RESILIENT JOBS

Top Jobs During the Great Recession and COVID-19 Pandemic

August 2020 San Diego County









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Exceutive Summary

In response to the current COVID-19 crisis, the San Diego-Imperial Center of Excellence for Labor Market Research (COE) analyzed jobs that appeared resilient during economic downtowns for this study. Occupations that experienced employment growth or sustained employment levels during the Great Recession (2007-2009), which are considered recession-resilient jobs. These recession-resilient jobs were then compared with online job postings between March and June 2020 to determine which occupations were also pandemic-resilient jobs.

FINDINGS

- Recession-resilient jobs: Although there are more than 800 occupations in the Standard
 Occupational Classification (SOC) system,¹ only 64 of those have been identified as recession-resilient
 jobs in this study. Thirty-six of the 64 recession-resilient jobs are also middle-skill jobs, or jobs that
 could be trained by community college programs.
- Pandemic-resilient jobs: The San Diego-Imperial COE reviewed more than 150,000 online job
 postings between March and June 2020 to identify the top 50 jobs each month in San Diego County.
 During this period, 66 occupations from the SOC system made the monthly top 50 jobs list at least
 once. Of the 66 pandemic-resilient jobs, 25 were also recession-resilient.
- Recession- and pandemic-resilient, middle-skill jobs: 12 of the 25 recession- and pandemic-resilient
 jobs were also middle-skill jobs, or jobs that could be trained by community college programs.

The San Diego-Imperial COE encourages stakeholders to use this study as a resource for meaningful and engaging discussions. This labor market information is intended to help the San Diego and Imperial Counties Community Colleges with program development and strategic planning as they assess priorities during this difficult time.

It is important to note that this study analyzes the *labor market demand* for jobs and does not compare demand with supply. If the region's community colleges decide to create a new program for any of the occupations identified in this study, then the San Diego-Imperial COE recommends completing a supply gap analysis, which compares demand with supply.

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.

Introduction

The Great Recession (2007-2009) was considered "the severest labor market downturn since the Great Depression of the 1930s." The negative economic impact from the financial crisis persisted well after the Great Recession officially ended in 2009. In San Diego County specifically, the total number of jobs (employment) declined from 1.6 million jobs in 2007 to 1.5 million jobs in 2010—a six percent decrease (Exhibit 1).

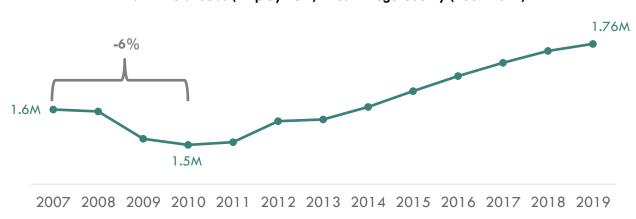


Exhibit 1: Total Jobs (Employment) in San Diego County (2007-2019)

In response to the current COVID-19 crisis, the San Diego-Imperial Center of Excellence for Labor Market Research (COE) analyzed occupations that experienced employment growth or sustained employment levels during the Great Recession, which are considered "recession-resilient jobs" for the purpose of this report. These recession-resilient jobs were compared with online job postings between March and June 2020 to determine which occupations were also pandemic-resilient jobs.

IMPORTANT DISCLAIMER

It is important to note that the financial crises caused by the Great Recession and COVID-19 are not the same. As more information about the impact of COVID-19 becomes available, the resilient jobs identified in this study may no longer be relevant. However, this labor market information is intended to help the San Diego and Imperial Counties Community Colleges with program development and strategic planning as they assess priorities during this difficult time. 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 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.

² Katz, L. (2015). Long-term unemployment in the Great Recession. EPRN. lerachapters.org/OJS/ojs-2.4.4-1/index.php/EPRN/article/download/1910/1907

³ nber.org/papers/w17534.pdf

Recession-Resilient, Middle-Skill Jobs

The following sections provide an analysis of recession-resilient jobs, which have:

- Annual openings at or above the regional average: The average labor market demand for all
 occupations in San Diego County during the Great Recession was 275 annual job openings. This study
 excludes occupations that did not have a labor market demand of at least 275 annual job openings
 during that period from the analysis.
- Median hourly earnings are at or above \$15.99: \$15.99 per hour is considered the living wage for San Diego County for a single adult; this number does not take into consideration the costs for children, dependents, etc.⁴ The living wage increases as the family size increases; however, for the purpose of this study, only occupations that provide earnings at or above the living wage for a single adult were included in the analysis.⁵
- Less than six percent employment decline between 2007 and 2010: On average, occupations
 experienced a six percent employment decline in San Diego County during the Great Recession as
 previously shown in Exhibit 1. Therefore, this report considers occupations that experienced less than a
 six-percent employment decline during the Great Recession as recession-resilient jobs and includes
 them in the analysis.

Although there are more than 800 occupational codes in the Standard Occupational Classification (SOC) system,⁶ only 64 occupations met these criteria and are considered recession-resilient jobs in this study.⁷ Thirty-six of the 64 recession-resilient jobs are also middle-skill jobs or jobs that could be trained by community college programs (Exhibit 2). These recession-resilient, middle-skill jobs are arranged in descending order in the following exhibit, starting with occupations that have the greatest labor market demand (i.e., annual job openings). (For a full list of the 64 recession-resilient jobs, see *Appendix A: Recession-Resilient Jobs*. For each occupation's description or definition, visit onetonline.org.)

Middle-skill jobs are generally occupations that require less than a bachelor's degree but more than a high school diploma as the typical entry-level education. However, there are some exceptions. The Centers of Excellence for Labor Market Research found that while employers may report that they require at least a bachelor's degree for certain occupations, a significant percentage of the workforce in those occupations have an associate degree or less, which implies that the community colleges could train for these occupations. These exceptions are also included in the following exhibit.

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 The San Diego-Imperial COE typically analyzes entry-level earnings as opposed to median earnings in labor market reports. However, for the purpose of this study, the earnings analysis expanded to median earnings because of the limited number of in-demand jobs during the Great Recession.
⁶ 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.

⁷ Emsi 2020.02; QCEW, Non-QCEW, Self-Employed.

Exhibit 2: Recession-Resilient, Middle-Skill Jobs in San Diego County

	SOC	Occupational Title	Typical Entry-level Education	Annual Job Openings/Demand (2007-2010)	Entry-level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	2007-2010 % Employment Change
1	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	2,586	\$16.11	\$19.66	-4%
2	29-1141	Registered Nurses	Bachelor's degree	1,883	\$39.29	\$47.52	12%
3	13-1199	Business Operations Specialists, All Other	Bachelor's degree	1,868	\$26.73	\$36.65	4%
4	25-9041	Teacher Assistants	Some college, no degree	1,620	\$13.58	\$16.06	-4%
5	43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	1,435	\$22.02	\$27.70	-6%
6	49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	1,349	\$15.86	\$19.78	-3%
7	35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	1,237	\$13.57	\$16.98	-5%
8	43-6013	Medical Secretaries	High school diploma or equivalent	1,043	\$16.97	\$21.12	22%
9	31-9092	Medical Assistants	Postsecondary nondegree award	1,014	\$15.69	\$1 <i>7</i> .88	32%
10	41-3021	Insurance Sales Agents	High school diploma or equivalent	848	\$19.81	\$27.69	5%
11	15-1133	Software Developers, Systems Software*	Bachelor's degree	768	\$42.00	\$55.05	13%
12	33-3051	Police and Sheriff's Patrol Officers	High school diploma or equivalent	700	\$34.50	\$44.15	6%
13	43-3021	Billing and Posting Clerks	High school diploma or equivalent	613	\$18.26	\$22.47	-5%
14	39-9031	Fitness Trainers and Aerobics Instructors	High school diploma or equivalent	580	\$11.78	\$17.47	4%
15	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	553	\$16.24	\$21.31	-1%
16	15-1132	Software Developers, Applications*	Bachelor's degree	548	\$42.41	\$53.21	1%
17	29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary nondegree award	547	\$23.48	\$27.21	9%

^{*}While this occupation is not traditionally categorized as a middle-skill job, due to its educational requirements, entry-level positions are potentially trainable by community college programs.

Exhibit 2: Recession-Resilient, Middle-Skill Jobs in San Diego County

			Typical Entry Joyal	Annual Job	Entry-level	Median	2007-2010 %
	SOC	Occupational Title	Typical Entry-level Education	Openings/Demand (2007-2010)	Hourly Earnings (25 th Percentile)	Hourly Earnings	Employment Change
18	25-3021	Self-Enrichment Education Teachers*	High school diploma or equivalent	492	\$15.58	\$24.51	-1%
19	31-9091	Dental Assistants	Postsecondary nondegree award	490	\$15.95	\$18.53	1%
20	49-3011	Aircraft Mechanics and Service Technicians	Postsecondary nondegree award	483	\$27.03	\$31.15	-3%
21	15-1199	Computer Occupations, All Other	Bachelor's degree	481	\$30.24	\$42.92	10%
22	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers*	High school diploma or equivalent	456	\$13.52	\$16.45	-5%
23	51-4041	Machinists	High school diploma or equivalent	455	\$15.84	\$20.46	-5%
24	13-1081	Logisticians	Bachelor's degree	451	\$32.32	\$39.11	26%
25	15-1151	Computer User Support Specialists	Some college, no degree	447	\$23.13	\$28.19	6%
26	43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	430	\$19.59	\$23.94	-3%
27	29-2018	Clinical Laboratory Technologists and Technicians	Bachelor's degree	420	\$16.29	\$26.19	18%
28	49-9099	Installation, Maintenance, and Repair Workers, All Other*	High school diploma or equivalent	373	\$16.47	\$20.59	-4%
29	17-3023	Electrical and Electronics Engineering Technicians	Associate degree	367	\$26.34	\$33.14	-5%
30	41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	351	\$14.14	\$19.90	0%
31	21-1093	Social and Human Service Assistants	High school diploma or equivalent	344	\$15.07	\$18.48	14%
32	23-2011	Paralegals and Legal Assistants	Associate degree	334	\$25.97	\$32.35	5%
33	19-4021	Biological Technicians	Bachelor's degree	330	\$19.06	\$23.90	28%
34	11-3011	Administrative Services Managers	Bachelor's degree	326	\$34.47	\$45.94	8%
35	15-1142	Network and Computer Systems Administrators	Bachelor's degree	304	\$35.34	\$43.66	-2%
36	13-1151	Training and Development Specialists	Bachelor's degree	293	\$24.89	\$33.48	0%

^{*}While this occupation is not traditionally categorized as a middle-skill job, due to its educational requirements, entry-level positions are potentially trainable by community college programs.

Community College Programs Related to Recession-Resilient Jobs

The San Diego and Imperial Counties Community Colleges have existing programs that could train job seekers for recession-resilient, middle-skill jobs. The San Diego-Imperial COE reviewed Taxonomy of Programs (TOP) codes to identify which community colleges offer programs related to the recession-resilient jobs.⁸ Program developers and other stakeholders should confirm that the region's colleges actually train for the specific occupations listed below. (To find program titles as they are listed in the community college catalog system, visit coci2.ccctechcenter.org/programs and search by the college name and TOP code as listed below.)

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
1. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	0514.00 Office Technology/Office Computer Applications	Cuyamaca Grossmont Imperial Valley MiraCosta Palomar San Diego City San Diego Continuing Education San Diego Mesa San Diego Miramar Southwestern
2. Registered Nurses	1230.10 Registered Nursing	Grossmont Imperial Valley MiraCosta Palomar San Diego City Southwestern
	0506.40 Small Business and Entrepreneurship	Cuyamaca MiraCosta San Diego City San Diego Continuing Education San Diego Mesa Southwestern
3. Business Operations Specialists, All Other	0506.50 Retail Store Operations and Management	Grossmont Imperial Valley MiraCosta Palomar San Diego Mesa
	0508.00 International Business and Trade	Grossmont Palomar Southwestern
	0509.70 E-Commerce (Bussiness Emphasis)	Southwestern

⁸ TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.ccco.edu).

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code	
	0802.00 Educational Aide (Teacher Assistant)	Southwestern	
4. Teacher Assistants	0802.10 Educational Aide (Teacher Assistant), Bilingual	N/A	
5. First-Line Supervisors of	0506.30	Imperial Valley	
Office and Administrative Support Workers	Management Development and Supervision	Southwestern	
	0514.40	Imperial Valley	
6. Maintenance and Repair	Office Management	San Diego Mesa	
Workers, General	0945.00 Industrial Systems Technology and Maintenance	N/A	
		MiraCosta	
		San Diego Continuing Education	
	1306.00 Nutrition, Foods, and Culinary Arts	San Diego Mesa	
	Normon, 1 dods, and Connary Arts	San Diego Miramar	
		Southwestern	
7. First-Line Supervisors of Food	1306.20 Dietetic Services and Management	N/A	
Preparation and Serving Workers		Grossmont	
vvorkers	1306.30	San Diego Continuing Education	
	Culinary Arts	San Diego Mesa	
		Southwestern	
	1307.10	Grossmont	
	Restaurant and Food Services and Management	MiraCosta	
	0514.20	San Diego Continuing Education	
	Medical Office Technology	San Diego Mesa	
8. Medical Secretaries		MiraCosta	
	1208.20 Administrative Medical Assisting	San Diego Continuing Education Southwestern	
		Imperial Valley	
	1208.00	San Diego Mesa	
9. Medical Assistants	Medical Assisting	Southwestern	
	1208.10 Clinical Medical Assisting	Southwestern	
10. Insurance Sales Agents	0512.00 Insurance	Southwestern	

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
	0707.00	Grossmont
	0707.00 Computer Software Development	Palomar
11. Software Developers,	Composer Software Development	San Diego Continuing Education
Systems Software*		Grossmont
	0707.10	MiraCosta
	Computer Programming	Palomar
		Southwestern
		Imperial Valley
12. Police and Sheriff's Patrol	2105.50	Palomar
Officers	Police Academy	San Diego Miramar
		Southwestern
		Cuyamaca
		MiraCosta
		Palomar
	0502.00	San Diego City
	Accounting	San Diego Continuing Education
13. Billing and Posting Clerks		San Diego Mesa
		San Diego Miramar
		Southwestern
	0504.00	San Diego Miramar
	Banking and Finance	Southwestern
		MiraCosta
		Palomar
14. Fitness Trainers and	0835.20	San Diego City
Aerobics Instructors	Fitness Trainer	San Diego Mesa
		San Diego Miramar
		Southwestern
	0430.00	MiraCosta
	Biotechnology and Biomedical	San Diego Miramar
	Technology	Southwestern
15. Inspectors, Testers, Sorters,	0955.00 Laboratory Science Technology	Southwestern
Samplers, and Weighers	0956.00	Palomar
	Manufacturing and Industrial	San Diego City
	Technology	San Diego Continuing Education
	0956.80 Industrial Quality Control	N/A

^{*}While this occupation is not traditionally categorized as a middle-skill job, due to its educational requirements, entry-level positions are potentially trainable by community college programs.

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
16. Software Developers, Applications*	0702.10 Software Applications (also see related programs for Software Developers, Systems Software)	Grossmont MiraCosta San Diego City San Diego Continuing Education Southwestern
17. Licensed Practical and Licensed Vocational Nurses	1230.20 Licensed Vocational Nursing	Imperial Valley MiraCosta Southwestern
18. Self-Enrichment Education Teachers*	N/A	N/A
19. Dental Assistants	1240.10 Dental Assistant	Palomar San Diego Mesa
	0950.00 Aeronautical and Aviation Technology	San Diego Miramar
20. Aircraft Mechanics and	0950.10 Aviation Airframe Mechanics	San Diego Miramar
Service Technicians	0950.20 Aviation Powerplant Mechanics	San Diego Miramar
	0950.50 Aircraft Fabrication	N/A
	0614.20 Electronic Game Design	San Diego Mesa Southwestern
	0701.00 Information Technology, General	Grossmont Imperial Valley MiraCosta Palomar
21. Computer Occupations, All Other	0702.00 Computer Information Systems	Imperial Valley Palomar San Diego Mesa San Diego Miramar Southwestern
	0799.00 Other Information Technology	San Diego Continuing Education
	2206.10 Geographic Information Systems	Palomar San Diego Mesa Southwestern
22. Electrical, Electronic, and Electromechanical Assemblers,	0924.00 Engineering Technology, General	N/A
Except Coil Winders, Tapers, and Finishers	0934.20 Industrial Electronics	Imperial Valley

^{*}While this occupation is not traditionally categorized as a middle-skill job, due to its educational requirements, entry-level positions are potentially trainable by community college programs.

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
	005/00	Palomar
	0956.00 Manufacturing and Industrial Technology	San Diego City
23. Machinists	Manoracioning and industrial reciniology	San Diego Continuing Education
	0956.30	San Diego City
	Machining and Machine Tools	San Diego Continuing Education
24. Logisticians	0510.00 Logistics and Materials Transportation	Southwestern
		Imperial Valley
	0702.00	Palomar
	0702.00 Computer Information Systems	San Diego Mesa
	Composer information dysicins	San Diego Miramar
		Southwestern
	070000	Grossmont
	0708.00 Computer Infrastructure and Support	San Diego City
25. Computer User Support	Composer infrastructure and support	San Diego Continuing Education
Specialists		Cuyamaca
		Grossmont
	0708.10	MiraCosta
	Computer Networking	Palomar
		San Diego Continuing Education
		Southwestern
	0708.20	San Diego Continuing Education
	Computer Support	Southwestern
26. Production, Planning, and Expediting Clerks	0510.00 Logistics and Materials Transportation	Southwestern
	0430.00	MiraCosta
	Biotechnology and Biomedical	San Diego Miramar
	Technology	Southwestern
27. Clinical Laboratory Technologists and Technicians	0934.70 Electron Microscopy	N/A
reamologisis and reamidalis	0955.00 Laboratory Science Technology	Southwestern
	1205.00	San Diego Miramar
	Medical Laboratory Technology	Southwestern
00 1 1 1 1 1	000 4 00	Imperial Valley
28. Installation, Maintenance,	0934.00	San Diego City
and Repair Workers, All Other*	Electronics and Electric Technology	San Diego Continuing Education

^{*}While this occupation is not traditionally categorized as a middle-skill job, due to its educational requirements, entry-level positions are potentially trainable by community college programs.

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
	0924.00 Engineering Technology, General	N/A
	0934.10 Computer Electronics	San Diego City
29. Electrical and Electronics Engineering Technicians	0934.20 Industrial Electronics	Imperial Valley
	0934.40 Electrical Systems and Power	Imperial Valley
	Transmission 0943.00	San Diego City
30. Sales and Related Workers,	Instrumentation Technology 0509.40	N/A
All Other	Sales and Salesmanship	Imperial Valley
	1261.00 Community Health Care Worker	San Diego City
	1301.00 Family and Consumer Sciences, General	N/A
	1305.60 Parenting and Family Education	Palomar
	1305.70 Foster and Kinship Care	N/A
31. Social and Human Service Assistants	1308.00 Family Studies	Southwestern
	·	Сиуатаса
	2104.00 Human Services	San Diego City
	Hullian Services	Southwestern
		Imperial Valley
	2104.40	Palomar
	Alcohol and Controlled Substances	San Diego City
	2104.50 Disability Services	Grossmont
32. Paralegals and Legal	1402.00	Сиуатаса
Assistants	Paralegal	Southwestern
	0430.00	MiraCosta
	Biotechnology and Biomedical	San Diego Miramar
33. Biological Technicians	Technology	Southwestern
	0955.00 Laboratory Science Technology	Southwestern

Exhibit 3: Community College TOP Codes (Programs) Related to Recession-Resilient, Middle-Skill Jobs

Occupational Title	Related TOP Code & Title	Community College(s) with a Program in Related TOP Code
	0501.00 Business and Commerce, General	Cuyamaca Grossmont Palomar San Diego Mesa Southwestern
34. Administrative Services	0506.30 Management Development and Supervision	Imperial Valley Southwestern
Managers	0506.40 Small Business and Entrepreneurship	Cuyamaca MiraCosta San Diego City San Diego Continuing Education San Diego Mesa Southwestern
	0514.40 Office Management	Imperial Valley San Diego Mesa
	0702.00 Computer Information Systems	Imperial Valley Palomar San Diego Mesa San Diego Miramar Southwestern
	0708.00 Computer Infrastructure and Support	Grossmont San Diego City San Diego Continuing Education
35. Network and Computer Systems Administrators	0708.10 Computer Networking	Cuyamaca Grossmont MiraCosta Palomar San Diego Continuing Education Southwestern
	0708.20 Computer Support	San Diego Continuing Education Southwestern
	0709.00 World Wide Web Administration	Grossmont San Diego Continuing Education
	0934.30 Telecommunications Technology	Imperial Valley San Diego City
36. Training and Development Specialists	0860.00 Educational Technology	N/A

Pandemic-Resilient Jobs

For the purpose of this study, pandemic-resilient jobs are defined as jobs with the most number of online job postings per month between March 1 and June 30, 2020. The San Diego-Imperial COE reviewed more than 150,000 online job postings during this period to identify the top 50 jobs each month in San Diego County. Between March and June 2020, 66 occupations out of 800+ from the Standard Occupational Classification (SOC) system made the monthly top 50 jobs list at least once (Exhibit 4). (The list is organized in descending order, starting with occupations that appeared in the top 50 jobs list for all four months.) Additionally, to identify which recession-resilient jobs are also pandemic-resilient jobs, the San Diego-Imperial COE compared the list below with the list of 64 recession-resilient jobs (identified in the previous section). Occupations that appeared in both lists are noted below with an asterisk (*).

Exhibit 4: Occupations that Made the Monthly Top 50 Jobs List in San Diego County, March-June 2020

	Occupational Title	March 2020	April 2020	May 2020	June 2020	# of Months in the Top 50 Jobs
1.	Accountants and Auditors*	•	•	•	•	4
2.	Bookkeeping, Accounting, and Auditing Clerks	•	•	•	•	4
3.	Combined Food Preparation and Serving Workers, Including Fast Food	•	•	•	•	4
4.	Computer Occupations, All Other*	•	•	•	•	4
5.	Computer Systems Analysts*	•	•	•	•	4
6.	Computer User Support Specialists*	•	•	•	•	4
7.	Customer Service Representatives	•	•	•	•	4
8.	Engineering Technicians, Except Drafters, All Other	•	•	•	•	4
9.	Engineers, All Other	•	•	•	•	4
10.	Financial Managers*	•	•	•	•	4
11.	First-Line Supervisors of Retail Sales Workers	•	•	•	•	4
12.	General and Operations Managers*	•	•	•	•	4
13.	Heavy and Tractor-Trailer Truck Drivers	•	•	•	•	4
14.	Human Resources Specialists	•	•	•	•	4
15.	Information Security Analysts	•	•	•	•	4
16.	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	•	•	•	•	4
1 <i>7</i> .	Laborers and Freight, Stock, and Material Movers, Hand	•	•	•	•	4
18.	Licensed Practical and Licensed Vocational Nurses*	•	•	•	•	4
19.	Maintenance and Repair Workers, General*	•	•	•	•	4

*also recession-resilient

Exhibit 4: Occupations that Made the Monthly Top 50 Jobs List in San Diego County, March-June 2020

20. Management Analysts*		Occupational Title	March 2020	April 2020	May 2020	June 2020	# of Months in the Top 50 Jobs
22. Marketing Managers 23. Medical and Health Services Managers* 24. Network and Computer Systems Administrators* 25. Operations Research Analysts 26. Personal Care Aides 27. Registered Nurses* 28. Retail Salespersons 29. Sales Managers* 20. Sales Managers* 20. Sales Managers* 21. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive* 21. Legal, Medical, and Executive* 22. Security Guards 23. Software Developers, Applications* 24. Speech-Language Pathologists 25. Stock Clerks and Order Fillers 26. Web Developers 27. Registered Nurses* 28. Retail Salespersons 29. Sales Managers* 29. Sales Managers* 20. Security Guards 20. Security Guards 21. Legal, Medical, and Executive* 22. Security Guards 23. Software Developers, Applications* 24. Speech-Language Pathologists 25. Stock Clerks and Order Fillers 26. Web Developers 27. Cashiers 28. Childcare Workers 29. Construction Managers 20. Construction Managers 20. Serving Workers* 21. Food Service Managers 22. Insurance Sales Agents* 23. Lawyers* 24. Maids and Housekeeping Cleaners 25. Production Workers, All Other 26. Cooks, Restaurant 27. Driver/Sales Workers 28. Inspectors, Testers, Sorters, Samplers, and	20.	Management Analysts*	•	•	•	•	4
23. Medical and Health Services Managers* 24. Network and Computer Systems Administrators* 25. Operations Research Analysts 26. Personal Care Aides 27. Registered Nurses* 28. Retail Salespersons 29. Sales Managers* 30. Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products 31. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive* 32. Security Guards 33. Software Developers, Applications* 34. Speech-Language Pathologists 35. Stock Clerks and Order Fillers 36. Web Developers 37. Cashiers 38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 48. Inspectors, Testers, Samplers, and	21.	Managers, All Other*	•	•	•	•	4
24. Network and Computer Systems Administrators* 25. Operations Research Analysts 26. Personal Care Aides 27. Registered Nurses* 28. Retail Salespersons 29. Sales Managers* 30. Manufacturing, Except Technical and Scientific Products 31. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive* 32. Security Guards 33. Software Developers, Applications* 34. Speech-Language Pathologists 35. Stock Clerks and Order Fillers 36. Web Developers 37. Cashiers 38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 48. Inspectors, Testers, Sorters, Samplers, and	22.	Marketing Managers	•	•	•	•	4
25. Operations Research Analysts	23.	Medical and Health Services Managers*	•	•	•	•	4
26. Personal Care Aides .	24.	Network and Computer Systems Administrators*	•	•	•	•	4
27. Registered Nurses*	25.	Operations Research Analysts	•	•	•	•	4
28. Retail Salespersons	26.	Personal Care Aides	•	•	•	•	4
29. Sales Managers* Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products 31. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive* 32. Security Guards 33. Software Developers, Applications* 34. Speech-Language Pathologists 35. Stock Clerks and Order Fillers 36. Web Developers 37. Cashiers 38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 4 2 Inspectors, Testers, Sorrters, Samplers, and	27.	Registered Nurses*	•	•	•	•	4
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30. Manufacturing, Except Technical and Scientific Products 31. Secretaries and Administrative Assistants, Except Legal, Medical, and Executive* 32. Security Guards 33. Software Developers, Applications* 34. Speech-Language Pathologists 35. Stock Clerks and Order Fillers 36. Web Developers 37. Cashiers 38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 4 Lassistants, Except 4 Legal, Medical, and Executive* 4 Legal	29.	Sales Managers*	•	•	•	•	4
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33. Software Developers, Applications* 34. Speech-Language Pathologists 35. Stock Clerks and Order Fillers 36. Web Developers 37. Cashiers 38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 18. Inspectors, Testers, Sorters, Samplers, and	31.		•	•	•	•	4
34. Speech-Language Pathologists • • • • 4 35. Stock Clerks and Order Fillers • • • • 4 36. Web Developers • • • • 4 37. Cashiers 38. Childcare Workers • • • • 3 39. Construction Managers • • • • 3 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers • • • 3 42. Insurance Sales Agents* • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • • 2 Inspectors, Testers, Sorters, Samplers, and	32.	Security Guards	•	•	•	•	4
35. Stock Clerks and Order Fillers • • • • • • 4 36. Web Developers • • • • • 4 37. Cashiers • • • • 3 38. Childcare Workers • • • • 3 39. Construction Managers • • • • 3 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers • • • 3 42. Insurance Sales Agents* • • • 3 43. Lawyers* • • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • • 2 Inspectors, Testers, Sorters, Samplers, and	33.	Software Developers, Applications*	•	•	•	•	4
36. Web Developers 7. Cashiers 7. Cashiers 7. Cashiers 7. Cashiers 8. Childcare Workers 8. Childcare Workers 9. Construction Managers 9. Con	34.	Speech-Language Pathologists	•	•	•	•	4
37. Cashiers 38. Childcare Workers • • • 3 39. Construction Managers • • • • 3 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers • • • 3 42. Insurance Sales Agents* • • • 3 43. Lawyers* • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 2 47. Driver/Sales Workers Inspectors, Testers, Sorters, Samplers, and	35.	Stock Clerks and Order Fillers	•	•	•	•	4
38. Childcare Workers 39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers 48. Inspectors, Testers, Sorters, Samplers, and	36.	Web Developers	•	•	•	•	4
39. Construction Managers 40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers Inspectors, Testers, Sorters, Samplers, and	37.	Cashiers	•		•	•	3
40. First-Line Supervisors of Food Preparation and Serving Workers* 41. Food Service Managers 42. Insurance Sales Agents* 43. Lawyers* 44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers Inspectors, Testers, Sorters, Samplers, and	38.	Childcare Workers	•	•	•		3
40. Serving Workers* 41. Food Service Managers • • • • 3 42. Insurance Sales Agents* • • • • 3 43. Lawyers* • • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • 2 Inspectors, Testers, Sorters, Samplers, and • 2	39.	Construction Managers	•	•	•		3
42. Insurance Sales Agents* • • • • 3 43. Lawyers* • • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • 2 Inspectors, Testers, Sorters, Samplers, and • 2	40.		•		•	•	3
43. Lawyers* • • • • 3 44. Maids and Housekeeping Cleaners • • • 3 45. Production Workers, All Other • • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • 2 Inspectors, Testers, Sorters, Samplers, and • 2	41.	Food Service Managers	•	•		•	3
44. Maids and Housekeeping Cleaners 45. Production Workers, All Other 46. Cooks, Restaurant 47. Driver/Sales Workers Inspectors, Testers, Sorters, Samplers, and	42.	Insurance Sales Agents*		•	•	•	3
45. Production Workers, All Other • • 3 46. Cooks, Restaurant • • 2 47. Driver/Sales Workers • • 2 Inspectors, Testers, Sorters, Samplers, and	43.	Lawyers*	•	•	•		3
46. Cooks, Restaurant • 2 47. Driver/Sales Workers • 2 Inspectors, Testers, Sorters, Samplers, and	44.	Maids and Housekeeping Cleaners	•		•	•	3
47. Driver/Sales Workers • 2 Inspectors, Testers, Sorters, Samplers, and	45.	Production Workers, All Other		•	•	•	3
Inspectors, Testers, Sorters, Samplers, and	46.	Cooks, Restaurant	•			•	2
	47.	Driver/Sales Workers		•		•	2
	48.			•	•		2

*also recession-resilient

Exhibit 4: Occupations that Made the Monthly Top 50 Jobs List in San Diego County, March-June 2020

	Occupational Title	March 2020	April 2020	May 2020	June 2020	# of Months in the Top 50 Jobs
49.	Market Research Analysts and Marketing Specialists*	•		•		2
50.	Merchandise Displayers and Window Trimmers			•	•	2
51.	Office Clerks, General	•		•		2
52.	Postsecondary Teachers, All Other		•	•		2
53.	Waiters and Waitresses	•			•	2
54.	Architectural and Engineering Managers		•			1
55.	Computer Network Architects		•			1
56.	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop			•		1
57.	Database Administrators				•	1
58.	Electrical Engineers		•			1
59.	First-Line Supervisors of Office and Administrative Support Workers*	•				1
60.	Hotel, Motel, and Resort Desk Clerks				•	1
61.	Loan Officers		•			1
62.	Medical Assistants*				•	1
63.	Medical Scientists, Except Epidemiologists*		•			1
64.	Medical Secretaries*				•	1
65.	Property, Real Estate, and Community Association Managers	•				1
66.	Receptionists and Information Clerks	•			_	1

*also recession-resilient

Recession- and Pandemic-Resilient, Middle-Skill Jobs

Finally, of the occupations that were **both** recession-resilient and pandemic-reslient, middle-skill jobs or jobs trainable by community colleges are noted below with an asterisk (*) or a "+."

Exhibit 5: Recession- and Pandemic-Resilient Jobs in San Diego County

	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings
1.	Accountants and Auditors	Bachelor's degree	\$27.66	\$36.67
2.	Computer Occupations, All Other	Bachelor's degree	\$30.24	\$42.92
3.	Computer Systems Analysts	Bachelor's degree	\$35.12	\$44.70
4.	Computer User Support Specialists*	Some college, no degree	\$23.13	\$28.19
5.	Financial Managers	Bachelor's degree	\$42.54	\$59.71
6.	First-Line Supervisors of Food Preparation and Serving Workers*	High school (HS) diploma or equivalent	\$13.57	\$16.98
7.	First-Line Supervisors of Office and Administrative Support Workers	HS diploma or equivalent	\$22.02	\$27.70
8.	General and Operations Managers	Bachelor's degree	\$34.98	\$53.65
9.	Inspectors, Testers, Sorters, Samplers, and Weighers*	HS diploma or equivalent	\$16.24	\$21.31
10.	Insurance Sales Agents*	HS diploma or equivalent	\$19.81	\$27.69
11.	Lawyers	Doctoral or professional degree	\$38.10	\$63.42
12.	Licensed Practical and Licensed Vocational Nurses*	Postsecondary nondegree award	\$23.48	\$27.21
13.	Maintenance and Repair Workers, General*	HS diploma or equivalent	\$15.86	\$19. <i>7</i> 8
14.	Management Analysts	Bachelor's degree	\$28.60	\$39.37
15.	Managers, All Other	Bachelor's degree	\$28.65	\$49.75
16.	Market Research Analysts and Marketing Specialists	Bachelor's degree	\$20.69	\$28.87
1 <i>7</i> .	Medical and Health Services Managers	Bachelor's degree	\$39.16	\$56.08
18.	Medical Assistants*	Postsecondary nondegree award	\$15.69	\$1 <i>7</i> .88
19.	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	\$34.21	\$45.82
20.	Medical Secretaries*	HS diploma or equivalent	\$16.97	\$21.12
21.	Network and Computer Systems Administrators*	Bachelor's degree	\$35.34	\$43.66
22.	Registered Nurses*	Bachelor's degree	\$39.29	\$47.52
23.	Sales Managers	Bachelor's degree	\$31.06	\$48.22
24.	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive*	HS diploma or equivalent	\$16.11	\$19.66
	Except Legal, Medical, and Executive			

*middle-skill job

+potentially trainable by community colleges

Conclusion

This study provides an overview of jobs that appear resilient during economic downturns. The San Diego-Imperial COE encourages stakeholders to use this study as a resource for meaningful and engaging discussions. It may be argued that middle-skill, recession-resilient jobs in this study are above-middle-skill or below-middle-skill jobs. However, instead of focusing on the nuances and naming conventions, the San Diego-Imperial COE produced this study in hopes that it would provide guidance for the community colleges as they prioritize and develop programs for students to become more resilient in the labor market.

The previous sections in this study identify recession-resilient and pandemic-resilient jobs for all levels of educational attainment. However, for the San Diego and Imperial Counties Community Colleges, the San Diego-Imperial COE recommends prioritizing programs that train for the following occupations, which are recession-resilient, pandemic-resilient, and middle-skill jobs—or potentially trainable by community colleges (Exhibit 6). It is important to note that this study analyzes the *labor market demand* for jobs and does not compare demand with supply. If the region's community colleges decide to create a new program for any of these occupations, then the San Diego-Imperial COE recommends conducting a supply gap analysis, which compares demand with supply.

Exhibit 6: Recession- and Pandemic-Resilient, Middle-Skill Jobs in San Diego County

	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings
1.	Computer User Support Specialists*	Some college, no degree	\$23.13	\$28.19
2.	First-Line Supervisors of Food Preparation and Serving Workers*	High school (HS) diploma or equivalent	\$13.57	\$16.98
3.	Inspectors, Testers, Sorters, Samplers, and Weighers*	HS diploma or equivalent	\$16.24	\$21.31
4.	Insurance Sales Agents*	HS diploma or equivalent	\$19.81	\$27.69
5.	Licensed Practical and Licensed Vocational Nurses*	Postsecondary nondegree award	\$23.48	\$27.21
6.	Maintenance and Repair Workers, General*	HS diploma or equivalent	\$15.86	\$19.78
7.	Medical Assistants*	Postsecondary nondegree award	\$15.69	\$17.88
8.	Medical Secretaries*	HS diploma or equivalent	\$16.97	\$21.12
9.	Network and Computer Systems Administrators*	Bachelor's degree	\$35.34	\$43.66
10.	Registered Nurses*	Bachelor's degree	\$39.29	\$47.52
11.	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive*	HS diploma or equivalent	\$16.11	\$19.66
12.	Software Developers, Applications+	Bachelor's degree	\$42.41	\$53.21

*middle-skill job +potentially trainable by community colleges

Appendix A: Recession-Resilient Jobs

The 64 recession-resilient jobs identified in this study are provided below. Links to each occupation's descrption (where available) are also provided.9

Exhibit A: Recession-Resilient Jobs in San Diego County

	SOC	Occupational Title	Typical Entry-level Education	Annual Job Openings/Demand	Entry-level Hourly	Median Hourly	2007-2010 % Job
			Laucanon	(2007-2010)	Earnings	Earnings	Change
1.	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive*	High school diploma or equivalent	2,586	\$16.11	\$19.66	-4%
2.	29-1141	Registered Nurses*	Bachelor's degree	1,883	\$39.29	\$47.52	12%
3.	13-1199	Business Operations Specialists, All Other*	Bachelor's degree	1,868	\$26.73	\$36.65	4%
4.	25-1199	Postsecondary Teachers	Doctoral or professional degree	1,761	\$21.97	\$35.85	-1%
5.	11-1021	General and Operations Managers	Bachelor's degree	1,725	\$34.98	\$53.65	2%
6.	25-9041	Teacher Assistants*	Some college, no degree	1,620	\$13.58	\$16.06	-4%
7.	43-1011	First-Line Supervisors of Office and Administrative Support Workers*	High school diploma or equivalent	1,435	\$22.02	\$27.70	-6%
8.	49-9071	Maintenance and Repair Workers, General*	High school diploma or equivalent	1,349	\$15.86	\$19.78	-3%
9.	35-1012	First-Line Supervisors of Food Preparation and Serving Workers*	High school diploma or equivalent	1,237	\$13.57	\$16.98	-5%
10.	25-3097	Teachers and Instructors, All Other	Bachelor's degree	1,203	\$15.34	\$21.48	25%
11.	13-1111	Management Analysts	Bachelor's degree	1,199	\$28.60	\$39.37	8%
12.	13-2011	Accountants and Auditors	Bachelor's degree	1,162	\$27.66	\$36.67	-4%
13.	43-6013	Medical Secretaries*	High school diploma or equivalent	1,043	\$16.97	\$21.12	22%
14.	11-9199	Managers, All Other	Bachelor's degree	1,024	\$28.65	\$49.75	6%
15.	31-9092	Medical Assistants*	Postsecondary nondegree award	1,014	\$15.69	\$1 <i>7</i> .88	32%

⁹ Emsi 2020.02; QCEW, Non-QCEW, Self-Employed.

Exhibit A: Recession-Resilient Jobs in San Diego County (Continued)

	SOC	Occupational Title	Typical Entry-level Education	Annual Job Openings/Demand (2007-2010)	Entry-level Hourly Earnings	Median Hourly Earnings	2007-2010 % Job Change
16.	25-3098	Substitute Teachers	Bachelor's degree	1,011	\$16.33	\$18.05	30%
1 <i>7</i> .	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Bachelor's degree	915	\$29.47	\$38.73	-5%
18.	41-3021	Insurance Sales Agents*	High school diploma or equivalent	848	\$19.81	\$27.69	5%
19.	15-1133	Software Developers, Systems Software+	Bachelor's degree	768	\$42.00	\$55.05	13%
20.	13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	730	\$20.69	\$28.87	33%
21.	33-3051	Police and Sheriff's Patrol Officers*	High school diploma or equivalent	700	\$34.50	\$44.15	6%
22.	43-3021	Billing and Posting Clerks*	High school diploma or equivalent	613	\$18.26	\$22.47	-5%
23.	23-1011	Lawyers	Doctoral or professional degree	600	\$38.10	\$63.42	0%
24.	39-9031	Fitness Trainers and Aerobics Instructors*	High school diploma or equivalent	580	\$11.78	\$17.47	4%
25.	19-1042	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	571	\$34.21	\$45.82	43%
26.	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers*	High school diploma or equivalent	553	\$16.24	\$21.31	-1%
27.	15-1132	Software Developers, Applications+	Bachelor's degree	548	\$42.41	\$53.21	1%
28.	29-2061	<u>Licensed Practical and Licensed Vocational</u> <u>Nurses</u> *	Postsecondary nondegree award	547	\$23.48	\$27.21	9%
29.	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	514	\$26.37	\$37.82	-4%
30.	11-2022	Sales Managers	Bachelor's degree	496	\$31.06	\$48.22	-2%

*middle-skill job +potentially trainable by community colleges

Exhibit A: Recession-Resilient Jobs in San Diego County (Continued)

	soc	Occupational Title	Typical Entry-level Education	Annual Job Openings/Demand (2007-2010)	Entry-level Hourly Earnings	Median Hourly Earnings	2007-2010 % Job Change
31.	25-3021	Self-Enrichment Education Teachers+	High school diploma or equivalent	492	\$15.58	\$24.51	-1%
32.	15-1121	Computer Systems Analysts	Bachelor's degree	491	\$35.12	\$44.70	3%
33.	31-9091	Dental Assistants*	Postsecondary nondegree award	490	\$15.95	\$18.53	1%
34.	49-3011	Aircraft Mechanics and Service Technicians*	Postsecondary nondegree award	483	\$27.03	\$31.15	-3%
35.	15-1199	Computer Occupations, All Other*	Bachelor's degree	481	\$30.24	\$42.92	10%
36.	17-2072	Electronics Engineers, Except Computer	Bachelor's degree	470	\$49.93	\$60.43	4%
37.	11-3031	Financial Managers	Bachelor's degree	465	\$42.54	\$59.71	-3%
38.	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers*	High school diploma or equivalent	456	\$13.52	\$16.45	-5%
39.	51-4041	<u>Machinists</u> *	High school diploma or equivalent	455	\$15.84	\$20.46	-5%
40.	13-1081	<u>Logisticians</u> *	Bachelor's degree	451	\$32.32	\$39.11	26%
41.	15-1151	Computer User Support Specialists*	Some college, no degree	447	\$23.13	\$28.19	6%
42.	43-5061	Production, Planning, and Expediting Clerks*	High school diploma or equivalent	430	\$19.59	\$23.94	-3%
43.	11-3021	Computer and Information Systems Managers	Bachelor's degree	422	\$56.45	\$70.98	8%
44.	29-2018	Clinical Laboratory Technologists and Technicians*	Bachelor's degree	420	\$16.29	\$26.19	18%
45.	49-9099	Installation, Maintenance, and Repair Workers, All Other*	High school diploma or equivalent	373	\$16.47	\$20.59	-4%
46.	17-2051	Civil Engineers	Bachelor's degree	370	\$31.02	\$41.95	-5%
47.	17-2141	Mechanical Engineers	Bachelor's degree	368	\$36.58	\$46.02	16%

Exhibit A: Recession-Resilient Jobs in San Diego County (Continued)

	SOC	Occupational Title	Typical Entry-level Education	Annual Job Openings/Demand (2007-2010)	Entry-level Hourly Earnings	Median Hourly Earnings	2007-2010 % Job Change
48.	17-3023	Electrical and Electronics Engineering Technicians*	Associate degree	367	\$26.34	\$33.14	-5%
49.	29-1069	Physicians and Surgeons, All Other	Doctoral or professional degree	359	\$60.50	\$97.99	23%
50.	25-2022	Middle School Teachers, Except Special and Career/Technical Education	Bachelor's degree	353	\$26.52	\$33.46	0%
51.	41-9099	Sales and Related Workers, All Other*	High school diploma or equivalent	351	\$14.14	\$19.90	0%
52.	13-1041	Compliance Officers	Bachelor's degree	351	\$26.94	\$38.83	9%
53.	21-1093	Social and Human Service Assistants*	High school diploma or equivalent	344	\$15.07	\$18.48	14%
54.	21-1012	Educational, Guidance, School, and Vocational Counselors	Master's degree	339	\$23.83	\$30.88	2%
55.	1 <i>7</i> -2061	Computer Hardware Engineers	Bachelor's degree	334	\$48.71	\$60.79	4%
56.	23-2011	Paralegals and Legal Assistants*	Associate degree	334	\$25.97	\$32.35	5%
57.	27-2022	Coaches and Scouts	Bachelor's degree	331	\$13.71	\$21.73	11%
58.	19-4021	Biological Technicians*	Bachelor's degree	330	\$19.06	\$23.90	28%
59.	11-3011	Administrative Services Managers*	Bachelor's degree	326	\$34.47	\$45.94	8%
60.	27-3031	Public Relations Specialists	Bachelor's degree	324	\$24.27	\$32.85	-3%
61.	11-9111	Medical and Health Services Managers	Bachelor's degree	306	\$39.16	\$56.08	19%
62.	15-1142	Network and Computer Systems Administrators*	Bachelor's degree	304	\$35.34	\$43.66	-2%
63.	13-1151	Training and Development Specialists*	Bachelor's degree	293	\$24.89	\$33.48	0%
64.	11-3121	Human Resources Managers	Bachelor's degree	290	\$45.42	\$59.72	29%

Appendix B: Pandemic-Resilient Jobs

The 66 pandemic-resilient jobs identified in this study are provided below. Links to each occupation's descrption (where available) are also provided. 10

Exhibit B: Pandemic-Resilient Jobs in San Diego County

	SOC	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings	# of Months in the Top 50 Jobs
1.	13-2011	Accountants and Auditors	Bachelor's degree	\$27.66	\$36.67	4
2.	43-3031	Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	\$16.83	\$21.55	4
3.	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	No formal educational credential	5,015	\$11.39	4
4.	15-1199	Computer Occupations, All Other	Bachelor's degree	\$30.24	\$42.92	4
5.	15-1121	Computer Systems Analysts	Bachelor's degree	\$35.12	\$44.70	4
6.	15-1151	Computer User Support Specialists*	Some college, no degree	\$23.13	\$28.19	4
7.	43-4051	Customer Service Representatives	High school diploma or equivalent	\$14.00	\$17.30	4
8.	17-3029	Engineering Technicians, Except Drafters, All Other	Associate degree	\$26.71	\$34.77	4
9.	17-2199	Engineers, All Other	Bachelor's degree	\$40.58	\$54.61	4
10.	11-3031	Financial Managers	Bachelor's degree	\$42.54	\$59.71	4
11.	41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	\$14.43	\$20.05	4
12.	11-1021	General and Operations Managers	Bachelor's degree	\$34.98	\$53.65	4
13.	53-3032	Heavy and Tractor-Trailer Truck Drivers	Postsecondary nondegree award	\$16.10	\$21.26	4
14.	13-1071	Human Resources Specialists	Bachelor's degree	\$22.78	\$30.98	4
15.	15-1122	Information Security Analysts	Bachelor's degree	\$38.16	\$46.84	4

¹⁰ Emsi 2020.02; QCEW, Non-QCEW, Self-Employed.

Exhibit B: Pandemic-Resilient Jobs in San Diego County (Continued)

	soc	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings	# of Months in the Top 50 Jobs
16.	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	No formal educational credential	\$11.9 <i>7</i>	\$14.47	4
1 <i>7</i> .	53-7062	<u>Laborers and Freight, Stock, and Material Movers,</u> <u>Hand</u>	No formal educational credential	\$11. <i>7</i> 9	\$13.59	4
18.	29-2061	Licensed Practical and Licensed Vocational Nurses*	Postsecondary nondegree award	\$23.48	\$27.21	4
19.	49-9071	Maintenance and Repair Workers, General*	High school diploma or equivalent	\$1 <i>5</i> .86	\$19.78	4
20.	13-1111	Management Analysts	Bachelor's degree	\$28.60	\$39.37	4
21.	11-9199	Managers, All Other	Bachelor's degree	\$28.65	\$49.75	4
22.	11-2021	Marketing Managers	Bachelor's degree	\$43.65	\$64.25	4
23.	11-9111	Medical and Health Services Managers	Bachelor's degree	\$39.16	\$56.08	4
24.	15-1142	Network and Computer Systems Administrators*	Bachelor's degree	\$35.34	\$43.66	4
25.	15-2031	Operations Research Analysts	Bachelor's degree	\$30.12	\$45.95	4
26.	39-9021	Personal Care Aides	High school diploma or equivalent	\$11.35	\$12.03	4
27.	29-1141	Registered Nurses*	Bachelor's degree	\$39.29	\$47.52	4
28.	41-2031	Retail Salespersons	No formal educational credential	\$11.52	\$12.82	4
29.	11-2022	Sales Managers	Bachelor's degree	\$31.06	\$48.22	4
30.	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	High school diploma or equivalent	\$17.58	\$26.32	4
31.	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive*	High school diploma or equivalent	\$16.11	\$19.66	4
32.	33-9032	Security Guards	High school diploma or equivalent	\$12.51	\$13.98	4
33.	15-1132	Software Developers, Applications+	Bachelor's degree	\$42.41	\$53.21	4

Exhibit B: Pandemic-Resilient Jobs in San Diego County (Continued)

	SOC	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings	# of Months in the Top 50 Jobs
34.	29-1127	Speech-Language Pathologists	Master's degree	\$38.77	\$45.18	4
35.	43-5081	Stock Clerks and Order Fillers	High school diploma or equivalent	\$11.67	\$13.36	4
36.	15-1134	Web Developers	Associate degree	\$16.07	\$26.39	4
37.	41-2011	<u>Cashiers</u>	No formal educational credential	\$11.35	\$11.97	3
38.	39-9011	Childcare Workers	High school diploma or equivalent	\$11.00	\$12.29	3
39.	11-9021	Construction Managers	Bachelor's degree	\$30.52	\$42.25	3
40.	35-1012	First-Line Supervisors of Food Preparation and Serving Workers*	High school diploma or equivalent	\$13.57	\$16.98	3
41.	11-9051	Food Service Managers	High school diploma or equivalent	\$1 <i>7</i> .50	\$25.96	3
42.	41-3021	Insurance Sales Agents*	High school diploma or equivalent	\$19.81	\$27.69	3
43.	23-1011	<u>Lawyers</u>	Doctoral or professional degree	\$38.10	\$63.42	3
44.	37-2012	Maids and Housekeeping Cleaners	No formal educational credential	\$11.29	\$13.12	3
45.	51-9199	Production Workers, All Other	High school diploma or equivalent	\$11.98	\$14.92	3
46.	35-2014	Cooks, Restaurant	No formal educational credential	\$12.25	\$13.89	2
47.	53-3031	<u>Driver/Sales Workers</u>	High school diploma or equivalent	\$13.03	\$15.49	2
48.	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers*	High school diploma or equivalent	\$16.24	\$21.31	2
49.	13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	\$20.69	\$28.87	2
50.	27-1026	Merchandise Displayers and Window Trimmers	High school diploma or equivalent	\$12.97	\$14.69	2

*middle-skill job +potentially trainable by community colleges

Exhibit B: Pandemic-Resilient Jobs in San Diego County (Continued)

	SOC	Occupational Title	Typical Entry-level Education	Entry-level Hourly Earnings	Median Hourly Earnings	# of Months in the Top 50 Jobs
51.	43-9061	Office Clerks, General	High school diploma or equivalent	\$12.12	\$15.70	2
52.	25-1199	Postsecondary Teachers	Doctoral or professional degree	\$21.97	\$35.85	2
53.	35-3031	Waiters and Waitresses	No formal educational credential	\$11.45	\$12.31	2
54.	11-9041	Architectural and Engineering Managers	Bachelor's degree	\$60.63	\$76.17	1
55.	15-1143	Computer Network Architects	Bachelor's degree	\$45.74	\$59.59	1
56.	35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	No formal educational credential	\$11.49	\$12.35	1
57.	15-1141	Database Administrators	Bachelor's degree	\$35.1 <i>7</i>	\$48.28	1
58.	17-2071	Electrical Engineers	Bachelor's degree	\$39.79	\$48.83	1
59.	43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	\$22.02	\$27.70	1
60.	43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	\$12.12	\$13.47	1
61.	13-2072	Loan Officers	Bachelor's degree	\$20.1 <i>7</i>	\$29.72	1
62.	31-9092	Medical Assistants*	Postsecondary nondegree award	\$15.69	\$17.88	1
63.	19-1042	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	\$34.21	\$45.82	1
64.	43-6013	Medical Secretaries*	High school diploma or equivalent	\$16.97	\$21.12	1
65.	11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	\$21.74	\$29.88	1
66.	43-4171	Receptionists and Information Clerks	High school diploma or equivalent	\$12.91	\$15.80	1



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.

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