

# Jobs for Recovery

*Occupational Training Opportunities for Displaced Workers in Orange County*

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Prepared by the  
Orange County  
Center of Excellence



C·O·E

CENTERS OF EXCELLENCE  
FOR LABOR MARKET RESEARCH

## Executive Summary

The COVID-19 pandemic and subsequent lockdown measures forced numerous businesses across Orange County to close their doors, leading to both temporary and permanent employee layoffs. While workers across all industries were negatively affected by the pandemic, workers in low-wage jobs, particularly those employed in the Retail, Hospitality, and Tourism (RHT) sector, were hardest hit. A full analysis of the effects of the pandemic on the RHT sector are included in the OC COE's companion report *Impacts of the COVID-19 Pandemic on the Retail, Hospitality, and Tourism Sector in Orange County*.<sup>1</sup>

As of mid-August 2021, employment in low-wage jobs decreased 26% compared to pre-pandemic levels while employment in high-wage jobs increased 10% nationally.<sup>2</sup> Several news outlets have reported that workers in the RHT industry are considering leaving the industry after several months of unemployment, concerns about contracting COVID-19 while working, and low wages.<sup>3,4</sup> However, research has shown that it is difficult for workers employed in low-wage occupations to transition to high-wage occupations. The skills that are required or requested for low-wage occupations typically do not align well with the skills that are usually required in higher paying, more stable occupations.<sup>5</sup> These findings illustrate the difficulty of moving from a low-wage job to a higher-paying, more stable job. However, that research does not account for the ability of workers to gain new skills through training programs at a community college or other educational institution.

To assist displaced workers find viable occupational opportunities, this report identifies in-demand, growing occupations that workers can enter after completing training at an Orange County community college or transferring to a four-year college or university. These in-demand, growing occupations are projected to have above average growth and an above average number of job openings in Orange County. Included in this report is the typical time it would take to complete a community college training programs and the expected wages for each occupation. Though these programs require both a financial and time commitment to complete, research has consistently shown that workers with higher levels of educational attainment have lower rates of unemployment and higher wages.<sup>6</sup> Many of the in-demand, growing occupations in this report are considered recession-resilient, meaning that they are less susceptible to job losses during economic

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<sup>1</sup> The OC COE's companion report, *Impacts of the COVID-19 Pandemic on the Retail, Hospitality, and Tourism Sector in Orange County* can be accessed [using this link](#).

<sup>2</sup> "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data", by Raj Chetty, John Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team. November 2020. Available at: [opportunityinsights.org/wp-content/uploads/2020/05/tracker\\_paper.pdf](https://opportunityinsights.org/wp-content/uploads/2020/05/tracker_paper.pdf)

<sup>3</sup> Kathryn Dill, "Four Million Hotel, Restaurant Workers Have Lost Jobs. Here's How They're Reinventing Themselves," The Wall Street Journal (Dow Jones & Company, February 22, 2021), [wsj.com/articles/hospitality-workers-are-pushed-into-new-careers-as-pandemic-begins-second-year-11613999342](https://www.wsj.com/articles/hospitality-workers-are-pushed-into-new-careers-as-pandemic-begins-second-year-11613999342).

<sup>4</sup> Tim Carman and Emily Heil, "Why Restaurant Workers Are Demanding Better Wages and Working Conditions," The Washington Post (WP Company, June 4, 2021), [washingtonpost.com/food/2021/05/28/restaurant-workers-demands/](https://www.washingtonpost.com/food/2021/05/28/restaurant-workers-demands/).

<sup>5</sup> Marcela Escobari, Ian Seyal, and Michael J. Meaney, "Realism about Reskilling," Brookings (Brookings, February 23, 2021), [brookings.edu/research/realism-about-reskilling/](https://www.brookings.edu/research/realism-about-reskilling/).

<sup>6</sup> "Learn More, Earn More: Education Leads to Higher Wages, Lower Unemployment : Career Outlook," U.S. Bureau of Labor Statistics (U.S. Bureau of Labor Statistics), accessed October 5, 2021, [bls.gov/careeroutlook/2020/data-on-display/education-pays.htm](https://www.bls.gov/careeroutlook/2020/data-on-display/education-pays.htm).

downturns. Though the RHT sector had the largest number of job losses, workers from all fields can consider obtaining training at an Orange County community college for the in-demand, growing occupations identified in this report.

### ***Key Findings:***

- Employment in Orange County declined by 8% (146,230 jobs) from 2019 to 2020.
  - Retail, Hospitality, and Tourism accounted for 55% of job losses in the county. Retail employment declined 8% (14,056 jobs) and Hospitality and Tourism employment declined 28% (66,155 jobs).
- Of the nearly 800 occupations in the Standard Occupational Classification (SOC) system, 54 were identified as growing, in-demand occupations in Orange County.
  - Of those, 59% (32) have entry level hourly earnings above the regional living wage estimate of \$20.63.<sup>7</sup>
  - All 54 of these occupations typically require some form of training or higher education beyond a high school diploma.
- Community colleges throughout Orange County offer training or transfer programs for 51 of the 54 in-demand, growing occupations. These programs can typically be completed in time frames that range from 1-3 months to over 2 years and can lead to employment in non-RHT occupations that have entry-level hourly earnings above the regional living wage.
  - Of these growing, in-demand occupations, 20% (11) are considered recession-resilient.
  - All 11 recession-resilient occupations typically require higher education, further demonstrating the link between education, employment stability, and high wages.
- Workers that either lost their job during the pandemic, or displaced RHT workers that are considering leaving the industry altogether, may want to consider these 54 growing, in-demand occupations and related community college programs so they can advance to a higher-paying, more stable job.

Though the goal of this analysis is to provide workers with information about a variety of viable in-demand, growing occupations outside of the RHT industry, there is currently a significant need for workers within the industry. Employers- particularly restaurants- are reporting labor shortages and aggressively hiring to fill open positions.<sup>8,9</sup> As of July 2021, there were nearly 2.9 million job

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<sup>7</sup> Living wage data was pulled from the California Family Needs Calculator on 9/20/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/family-needs-calculator/>

<sup>8</sup> Hilary Russ, "Taco Bell, McDonalds, and Johnny Rockets Are Struggling to Find Enough Workers to Fill Thousands of Positions as US Economy Re-Opens," Business Insider (Business Insider, April 6, 2021) <https://www.businessinsider.com/fast-food-struggles-to-hire-as-demand-soars-us-economy-roars-2021-4>.

<sup>9</sup> Associated Press and Sandra Mitchell, "Restaurant Worker Shortage Causing New Crisis for California Eateries," KTLA (KTLA, June 23, 2021), <https://ktla.com/news/california/california-restaurants-are-facing-a-new-crisis-amid-worker-shortage/>.

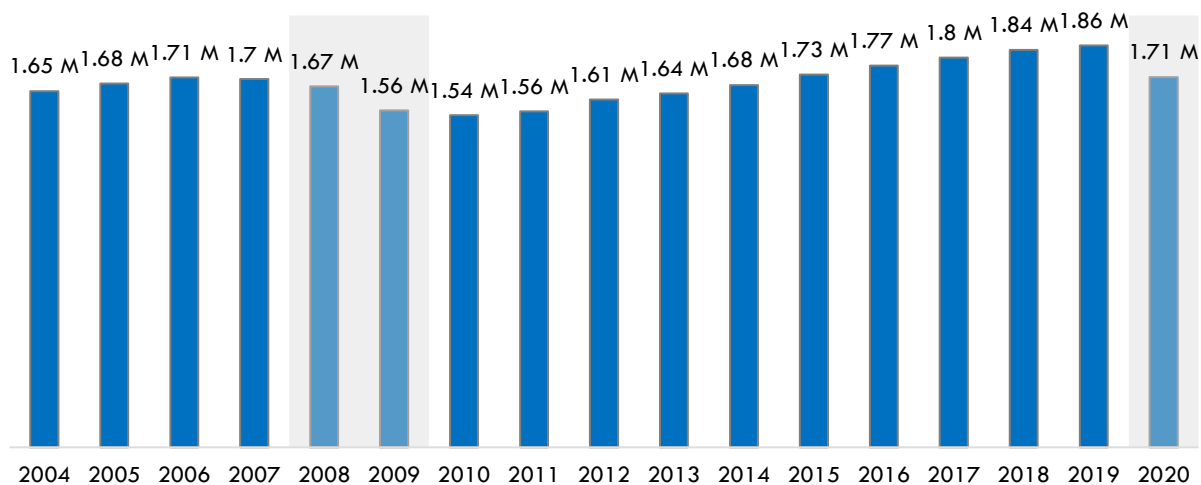
openings nationally within the RHT industry.<sup>10</sup> Due to the current increase in demand, many workers could relatively easily enter or return to the RHT industry with their existing skill-set and should consider the costs and benefits associated with staying in the industry versus pursuing training for another job.

## Impacts of the COVID-19 Pandemic on Employment

### Total Employment

Following nearly a decade of job growth after the end of the Great Recession, total employment in Orange County decreased from over 1.85 million jobs in 2020 to 1.71 million jobs in 2019, an 8% decline that wiped out all job gains since 2014. Though nearly all sectors were impacted by the pandemic, the Retail, Hospitality, and Tourism sector accounted for 55% of all job losses in Orange County. Additionally, though low-wage occupations accounted for 39% of total employment in 2019, low-wage employment accounted for 58% of job losses in the county from 2019 to 2020. Exhibit 1 shows total employment in Orange County from 2004 to 2020.

**Exhibit 1: Orange County Employment, 2004 – 2020**



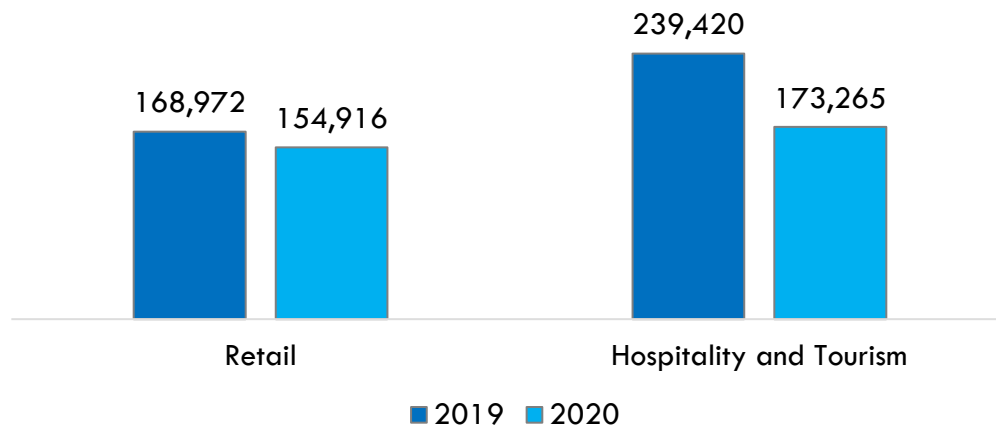
### RHT Employment

Workers employed in the RHT sector were particularly hard-hit due to lockdown measures that forced non-essential retail stores, hotels, restaurants, and other hospitality businesses to close, resulting in massive job losses. Between 2019 and 2020, the RHT sector accounted for nearly 55% of all job losses in Orange County. Retail declined by 14,056 jobs and Hospitality and Tourism declined by 66,155 jobs. Exhibit 2 shows the number of jobs in Retail, Hospitality, and Tourism in 2019 and 2020 in Orange County. A full analysis of the effects of the COVID-19 pandemic on the RHT sector is included in the companion piece to this report, which can be found at the link in the accompanying footnote.<sup>11</sup>

<sup>10</sup> "Table 1. Job Openings Levels and Rates by Industry and Region, Seasonally Adjusted," U.S. Bureau of Labor Statistics (U.S. Bureau of Labor Statistics, September 8, 2021), <https://www.bls.gov/news.release/jolts.t01.htm#>

<sup>11</sup> The OC COE's companion report, *Impacts of the COVID-19 Pandemic on the Retail, Hospitality, and Tourism Sector in Orange County* can be accessed [using this link](#).

**Exhibit 2: RHT Employment, 2019 and 2020**



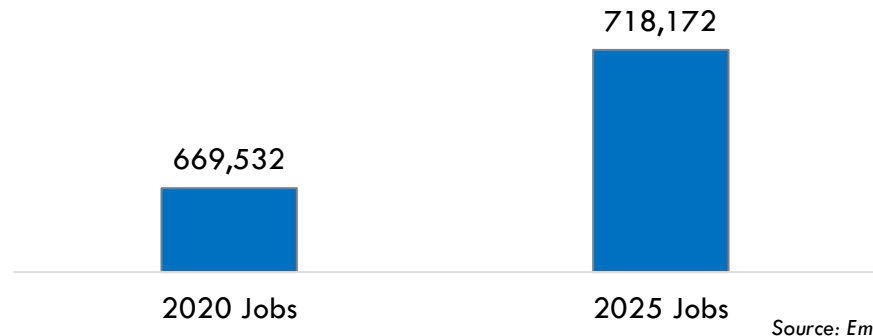
### **In-Demand, Growing Occupations**

To better understand job opportunities outside of the RHT industry, this section identifies 54 in-demand, growing occupations that displaced workers could obtain with additional training at an Orange County community college. Research has shown that workers employed in low-wage occupations, many of which are RHT occupations, typically transition to other low-wage occupations when switching jobs, rather than advancing to higher-paying jobs. Additionally, the skills required for these low-wage occupations are typically not related to the skills required in higher-paying occupations, making it difficult for workers to transition to another industry. While it is not impossible for workers in low-wage and RHT occupations to transition to generally higher paying and more stable occupations, it is unlikely without acquiring additional skills or education.

The in-demand, growing occupations identified in this section are projected to grow at a faster than average rate when compared to all occupations in Orange County. These in-demand, growing occupations will also have an above-average number of annual job openings. Additionally, the majority of these occupations, 59%, have typical entry-level hourly earnings that are above Orange County's living wage of \$20.63. Of the nearly 800 occupations in the Standard Occupational Classification (SOC) system, 54 were identified as in-demand, growing occupations in Orange County. Additionally, 11 of these in-demand occupations were identified as recession-resilient, meaning that they are less susceptible to job losses during economic downturns. The full methodology for identifying the in-demand, growing and recession-resilient occupations are included in Appendix A.

Through 2025, these 54 occupations are projected to grow 8% and to have nearly 46,500 annual job openings. Exhibit 8 shows the number of jobs in these in-demand, growing occupations in 2020 and the projected number of jobs in 2025.

### Exhibit 14: Number of Jobs for In-Demand, Growing Occupations in Orange County, 2020 and 2025



While these occupations have varying education and training requirements, community colleges in Orange County provide training or transfer programs that can prepare workers for all but three of these occupations. The in-demand, growing occupations can be grouped into four “training buckets” based on the typical length of time it would take to complete a related program: Short-Term Training (1-3 months), Moderate-Term Training (4-11 months), Long-Term Training (1-2 years), and Pathway/Transfer (2+ years). The full methodology for each training bucket is included in Appendix A.

Occupations that fall into the Pathway/Transfer training bucket typically require at least a bachelor’s degree and would require transfer to a four-year college or university. However, training programs for 53% (29) of the in-demand, growing occupations can be completed in less than two years and programs for 24% (13) of the occupations can be completed in less than one year. Exhibit 15 shows the full list of 54 in-demand, growing occupations by the typical length of time it takes to complete a related training program.

### Exhibit 15: In-Demand, Growing Occupations in Orange County by Length of Training Program

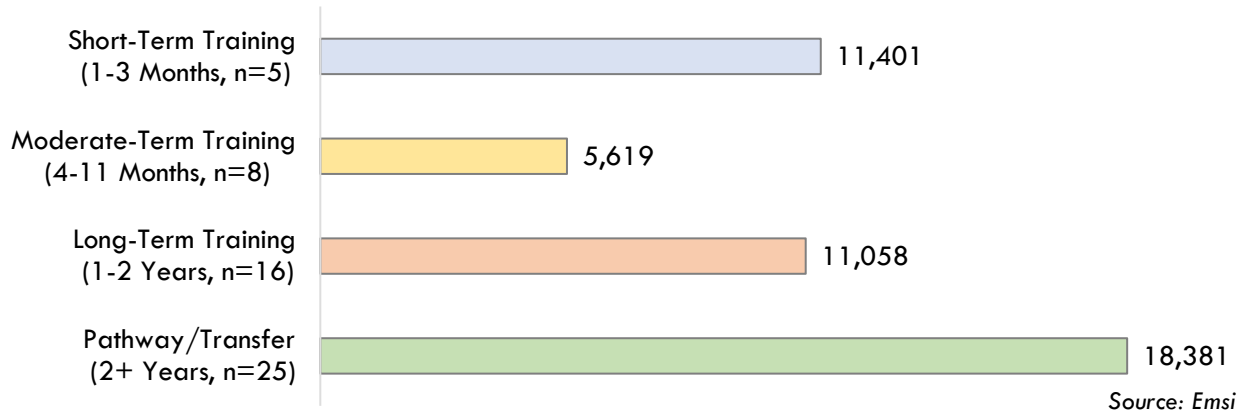
Occupations			
Short-Term Training (1-3 months)			
Home Health and Personal Care Aides	Massage Therapists	Nursing Assistants	Social and Human Service Assistants
Production Workers, All Other			
Moderate-Term Training (4-11 Months)			
Computer User Support Specialists	Loan Officers	Manicurists and Pedicurists	Medical Assistants
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	Medical Secretaries and Administrative Assistants	Paralegals and Legal Assistants	Teaching Assistants, Except Postsecondary



Occupations			
Long-Term Training (1-2 Years)			
Administrative Services and Facilities Managers	Clinical Laboratory Technologists and Technicians	Computer Occupations, All Other	Construction Managers
Electricians	First-Line Supervisors of Construction Trades and Extraction Workers	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Heavy and Tractor-Trailer Truck Drivers
Licensed Practical and Licensed Vocational Nurses	Pharmacy Technicians	Plumbers, Pipefitters, and Steamfitters	Police and Sheriffs Patrol Officers
Project Management Specialists and Business Operations Specialists, All Other	Real Estate Brokers	Registered Nurses	Training and Development Specialists
Pathway/Transfer (2+ Years)			
Accountants and Auditors	Child, Family, and School Social Workers	Civil Engineers	Compliance Officers
Computer and Information Systems Managers	Computer Systems Analysts	Educational Instruction and Library Workers, All Other	Educational, Guidance, and Career Counselors and Advisors
Elementary School Teachers, Except Special Education	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	Financial Managers	Human Resources Specialists
Lawyers	Management Analysts	Market Research Analysts and Marketing Specialists	Marriage and Family Therapists
Medical and Health Services Managers	Personal Financial Advisors	Postsecondary Teachers	Secondary School Teachers, Except Special and Career/Technical Education
Securities, Commodities, and Financial Services Sales Agents	Software Developers and Software Quality Assurance Analysts and Testers	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Substitute Teachers, Short-Term
Tutors and Teachers and Instructors, All Other			

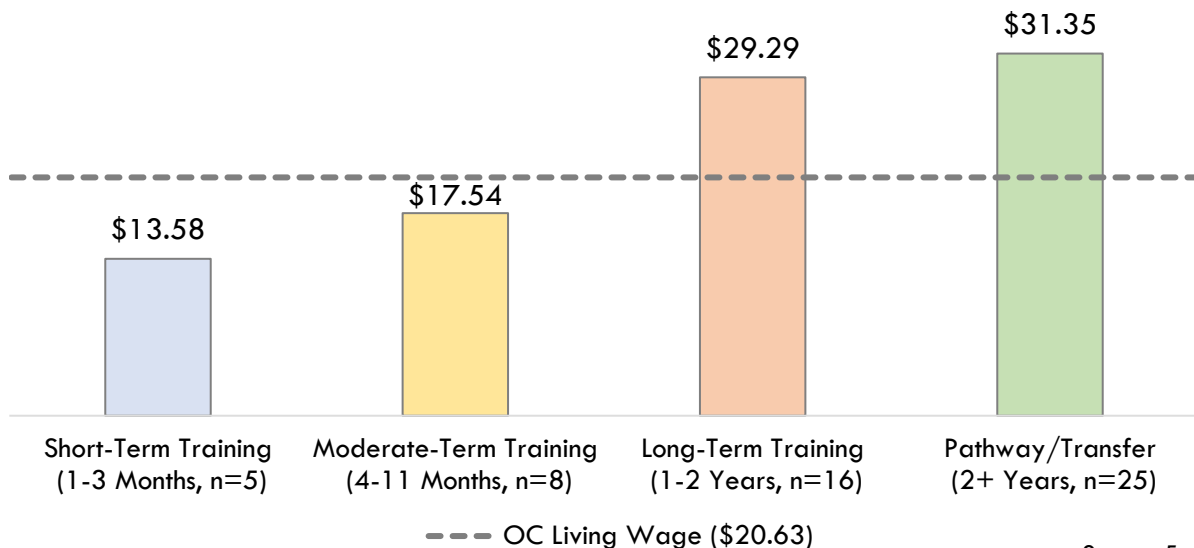
There is projected to be just over 46,000 annual job openings in these 54 occupations through 2025. These in-demand, growing occupations make up only 7% of the total number of occupations in Orange County, but are projected to account for 25% of the county's total annual openings. Exhibit 16 shows the number of annual job openings for these occupations by the typical length of time it would take to complete a related training program. The highest number of annual openings are for Pathway/Transfer occupations, followed by Short-Term Training occupations, Long-Term Training occupations, and Moderate-Term Training occupations.

**Exhibit 16: Annual Openings in Orange County by Typical Length of Training Program**



With more education and training, jobseekers can expect to earn higher wages. The typical entry-level hourly earnings that workers entering these in-demand, growing occupations can expect increases along with the length of time it would take to complete a corresponding training program. Entry-level hourly earnings for these 54 occupations range from \$13.58 for those that fall into the Short-Term Training bucket to \$31.35 for those in the Pathway/Transfer Training bucket. Exhibit 17 shows the average entry-level hourly earnings by training bucket.

**Exhibit 17: Average Entry-Level Hourly Earnings by Training Bucket**



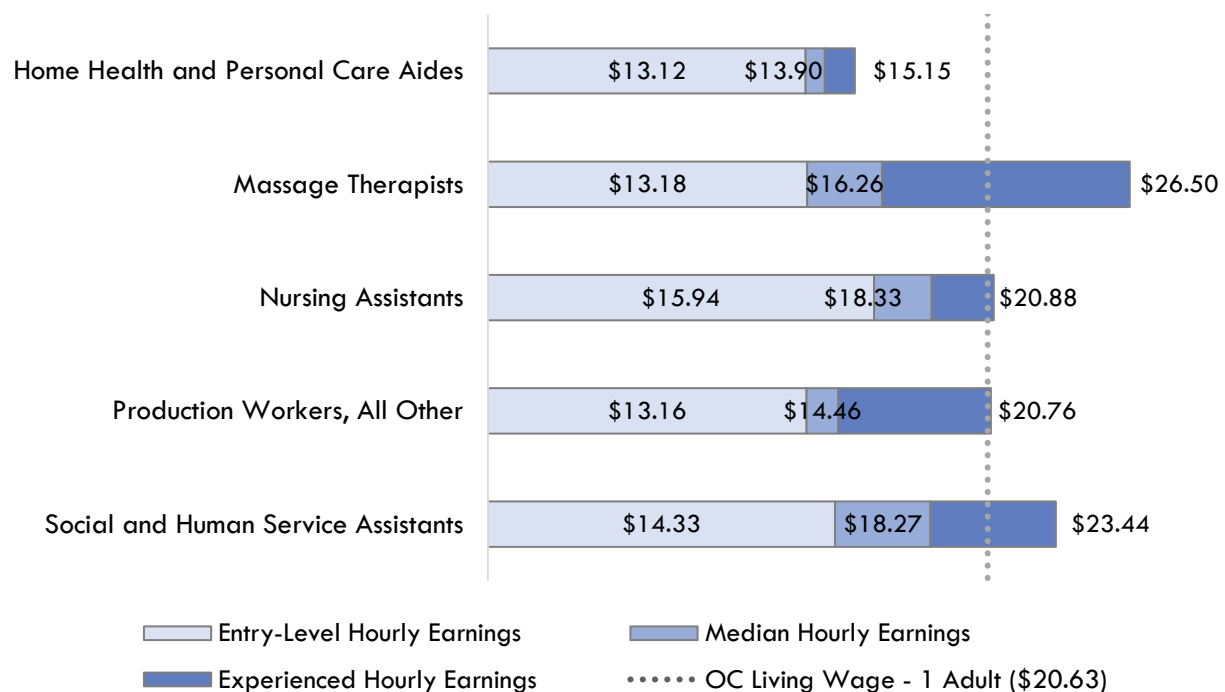


These 54 in-demand, growing occupations are viable options to consider especially for workers that lost their job due to the pandemic or are considering leaving their current industry. While additional training and education requires time and resources to complete, the subsequent increase in earnings potential and job stability should be considered. The following sections provide an overview of the in-demand, growing occupations for each training category, as well as the typical entry-level, median, and experienced earnings workers in these occupations can expect to earn. Additional information regarding these occupations, including the projected growth and the projected number of annual job openings, are included in Appendix C.

### ***Short-Term Training Occupations***

The Short-Term Training bucket includes five occupations, four of which are related to health. While these five occupations have the lowest wages of all the in-demand, growing occupations, they can also serve as pathways to other, higher-paying in-demand, growing occupations such as Registered Nurses, Licensed Practical and Licensed Vocational Nurses, and Medical and Health Services Managers. Throughout Orange County, five different community colleges and one noncredit institution offer training programs for the following occupations: Home Health and Personal Care Aides, Nursing Assistants, and Social and Human Service Assistants. Additionally, some programs such as home health aide and nursing assistant at Saddleback, Santa Ana, and Santiago Canyon colleges, are noncredit programs which are tuition-free, though there may be material and/or textbook fees. Exhibit 18 shows the range of hourly earnings workers in each of these occupations can expect to earn.

**Exhibit 18: Short-Term Training Occupations in Orange County**

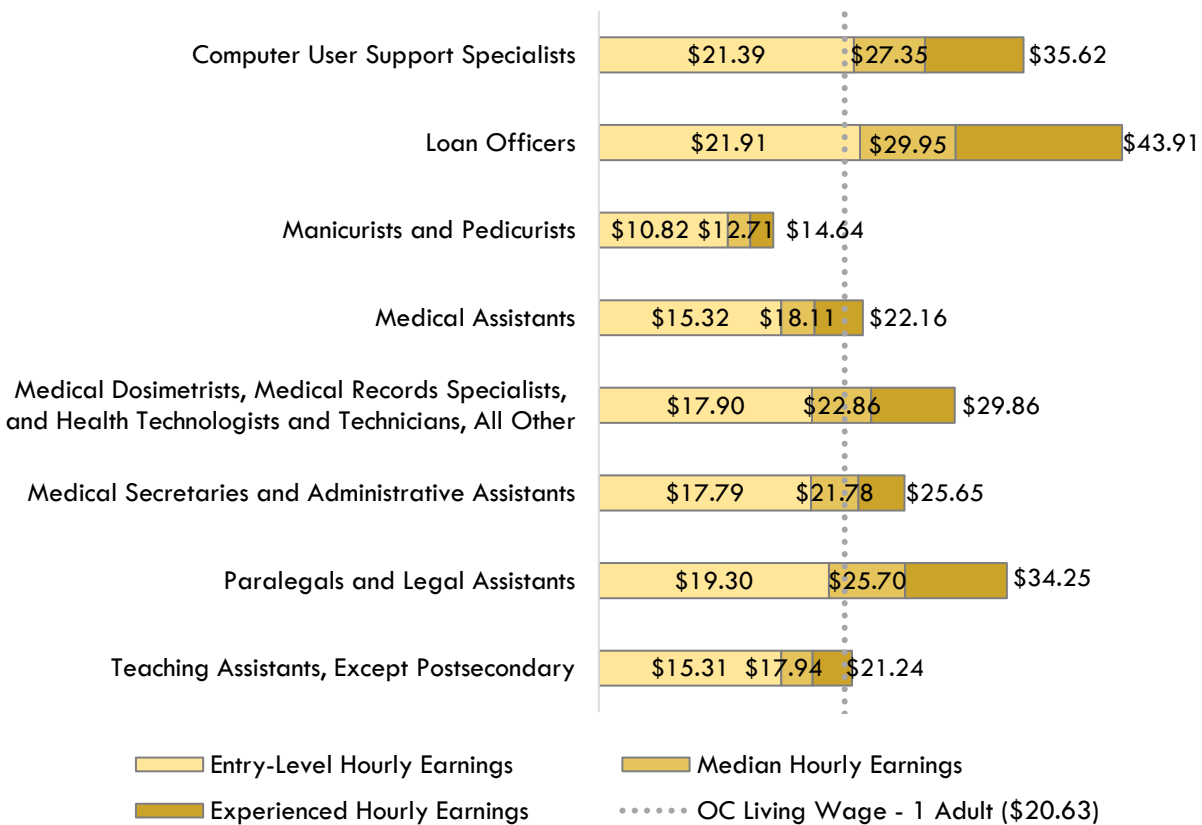


### ***Moderate-Term Training Occupations***

There are eight occupations in the Moderate-Term Training bucket. These eight occupations cut across a variety of fields, including business, health, and information technology. Like the Short-Term Training bucket, many occupations in the Moderate-Term Training bucket can be pathway occupations to other, higher-paying, in-demand occupations. For example, Computer User Support Specialists could become Computer Systems Analysts or Computer and Information Systems Managers with additional training and experience, while Teaching Assistants, Except Postsecondary can become Secondary School Teachers with additional education.

All nine community colleges, and one noncredit institution, in Orange County have a training program related to at least one of the Moderate-Term Training occupations. Some programs that prepare for these occupations, such as medical assisting at Santiago Canyon College, are noncredit programs which are tuition-free, but may have material and/or textbook fees. Exhibit 19 shows the range of hourly earnings workers in each of these occupations can expect to earn.

**Exhibit 19: Moderate-Term Training Occupations in Orange County**

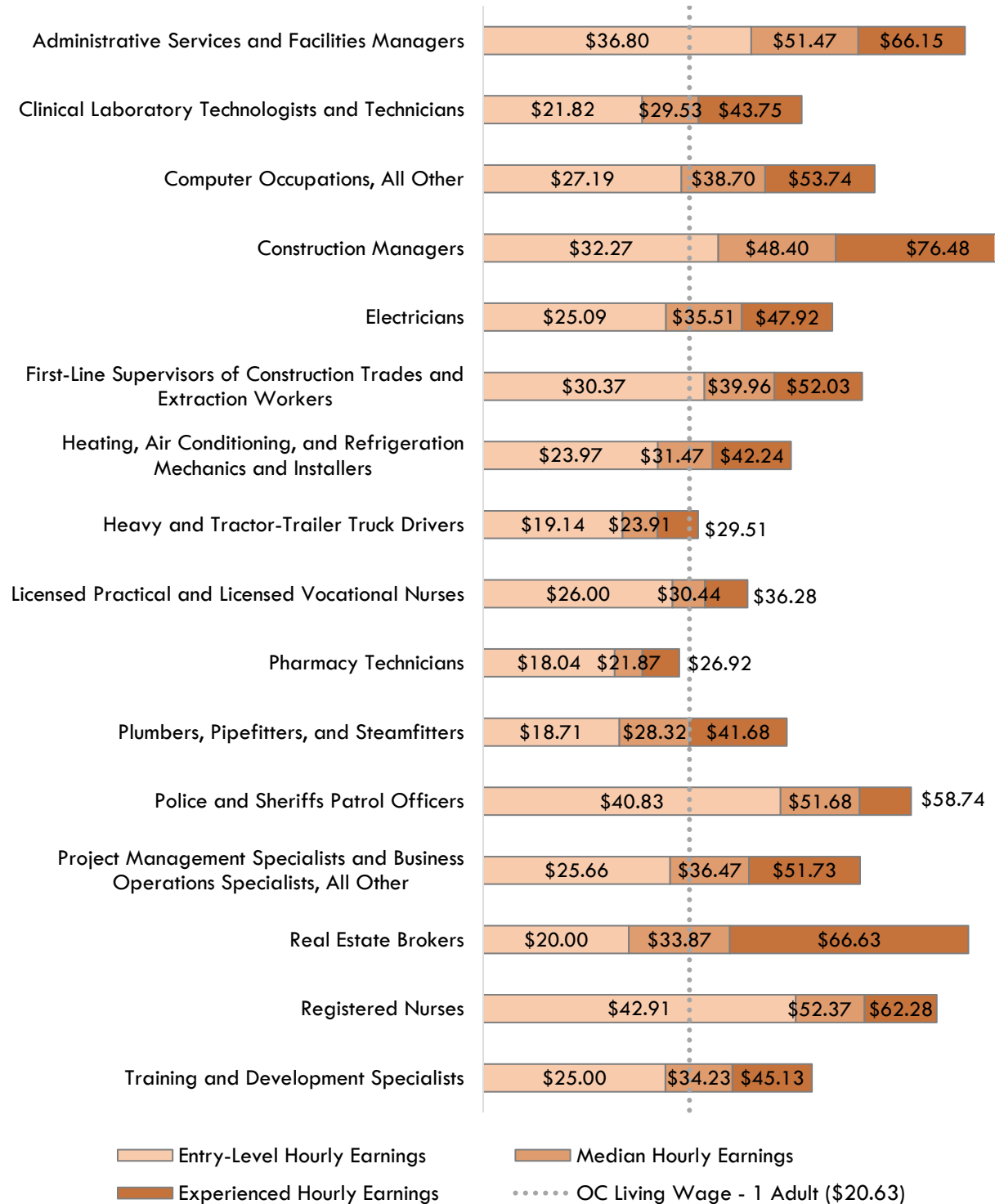


### ***Long-Term Training (1-2 Years) Occupations***

There are 16 occupations in the Long-Term training bucket. These 16 occupations cut across numerous sectors, including business, construction, health, information technology, and public safety. Of the 16 occupations, 75% (12) have entry-level hourly earnings above Orange County's living wage of \$20.63. Additionally, 19% (3) are considered recession-resilient jobs in Orange County. It is also important to note that some of these occupations, such as Electricians and Plumbers, Pipefitters, and Steamfitters typically require an apprenticeship that may take more than two years to complete. However, students in apprenticeships earn college credit while receiving on-the-job training and earning an hourly wage that increases each year. Apprenticeships provide a unique "earn while you learn" opportunity that are not typically available in other programs.

One community college in Orange County, Santiago Canyon, offers apprenticeship programs related to Electricians, while all nine community colleges in Orange County, plus one noncredit institution, have at least one training program related to all Long-Term Training occupations, except Heavy and Tractor-Trailer Truck Drivers. The majority of these programs are credit programs that charge tuition, however some are noncredit programs that are tuition-free, but may have material and/or textbook fees. Notably, North Orange Continuing Education- a noncredit institution- has a pharmacy technology program that trains students to become pharmacy technicians in 10-18 months. Exhibit 20 shows the range of hourly earnings workers in each of these occupations can expect to earn.

## Exhibit 20: Long-Term Training Occupations in Orange County



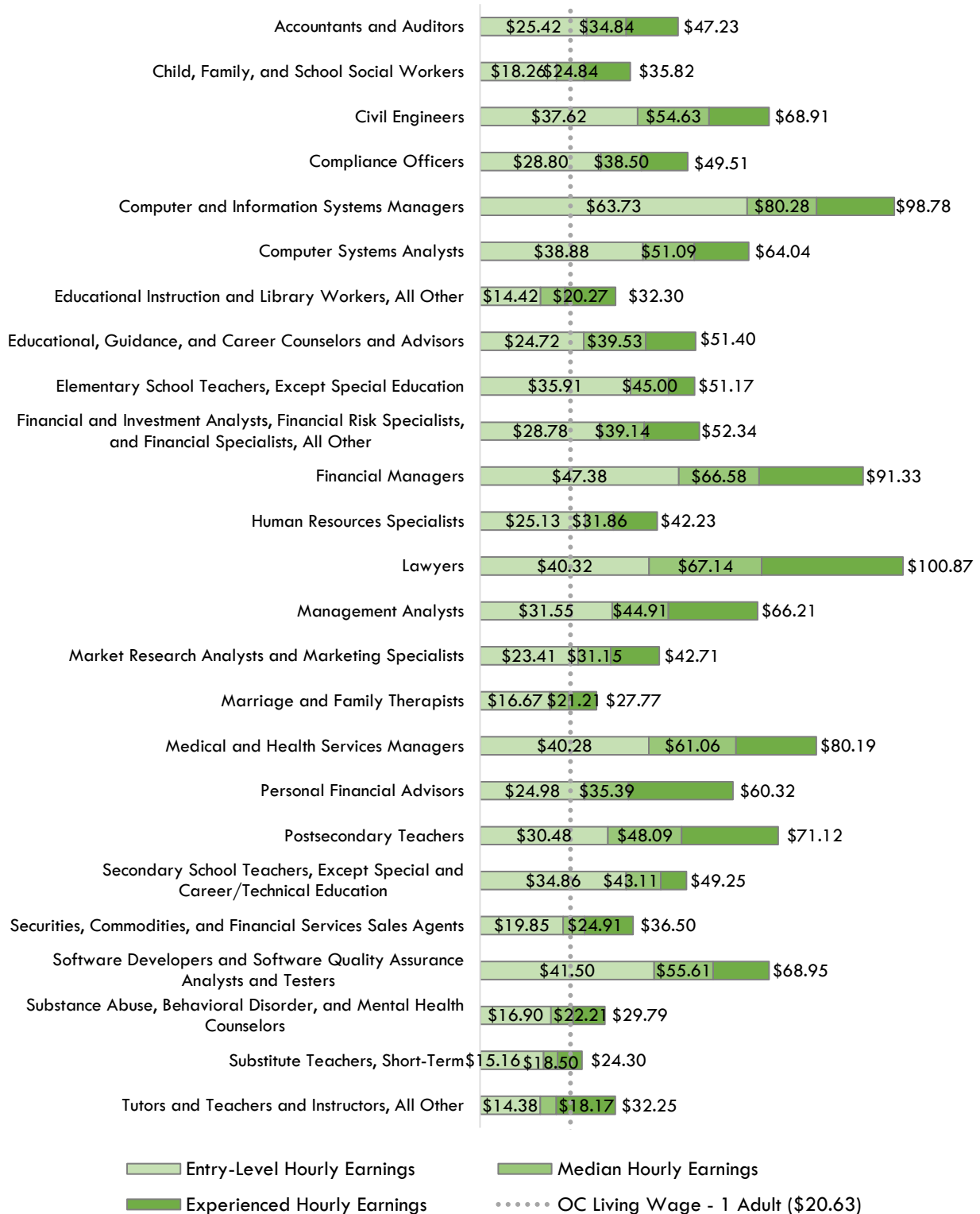
Source: Emsi

***Pathway/Transfer (2+ Years) Occupations***

There are 25 occupations in the Pathway/Transfer Training bucket. These 25 occupations typically require at least a bachelor's degree and, in some cases, may require a master's, professional, or doctoral degree. Of the 25 occupations, 32% (8) are related to business, including accounting, finance, management, and marketing; 28% (7) are related to education and teaching; and 16% (4) are related to health and social services. The remaining 20% (5) of occupations are in areas related to engineering, information technology, and law.

Though all these occupations typically require a bachelor's degree, all nine community colleges, plus one noncredit institution, in Orange County have training or transfer programs that can lead to employment in these occupations. While training programs for these occupations take the most time to complete, these occupations also have high earnings potential. Exhibit 21 shows the range of hourly earnings workers in each of these occupations can expect to earn.

## Exhibit 21: Pathway/Transfer Training Occupations in Orange County



Source: Emsi

## Limitations and Considerations for Educators

The analysis included in this report is based on data available from proprietary and publicly available sources, as well as a review of research regarding occupational changes. It is important to note that the findings included in this report are based on a regional analysis of occupations within Orange County that were most affected by the COVID-19 pandemic. Though the RHT sector was the most impacted by the pandemic, the effects of the pandemic were felt throughout the labor market. The 54 in-demand, growing occupations identified in this report are viable options for all job seekers if they obtain additional education which can be done at Orange County community colleges.

All nine community colleges, plus one noncredit institution, in Orange County have at least one training program for 51 of the 54 in-demand, growing occupations, however no single college has a training program for all in-demand, growing occupations. While new programs that train for these occupations can be created, educators should consider the time-consuming process it takes to create new programs relative to the current regional need of getting students employed or re-employed. Some workers that are looking to immediately transition to another occupation may be better served via existing programs that are preparing students to meet current labor market needs.

Colleges should also review existing programs and the knowledge, skills, and abilities taught in those programs to ensure they are aligned with the local labor market including new skill-demands that arose, or were accelerated, because of the COVID-19 pandemic, including those related to automation, cybersecurity, virtual technologies, among others. According to a study from Burning Glass Technologies, these skills will continue to be in-demand in the post-COVID-19 labor market.<sup>12</sup> The OC COE analyzed online job postings data from Burning Glass Technologies to better understand the demand for these skills in Orange County in the report *The Five Recovery Economies in Orange County*.<sup>13</sup>

Additionally, existing career education programs should be designed to provide students the most opportunity to obtain employment after completing their training. Colleges should consider which existing programs can prepare students by teaching a breadth of skills that will lead to employment in multiple occupations and at different employers rather than narrowly preparing students for the needs of an individual employer or requiring them to obtain additional skills later.

## Conclusion

Workers that lost their jobs due to the COVID-19 pandemic, or those that are considering leaving their current industry altogether, have numerous options when contemplating their next career move. Most workers that lost their jobs due to the pandemic are low-wage workers and workers within the Retail, Hospitality, and Tourism (RHT) sector. Though it is not impossible for these workers to transition to a higher-paying, more stable job, it is unlikely without additional training and education. Currently, entering or returning to the RHT industry would be relatively easy due

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<sup>12</sup> Burning Glass Technologies, "Identifying the Jobs and Skills That Will Lead the Post-Pandemic Recovery," Burning Glass Technologies, May 4, 2021, [burning-glass.com/identifying-jobs-skills-will-lead-post-pandemic-recovery/](https://burning-glass.com/identifying-jobs-skills-will-lead-post-pandemic-recovery/).

<sup>13</sup> The OC COE's report, *The Five Recovery Economies in Orange County* can be accessed using [this link](#).



to the recent uptick in demand for workers with RHT skills. However, workers should also consider the benefits they could gain from viable in-demand, growing occupations that they can enter with additional training and education. The 54 identified occupations in this report span a variety of fields, typically require some form of education beyond a high school diploma, generally have entry-level earnings that are higher than those for RHT and other low-wage occupations, and have higher earnings potential.

Community colleges throughout Orange County have training programs for these in-demand, growing occupations, or transfer programs that can lead to employment in these occupations, that can be completed in various time frames ranging from 1-3 months to 2 or more years. Some of these programs are noncredit programs that are tuition-free (but may require materials fees), some are apprenticeship programs where students can earn wages while completing coursework and hands-on training, while others are credit programs that can fulfill requirements for licensing, prepare students to enter the job market, and/or transfer to a four-year college or university. For more information about these programs, interested individuals can go to [FutureBuilt.org](https://FutureBuilt.org) to explore colleges and available programs near them.

## Appendix A: Methodology

This section provides an overview of the methodologies used to identify the in-demand, growing occupations, training buckets, and recession-resilient occupations.

### *In-Demand Growing Occupations*

The in-demand, growing occupations included in this report were identified using the following criteria:

- **Employment – Greater than 1.53% projected employment increase between 2020 and 2025:** On average, employment across all occupations in Orange County is projected to increase 1.53% from 2020 to 2025.
- **Annual Job Openings – Projected annual openings above the average in Orange County between 2020 and 2025.** The average labor market demand for occupations throughout the county is projected to be 248 annual job openings.

### *Training Buckets*

The following methodology was used to determine the typical length of time it would take to complete a training program for each in-demand, growing occupation.

- **Short-Term Training (1-3 Months)**
  - All occupations that:
    - Typically require no formal education or a high school diploma.
    - Do not require on-the-job training or short-term on-the-job training.
  - All occupations for which license or certification requirements can be completed in less than 3 months.
- **Moderate-Term Training (4-11 Months)**
  - All occupations that typically require some college, no degree or a postsecondary nondegree award.
  - All occupations for which license or certification requirements can be completed in 4-11 months.
- **Long-Term Training (1-2 Years)**
  - All occupations that typically require an associate degree.
  - All occupations that typically require a bachelor's degree but have about 33% of workers in the field that have completed some college or an associate degree as their highest level of education.
  - All occupations for which license or certification requirements can be completed in 1-2 years.
- **Pathway/Transfer (2+Years)**
  - All occupations that typically require a bachelor's degree or higher and that are not included in the Long-Term Training bucket.

### ***Recession-Resilient Jobs***

Recession-resilient jobs are occupations that meet the following criteria:

- **Employment – Less than 7.3% employment decline between 2005 and 2009, as well as greater than 20.9% employment growth between 2010 and 2019 in Orange County:** On average, occupations experienced a 7.3% employment decline between 2005 and the end of the Great Recession. While these occupations performed better than average during the Great Recession, it is also important to consider their performance during the post-recession recovery. On average, occupations experienced a 20.9% increase in employment between 2010 and 2019.
- **Annual Job Openings – Annual openings at or above the median in Orange County during the Great Recession (2007-2009), as well as at or above the median between 2010 and 2019:** The median labor market demand for all occupations in Orange County during the Great Recession was 77 annual job openings. During the post-recession period, the median labor market demand was 76 annual job openings. This study excludes occupations that did not have labor market demand above the median in both periods.
- **Wages – Entry-level hourly earnings at or above \$20.63:** The average living wage for a single adult in Orange County is \$20.63. This figure measures the cost of basic expenses, including housing, food, health care, and transportation. Generally, the living wage increases as family size increases; however, for this study, only occupations that provide entry-level hourly earnings at or above the living wage for a single adult were included in the analysis.

## Appendix B: In-Demand, Growing Occupations

The following exhibits show the number of jobs in 2020, projected number of jobs in 2025, five-year change as both a number and percentage, number of annual job openings, and the range of earnings workers can expect to earn in each in-demand, growing occupation in Orange County.

**Exhibit 17: Short-Term Training Occupations in Orange County**

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Social and Human Service Assistants (21-1093)	3,473	4,120	647	19%	533	\$14.33	\$18.27	\$23.44
Home Health and Personal Care Aides (31-1128)	43,467	54,705	11,237	26%	8,653	\$13.12	\$13.90	\$15.15
Nursing Assistants (31-1131)	8,948	10,018	1,070	12%	1,180	\$15.94	\$18.33	\$20.88
Massage Therapists (31-9011)	4,508	5,145	636	14%	610	\$13.18	\$16.26	\$26.50
Production Workers, All Other (51-9199)	3,773	3,967	194	5%	426	\$13.16	\$14.46	\$20.76
<b>Total</b>	<b>64,170</b>	<b>77,955</b>	<b>13,785</b>	<b>21%</b>	<b>11,401</b>			

**Exhibit 18: Moderate-Term Training Occupations in Orange County**

<b>Occupation (SOC)</b>	<b>2020 Jobs</b>	<b>2025 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry- Level Hourly Earnings</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings</b>
Loan Officers (13-2072)	6,685	6,848	163	2%	528	\$21.91	\$29.95	\$43.91
Computer User Support Specialists (15-1232)	7,473	7,848	376	5%	588	\$21.39	\$27.35	\$35.62
Paralegals and Legal Assistants (23-2011)	3,807	4,159	352	9%	451	\$19.30	\$25.70	\$34.25
Teaching Assistants, Except Postsecondary (25-9045)	11,406	11,654	248	2%	1,140	\$15.31	\$17.94	\$21.24
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other (29-2098)	3,276	3,619	343	10%	309	\$17.90	\$22.86	\$29.86
Medical Assistants (31-9092)	8,016	8,925	908	11%	1,015	\$15.32	\$18.11	\$22.16
Manicurists and Pedicurists (39-5092)	3,757	4,231	474	13%	498	\$10.82	\$12.71	\$14.64
Medical Secretaries and Administrative Assistants (43-6013)	9,407	9,936	529	6%	1,090	\$17.79	\$21.78	\$25.65
<b>Total</b>	<b>53,828</b>	<b>57,220</b>	<b>3,392</b>	<b>6%</b>	<b>5,619</b>			

**Exhibit 19: Long-Term Training Occupations in Orange County**

<b>Occupation (SOC)</b>	<b>2020 Jobs</b>	<b>2025 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry- Level Hourly Earnings</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings</b>
Administrative Services and Facilities Managers (11-3011)	4,226	4,314	88	2%	334	\$36.80	\$51.47	\$66.15
Construction Managers (11-9021)	5,762	6,150	388	7%	446	\$32.27	\$48.40	\$76.48
Training and Development Specialists (13-1151)	2,797	2,931	134	5%	284	\$25.00	\$34.23	\$45.13
Project Management Specialists and Business Operations Specialists, All Other (13-1198)*	22,908	23,462	554	2%	2,102	\$25.66	\$36.47	\$51.73
Computer Occupations, All Other (15-1299)	6,609	6,736	127	2%	472	\$27.19	\$38.70	\$53.74
Registered Nurses (29-1141)*	23,456	25,278	1,821	8%	1,530	\$42.91	\$52.37	\$62.28
Clinical Laboratory Technologists and Technicians (29-2018)	3,161	3,499	337	11%	256	\$21.82	\$29.53	\$43.75
Pharmacy Technicians (29-2052)*	2,904	3,055	151	5%	250	\$18.04	\$21.87	\$26.92

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry- Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Licensed Practical and Licensed Vocational Nurses (29-2061)	6,750	7,509	759	11%	642	\$26.00	\$30.44	\$36.28
Police and Sheriffs Patrol Officers (33-3051)	5,806	6,102	296	5%	456	\$40.83	\$51.68	\$58.74
Real Estate Brokers (41-9021)	2,953	3,000	47	2%	261	\$20.00	\$33.87	\$66.63
First-Line Supervisors of Construction Trades and Extraction Workers (47-1011)	6,895	7,097	202	3%	685	\$30.37	\$39.96	\$52.03
Electricians (47-2111)	9,336	10,211	874	9%	1,139	\$25.09	\$35.51	\$47.92
Plumbers, Pipefitters, and Steamfitters (47-2152)	6,015	6,337	322	5%	651	\$18.71	\$28.32	\$41.68
Heating, Air Conditioning, and Refrigeration Mechanics and Installers (49-9021)	4,425	4,688	263	6%	440	\$23.97	\$31.47	\$42.24
Heavy and Tractor-Trailer Truck Drivers (53-3032)	9,951	10,368	416	4%	1,110	\$19.14	\$23.91	\$29.51
<b>Total</b>	<b>123,957</b>	<b>130,737</b>	<b>6,781</b>	<b>5%</b>	<b>11,058</b>			

\*Denotes a recession-resilient job



**Exhibit 20: Pathway/Transfer Training Occupations in California**

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Computer and Information Systems Managers (11-3021)	6,879	7,114	234	3%	508	\$63.73	\$80.28	\$98.78
Financial Managers (11-3031)	11,359	12,083	725	6%	911	\$47.38	\$66.58	\$91.33
Medical and Health Services Managers (11-9111)*	3,436	4,136	700	20%	398	\$40.28	\$61.06	\$80.19
Compliance Officers (13-1041)*	4,169	4,294	126	3%	346	\$28.80	\$38.50	\$49.51
Human Resources Specialists (13-1071)*	8,113	8,489	376	5%	798	\$25.13	\$31.86	\$42.23
Management Analysts (13-1111)*	11,795	12,370	575	5%	1,128	\$31.55	\$44.91	\$66.21
Market Research Analysts and Marketing Specialists (13-1161)*	10,465	11,079	614	6%	1,077	\$23.41	\$31.15	\$42.71
Accountants and Auditors (13-2011)	18,961	19,376	415	2%	1,646	\$25.42	\$34.84	\$47.23
Personal Financial Advisors (13-2052)	4,706	5,032	326	7%	391	\$24.98	\$35.39	\$60.32
Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other (13-2098)	7,257	7,488	231	3%	577	\$28.78	\$39.14	\$52.34

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry- Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Computer Systems Analysts (15-1211)	5,809	6,076	266	5%	427	\$38.88	\$51.09	\$64.04
Software Developers and Software Quality Assurance Analysts and Testers (15-1256)*	20,260	22,117	1,857	9%	1,659	\$41.50	\$55.61	\$68.95
Civil Engineers (17-2051)	5,387	5,500	113	2%	388	\$37.62	\$54.63	\$68.91
Educational, Guidance, and Career Counselors and Advisors (21-1012)	3,150	3,286	136	4%	309	\$24.72	\$39.53	\$51.40
Marriage and Family Therapists (21-1013)	3,061	3,508	447	15%	378	\$16.67	\$21.21	\$27.77
Substance Abuse, Behavioral Disorder, and Mental Health Counselors (21-1018)	3,312	4,159	847	26%	495	\$16.90	\$22.21	\$29.79
Child, Family, and School Social Workers (21-1021)*	3,833	4,247	414	11%	424	\$18.26	\$24.84	\$35.82
Lawyers (23-1011)*	12,592	13,075	483	4%	678	\$40.32	\$67.14	\$100.87
Postsecondary Teachers (25-1099)	17,928	18,780	852	5%	1,581	\$30.48	\$48.09	\$71.12
Elementary School Teachers, Except Special Education (25-2021)	10,163	10,367	204	2%	716	\$35.91	\$45.00	\$51.17

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry- Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Secondary School Teachers, Except Special and Career/Technical Education (25-2031)	7,627	7,802	175	2%	519	\$34.86	\$43.11	\$49.25
Substitute Teachers, Short- Term (25-3031)	6,640	6,752	112	2%	723	\$15.16	\$18.50	\$24.30
Tutors and Teachers and Instructors, All Other (25-3097)	9,127	9,911	783	9%	1,151	\$14.38	\$18.17	\$32.25
Educational Instruction and Library Workers, All Other (25-9099)	3,588	3,717	130	4%	328	\$14.42	\$20.27	\$32.30
Securities, Commodities, and Financial Services Sales Agents (41-3031)	8,605	9,054	448	5%	824	\$19.85	\$24.91	\$36.50
<b>Total</b>	<b>2,727,591</b>	<b>2,872,499</b>	<b>144,908</b>	<b>5%</b>	<b>237,835</b>			

\*Denotes a recession-resilient job