C·O·E CENTERS OF EXCELLENCE FOR LABOR MARKET RESEARCH

Music Technician Occupations

Labor Market Analysis: San Diego County

October 2020

Summary

The brief provides labor market information about *Music Technician Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. According to available labor market information, *Music Technician Occupations* in San Diego County have a labor market demand of 156 annual job openings (while average demand for a single occupation in San Diego County is 277 annual job openings), and nine educational institutions in San Diego County supply 132 awards for these occupations, suggesting that there is a small supply gap in the labor market or that demand can be met with existing programs. *Music Performance Occupations* include "Audio and Video Equipment Technicians" and "Sound Engineering Technicians." Entry-level wages are below the living wage for both occupations; however, median wages are above the living wage. This brief recommends not proceeding with developing a **new** program because 1) a small supply gap exists for these positions; 2) a high number of programs exist in the region; 3) these occupations' entry-level earnings are below the living wage; and 4) the percentage of students who obtained a job related to their field of study and earned a living wage after completing related programs is **below** the state average for students who complete Career Education programs in general.

Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)[1] system:

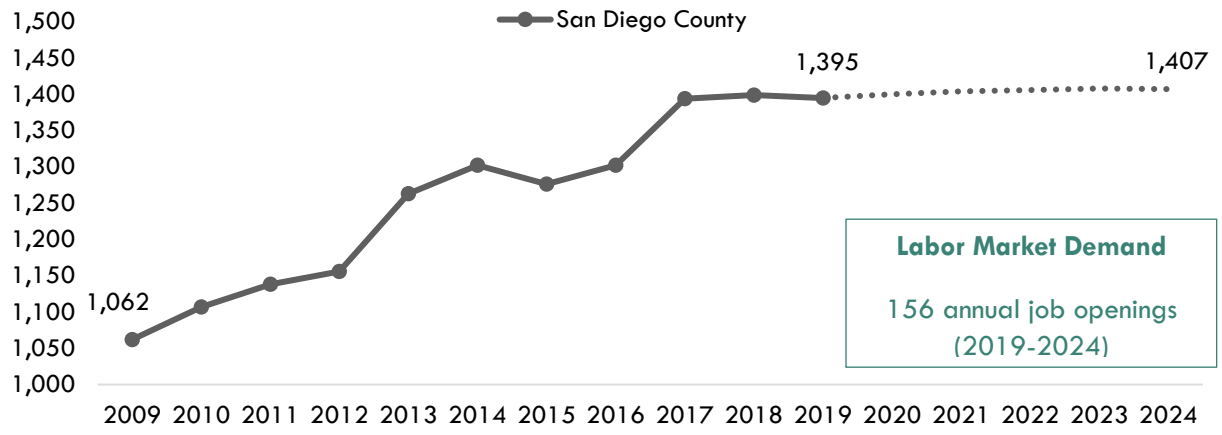
- **Audio and Video Equipment Technicians** (SOC 27-4011): Set up, or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences.
- **Sound Engineering Technicians** (SOC 27-4014): 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.

For the purpose of this report, these occupations are referred to as *Music Technician Occupations*.

Projected Occupational Demand

Between 2019 and 2024, *Music Technician Occupations* are projected to increase by 12 net jobs or one percent (Exhibit 1a). During this period, employers in San Diego County are projected to hire 156 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

Exhibit 1a: Number of Jobs for *Music Technician Occupations* (2009-2024)[2]



[1] The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. bls.gov/soc.
[2] EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

Exhibit 1b breaks down the projected number of jobs change by occupation more specifically. As Exhibit 1b shows, *Audio and Video Equipment Technicians* are projected to increase the most by 29 total jobs between 2019 and 2024. *Sound Engineering Technicians*, however, are projected to decline during this period (Exhibit 1b).

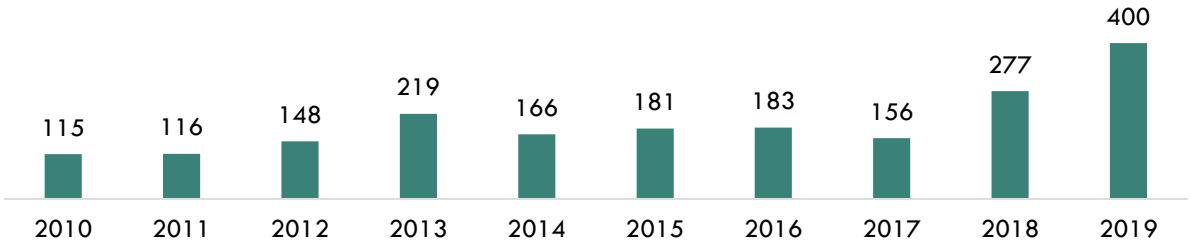
Exhibit 1b: Number of Jobs for *Music Technician Occupations* in San Diego County (2019-2024)

Occupational Title	2019 Jobs	2024 Jobs	2019 - 2024 Net Jobs Change	2019-2024 % Net Jobs Change	Annual Job Openings (Demand)
Audio and Video Equipment Technicians	1,200	1,229	29	2%	136
Sound Engineering Technicians	195	178	(17)	(9%)	20
Total	1,395	1,407	12	1%	156

Online Job Postings

This report analyzes not only historical and projected data (traditional labor market information or LMI), but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2010 and 2019, there was an average of 196 online job postings per year in San Diego County for *Music Technician Occupations* (Exhibit 2). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (Exhibit 1b). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

Exhibit 2: Number of Online Job Postings for *Music Technician Occupations* in San Diego County (2010-2019)[3]



[3] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2019.

Earnings

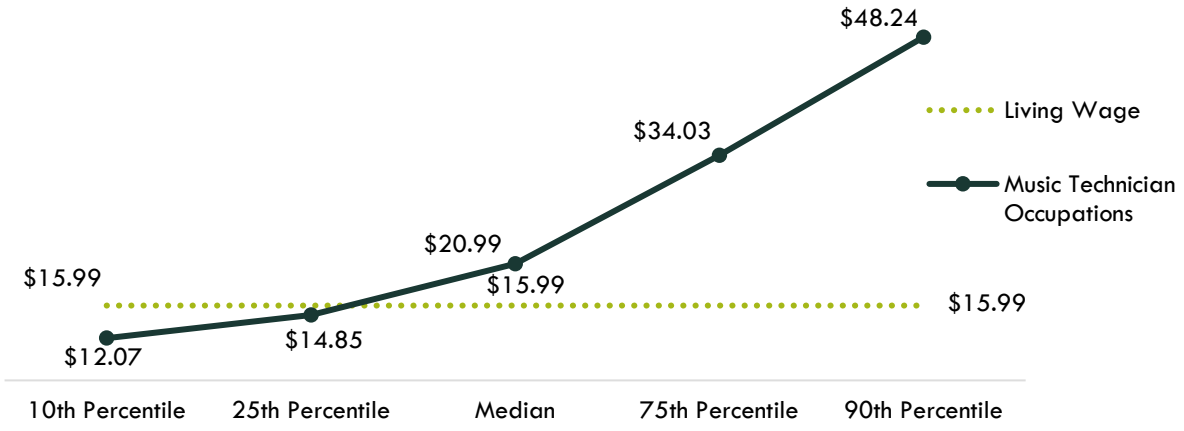
The entry-level hourly earnings for *Music Technician Occupations* range from $15.81 to $13.89 (Exhibit 3a).

Exhibit 3a: Hourly Earnings for *Music Technician Occupations* in San Diego County

Occupational Title	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Audio and Video Equipment Technicians	$15.81	$20.41	$27.39
Sound Engineering Technicians	$13.89	$21.58	$40.68

On average, the entry-level hourly earnings for *Music Technician Occupations* is $14.85; this is below the living wage for a single adult in San Diego County, which is $15.99 per hour (Exhibit 3b).[4]

Exhibit 3b: Average Hourly Earnings[5] for *Music Technician Occupations* in San Diego County[6]



[4] "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. insightcced.org/2018-self-sufficiency-standard.
[5] 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.
[6] EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.[7] There are six TOP codes and nine CIP codes related to *Music Technician Occupations* (Exhibit 4).

Exhibit 4: Related TOP and CIP Codes for *Music Technician Occupations*

Music Technician Occupations
TOP 060400: Radio and Television
TOP 060420: Television (including combined TV/film/video)
TOP 061220: Film Production
TOP 061440: Animation
TOP 100500: Commercial Music
TOP 100600: Technical Theater
CIP 09.0701: Radio and Television
CIP 10.0202: Radio and Television Broadcasting Technology/Technician
CIP 10.0203: Recording Arts Technology/Technician
CIP 10.0304: Animation, Interactive Technology, Video Graphics and Special Effects
CIP 50.0502: Technical Theatre/Theatre Design and Technology
CIP 50.0602: Cinematography and Film/Video Production
CIP 50.0699: Film/Video and Photographic Arts, Other
CIP 50.0913: Music Technology
CIP 50.1003: Music Management

According to TOP data, seven community colleges supply the region with awards for these occupations: Grossmont College, MiraCosta College, Palomar College, San Diego City College, San Diego Mesa College, San Diego Miramar and Southwestern College. According to CIP data, two non-community colleges supply the region with awards: Argosy University-The Art Institute of California-San Diego and Platt College-San Diego (Exhibit 5).

[7] TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data).

Exhibit 5: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Year 2014-15 through PY2018-19 Average)

TOP6 or CIP	TOP6 or CIP Title	3-Yr Annual Average CC Awards (PY16-17 to PY18-19)	Other Educational Institutions 3-Yr Annual Average Awards (PY14-15 to PY16-17)	3-Yr Total Average Supply (PY14-15 to PY18-19)
060400	Radio and Television	**30**	**0**	**30**
	• Palomar	12	0	
	• San Diego City	8	0	
	• Southwestern	10	0	
060420	Television (including combined TV/Film/Video)	**23**	**0**	**23**
	• Grossmont	11	0	
	• MiraCosta	0	0	
	• Palomar	0	0	
	• San Diego City	8	0	
	• Southwestern	4	0	
061220	Film Production	**21**	**0**	**21**
	• San Diego City	19	0	
	• Southwestern	2	0	
061440	Animation	**14**	**0**	**14**
	• Palomar	12	0	
	• San Diego Mesa	1	0	
	• Southwestern	1	0	
100500	Commercial Music	**25**	**0**	**25**
	• MiraCosta	12	0	
	• San Diego City	6	0	
	• San Diego Miramar	5	0	
	• Southwestern	2	0	
100600	Technical Theater	**7**	**0**	**7**
	• Grossmont	0	0	
	• MiraCosta	3	0	
	• San Diego City	4	0	

TOP6 or CIP	TOP6 or CIP Title	3-Yr Annual Average CC Awards (PY16-17 to PY18-19)	Other Educational Institutions 3-Yr Annual Average Awards (PY14-15 to PY16-17)	3-Yr Total Average Supply (PY14-15 to PY18-19)
10.0203	Recording Arts Technology/Technician	**0**	**11**	**11**
	• Argosy University-The Art Institute of California-San Diego	0	11	
10.0304	Animation, Interactive Technology, Video Graphics and Special Effects	**0**	**1**	**1**
	• Platt College-San Diego	0	1	
			Total	**132**

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply[8] suggests that there is a supply gap for these occupations in San Diego County, with 156 annual openings and 132 awards. Comparatively, there are 2,790 annual openings in California and 3,593 awards, demonstrating that there is an oversupply across the state[9] (Exhibit 6).

Exhibit 6: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	**Demand** (Annual Openings)	**Supply** (Total Annual Average Supply)	**Supply Gap or Oversupply**
San Diego	156	132	**24**
California	2,790	3,593	**803**

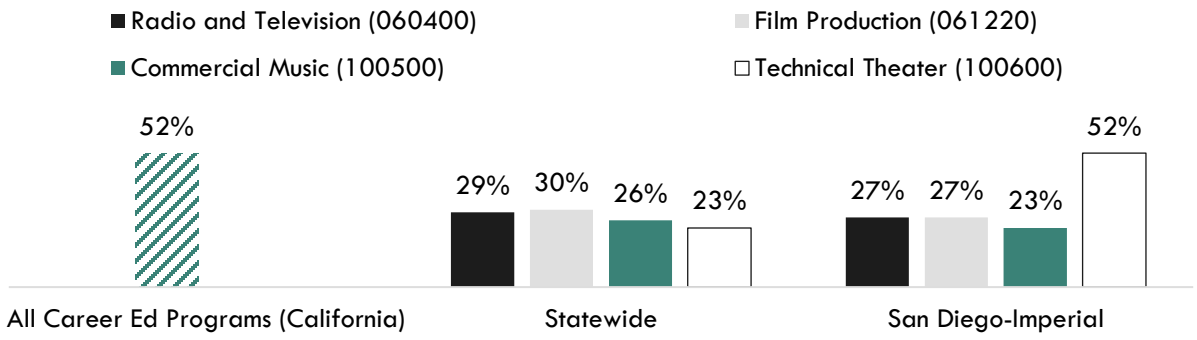
Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

[8] Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.
[9] "Supply and Demand," Centers of Excellence Student Outcomes, coeccc.net/Supply-and-Demand.aspx.

Student Outcomes and Regional Comparisons

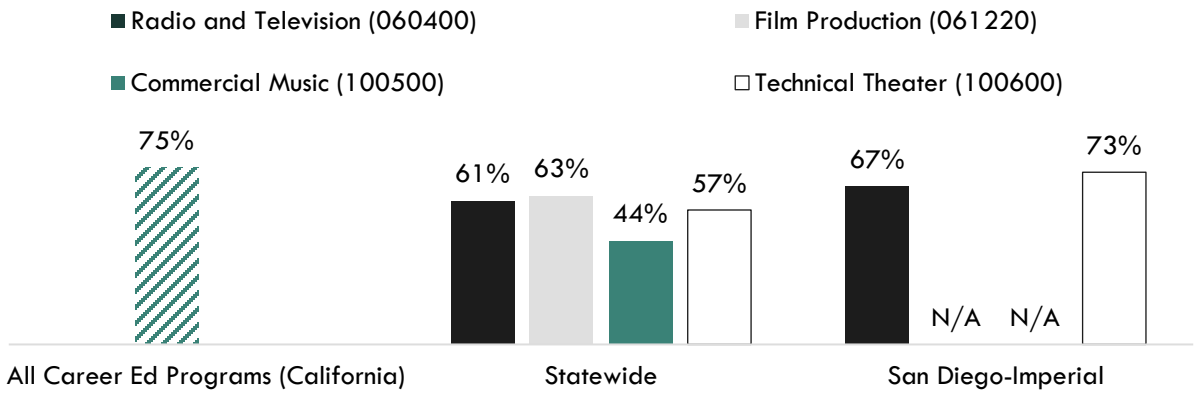
According to the California Community Colleges LaunchBoard, between 23 to 52 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Music Technician Occupations*, compared to 23 to 30 percent statewide and 52 percent of students in Career Education programs in general across the state (Exhibit 7a).[10]

Exhibit 7a: Proportion of Students Who Earned a Living Wage, PY2016-17[11]



According to the California Community Colleges LaunchBoard, between 67 to 73 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a related program, compared to 44 to 63 percent statewide and 75 percent of students in Career Education programs in general across the state (Exhibit 7b).[12]

Exhibit 7b: Percentage of Students in a Job Closely Related to Field of Study, PY2015-16[13]



[10] "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.
[11] Among completers and skills builders who exited, the proportion of students who attained a living wage.
[12] "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.
[13] Most recent year with available data is Program Year 2014-15. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

Top Employers and Work Locations

Between January 1, 2017 and December 31, 2019, the top five employers in San Diego County for these occupations were PSAV, Qualcomm, Outsource, Freeman Incorporated, and Allied Universal (Exhibit 8).

Exhibit 8: Top Employers in San Diego County for *Music Technician Occupations*[14]

Top Employers	
• PSAV	• Audio Visual Services Group
• Qualcomm	• Encore Event Technologies
• Outsource	• Best Buy
• Freeman Incorporated	• ePATHUSA
• Allied Universal	• TekWorks Incorporated

Skills, Education, and Certifications

Music Technician Occupations have a national educational requirement of a postsecondary non-degree award (Exhibit 9a).

Exhibit 9a: National Educational Attainment for *Music Technician Occupations* [15]

Occupational Title	Typical Entry-Level Education
Audio and Video Equipment Technicians	Postsecondary non-degree award
Sound Engineering Technicians	Postsecondary non-degree award

[14] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.
[15] EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

Based on online job postings between January 1, 2017 and December 31, 2019 in San Diego County, the top listed educational requirement for *Music Technician Occupations* is a high school or vocational training (Exhibit 9b).[16]

Exhibit 9b: Educational Requirements for *Music Technician Occupations* in San Diego County[17]

*May not add to 100% due to rounding

Exhibit 10 lists the top specialized, soft and software skills that appeared in online job postings between January 1, 2017 and December 31, 2019.

Exhibit 10: Top Skills for *Music Technician Occupations* in San Diego County[18]

Specialized Skills	Soft Skills	Software Skills
• Customer Service • Equipment Operation • Audio / Visual Knowledge • Repair • Broadcast Industry Knowledge	• Communication Skills • Troubleshooting • Building Effective Relationships • Physical Abilities • Organizational Skills	• Microsoft Excel • C++ • Computer Engineering • Microsoft Operating Systems • Debugging

[16] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.
[17] "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. bls.gov/emp/tables/educational-attainment.htm.
[18] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.

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Important Disclaimers

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. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

This workforce demand report uses state and federal job projection data that was 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.