



Program Endorsement Brief:

Technical Theatre

North/Far North Center of Excellence, December 2019

INTRODUCTION

This report provides a brief overview of labor market demand and educational program supply for middle-skill occupations related to technical theatre in the North/Far North region. Three occupations associated with technical theatre were identified for this study: set and exhibit designers, audio and video equipment technicians, and sound engineering technicians. The proposed program would prepare students to meet entry-level skill requirements for the International Alliance of Theatrical State Employees, Moving Picture Technicians, Artists, and Allied Crafts of the United States and Canada (I.A.T.S.E.) Local 16.¹

Key findings include:

- Demand for workers in occupations related to technical theatre is expected to increase by 7% over the next five years in the North/Far North region, and by 6% in the 15-county Far North region.
- Roughly 11-13% of workers in occupations related to technical theatre are self-employed.
- The median wages for audio and video equipment technicians fall below the average living wage of \$25.58/hour for a one-adult, one-child household in the North/Far North region, but exceed the average living wage of \$11.66/hour for one adult. Wages for set and exhibit designers, and sound engineering technicians hover around the regional average living wage for a one-adult, one-child household and exceed the average living wage for one adult.
- Over the past three years, community colleges in the region conferred, on average, five degrees and seven certificates annually in TOP codes related to technical theatre.
- In the North/Far North region, 89 annual job openings are projected, indicating an opportunity for program development.

Findings in this report were determined using labor market data from EMSI and Burning Glass. Educational supply data is sourced from the Community College Chancellor's Office Management Information Systems (MIS) Data Mart.

This report contains the following sections:

- Occupational demand
- Wages and job postings
- Educational attainment and supply, and
- Findings and recommendations

¹ International Alliance of Theatrical State Employees, Moving Picture Technicians, Artists, and Allied Crafts of the United States and Canada, Local 16, <https://www.local16.org/>.

OCCUPATIONAL DEMAND

The following Standard Occupational Classification (SOC) codes were analyzed in relation to the proposed program²:

27-1027.00 - Set and Exhibit Designers

Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Sample of reported job titles: Design Chief, Designer, Display Coordinator, Exhibit Designer, Exhibit Preparator, Production Designer, Scenic Designer, Set Decorator, Set Designer, Show Design Supervisor

27-4011.00 - Audio and Video Equipment Technicians

Set up, or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems.

Sample of reported job titles: Audio Technician, Audio Visual Specialist (AV Specialist), Audio Visual Technician (AV Technician), Master Control Operator (MCO), Media Specialist, Media Technician, Multimedia Educational Specialist, Operations Technician, Stagehand, Video Technician

27-4014.00 - Sound Engineering Technicians

Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

Sample of reported job titles: Audio Engineer, Audio Operator, Broadcast Engineer, Broadcast Technician, Master Control Operator, Mixer, Recording Engineer, Sound Engineer, Sound Technician, Studio Engineer

² O*NET OnLine, U.S. Department of Labor, site updated December 12, 2019, <https://www.onetonline.org>.

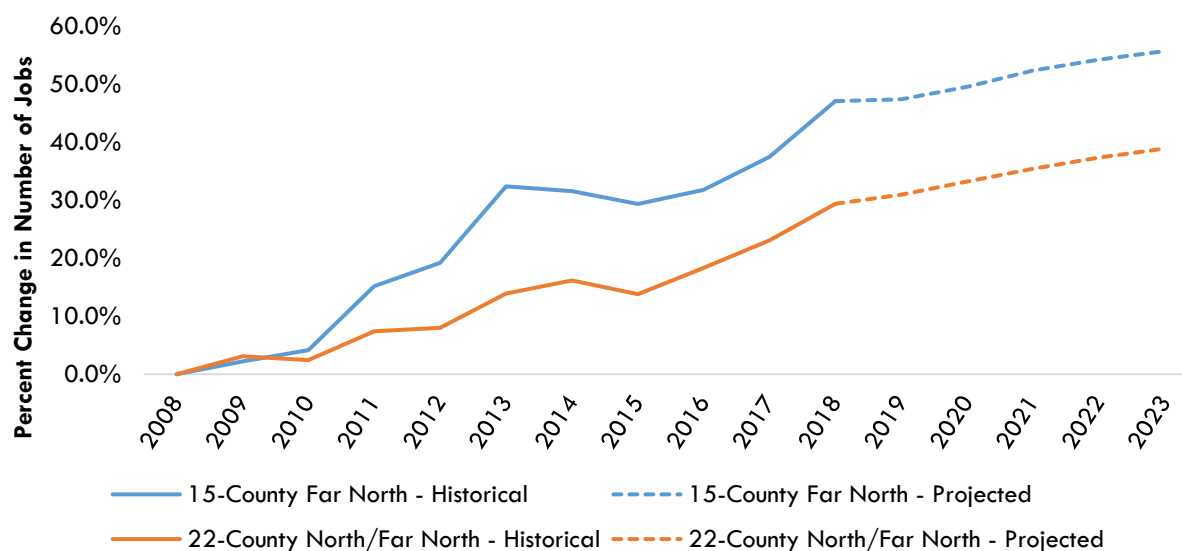
Exhibit 1 summarizes job trends in the 15-county Far North region and the 22-county North/Far North region.

Exhibit 1: Employment and projected occupational demand³

Occupation	SOC	2008 Jobs	2018 Jobs	2023 Jobs	2018-23 Jobs % Change	Annual Openings
Set and Exhibit Designers	27-1027	<10	<10	<10	Infs.data	Infs.data
Audio and Video Equipment Technicians	27-4011	115	179	190	6%	19
Sound Engineering Technicians	27-4014	17	16	16	Infs.data	Infs.data
15-County Far North Region	TOTAL	140	202	215	6%	22
Set and Exhibit Designers	27-1027	52	57	63	11%	7
Audio and Video Equipment Technicians	27-4011	446	637	685	8%	70
Sound Engineering Technicians	27-4014	130	119	125	5%	13
22-County North/Far North Region	TOTAL	628	813	873	7%	89

Exhibit 2 shows the percentage change in number of jobs between 2008 and 2018, and occupational projections from 2018 through 2023. The rate of change is indexed to the total number of jobs in 2008 as the base year and compares the 15-county Far North region and the 22-county North/Far North region.

Exhibit 2: Rate of change for selected occupations⁴



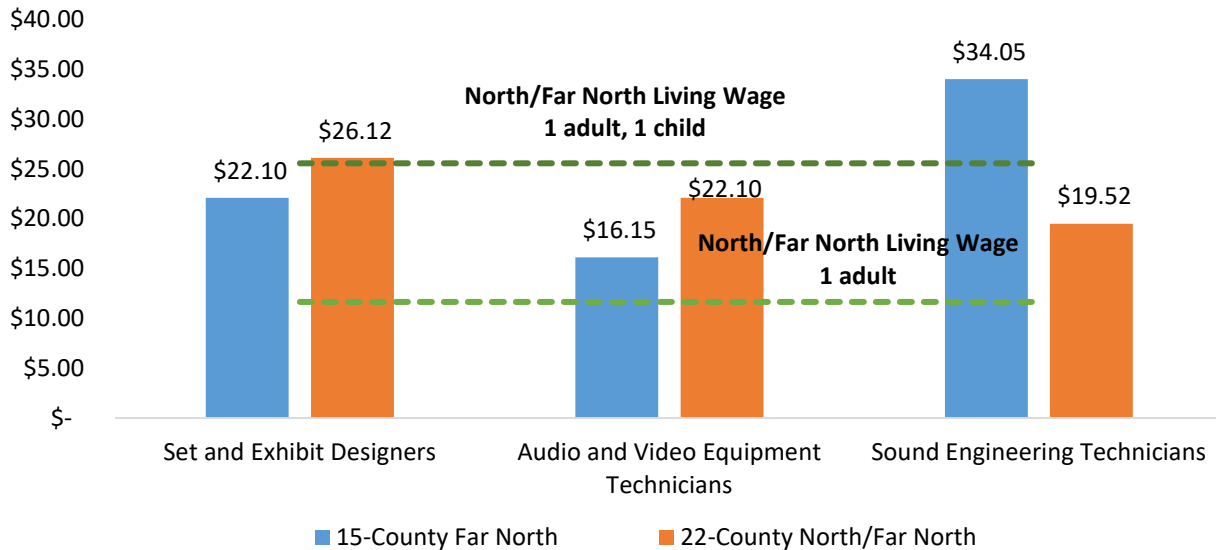
³ Emsi 2019.4; QCEW Employees, Non-QCEW Employees and Self-Employed. The 15-county Far North region includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity. The 22-county North/Far North region includes the aforementioned counties as well as El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba.

⁴ Ibid.

WAGES AND JOB POSTINGS

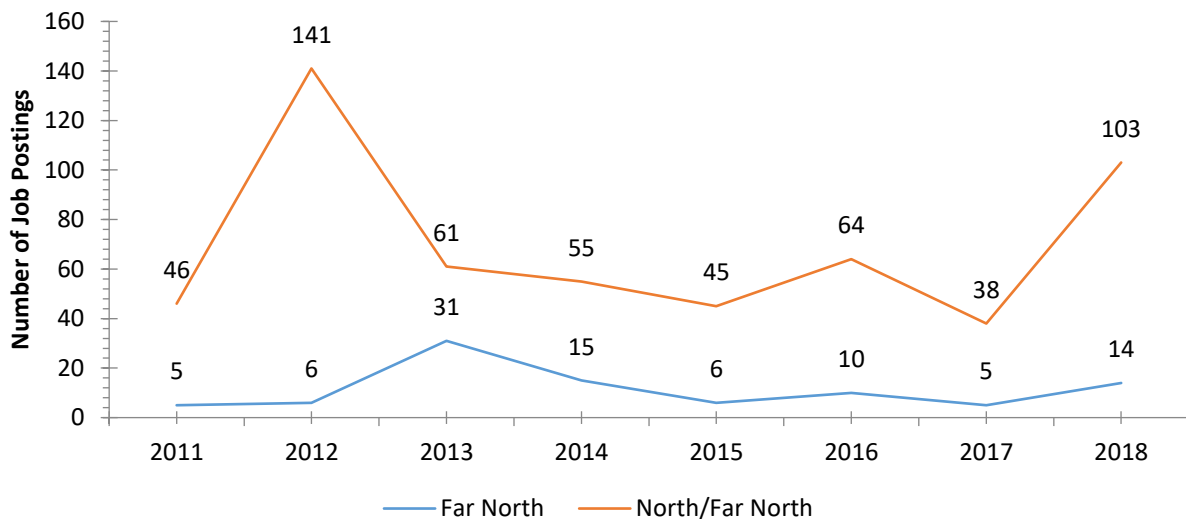
Exhibit 3 displays hourly wages for the selected occupations in the Far North region and the North/Far North region compared to the North/Far North average living wage. The average living wage for the North/Far North region for a one-adult, one-child household is \$25.58/hour. The average living wage for one adult is \$11.66/hour. The chart highlights the difference between the median hourly wages of the representative occupations.

Exhibit 3: Wages for selected occupations⁵



Burning Glass data for job postings for representative SOC codes identified a pool of 115 listings in the North/Far North region during the past year (December 2018 through November 2019). Exhibit 4 shows job posting trends since 2011 for each region.

Exhibit 4: Job posting trends for selected occupations⁶



⁵ Emsi 2019.4; QCEW Employees, Non-QCEW Employees and Self-Employed. Living Wage Calculator, Massachusetts Institute of Technology (MIT), 2019, <http://livingwage.mit.edu/states/06/locations>.

⁶ "Labor Insight Real-Time Labor Market Information Tool," Burning Glass Technologies, 2019, <http://www.burning-glass.com>.

Exhibit 5 displays the skill clusters most requested by employers in the 22-county North/Far North region for the selected occupations during the 12-month period of December 2018 through November 2019.

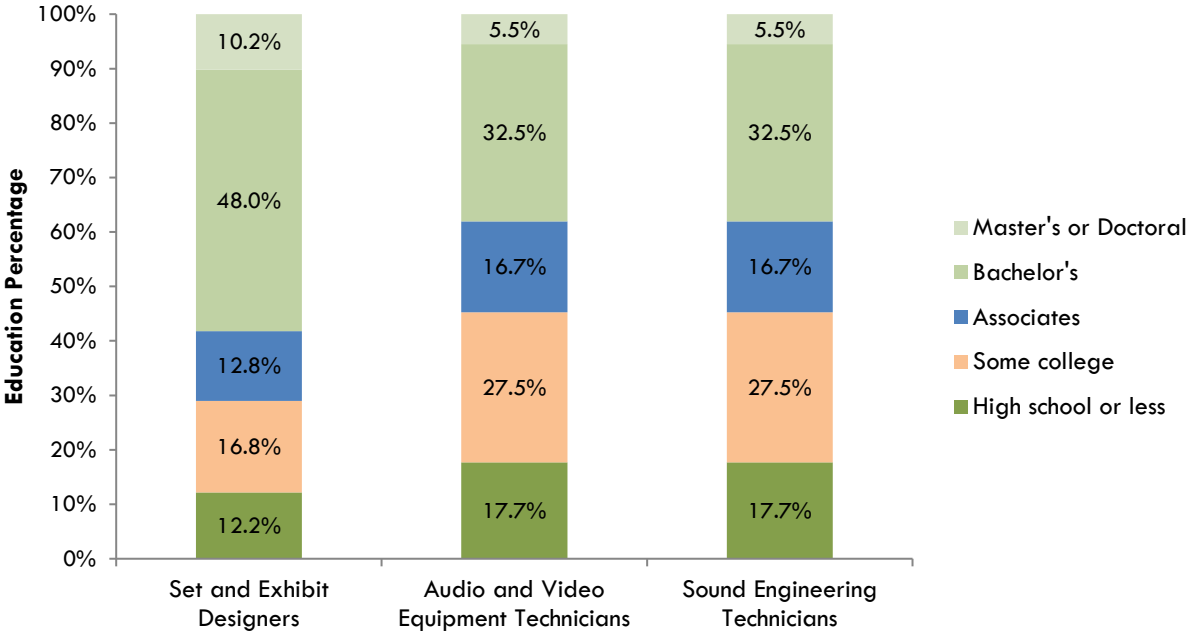
Exhibit 5: Top 10 skill clusters desired in the selected occupations⁷

(67 postings, 34 indicate skill)	
Most requested skills	% of postings
Media and Writing: Audio Production	72%
Customer and Client Support: Basic Customer Service	45%
Information Technology: Technical Support	33%
Administration: Scheduling	24%
Information Technology: General Networking	22%
Information Technology: Microsoft Office and Productivity Tools	22%
Maintenance, Repair, and Installation: Basic Electrical Systems	22%
Media and Writing: Media Production	22%
Business: Operations Management	20%
Information Technology: Telecommunications	20%

EDUCATIONAL ATTAINMENT AND SUPPLY

At the national level, the typical entry-level education for set and exhibit designers is a bachelor’s degree. The typical entry-level education for audio and video equipment technicians, and sound engineering technicians is also a bachelor’s degree. However, in each occupation, 30% to 44% of workers have completed either an associate degree or some college. Exhibit 6 shows educational attainment percentages of all workers in these occupations.

Exhibit 6: Typical educational attainment for selected occupations nationally⁸



⁷ Ibid.

⁸ Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2016-2017, Bureau of Labor Statistics, accessed November 21, 2019, <https://www.bls.gov/emp/tables/educational-attainment.htm>.

To estimate community college supply, this study used the Taxonomy of Programs (TOP) code Technical Theatre (1006.00). Exhibit 7 shows the number of awards conferred by community colleges in the North/Far North region during the past three academic years. The majority of awards were conferred by American River College in the North/Far North region. No colleges in the Far North region have conferred awards for this TOP code during the past three academic years.

Exhibit 7: Total awards conferred by North/Far North community colleges, 2015-2018⁹

	Certificate 2016-17	Certificate 2017-18	Certificate 2018-19	Certificate 3-Yr Avg	Associate 2016-17	Associate 2017-18	Associate 2018-19	Associate 3-Yr Avg
American River	2	0	1	1	6	4	3	4
Folsom Lake	3	1	2	2	0	0	0	0
Sacramento City	0	0	1	0	0	0	1	0
Sierra	5	6	1	4	0	0	0	0
Total	10	7	5	7	6	4	4	5

FINDINGS AND RECOMMENDATION

- Moderate demand, varying from 6% to 7%, for occupations related to technical theater is projected through 2023.
- Roughly 11-13% of workers in occupations related to technical theatre are self-employed.
- Wages for the occupations studied in this report are above the average living wage for a single adult in the region. Sound engineering technicians earn the highest wages.
- Data analysis shows that 30-50% of workers in the three occupations typically have a bachelor's degree; thus, a focus on transfer pathways is recommended. However, 30-44% of workers have completed as associate degree or some college.
- Community colleges in the North/Far North region conferred an average of five degrees and seven certificates over the past three years. In the North/Far North region, 89 annual job openings are projected for occupations related to technical theatre through 2023.
- Based on comparison of supply and demand for workers, there appears to be an undersupply of workers.

COE Recommendation	
<input checked="" type="checkbox"/>	Move forward with program
<input type="checkbox"/>	Program is not recommended
<input type="checkbox"/>	Additional information needed

⁹ California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, September 18, 2019, <https://datamart.cccco.edu/>.

APPENDIX A: SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard

For more information, please contact:

Sara Phillips

Director, Far North Center of Excellence for Labor Market Research

sphillips@shastacollege.edu or 530.242.7635