Community College Supply

Exhibits 14 and 15 compare the average number of certificates and degrees conferred in selected community college programs over the last three academic years.

Exhibit 14. Annual average community college awards by program, 2018-19 through 2020-21

Program - TOP Code	College	Annual Awards 2018-19	Annual Awards 2019-20	Annual Awards 2020-21	3-Yr Annual Awards Average
Automotive Technology-094800	Butte	40	11	15	22
	Lassen	5	8	3	5
	Mendocino	7	15	5	9
	Redwoods	12	6	3	7
	Shasta	11	11	3	8
	Grant Total	**75**	**51**	**29**	**52**

Exhibit 15. Annual average community college awards by type, 2018-19 through 2020-21



FINDINGS

- This report focuses on one occupation in the automotive technology pathway: Automotive Service Technicians and Mechanics.
- The Far North subregion held 1,970 automotive service technicians and mechanics jobs in 2020.
- While jobs in automotive service technicians and mechanics are projected to decline across the state over the next five years, Far North mechanic jobs are projected to remain relatively stable.
- Over the next five years, automotive service technicians and mechanics are projected to have 205 annual openings in the Far North subregion.
- Wage data shows that automotive service technicians and mechanics earn $2 above the subregion's living wage of $12.74 per hour.
- According to real-time labor market information, there were about 275 online job postings for automotive service technicians and mechanics between April 1, 2021, and March 31, 2022.
- Approximately 36% of incumbent automotive service technicians and mechanics have educational attainment levels consistent with community college offerings (some college or associate degrees). Sixty percent of workers hold a high school diploma.
- Five Far North community colleges offer degrees and certificates in programs related to automotive technology. Together, these programs conferred an average of 52 awards (certificates and associate degrees) in automotive technology programs over the last three academic years (2018-19 through 2020-21).

RECOMMENDATIONS

- Based on a three-year average of annual awards in Far North region automotive technology programs and projected yearly openings, the supply gap analysis shows that the region seems to have room for additional training.
    - Together, community colleges and other postsecondary training providers issued an average of 52 awards over the last three years.
    - There are 205 projected annual openings for automotive technology jobs.
- The 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**
☒	☐	☐

APPENDIX A. METHODOLOGY AND SOURCES

Occupations in this report were identified 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 2022.1; QCEW Employees, Non-QCEW Employees, and Self-Employed. 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. Bureau of Labor Statistics. https://www.bls.gov/emp/tables/educational-attainment.htm#.

Integrated Postsecondary Education Data System (IPEDS). National Center for Education Statistics. U.S. Department of Education. https://nces.ed.gov/ipeds/.

"Labor Insight Real-Time Labor Market Information Tool." Burning Glass Technologies. http://www.burning-glass.com.

Labor Market Information Division. California Employment Development Department. https://labormarketinfo.edd.ca.gov/.

Management Information Systems (MIS) Data Mart. California Community Colleges Chancellor's Office. https://datamart.cccco.edu/.

Occupational Employment Statistics (OES). Bureau of Labor Statistics. https://www.bls.gov/oes/home.htm.

O*NET OnLine. U.S. Department of Labor/Employment and Training Administration (DOL ETA). https://www.onetonline.org/.

Self-Sufficiency Standard Tool for California. The University of Washington. http://www.selfsufficiencystandard.org/

"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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