Orange County Economic Recovery Strategy

March 2021

A collaboration between workforce development, education, and industry

CALIFORNIA STATE UNIVERSITY FULLERTON
COLLEGE OF BUSINESS AND ECONOMICS
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Introduction

The economic and social impacts of the COVID-19 pandemic have been felt worldwide and keenly throughout California. Even with vaccines beginning to be administered, due to the inherent operational and supply-challenges, there continues to be a deterioration of human health and economic conditions felt throughout Orange County. In Darwinian terms, there is a need for organizations to adapt to this new environment or "new normal" in order to guarantee survival. Adaptation includes conducting research that focuses on finding areas of opportunity, proactive efforts that leverage available resources and partnerships, and a set of guidelines or recommendations that can lead to effective outcomes. What follows is a description of how Orange County came together in 2020 to develop these recommendations and identify how our region could overcome the obstacles created and exacerbated by the pandemic.

As a result of the huge, negative economic impact that Orange County was experiencing, the Executive Director of the Orange County Workforce Development Board and the Orange County Director for the Los Angeles/Orange County Regional Consortium for community colleges convened a large group of individuals representing public and private entities from all over Orange County in June 2020. The group included those in social services, education, industry, as well as local and county representatives. The goal of the group was to utilize this cross-section of entities to gather information and ultimately create a roadmap of how all these stakeholders could support the county in its pandemic-recovery. This effort became known as the Orange County Economic Recovery Strategy (OCERS). The following mission and vision statements were the guiding principles of the OCERS efforts.

OC Economic Recovery Strategy Mission Statement

Engage diverse public and private sector partners in an integrated economic development planning process to develop a Post-COVID-19 Economic Recovery Strategy that will serve as an economic roadmap to diversify and strengthen the Orange County regional economy through the development of regional economic goals, a regional plan of action, and identification of investment priorities and funding.

OC Economic Recovery Strategy Vision Statement

Create strategies that guide economic prosperity and resiliency, encourage partnerships and collaboration, and fully utilize Orange County's unique advantages to maximize economic opportunity and overall quality of life for businesses and residents in the region.

Members

Dozens of individuals across many areas came together and were organized into one of three teams tasked with proactively looking at possible ways in which the region could mitigate the impacts of the COVID-19 pandemic. In addition to the county's three workforce development boards, a number of chambers of commerce, nonprofits, and industry leaders joined education representatives from K12 up through public and private four-year universities. Exhibit 1.1 lists the organizations of the individuals who comprised the OCERS membership.

Exhibit 1.1: Orange County Economic Recovery Strategy Member Organizations

Organizations Listed in Alphabetical Order	
Anaheim Workforce Development Board	North Orange County Chamber
Brandman University	North Orange County ROP
Capistrano Unified School District	Orange Coast College
CEO Leadership Alliance Orange County	Orange County Center of Excellence
Coast Community College District	Orange County Department of Education
Coastline ROP	Orange County United Way
CSUF Mihaylo College of Business and Economics	Orange County Automotive Dealers Association
CSUF Mihaylo/Woods Center for Economic Analysis and Forecasting	Orange County Community College Regional Directors of Employer Engagement
Cypress College	Orange County Grant Makers
Employment Development Department	Orange County Workforce Development Board
Fullerton College Extension and International Programs	Rancho Santiago Community College District
Golden West College	Saddleback College
Inkable Arts | Intellitwin | Seasonally Fresh	Santa Ana Chamber of Commerce
Kleinhenz Economics	Santa Ana College
Kolena Corporation	Santa Ana Workforce Development Board
Los Angeles/Orange County Regional Consortium	Santiago Canyon College
North Orange Continuing Education	UC Irvine Bren School of Information and Computer Sciences

Teams

Research Team

The OCERS Research Team conducted an in-depth analysis of Orange County's economy pre-COVID-19 and during the pandemic, as well as forecasted what the potential economic recovery could look like. The Research Team was composed of a variety of the county's stakeholders from education and workforce but was driven by a core set of researchers led by the OC Center of Excellence (COE), the Woods Center for Economic Analysis and Forecasting from California State University Fullerton, the Employment Development Department's Labor Market Information Division (EDD LMID), and Kleinhenz Economics. This group of five individuals collected and analyzed economic and labor market data and created forecasts of the county's expected recovery. The resulting analysis is included the second section of this report and informed the work of the other two OCERS teams.

Economic Recovery Team

The OCERS Economic Recovery Team was predominantly comprised of private and public industry representatives across the county including chamber of commerce members and EDD. This group met to identify the needs of Orange County's businesses which culminated in a comprehensive survey that was sent out to thousands of businesses of all sizes across the county. The OC COE administered and analyzed the data from the survey's more than 400 responses and provided the results to the workforce development boards to be used to directly respond to businesses' needs. The results of the analysis are included in the third section of this report.

Workforce Development Team

The OCERS Workforce Development Team included the stakeholders who directly support Orange County's labor force. This included all three workforce development boards and educators from K12 through four-year universities. The main objective of the Workforce Recovery Team was to develop strategies to retrain and place dislocated workers, particularly those affected by the pandemic. The work of this group is ongoing with an offshoot made up of the workforce development boards and higher education representatives working together to generate agreements and processes that will allow for easier access across the respective systems to better serve the out-of-work labor force.

COVID-19 Pandemic Impacts on Orange County

Economy and Employment

The regional economy and employment have been adversely affected by the COVID-19 pandemic. Though Orange County had strong employment prior to the pandemic, the impacts of COVID-19 continue to be felt as shown by a high unemployment rate, a significant number of job losses, and record number of unemployment insurance (UI) claims filed by unemployed workers.

Nonfarm jobs are an important economic indicator that identify trends related to economic growth. Nonfarm jobs in Orange County slightly declined between February and March 2020; however, there was a steep decline in employment in April 2020 compared to February 2020, with nonfarm jobs declining by 15.9% (267,600 jobs lost). Following this steep decline, nonfarm jobs began to recover in May 2020 and have slowly increased each month, until December, when nonfarm jobs declined by 0.5% (8,100 jobs) compared to November. Of the 267,600 jobs that were lost from February to April, only 53.4% (142,800)) have been recovered.

Ten of the county's 11 industries, Leisure & Hospitality, Health Care & Social Assistance, Retail Trade, Administrative & Support & Waste Services, Manufacturing, Other Services, Government, Wholesale Trade, Professional, Scientific & Technical Services, and Finance & Insurance accounted for 92% of nonfarm jobs lost over the time period between February 2020 and April 2020. The Leisure & Hospitality, Health Care & Social Assistance, and Retail Trade industries accounted for nearly 60% of job losses from February to April 2020 but accounted for 35% of all jobs in 2019. Nearly 40% of the jobs lost were in Leisure & Hospitality alone. From April 2020 to May 2020, some of these 10 industries gained jobs while others continued to decline.

Shutdowns drove unemployment rates to record highs in April and May 2020. The unemployment rate in Orange County in February 2020 was 2.8%. After a slight increase in March (3.7%), the unemployment rate skyrocketed in April (13.8%) and May (14.7%). Following six consecutive months of a decline in Orange County and California, the unemployment rate increased for both areas in December 2020 with Orange County's rate being 7.4%. Following a similar trend, the national unemployment rate in December 2020 remained unchanged from November 2020 at 6.7%.

According to a forecast produced by the Woods Center at California State University Fullerton, the unemployment rate in Orange County is projected to steadily decline through the end of 2021 and will reach 4.8% in the fourth quarter of 2021, which is above the February 2020 unemployment rate (2.8%). Comparatively, the U.S. unemployment rate is forecasted to follow a similar yet slightly smoother trajectory reaching 5% in the fourth quarter of 2021, which is above the February 2020 rate of 3.5%.

The number of weekly initial unemployment insurance (UI) claims was relatively flat between January and mid-March 2020, then increased exponentially during the week that ended March 28 (86,125

claims). Initial UI claims stayed at the same level the following week (86,112 claims), then started declining before another uptick in the week ending May 2 (59,324 claims), which was the first week to include Pandemic Unemployment Assistance (PUA) claims. PUA is a provision of the CARES Act that helps unemployed Californians who are not usually eligible for regular Unemployment Insurance (UI) benefits, such as business owners, self-employed workers, and independent contractors. The highest number of PUA claims were filed during that week (30,787 PUA claims).

UI claims remained relatively flat throughout the summer and hovered around the average weekly number of claims this year (25,211 claims). Following a small uptick in claims in early September, weekly UI claims slowly declined until an increase in claims occurred in early December.

Orange County's Resilient Jobs

The OC COE conducted an analysis of industries and occupations that appear resilient during economic downturns and that were also important to the post-Great Recession economy (2010-2019). For the purpose of this study, industries and occupations that experienced employment growth or sustained employment levels prior to, during, and after the Great Recession (2007-2009) are considered *recession-resilient industries and jobs*. To further determine which occupations are also *pandemic-resilient*, the recession-resilient jobs were compared with regional online job postings between March and December 2020. While the economic impacts of the Great Recession and those caused by the impact of the COVID-19 pandemic are not identical, there are similarities that are worth considering and which are addressed in this report. Following are the key findings for this study.

Resilient Jobs Key Findings

- **Recession-resilient industries:** Only 92 industries, of the nearly 1,000 industries in the North American Industry Classification System (NAICS), have been identified as recession-resilient industries within Orange County.
- **Recession-resilient jobs:** Only 35 occupations, of the more than 800 occupations in the Standard Occupational Classification (SOC) system, have been identified as recession-resilient jobs in Orange County. Of those 35 recession-resilient jobs, 15 are considered middle-skill jobs, or jobs that could be trained by community college programs.[1,2]
- **Pandemic-resilient jobs**: There are 138 occupations that met the criteria to be considered pandemic-resilient. Of those, only 19 met the criteria to also be considered recession-resilient. More than 368,000 online job postings listed between March and December 2020 were reviewed to identify the top 100 jobs in each month, by number of job postings, within Orange County. During this period, the aforementioned 138 occupations made the monthly top 100 jobs list at least once.
- **Recession- and pandemic-resilient jobs**: There are 19 jobs that are considered both recession- and pandemic-resilient. Of those, nine are considered middle-skill and ten are considered above middle-skill.

Exhibit 1.2 list all 19 recession- and pandemic-resilient jobs for Orange County along with their entry-level and median hourly earnings.

[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. For more information, see bls.gov/soc.

[2] Emsi 2020.3; QCEW, Non-QCEW, Self-Employed

Exhibit 1.2: Recession- and Pandemic-Resilient Occupations in Orange County

Occupation	Typical Entry-Level Education	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings
Compliance Officers	Bachelor's degree	$27.95	$38.11
Computer Network Architects	Bachelor's degree	$37.56	$53.10
Education Administrators, Postsecondary	Master's degree	$38.32	$53.02
Human Resources Specialists	Bachelor's degree	$24.50	$31.43
Lawyers	Doctoral or professional degree	$38.29	$65.04
Life, Physical, and Social Science Technicians, All Other*	Associate's degree	$17.98	$24.44
Management Analysts	Bachelor's degree	$29.76	$41.85
Market Research Analysts and Marketing Specialists	Bachelor's degree	$22.98	$30.67
Medical and Health Services Managers	Bachelor's degree	$40.12	$58.48
Medical Scientists, Except Epidemiologists	Doctoral or professional degree	$41.64	$49.04
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other*	Bachelor's degree	$24.99	$44.80
Pharmacy Technicians*	High school diploma or equivalent	$17.45	$21.18
Project Management Specialists and Business Operations Specialists, All Other*	Bachelor's degree	$24.84	$34.34
Registered Nurses*	Bachelor's degree	$40.49	$49.22
Respiratory Therapists*	Associate's degree	$31.50	$36.35
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel*	High school diploma or equivalent	$17.53	$26.26
Software Developers and Software Quality Assurance Analysts and Testers	Bachelor's degree	$43.48	$56.74
Speech-Language Pathologists	Master's degree	$35.39	$44.42
Web Developers and Digital Interface Designers*	Associate's degree	$20.32	$31.41

**Denotes a middle-skill job*

Source: Emsi

Business Survey Analysis Summary

As part of the OCERS, the County of Orange via the Economic Recovery Team, conducted a business survey to better understand regional businesses' concerns about the effects of COVID-19 on their operations. The OC COE administered this survey using Qualtrics, an online survey platform. The survey was sent through various channels to thousands of businesses throughout Orange County between September 4 and October 3, 2020; 433 businesses responded to the survey. Following are some of the key findings of the OCERS Business Survey.

Business Survey Key Findings:

Note: Several questions included in the survey allowed respondents to select more than one response. For that reason, the sum of the percentages for certain findings below may exceed 100%. Findings for which this situation applies are denoted with an asterisk (*).

- Orange County businesses have been adversely affected by the COVID-19 pandemic. Businesses have experienced declines in sales, revenue, and employees that will likely affect their ability to stay in business in the partial shutdown of the economy.
    - Business operations have changed negatively for 76% of businesses.
    - A decline in business/sales was identified as a major or moderate problem for 92% of respondents.*
    - 65% of respondents (280) estimate that they can sustain their business for less than a year in the partial shutdown of the economy; 17% (75) do not know how long they can sustain their business and another 17% (75) can sustain their business for one or more years.
    - 63% of businesses anticipate they will have laid off employees by the end of the year while 37% anticipate either no layoffs or increasing their staffing levels.
- Despite these challenges, Orange County businesses are trying new methods to minimize the impacts of COVID-19 but anticipate it will take time to return to pre-COVID-19 levels.
    - 42% (156) of Orange County's companies have moved to more online business, 42% (156) are assisting employees with transitional resources, and 38% are having regular discussions with other local businesses to brainstorm ideas and share their experiences.*
    - 84% of businesses in the Accommodation and Food Services industry are offering carryout/delivery services and another 6% are considering doing the same.
    - 39% (145) of businesses think it will take one year or more for their business to return to pre-COVID-19 level and 6% (21) say they will not be able to return to pre-COVID-19-levels.

OCERS Recommendations

The following recommendations were made based on the data and research conducted as part of the OCERS. This list is not complete since the COVID-19 pandemic impacts are ongoing. However, it is intended to evolve as more information becomes available.

1. **Provide economic assistance and resources to affected businesses**
    - There are local, state and federal funding opportunities available:
        - Local: grants from city and county agencies

  - State: grants such as the California Small Business COVID-19 Relief Grant Program, business loans such as the California Rebuilding Fund and general assistance
  - Federal: Economic Injury Loans and other programs administered through the Small Business Administration
- Communicate grant/funding opportunities to businesses
  - Partner with organizations such as the Small Business Administration (SBA), Orange County Business Council (OCBC), CEO Leadership Alliance of Orange County (CLA-OC), Small Business Development Centers (SBDCs), SCORE, and local economic development departments to disseminate information
  - Leverage Orange County community colleges' Future Built marketing campaign for employer outreach efforts
  - If possible, guide employers to a central site where they can access information

2. **Conduct advocacy efforts on behalf of the business community**
   - Partner with OCBC, CLA-OC, chambers of commerce, and local economic development agencies to ensure the voice of the OC business community is heard at the governmental level, including local, state, and federal representatives

3. **Partner with workforce development boards and other training providers to provide services to displaced workers**
   - Continue working and leveraging efforts with the three workforce development boards in Orange County and other training providers such as Orange County United Way to ensure displaced workers have access to all services available, including but not limited to employment and training services
   - Research the possibility of a regional referral system, which can help track outcomes for both individuals and service providers and try to develop said system

4. **Focus on training/education programs that provide career ladders and short-term training opportunities especially for occupations and programs which are recession- and pandemic-resilient**
   - Leverage the Future Built site to promote career ladders and short-term training programs available at all Orange County community colleges and its noncredit institution
   - Leverage the Future Built site to promote middle-skill occupations and Orange County community college Career Education programs that can provide individuals with a higher level of job security
   - Research competency-based education models and the possibility of awarding education credits to students for their prior experience in order to shorten the time they need to complete training and education programs

2.0 Orange County Economic Recovery Strategy Research

Orange County Population and Economy

The following sections provide an analysis of Orange County's population and economy, with a particular emphasis on understanding the impacts of the COVID-19 pandemic on the county's employment. The data included in these sections comes from both publicly available and proprietary data sources. Following are the key findings for Orange County's population and economy.

Population and Economy Key Findings

- **Population:** Orange County's population is projected to steadily, yet slowly grow through 2060. However, there will be a rapid shift in demographics, with the County projected to become older, more Hispanic, and less White. While Orange County's population ages, there is also projected to be a decline in the school-age population by 2060. These changes in Orange County's age demographics may present future challenges to meeting the county's labor market needs.
- **Industry Employment:** Following steady employment growth after the end of the Great Recession, industry employment in Orange County sharply declined at the beginning of the COVID-19 pandemic. The Leisure and Hospitality industry was hit particularly hard, with employment declining 45% from February 2020 to April 2020. Though the recovery started in May 2020, only 53.4% of the jobs lost across all nonfarm industries from February to April have been recovered.
- **Unemployment Rate:** The unemployment rate in Orange County hit record levels in April and May 2020. The unemployment rate declined for six consecutive months since May but increased in December. Throughout the pandemic, the unemployment rate has remained far above the 2.8% rate for February 2020. As of December 2020, Orange County's unemployment rate is 7.4%. Unemployment Insurance (UI) claims skyrocketed in March and April, with unemployment disproportionately affecting young workers (age 20-34) and workers with lower levels of education.
- **Occupational Employment**: While the full effects of the pandemic on occupational employment and projections will not be known for some time, an analysis of occupations shows that there are 19 occupations that are considered both recession-resilient and pandemic-resilient in Orange County. Though the recession- and pandemic-resilient jobs are the most relevant to the current economic climate, educational institutions and training providers should also consider benefits of focusing on short-term training for pandemic-resilient jobs, while also creating long-term strategies to train for recession-resilient jobs.
- **Economic Forecast:** Based on the EDD data through December 2020, payroll employment in Orange County fell by 131,200 jobs, or by -8.7%, during 2020 due to the pandemic, after having risen by an average of 2.3% a year in the prior five years. In other words, the County lost all the job gains of the previous five years. The recovery will see a healthy pick up in the second half of 2021 as the COVID-19 pandemic is brought under control and normal business activities resume. But it will be 2023 or later before Orange County sees the pre-pandemic level of payroll jobs.

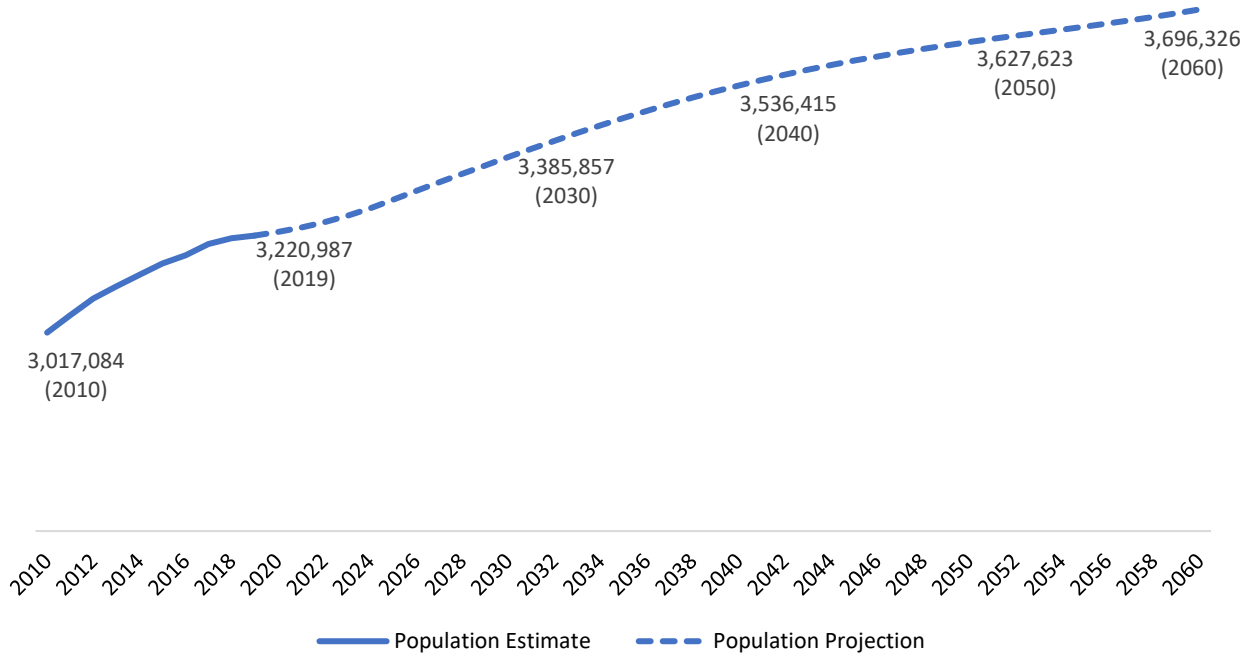
Population and Demographics

The following sections provide an overview of the Orange County population and its demographics, including age, race and ethnicity, sex, educational attainment, and commuting patterns.

Population

According to the California Department of Finance (DOF), there were 3,220,987 Orange County residents in 2019. Since 2010, Orange County's population has increased by 203,903 residents (6.8%). Between 2020 and 2060, there is projected to be steady population growth. By 2060, the DOF projects there will be 3,696,326 residents in the county. It is worth noting that high-level population projections are likely to be more accurate than the breakdowns by characteristics; additionally, near-term projections are likely to be more accurate than those associated with the later years. Exhibit 2.1 shows the Orange County population from 2010-2019, as well as the projected population from 2020-2060.

Exhibit 2.1: Orange County Population, 2010-2060

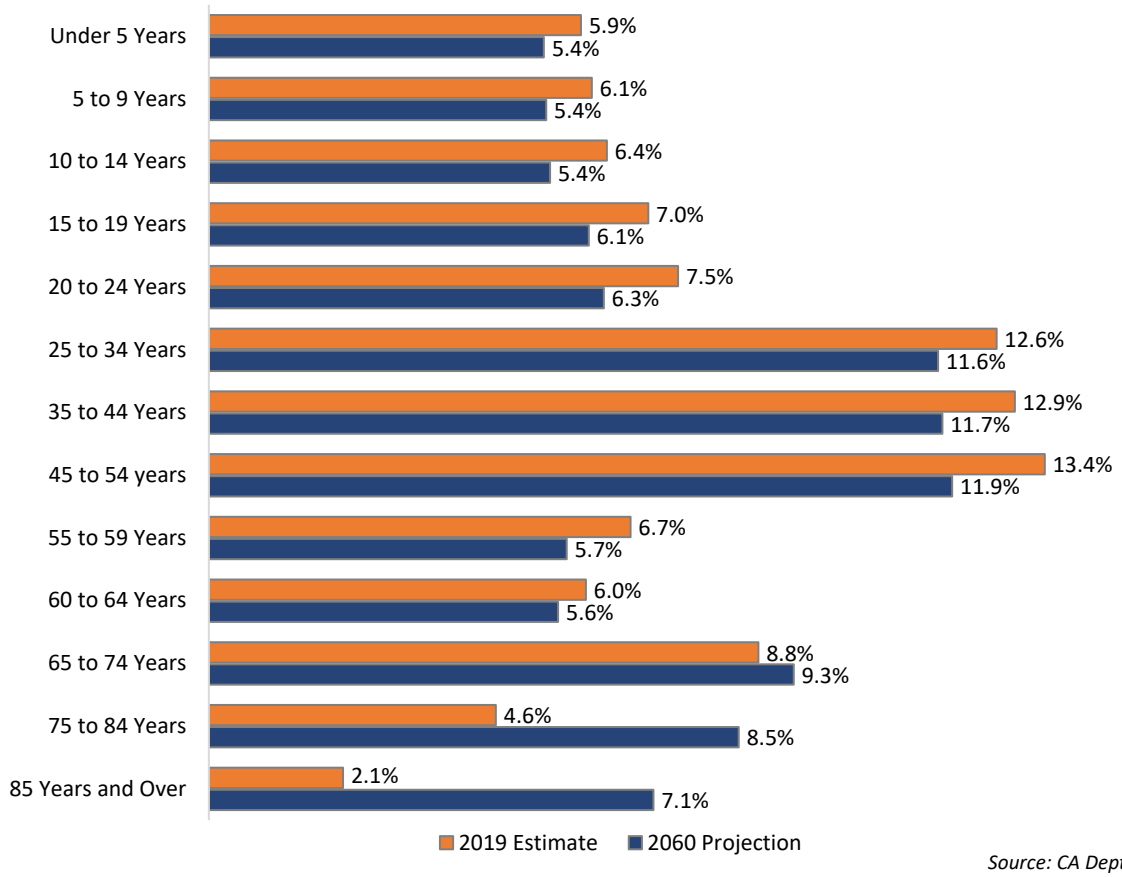


Source: CA Dept. of Finance

Age

Though Orange County's population is projected to steadily grow, the growth will primarily be in the age 65 and over population. In 2019, this age group accounted for 15.5% (499,439 residents) of the Orange County population. By 2060, it will account for 24.9% (920,552) of the population. While the age 65 and over population is projected to account for a larger percentage of Orange County's population, the prime working age population (ages 25-64) will decline from 51.6% (1,666,0872) of the population in 2019 to 46.5% (1,719,922) of the population in 2060. Similarly, the school-age population (ages 5 to 19) will decline from 19.5% (627,809) of the population in 2019 to 16.9% (624,887) of the population in 2060, which is not only a decline in the percentage of the population, but also a decline in the actual number of people (a decrease of 2,922). As the school-age and working-age populations decline relative to the 65 and over population, it may become difficult for the county to meet its workforce and labor market needs. Exhibit 2.2 shows detailed age groups as a percentage of Orange County's population in 2019, as well as projections for 2060.

Exhibit 2.2: Orange County Population by Age, 2019 and 2060

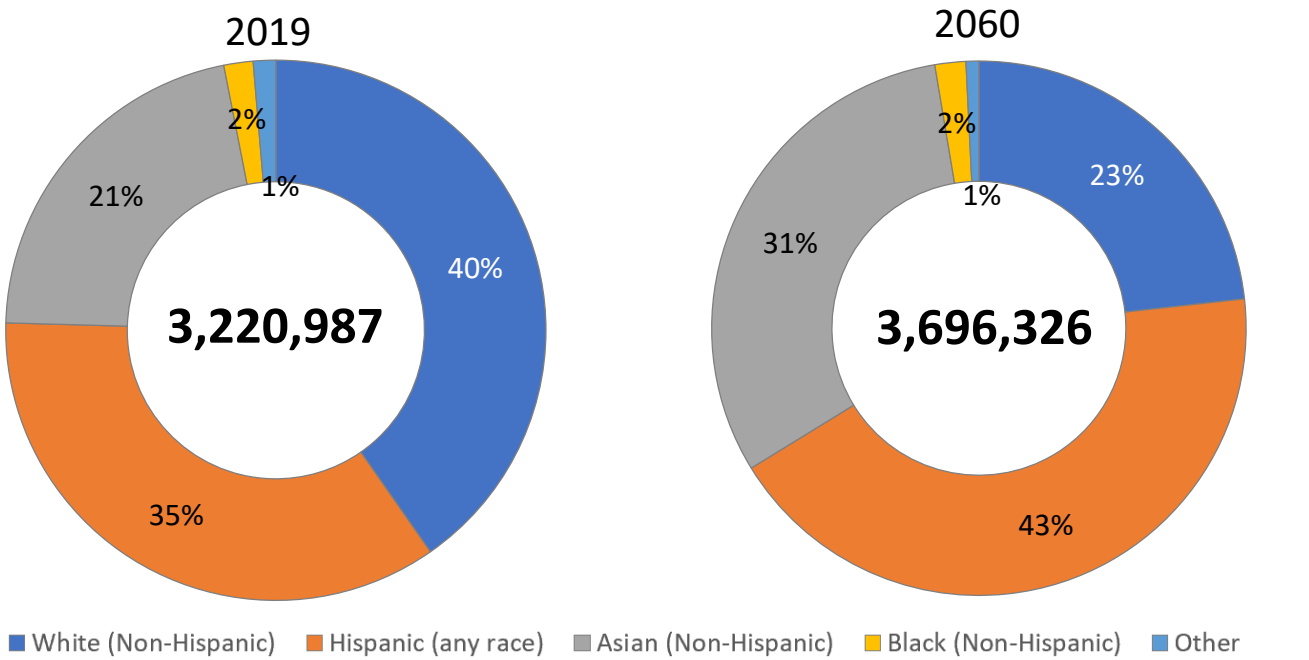


Source: CA Dept. of Finance

Race and Ethnicity

Orange County currently has a primarily White population, but the racial and ethnic composition of the county is rapidly changing. In 2019, the White population made up 40% of the county, while the Hispanic population accounted for 35%, and the Asian population accounted for 21%. Projections from the DOF show that the Hispanic population is projected to grow and become the largest ethnic group (37% of the population) in the county by 2030. By 2060, the Hispanic population is projected to account for 43% of the population, followed by Asian (31%), and White (23%). Exhibit 2.3 shows a side-by-side comparison of the percentage of population each ethnicity accounted for in 2019, as well as the projected ethnic makeup of Orange County in 2060.

Exhibit 2.3: Orange County Population by Race and Ethnicity, 2019 and 2060[3]

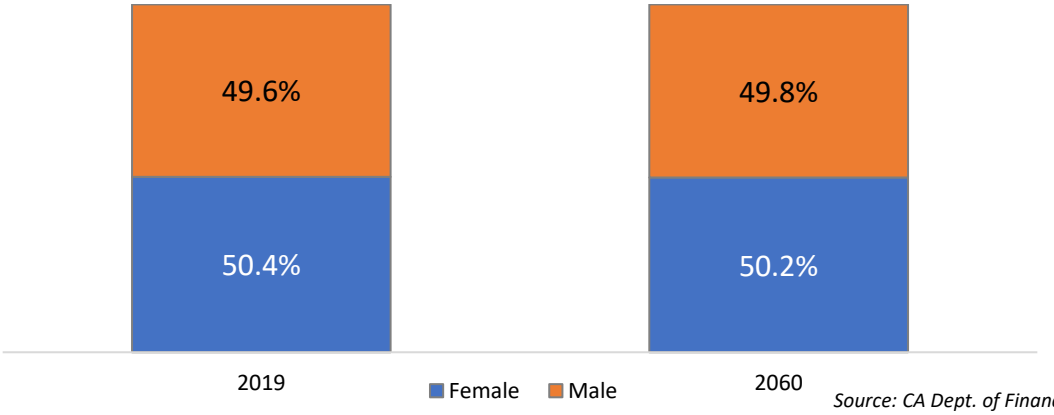


Source: CA Dept. of Finance

Sex

Orange County's population is divided nearly evenly between women and men, with women accounting for 50.4% (1,623,956) of the population in 2019 and men accounting for 49.6% (1,597,031). Exhibit 2.4 shows Orange County's population by sex in 2019, as well as projections for 2060; no significant changes are projected.

Exhibit 2.4: Orange County Population by Sex, 2019 and 2060



Source: CA Dept. of Finance

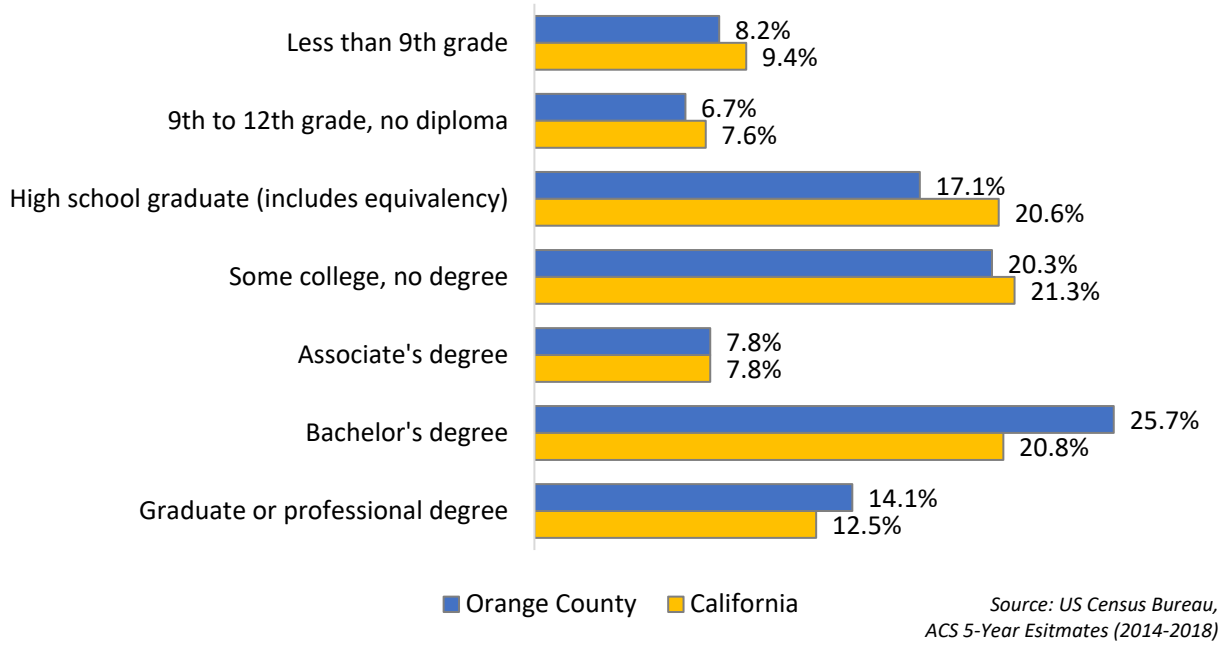
Educational Attainment

It is important to consider the educational attainment of the county's population to better understand the county's educational needs. Though projections of future educational attainment are not available, the most recent data from the US Census Bureau shows that 25.7% of the county's population holds a bachelor's degree, which is nearly five percentage points higher than California's bachelor's degree

[3] Due to small percentages, the following groups were categorized as "Other": Multiracial (Non-Hispanic), American Indian or Alaska Native (Non-Hispanic), and Native Hawaiian or Pacific Islander (Non-Hispanic).

educational attainment. Exhibit 2.5 shows the educational attainment of Orange County's population compared to that of California's.

Exhibit 2.5: Educational Attainment in Orange County and California



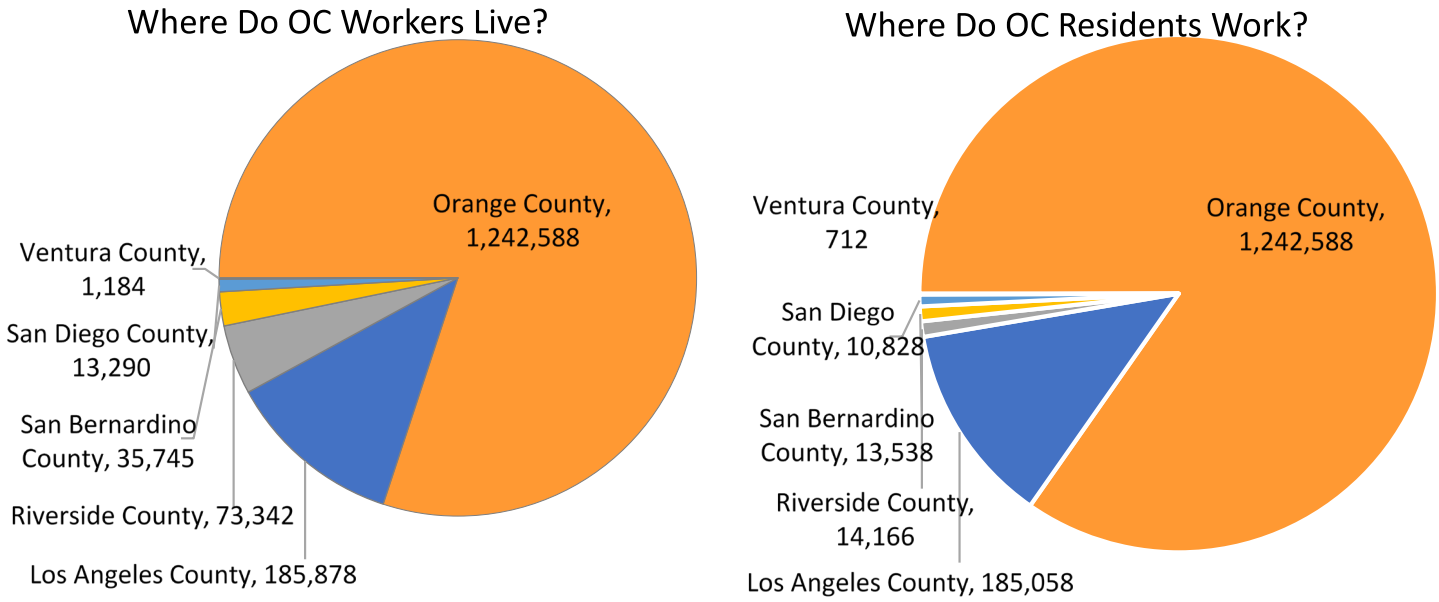
Source: US Census Bureau, ACS 5-Year Esitmates (2014-2018)

Commuting Patterns

When considering the economic state of Orange County, it is important to remember that not all those who live in the county work within it and that not all of Orange County's workforce comes from within its boundaries. Furthermore, businesses and households do not recognize government boundaries when engaging in their economic activities. Additionally, workers and households tend to be more mobile in deciding on where to work and less so in choosing where to live. Commuting patterns data from the US Census Bureau shows that over 1,242,500 people work and live in Orange County. However, there are a significant number of Orange County residents that work in surrounding counties as well as residents from surrounding counties that work in Orange County. Just under 310,000 residents (roughly 25%) from surrounding counties work in Orange County, while just under 225,000 Orange County residents (roughly 18%) work in surrounding counties. While the flow of workers to and from Los Angeles County is similar, there are significant variations for Riverside and San Bernardino Counties

Over 73,000 Riverside County residents work in Orange County and nearly 34,745 San Bernardino County residents work in Orange County. Conversely, 14,166 Orange County residents work in Riverside County and 13,538 Orange County residents work in San Bernardino County. Exhibit 2.6 shows the Southern California counties where Orange County workers live and where Orange County residents work.

Exhibit 2.6: Orange County Commuting Patterns



Source: US Census Bureau, 5-Year ACS, 2011-2015

Economy and Employment

The regional economy and employment have been adversely affected by the COVID-19 pandemic. Though Orange County had strong employment prior to the pandemic, the impacts of COVID-19 continue to be felt, with a high unemployment rate, many job losses, and record number of unemployment insurance (UI) claims filed by unemployed workers. The following sections provide an overview of the Orange County economy prior to the pandemic, as well as an analysis of the industries and workers that have been most affected by shutdowns designed to slow the spread of COVID-19.

Industry Overview

Pre-Pandemic Industry Employment

According to the most recent data available from the Employment Development Department (EDD), there were 125,493 business in Orange County that employed a total of 1,505,213 employees in the third quarter of 2019. Of the 125,493 businesses, 119,232 (95%) employed less than 50 employees, demonstrating the importance of small businesses to the Orange County economy. Though these businesses accounted for 95% of all businesses in Orange County, they accounted for only 42% of employment (629,028 employees). Exhibit 2.7 shows the number of businesses by size, as well as the number of employees and payroll (in thousands), by industry.

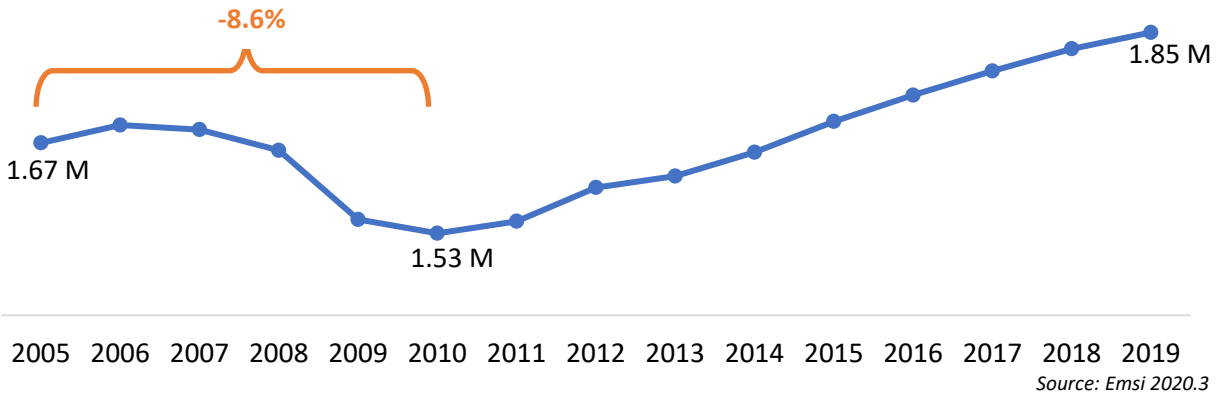
Exhibit 2.7: Orange County Businesses, Employees, and Payroll – Third Quarter 2019

Industry	Number of Businesses		Number of Employees		Payroll (In Thousands)	
	Less Than 50 Employees	50 or More Employees	Less Than 50 Employees	50 or More Employees	Less Than 50 Employees	50 or More Employees
Ag, Forestry, Fishing, Hunting	141	5	899	360	$9,052	$3,264
Construction	6,417	457	35,213	58,972	$564,328	$1,258,112
Finance and Insurance	6,334	269	32,304	33,509	$766,733	$1,056,449
Information	1,476	95	8,222	9,791	$173,150	$242,590
Manufacturing	4,634	643	45,643	114,083	$664,944	$2,472,513
Mining	32	0	227	0	$4,821	$0
Real Estate & Rental & Leasing	6,322	108	23,835	11,264	$408,280	$286,612
Retail Trade	8,831	713	66,289	82,629	$593,289	$849,352
Services	76,510	2,670	363,806	470,875	$4,163,487	$6,633,368
Transportation & Warehousing	1,436	95	9,328	11,152	$128,498	$146,485
Utilities	65	0	585	0	$13,671	$0
Wholesale Trade	7,034	285	42,677	36,040	$794,428	$883,054
Total	**119,232**	**5,340**	**629,028**	**828,675**	**$8,284,681**	**$13,831,799**

Source: EDD Size of Business Report

To better understand industry employment trends, Exhibit 2.8 shows the total jobs by year in Orange County from 2005 to 2019. The negative economic impact from the Great Recession (2007-2009) persisted well after the recession officially ended in 2009. In Orange County specifically, the total number of jobs (employment) declined from 1.67 million jobs in 2005 to 1.53 million jobs in 2010—a nearly 9% decrease. Prior to the Great Recession, the number of jobs in Orange County peaked at 1.7 million in 2006; the number of jobs did not return to that level until 2015, six years after the end of the Great Recession. Industry employment continued to grow through 2019, with 1.85 million jobs that year.

Exhibit 2.8: Total Jobs (Employment) in Orange County, 2005-2019



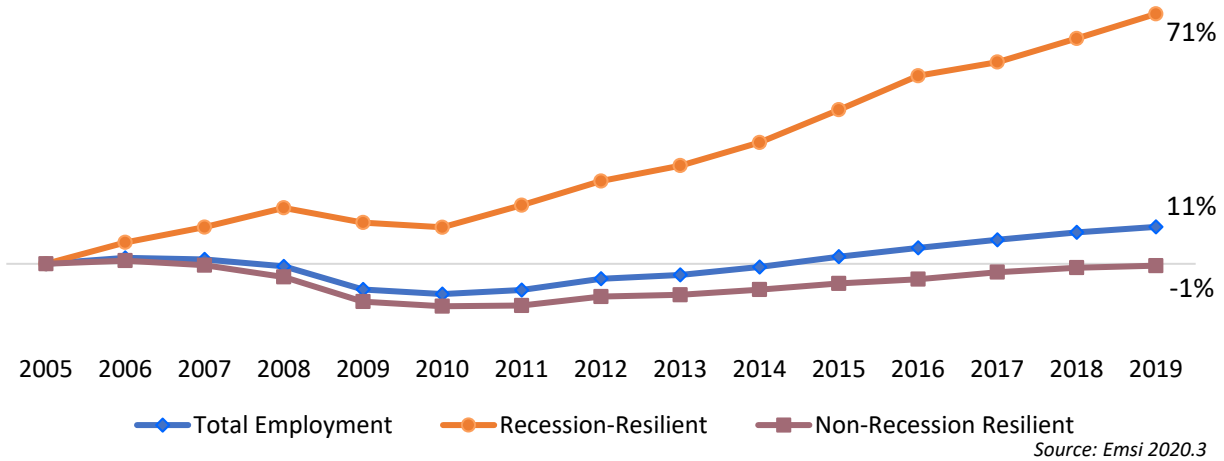
Source: Emsi 2020.3

Though there was a decline in employment during the Great Recession, there were several "recession-resilient" industries that also played a key role in the post-Great Recession economy. The following section and related findings come from the OC COE's, *Resilient Jobs: Top Jobs During the Great Recession*

and COVID-19 Pandemic in Orange County (OC Resilient Jobs)[4], report. In that report, the OC COE identified recession-resilient industries, which are industries that had a better than average change in employment from 2005 to 2009 and from 2010 to 2019, employment at or above the median number of jobs across all industries, and average hourly earnings above Orange County's living wage of $17.36.[5]

Although there are nearly 1,000 industry codes in the North American Industry Classification System (NAICS), only 92 industries met the above criteria and are therefore considered recession-resilient industries. From 2005 to 2019, recession-resilient industries grew by 71%, while non-recession resilient industries declined by 1%. In 2005, recession-resilient industries accounted for 15.4% of all employment in Orange County. By 2019, these industries grew to account for 23.9% of all employment in the county, demonstrating their importance to the post-recession economy. Exhibit 2.9 shows the industry employment percentage change between 2005 and 2019 for recession-resilient industries, all industries, and non-recession-resilient industries.

Exhibit 2.9: Industry Employment Percentage Change, 2005-2019



Source: Emsi 2020.3

Exhibit 2.10, on the following page, shows the number of jobs in 2005 and 2019 for the top 15 recession-resilient industries (by number of jobs in 2019), as well as the change in the number of jobs both as an actual number and a percentage, as well as average hourly earnings. The industries in Exhibit 2.10 are sorted in descending order, starting with industries that had the highest number of jobs in 2019. The list of the 92 recession-resilient industries can be found in the full Resilient Jobs report on the COE statewide website; the link to the report is included in footnote 4.

It is important to note that the industries in Exhibit 2.10 were identified using historical annual job counts and, while representative of recession-resilient industries, may not be reflective of current conditions brought on by the COVID-19 pandemic. Currently, data is not available for the detailed 6-digit industries in Exhibit 2.10; however, data from the EDD is available for subsectors, which are broader classifications that include multiple industries. While Amusement and Theme Parks (NAICS code 713110)

[4] For the full methodology, see: http://coeccc.net/reports/Resilient_Jobs_Top_Jobs_During_the_Great_Recession_and_COVID19_Pandemic_in_Orange_County

[5] Living wage data was pulled from California Family Needs Calculator on 10/21/20. For more information, visit the California Family Needs Calculator website: https://insightcced.org/2018-family-needs-calculator/.

had the highest number of jobs in 2019 across all recession-resilient industries, employment in the broader Amusement, Gambling & Recreation (NAICS code 713) subsector declined 30.1% between January 2020 and December 2020.[6] Additionally, Disney announced that it will lay off 28,000 employees, both temporarily and permanently depending on the job, across its Parks, Entertainment, and Products division. As of December 2020, the Orange County Register reported that Disney has permanently laid off over 11,500 workers at the Disneyland Resort.[7]

Exhibit 2.10: Recession-Resilient Industries in Orange County (by 2019 Jobs)

NAICS	Industry	2005 Jobs	2019 Jobs	2005-2019 Employment Change	2005 - 2019 % Employment Change	Average Hourly Earnings
713110	Amusement and Theme Parks	17,535	31,615	14,081	80%	$18.75
902612	Colleges, Universities, and Professional Schools (State Government)	13,658	22,870	9,212	67%	$42.91
541330	Engineering Services	15,037	18,278	3,241	22%	$60.02
524210	Insurance Agencies and Brokerages	10,848	16,540	5,692	52%	$51.71
621210	Offices of Dentists	12,402	16,280	3,877	31%	$31.36
238210	Electrical Contractors and Other Wiring Installation Contractors	11,666	15,699	4,033	35%	$39.81
522110	Commercial Banking	10,011	15,118	5,107	51%	$57.66
541511	Custom Computer Programming Services	10,634	14,217	3,583	34%	$64.73
452311	Warehouse Clubs and Supercenters	4,302	13,458	9,156	213%	$19.35
541611	Administrative Management and General Management Consulting Services	5,166	12,497	7,331	142%	$55.25
623110	Nursing Care Facilities (Skilled Nursing Facilities)	7,583	11,915	4,332	57%	$28.38
611310	Colleges, Universities, and Professional Schools	7,786	11,723	3,937	51%	$21.29
541512	Computer Systems Design Services	6,677	10,652	3,975	60%	$68.64
611110	Elementary and Secondary Schools	8,665	10,127	1,462	17%	$24.47
339112	Surgical and Medical Instrument Manufacturing	3,228	9,893	6,666	207%	$64.57

Source: Emsi

[6] Analysis of EDD Employment by Industry Data: https://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html

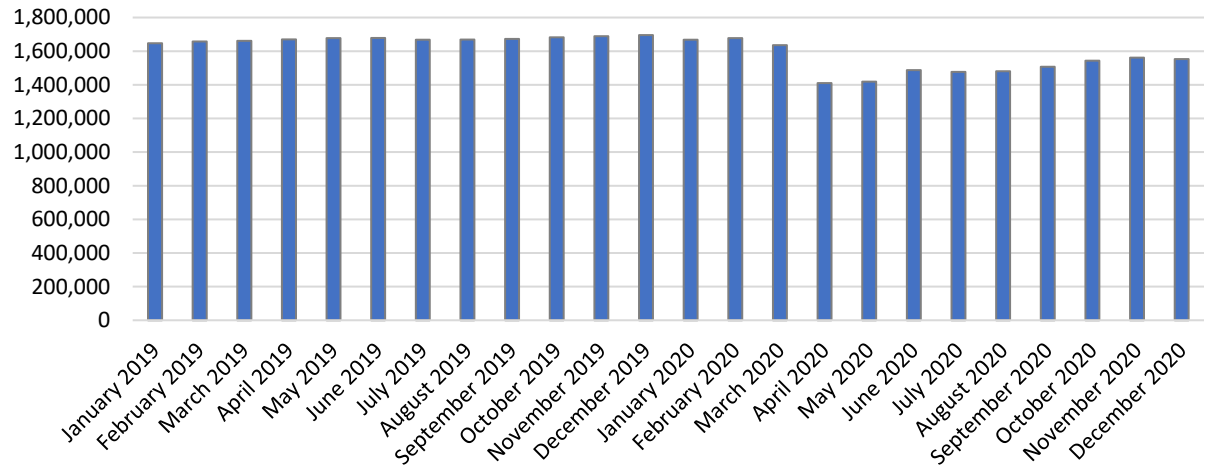
[7] https://www.ocregister.com/2020/12/01/disneyland-lays-off-more-than-11500-employees-state-records-show/

Impacts of the COVID-19 Pandemic on Industry Employment

Though Orange County had consistent annual employment growth through 2019, the COVID-19 pandemic brought that growth to a halt in early 2020. The impacts of the COVID-19 pandemic on industry employment have been steep and widespread. In an effort to slow the spread of COVID-19, Governor Gavin Newsom signed an Executive Order on March 19, 2020 that directed all Californians to stay home except to go to work at an essential job or shop for essential needs such as food.[8] These measures forced businesses that were considered non-essential to shut down. As a result, industry employment sharply declined while the unemployment rate and unemployment insurance (UI) claims skyrocketed between February and April 2020. Though several industries have been able to reopen with modifications, the effects of these closures are still being felt.

Monthly employment data from EDD shows that nonfarm jobs in Orange County slightly declined between February and March 2020; however, there was a steep decline in employment in April 2020 compared to February 2020, with nonfarm jobs declining by 15.9% (267,600 jobs lost). Following this steep decline, nonfarm jobs began to recover in May 2020, however between June and July, employment decreased by 11,000 jobs before slowly increasing each month, until December. From November to December 2020, nonfarm jobs declined by 0.5% (8,100 jobs). Of the 267,600 jobs that were lost from February to April, only 53.4% (142,800) have been recovered. Exhibit 2.11 shows Orange County's total nonfarm jobs from January 2019 to December 2020; the first 14 months of which held steady.

Exhibit 2.11: Orange County Nonfarm Jobs, January 2019 – December 2020

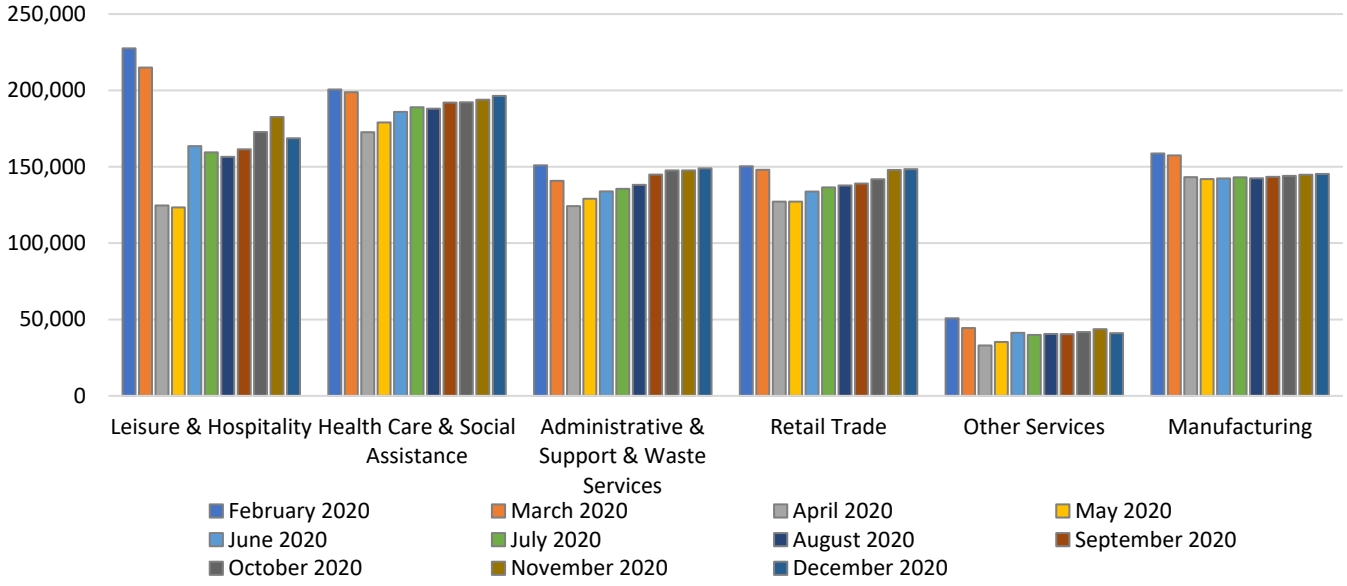


Source: EDD Employment by Industry Data

Job losses were not distributed evenly across industries. Three of the county's major industries, Leisure & Hospitality, Health Care & Social Assistance, and Retail Trade, accounted for 60% of job losses from February to April 2020, but accounted for only 35% of all jobs in 2019. Exhibit 2.12 shows Orange County's six industries that saw an above average decline in the number of jobs between February and April 2020. While employment in most of these industries has increased since April 2020, none of them have returned to pre-pandemic levels of employment.

[8] https://covid19.ca.gov/stay-home-except-for-essential-needs/

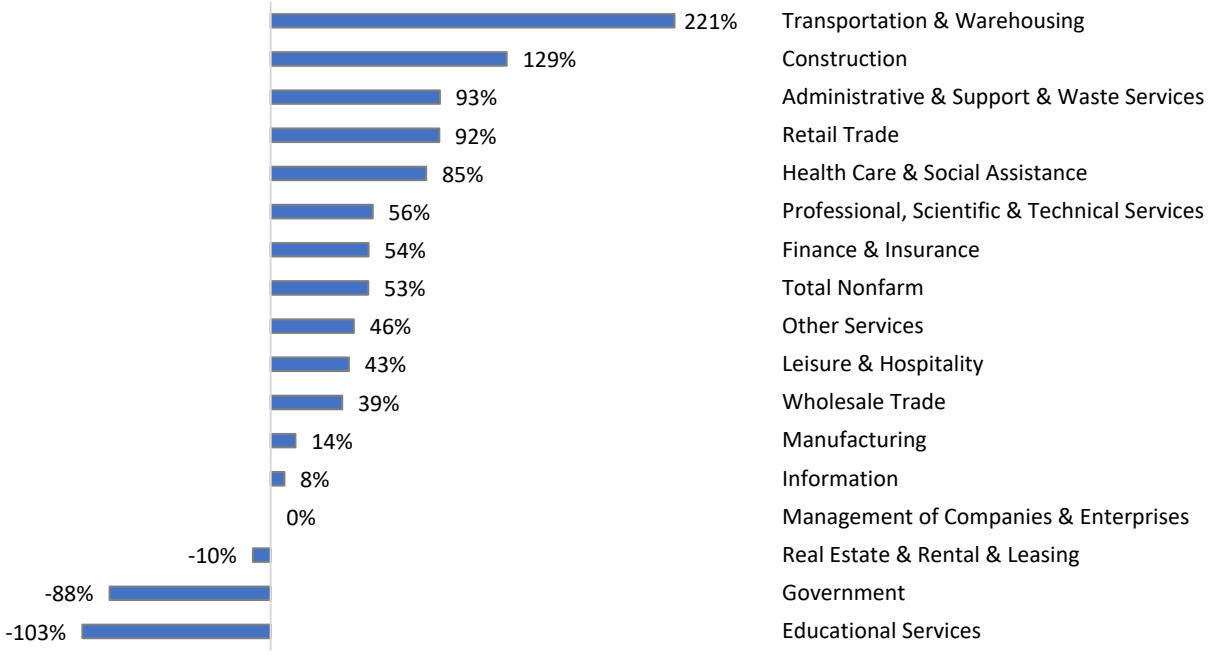
Exhibit 2.12: Industry Employment, Orange County, February 2020 – December 2020



Source: EDD Employment by Industry Data

Few industries have recovered the jobs they lost between February and April 2020. Across all nonfarm industries, only 53.4% (142,800) of jobs have been recovered. Two industries, Transportation & Warehousing and Construction, have not only recovered jobs, but also added new jobs since February 2020. Another two industries, Government and Educational Services, have not recovered any jobs and have continued to shed jobs through December 2020. Exhibit 2.13 shows the percentage of jobs that have been recovered by industry as of December 2020. Two industries, Mining and Logging, and Utilities, did not lose jobs between February and April 2020 and are not included in Exhibit 2.13.

Exhibit 2.13: Percentage of Lost Jobs That Have Been Recovered as of December 2020



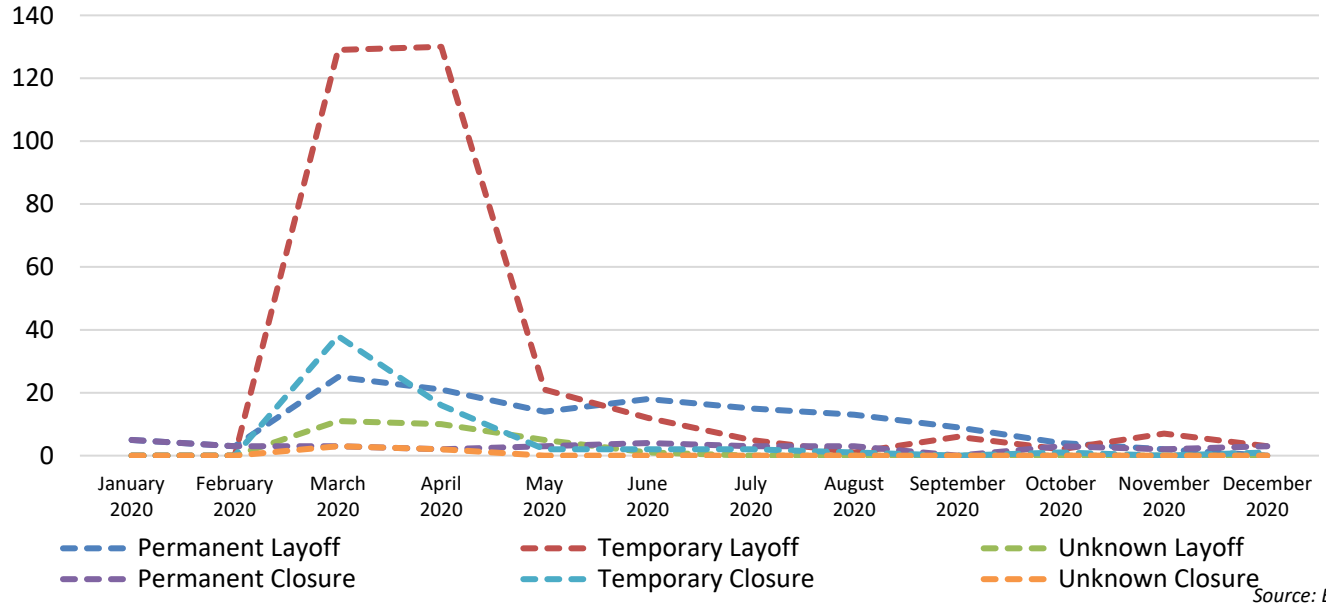
Source: EDD Employment by Industry Data

Worker Adjustment and Retraining Notification (WARN) Notices

As companies were forced to close their doors or make modifications for how they conducted business, many had to temporarily or permanently lay off employees. To better understand the immediate impacts of the pandemic on the labor market in Orange County, this section analyzes Worker Adjustment and Retraining Notification (WARN) notices from the EDD. Per the California Labor Code, businesses with 75 or more employees must give a 60-day notice to employees when 50 or more employees will be affected by closure or layoffs within a 30-day period. Due to COVID-19, the 60-day notice requirement has been temporarily suspended.[9] WARN notices include the number of employees affected and the type of layoff (temporary or permanent).

As industry employment rapidly declined in March and April, the number of WARN notices filed by Orange County companies grew exponentially. From March 2020, the beginning of the pandemic, to December 2020, Orange County businesses filed 558 WARN notices. Of those, 68% (379) were for a temporary layoff or closure and 26% (147) were for a permanent layoff or closure. An additional 6% (32) were for an unknown layoff or closure. Exhibit 2.14 shows the number of WARN notices, by layoff or closure type, from January to December 2020.

Exhibit 2.14: OC WARN Notices by Layoff/Closure Type, January 2020 – December 2020



Source: EDD

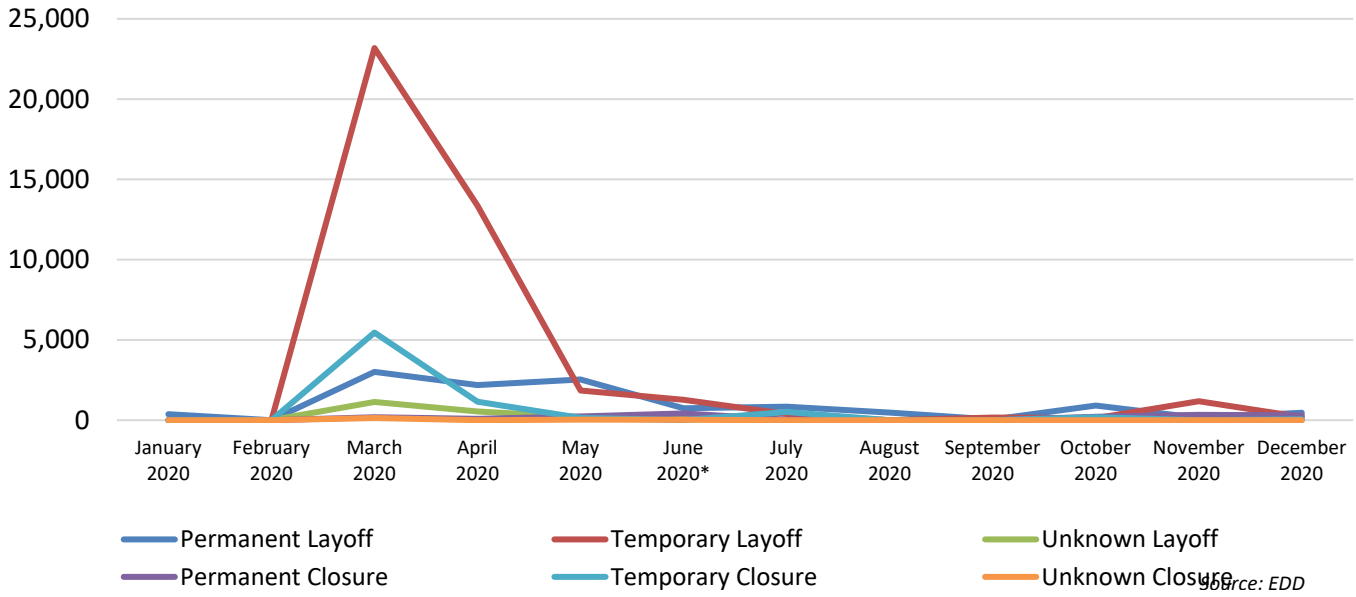
The number of employees affected by WARN notices also increased exponentially in March and April 2020. Between March and December, 64,697 employees were affected by a layoff or closure. Of those, 76% (49,234) were affected by a temporary layoff or closure and 20% were affected by a permanent layoff or closure. An additional 4% (2,259) were affected by an unknown layoff or closure. Exhibit 2.15 shows the number of employees affected, by layoff or closure type, from January to December 2020.

It is important to note that the number of employees affected by a permanent layoff in December 2020 is greatly understated due to missing WARN notices from Disneyland in EDD's data. According to the Orange County Register (Register), Disney permanently laid off more than 11,500 employees at the

[9] https://www.edd.ca.gov/about_edd/coronavirus-2019/faqs/WARN.htm

Disneyland Resort. On September 29, Disney filed WARN notices for the permanent layoff of 2,848 non-union employees at the Disneyland Resort, also reported by the Register but not present in EDD's data. A full month later, on October 29, Disney announced an additional 8,724 layoffs of union employees and filed new WARN notices. In addition to these layoffs, Disney also announced 1,797 furloughs (temporary layoffs) of both union and non-union employees through WARN notices on November 12, with furloughs expected to start on November 23 and take effect on additional dates through February 21, 2021.[10] None of these WARN notices are listed in EDD's data, but Disneyland has not made any indication that they rescinded the notices.

Exhibit 2.15: Number of OC Employees Affected by WARN Notices, January– December 2020



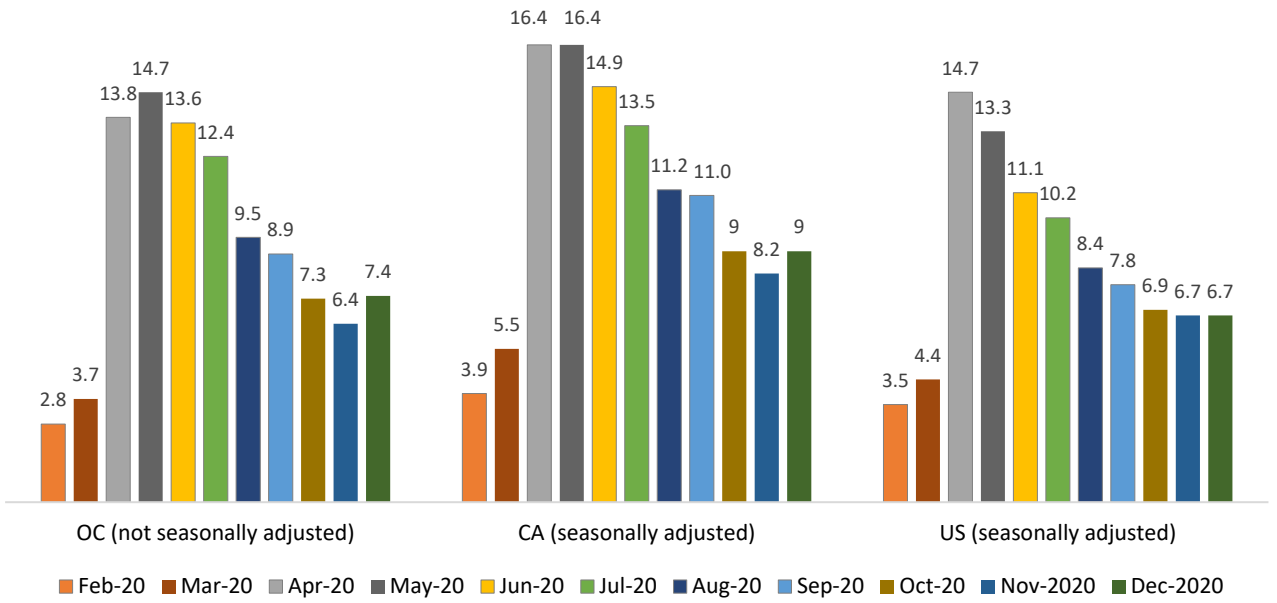
Source: EDD

Unemployment Rate

Shutdowns drove unemployment rates to record highs in April and May 2020. The unemployment rate in Orange County in February 2020 was 2.8%. After a slight increase in March (3.7%), the unemployment rate skyrocketed in April (13.8%) and May (14.7%). Following six consecutive months of the unemployment rate declining in Orange County and California, it increased for both areas in December 2020 with Orange County's rate being 7.4%. Following a similar trend, the national unemployment rate in December 2020 remained unchanged from November 2020 at 6.7%. Exhibit 2.16 shows the unemployment rates in Orange County, California, and the United States over the past 10 months.

[10] https://www.ocregister.com/2020/12/01/disneyland-lays-off-more-than-11500-employees-state-records-show/

Exhibit 2.16: Orange County, California, and US Unemployment Rate, February 2020 – December 2020



Source: EDD, BLS

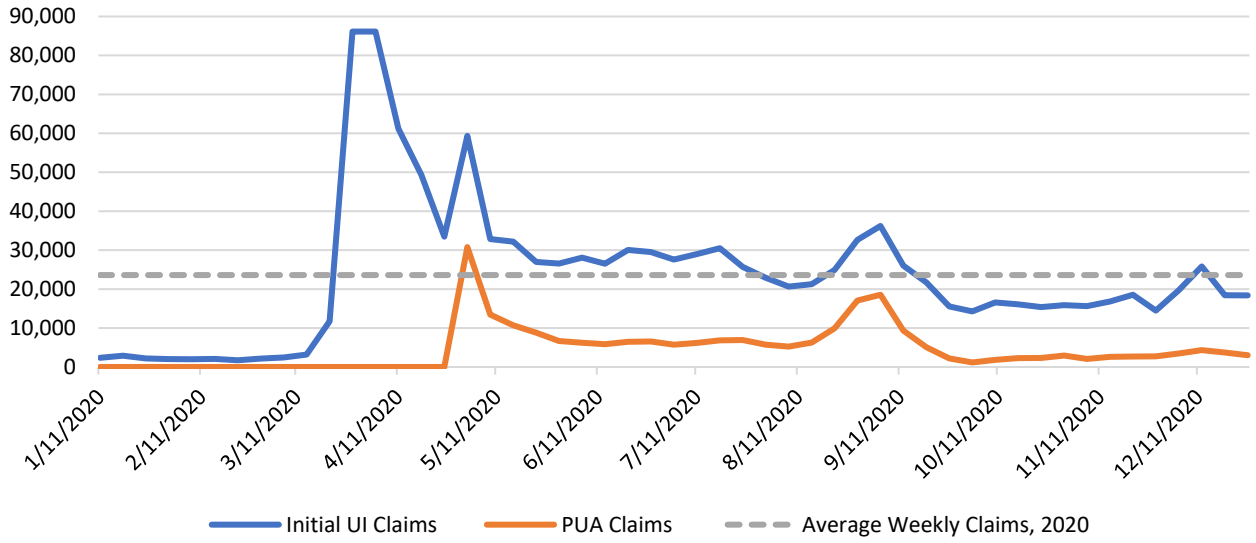
Unemployment Insurance Claims

Data on Unemployment Insurance (UI) claims from EDD show that the number of weekly initial unemployment insurance (UI) claims was relatively flat between January and mid-March 2020, then increased exponentially during the week that ended March 28 (86,125 claims). Initial UI claims stayed at the same level the following week (86,112 claims), then started declining before another uptick in the week ending May 2 (59,324 claims), which was the first week to include Pandemic Unemployment Assistance (PUA) claims. PUA is a provision of the CARES Act that helps unemployed Californians who are not usually eligible for regular Unemployment Insurance (UI) benefits, such as business owners, self-employed workers, and independent contractors.11 The highest number of PUA claims were filed during that week (30,787 PUA claims).

UI claims remained relatively flat throughout the summer and hovered around the average weekly number of claims this year (25,211 claims). Following a small uptick in claims in early September, weekly UI claims declined until an increase in claims during early December. Exhibit 2.17 shows the number of initial UI claims by week throughout 2020.

[11] https://edd.ca.gov/about_edd/coronavirus-2019/pandemic-unemployment-assistance.htm

Exhibit 2.17: Initial Unemployment Insurance Claims, 2020[12]

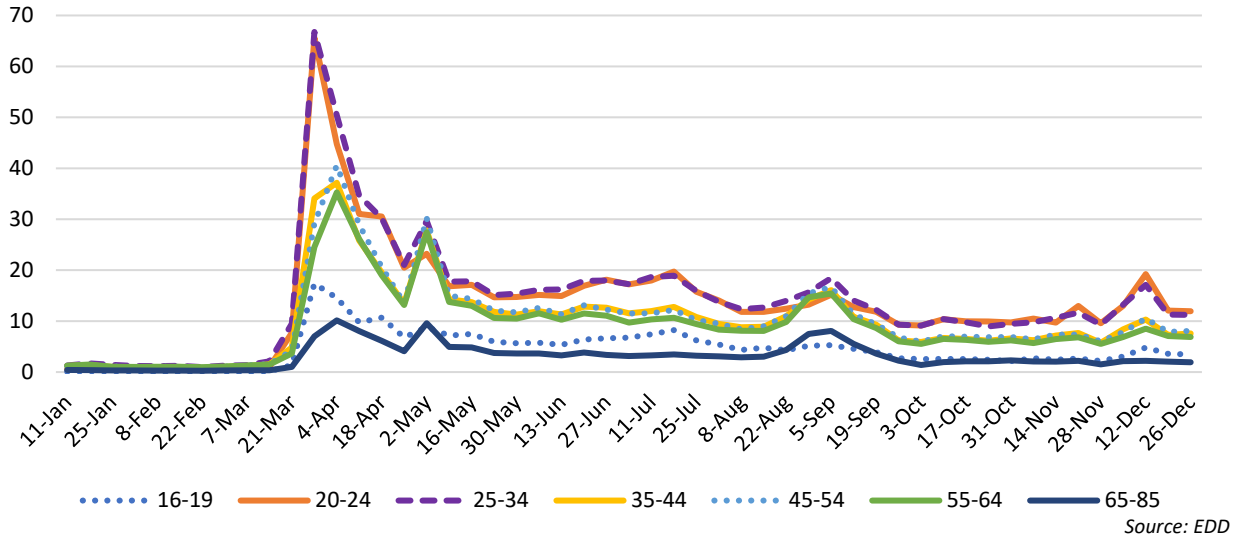


Source: EDD

Demographics of Unemployment Insurance Claimants

To better understand who the COVID-19 pandemic affected the most, this section considers the demographics of UI claimants. When filing a UI claim, claimants are asked to self-report their age, education, gender, and race. This data reveals that the effects of the pandemic were not spread evenly. When adjusting for population size, young people, and people with lower levels of education bore the brunt of job losses. Exhibit 2.18 shows the number of UI claims, adjusted for population size, by age group throughout 2020. Workers in the 20 to 24 and 25 to 34 age groups were the most affected by job losses.

Exhibit 2.18: Population Adjusted UI Claims by Age Group (per 1,000), 2020

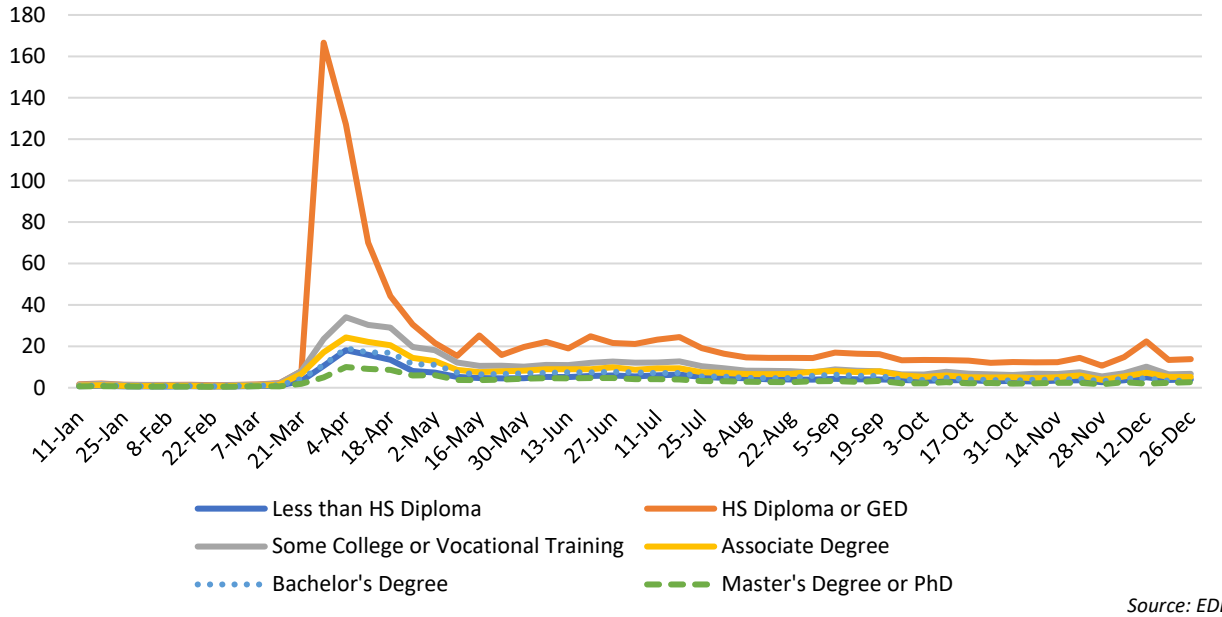


Source: EDD

[12] UI claims by county represents the mailing address given by the claimant at the time of filing for US. This information does not represent the county where the individual worked. Initial claims include new claims, transitional claims, and additional claims of both regular and PUA type claims. The PUA claims is a breakout from this total that only includes initial PUA claims.

Historically, workers with lower levels of educational attainment have higher levels of unemployment.[13] This finding has held true in Orange County, with workers holding a high school diploma or GED having the highest number of UI claims throughout the pandemic. Exhibit 2.19 shows the number of UI claims, adjusted for population, by educational attainment throughout 2020.

Exhibit 2.19: Population Adjusted UI Claims by Educational Attainment (per 1,000), 2020

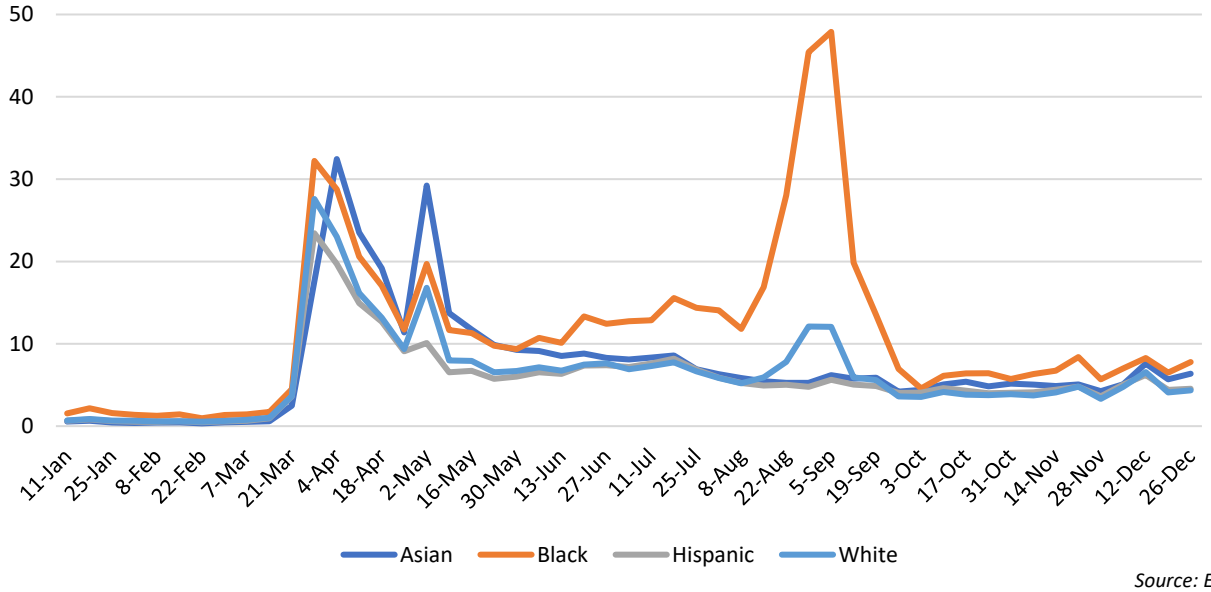


Source: EDD

UI claims data by race shows that the Black and Hispanic population were slightly more affected at the beginning of the pandemic than the White and Asian populations. Interestingly, claims spiked for the Asian population during the first week that included PUA claims, suggesting that many Asian workers may not have been eligible to apply for traditional UI. Claims for the Black population hit their highest levels of the pandemic in late August and early September. It is unclear if this is a data reporting issue or indicative of higher Black unemployment. However, the national unemployment rate for the Black population has slowly declined since hitting a high of 16.7% in April but remains the highest across all races.[14] Exhibit 2.20 shows population adjusted UI claims by race throughout 2020.

[13] https://www.businessinsider.com/unemployment-rates-by-educational-attainment-chart-2020-8
[14] https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm

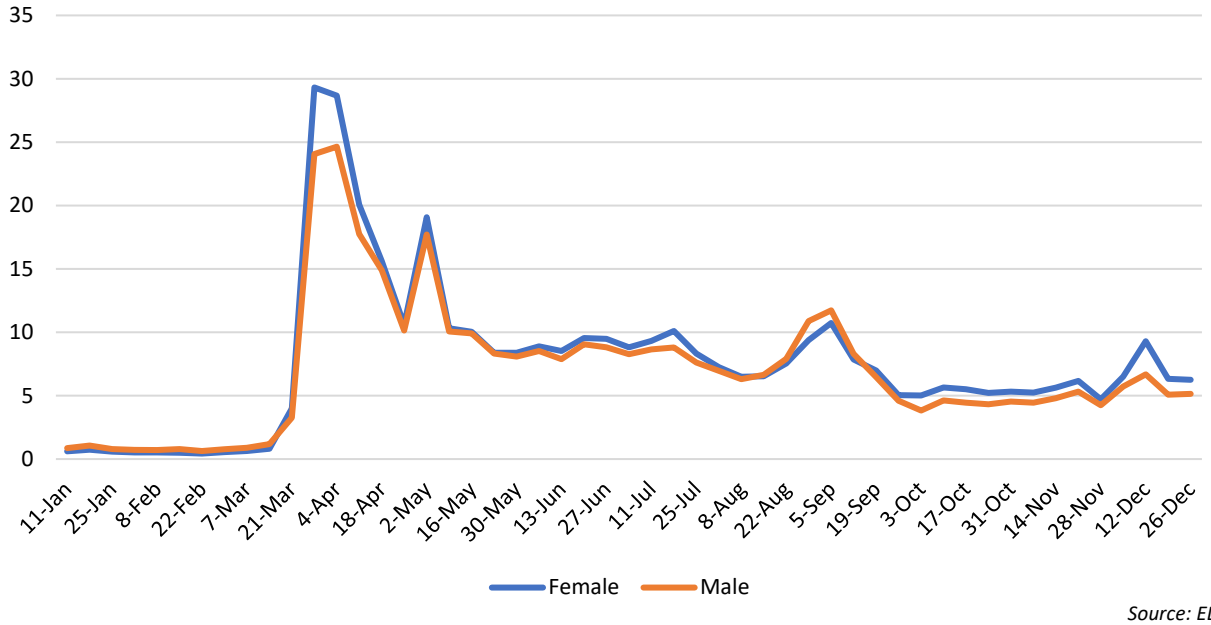
Exhibit 2.20: Population Adjusted UI Claims by Race (per 1,000), 2020



Source: EDD

At the beginning of the pandemic, women filed more UI claims then men, but claims have been mostly even for both groups since mid-April. Exhibit 2.21 shows population adjusted UI claims by gender throughout 2020.

Exhibit 2.21: Population Adjusted UI Claims by Gender (per 1,000), 2020



Source: EDD

Resilient Jobs

The significant number of job losses and high number of unemployment insurance claims demonstrates the importance of upskilling or retraining workers who lost their jobs, as well as training new workers, for in-demand, recession-resilient, and pandemic-resilient occupations. While the full effects of the COVID-19 pandemic on occupations will not be known for some time, the information included in the previous sections shows that the pandemic disproportionately affected workers in Leisure and

Hospitality, which tend to have a high percentage of service-related and low paying occupations, as well as workers with lower levels of education and young people.

To identify occupations that could be targeted for training opportunities, this section analyzes traditional labor market data and online job postings to identify recession-resilient, pandemic-resilient, and recession- and pandemic-resilient occupations. This analysis and related findings come from the OC Resilient Jobs report, which can be found by clicking on the link listed in footnote 4 earlier in this section. Though the recession- and pandemic-resilient jobs are the most relevant to the current economic climate, educational institutions and training providers should also consider the short-term benefits of retooling existing programs to train for pandemic-resilient jobs, while also creating long-term strategies to train for recession-resilient jobs.

Recession-Resilient Jobs

The OC Resilient Jobs report defined recession-resilient jobs as occupations that had a better than average employment change between 2005 and 2009 and between 2010 and 2019, had labor market demand (annual job openings) at or above the median during the Great Recession (2007-2009), as well as at or above the median between 2010 and 2019, and have entry-level wages at or above Orange County's living wage of $17.36.

Although there are more than 800 occupational codes in the Standard Occupational Classification (SOC) system, only 35 occupations met the criteria to be considered recession-resilient jobs. These occupations are listed in Exhibit 2.22, which shows the typical entry-level education, annual job openings from 2007-2009 and 2010-2019, entry-level and median hourly earnings, and the employment percentage change between 2005 and 2019 for these recession-resilient middle-skill jobs. The occupations in Exhibit 2.22 are sorted in descending order, starting with occupations that had the highest number of annual job openings from 2007-2009.

Exhibit 2.22: Recession-Resilient Jobs in Orange County

SOC	Occupation	Typical Entry Level Education	Annual Openings (2007-2009)	Annual Openings (2010-2019)	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	2005 - 2019 % Employment Change
13-1198	Project Management Specialists and Business Operations Specialists, All Other	Bachelor's degree	1,474	2,310	$24.84	$34.34	33%
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	High school diploma or equivalent	1,457	2,430	$17.53	$26.26	96%
13-1111	Management Analysts	Bachelor's degree	1,235	1,315	$29.76	$41.85	203%
29-1141	Registered Nurses	Bachelor's degree	1,234	1,685	$40.49	$49.22	21%
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	Bachelor's degree	1,064	1,902	$43.48	$56.74	40%
11-9198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	Bachelor's degree	825	1,316	$24.99	$44.80	134%
23-1011	Lawyers	Doctoral or professional degree	705	823	$38.29	$65.04	86%
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	699	1,464	$22.98	$30.67	52%
13-1071	Human Resources Specialists	Bachelor's degree	576	987	$24.50	$31.43	104%
19-1042	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	316	213	$41.64	$49.04	57%
29-2052	Pharmacy Technicians	High school diploma or equivalent	281	293	$17.45	$21.18	82%
21-2011	Clergy	Bachelor's degree	274	327	$23.23	$33.86	28%
11-9111	Medical and Health Services Managers	Bachelor's degree	264	310	$40.12	$58.48	39%
21-1021	Child, Family, and School Social Workers	Bachelor's degree	238	366	$20.53	$27.27	51%
13-1041	Compliance Officers	Bachelor's degree	188	474	$27.95	$38.11	92%
15-1257	Web Developers and Digital Interface Designers	Associate's degree	171	302	$20.32	$31.41	96%
13-1081	Logisticians	Bachelor's degree	166	325	$30.30	$38.59	120%

SOC	Occupation	Typical Entry Level Education	Annual Openings (2007-2009)	Annual Openings (2010-2019)	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	2005 - 2019 % Employment Change
25-9031	Instructional Coordinators	Master's degree	146	221	$25.16	$38.85	73%
27-2012	Producers and Directors	Bachelor's degree	142	177	$26.45	$41.60	82%
15-1231	Computer Network Support Specialists	Associate's degree	134	213	$25.00	$31.72	23%
11-9151	Social and Community Service Managers	Bachelor's degree	125	402	$25.94	$35.33	103%
15-1241	Computer Network Architects	Bachelor's degree	120	183	$37.56	$53.10	49%
47-4011	Construction and Building Inspectors	High school diploma or equivalent	120	146	$30.84	$42.86	24%
21-1023	Mental Health and Substance Abuse Social Workers	Master's degree	114	170	$18.17	$26.82	51%
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	107	160	$22.34	$25.12	47%
19-3031	Clinical, Counseling, and School Psychologists	Doctoral or professional degree	102	130	$36.13	$46.59	26%
29-1126	Respiratory Therapists	Associate's degree	100	100	$31.50	$36.35	47%
29-1127	Speech-Language Pathologists	Master's degree	100	166	$35.39	$44.42	66%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	96	136	$25.43	$34.41	36%
19-4099	Life, Physical, and Social Science Technicians, All Other	Associate's degree	88	121	$17.98	$24.44	39%
11-9033	Education Administrators, Postsecondary	Master's degree	87	97	$38.32	$53.02	49%
29-1122	Occupational Therapists	Master's degree	82	105	$40.37	$48.25	76%
49-9062	Medical Equipment Repairers	Associate's degree	78	101	$21.53	$30.46	64%
31-9093	Medical Equipment Preparers	High school diploma or equivalent	78	86	$17.51	$21.80	39%
29-1071	Physician Assistants	Master's degree	77	77	$52.08	$59.58	80%

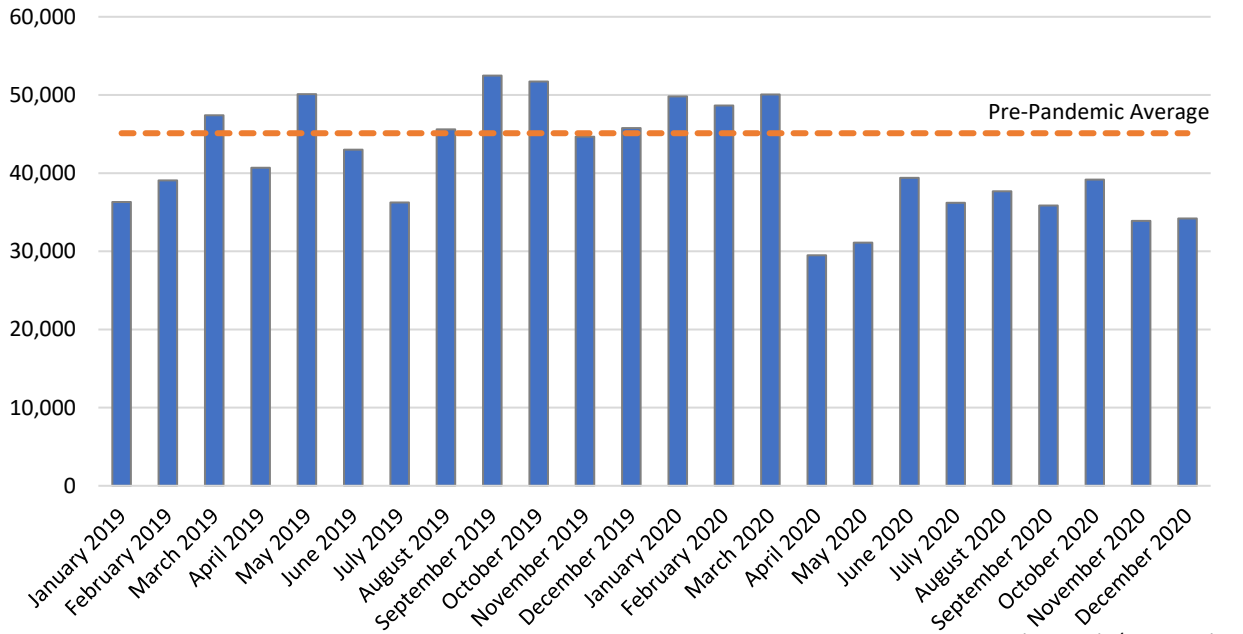
Source: Emsi

Pandemic-Resilient Jobs

Pandemic-resilient jobs were defined by the OC Resilient Jobs report as jobs with the highest number of online job postings per month between March 1 and August 31, 2020. The data in this section has been updated to include online job postings through December 31, 2020.

Exhibit 2.23 shows the number of online job postings, by month, in 2019 and 2020. Following the onset of the pandemic, there was a dramatic drop in the number of postings from March to April 2020. From April to December 2020, the number of monthly online job postings stayed far below the pre-pandemic monthly average of 45,106 postings.

Exhibit 2.23: Online Job Postings by Month, 2019-2020



Source: Labor Insight/Burning Glass

Though online job posting activity has been lower compared to pre-pandemic levels, the OC COE examined more than 368,000 online job postings listed between March 1 and December 31 to better understand the types of jobs for which employers continued to hire throughout the pandemic. The OC COE analyzed these job postings and identified the top 100 jobs each month in Orange County. Between March and December 2020, 138 individual occupations made the monthly top 100 jobs list at least once. Additionally, in order to identify which recession-resilient jobs are *also pandemic-resilient jobs*, the OC COE compared the occupations listed in Exhibit 2.24 with the list of 35 recession-resilient jobs (identified in the previous section). Occupations that appeared in both lists are noted below with an asterisk (*).

Exhibit 2.24: Pandemic Resilient Jobs (by most frequent)

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Accountants and Auditors	●	●	●	●	●	●	●	●	●	●	10
Automotive Service Technicians and Mechanics	●	●	●	●	●	●	●	●	●	●	10
Bookkeeping, Accounting, and Auditing Clerks	●	●	●	●	●	●	●	●	●	●	10
Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other	●	●	●	●	●	●	●	●	●	●	10
Cashiers	●	●	●	●	●	●	●	●	●	●	10
Childcare Workers	●	●	●	●	●	●	●	●	●	●	10
Clinical Laboratory Technologists and Technicians	●	●	●	●	●	●	●	●	●	●	10
Computer Occupations, All Other	●	●	●	●	●	●	●	●	●	●	10
Computer Systems Analysts	●	●	●	●	●	●	●	●	●	●	10
Computer User Support Specialists	●	●	●	●	●	●	●	●	●	●	10
Construction Managers	●	●	●	●	●	●	●	●	●	●	10
Cooks, Restaurant	●	●	●	●	●	●	●	●	●	●	10
Customer Service Representatives	●	●	●	●	●	●	●	●	●	●	10
Database Administrators and Architects	●	●	●	●	●	●	●	●	●	●	10
Driver/Sales Workers	●	●	●	●	●	●	●	●	●	●	10
Engineers, All Other	●	●	●	●	●	●	●	●	●	●	10
Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	●	●	●	●	●	●	●	●	●	●	10

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Financial Managers	•	•	•	•	•	•	•	•	•	•	10
First-Line Supervisors of Food Preparation and Serving Workers	•	•	•	•	•	•	•	•	•	•	10
First-Line Supervisors of Office and Administrative Support Workers	•	•	•	•	•	•	•	•	•	•	10
First-Line Supervisors of Retail Sales Workers	•	•	•	•	•	•	•	•	•	•	10
Food Preparation Workers	•	•	•	•	•	•	•	•	•	•	10
Food Service Managers	•	•	•	•	•	•	•	•	•	•	10
General and Operations Managers	•	•	•	•	•	•	•	•	•	•	10
Heavy and Tractor-Trailer Truck Drivers	•	•	•	•	•	•	•	•	•	•	10
Home Health and Personal Care Aides	•	•	•	•	•	•	•	•	•	•	10
Hotel, Motel, and Resort Desk Clerks	•	•	•	•	•	•	•	•	•	•	10
Human Resources Specialists*	•	•	•	•	•	•	•	•	•	•	10
Industrial Production Managers	•	•	•	•	•	•	•	•	•	•	10
Information Security Analysts	•	•	•	•	•	•	•	•	•	•	10
Inspectors, Testers, Sorters, Samplers, and Weighers	•	•	•	•	•	•	•	•	•	•	10
Insurance Sales Agents	•	•	•	•	•	•	•	•	•	•	10
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	•	•	•	•	•	•	•	•	•	•	10
Laborers and Freight, Stock, and Material Movers, Hand	•	•	•	•	•	•	•	•	•	•	10
Lawyers*	•	•	•	•	•	•	•	•	•	•	10

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Licensed Practical and Licensed Vocational Nurses	•	•	•	•	•	•	•	•	•	•	10
Light Truck Drivers	•	•	•	•	•	•	•	•	•	•	10
Loan Interviewers and Clerks	•	•	•	•	•	•	•	•	•	•	10
Loan Officers	•	•	•	•	•	•	•	•	•	•	10
Maids and Housekeeping Cleaners	•	•	•	•	•	•	•	•	•	•	10
Maintenance and Repair Workers, General	•	•	•	•	•	•	•	•	•	•	10
Management Analysts*	•	•	•	•	•	•	•	•	•	•	10
Market Research Analysts and Marketing Specialists*	•	•	•	•	•	•	•	•	•	•	10
Marketing Managers	•	•	•	•	•	•	•	•	•	•	10
Medical and Health Services Managers*	•	•	•	•	•	•	•	•	•	•	10
Medical Assistants	•	•	•	•	•	•	•	•	•	•	10
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	•	•	•	•	•	•	•	•	•	•	10
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	•	•	•	•	•	•	•	•	•	•	10
Medical Secretaries and Administrative Assistants	•	•	•	•	•	•	•	•	•	•	10
Merchandise Displayers and Window Trimmers	•	•	•	•	•	•	•	•	•	•	10
Nursing Assistants	•	•	•	•	•	•	•	•	•	•	10
Office Clerks, General	•	•	•	•	•	•	•	•	•	•	10
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except	•	•	•	•	•	•	•	•	•	•	10

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Gambling; and Managers, All Other*											
Production Workers, All Other	•	•	•	•	•	•	•	•	•	•	10
Property, Real Estate, and Community Association Managers	•	•	•	•	•	•	•	•	•	•	10
Real Estate Sales Agents	•	•	•	•	•	•	•	•	•	•	10
Receptionists and Information Clerks	•	•	•	•	•	•	•	•	•	•	10
Registered Nurses*	•	•	•	•	•	•	•	•	•	•	10
Retail Salespersons	•	•	•	•	•	•	•	•	•	•	10
Sales Managers	•	•	•	•	•	•	•	•	•	•	10
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	•	•	•	•	•	•	•	•	•	•	10
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	•	•	•	•	•	•	•	•	•	•	10
Security Guards	•	•	•	•	•	•	•	•	•	•	10
Shipping, Receiving, and Inventory Clerks	•	•	•	•	•	•	•	•	•	•	10
Software Developers and Software Quality Assurance Analysts and Testers*	•	•	•	•	•	•	•	•	•	•	10
Speech-Language Pathologists*	•	•	•	•	•	•	•	•	•	•	10
Stockers and Order Fillers	•	•	•	•	•	•	•	•	•	•	10
Waiters and Waitresses	•	•	•	•	•	•	•	•	•	•	10

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Web Developers and Digital Interface Designers*	●	●	●	●	●	●	●	●	●	●	10
Civil Engineers	●	●	●	●	●	●	●	●	●		9
Data Entry Keyers	●	●	●		●	●	●	●	●	●	9
First-Line Supervisors of Mechanics, Installers, and Repairers	●		●	●	●	●	●	●	●	●	9
Insurance Underwriters		●	●	●	●	●	●	●	●	●	9
Physicians, All Other; and Ophthalmologists, Except Pediatric	●	●	●	●	●		●	●	●	●	9
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	●	●	●	●	●	●	●	●		●	9
Tutors and Teachers and Instructors, All Other	●	●	●		●	●	●	●	●	●	9
Buyers and Purchasing Agents	●	●	●	●	●	●	●			●	8
Dishwashers	●		●	●	●	●	●	●		●	8
Mechanical Engineers	●	●	●	●	●	●		●	●		8
Miscellaneous Assemblers and Fabricators	●		●	●	●		●	●	●	●	8
Network and Computer Systems Administrators	●	●	●	●	●	●		●	●		8
Paralegals and Legal Assistants	●			●	●	●	●	●	●	●	8
Pharmacy Technicians*	●	●		●	●	●	●	●		●	8
Preschool Teachers, Except Special Education	●			●	●	●	●	●	●	●	8
Production, Planning, and Expediting Clerks	●		●		●	●	●	●	●	●	8

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Securities, Commodities, and Financial Services Sales Agents	●	●			●	●	●	●	●	●	8
Compliance Officers*	●		●	●		●	●	●		●	7
Industrial Truck and Tractor Operators				●	●	●	●	●	●	●	7
Operations Research Analysts	●	●	●	●	●		●		●		7
Project Management Specialists and Business Operations Specialists, All Other*		●	●	●		●	●		●	●	7
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel*	●			●	●		●	●	●	●	7
Architectural and Engineering Managers		●	●				●	●	●	●	6
Construction Laborers			●		●	●	●		●	●	6
Human Resources Managers	●	●	●		●		●	●			6
Life, Physical, and Social Science Technicians, All Other*		●	●	●		●		●	●		6
Packers and Packagers, Hand					●	●	●	●	●	●	6
Computer Programmers	●	●		●	●	●					5
Cost Estimators	●	●	●	●	●						5
Dental Assistants				●		●	●	●	●		5
Electrical Engineers	●	●	●	●					●		5
Graphic Designers	●	●	●		●		●				5
Home Health and Personal Care Aides					●	●		●	●	●	5

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Middle School Teachers, Except Special and Career/Technical Education		●	●	●	●	●					5
Executive Secretaries and Executive Administrative Assistants	●	●	●							●	4
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop			●	●			●	●			4
Computer Network Architects*		●	●	●							3
Dining Room and Cafeteria Attendants and Bartender Helpers		●		●		●					3
Heating, Air Conditioning, and Refrigeration Mechanics and Installers			●		●	●					3
Medical Scientists, Except Epidemiologists*		●						●		●	3
Natural Sciences Managers	●	●							●		3
Payroll and Timekeeping Clerks	●	●						●			3
Teaching Assistants, Except Postsecondary						●	●	●			3
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers									●	●	2
Animal Caretakers			●			●					2
Bakers	●						●				2
Claims Adjusters, Examiners, and Investigators		●						●			2
Dining Room and Cafeteria Attendants and Bartender Helpers	●			●							2

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Electrical and Electronic Engineering Technologists and Technicians				●		●					2
Exercise Trainers and Group Fitness Instructors	●			●							2
First-Line Supervisors of Production and Operating Workers		●	●								2
General Internal Medicine Physicians									●	●	2
Personal Financial Advisors	●	●									2
Postsecondary Teachers									●	●	2
Surgical Technologists									●	●	2
Administrative Services and Facilities Managers					●						1
Bartenders				●							1
Coaches and Scouts							●				1
Computer Numerically Controlled Tool Operators			●								1
Demonstrators and Product Promoters										●	1
Education Administrators, Postsecondary*								●			1
Elementary School Teachers, Except Special Education						●					1
Food Preparation Workers							●				1
Marriage and Family Therapists									●		1
Nurse Practitioners									●		1
Psychiatrists					●						1
Respiratory Therapists*										●	1

Occupation	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	# Of Months in the Top 100 Jobs
Substance Abuse, Behavioral Disorder, and Mental Health Counselors		•									1
Training and Development Specialists										•	1

**Denotes a recession-resilient job*

Recession- and Pandemic-Resilient Jobs

Of the over 800 occupations in the SOC system, there are 19 occupations that are considered both recession-resilient and pandemic-resilient in Orange County. Of those, eight are considered middle-skill jobs and the remaining 11 are considered above middle-skill jobs. Notably, none of these occupations are considered below middle-skill, underscoring the importance of higher education and training to withstanding economic downturns.

Though recession- and pandemic-resilient jobs are the most relevant to the current economic climate, educational institutions and training providers should also consider focusing on existing programs that train for pandemic-resilient occupations to meet short-term needs brought on by the COVID-19 pandemic, while also focusing on recession-resilient occupations for long-term planning and program development. These recession-resilient and pandemic-resilient occupations, along with their typical entry-level education, entry-level wages, and median wages for each occupation, are listed in Exhibit 2.25.

Exhibit 2.25: Recession- and Pandemic-Resilient Occupations in Orange County

Occupation	Typical Entry-Level Education	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings
Compliance Officers	Bachelor's degree	$27.95	$38.11
Computer Network Architects	Bachelor's degree	$37.56	$53.10
Education Administrators, Postsecondary	Master’s degree	$38.32	$53.02
Human Resources Specialists	Bachelor's degree	$24.50	$31.43
Lawyers	Doctoral or professional degree	$38.29	$65.04
Life, Physical, and Social Science Technicians, All Other*	Associate's degree	$17.98	$24.44
Management Analysts	Bachelor's degree	$29.76	$41.85
Market Research Analysts and Marketing Specialists	Bachelor's degree	$22.98	$30.67
Medical and Health Services Managers	Bachelor's degree	$40.12	$58.48
Medical Scientists, Except Epidemiologists	Doctoral or professional degree	$41.64	$49.04
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other*	Bachelor's degree	$24.99	$44.80
Pharmacy Technicians*	High school diploma or equivalent	$17.45	$21.18
Project Management Specialists and Business Operations Specialists, All Other*	Bachelor's degree	$24.84	$34.34
Registered Nurses*	Bachelor's degree	$40.49	$49.22

Occupation	Typical Entry-Level Education	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings
Respiratory Therapists*	Associate's degree	$31.50	$36.35
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel*	High school diploma or equivalent	$17.53	$26.26
Software Developers and Software Quality Assurance Analysts and Testers	Bachelor's degree	$43.48	$56.74
Speech-Language Pathologists	Master's degree	$35.39	$44.42
Web Developers and Digital Interface Designers*	Associate's degree	$20.32	$31.41

**Denotes a middle-skill job*

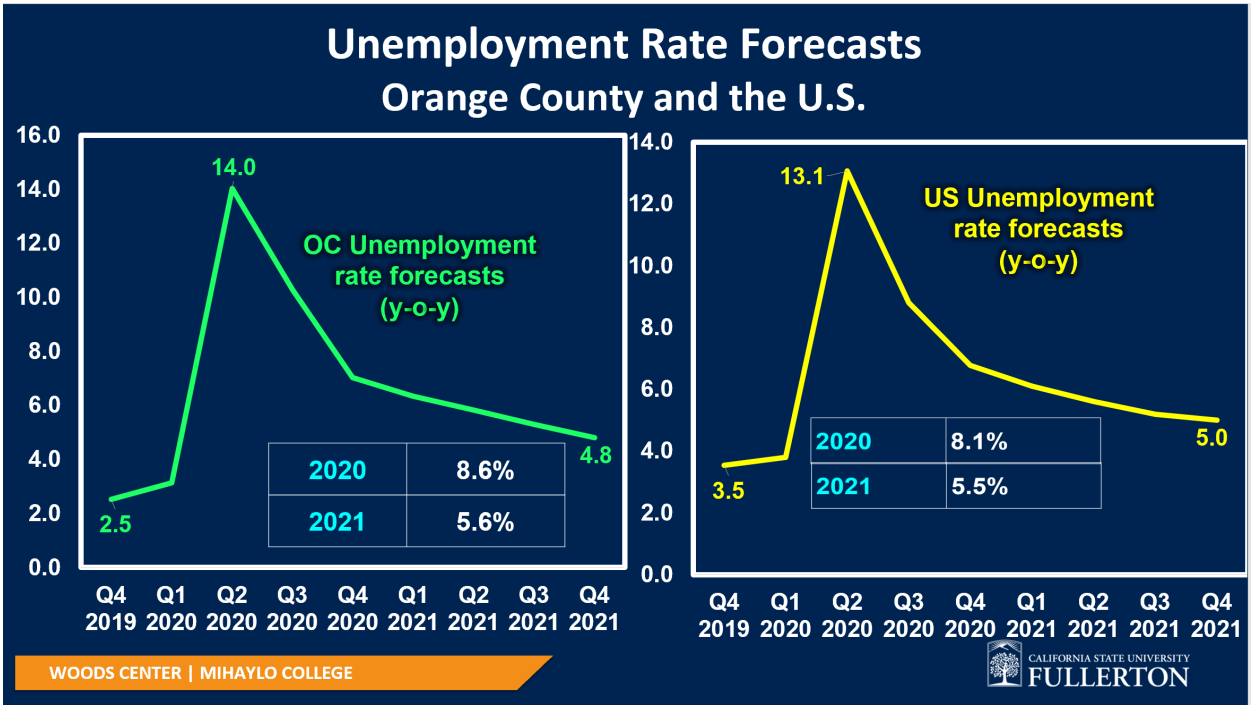
Source: Emsi

Economic Forecast

Forecast: Unemployment Rate

According to a forecast produced by the Woods Center at California State University Fullerton, *the unemployment rate in Orange County is projected to steadily decline through the end of 2021, reaching 4.8% by the fourth quarter of 2021, which is above the February 2020 unemployment rate (2.8%).* Comparatively, the U.S. unemployment rate is forecasted to follow a similar yet slightly smoother trajectory reaching % in the fourth quarter of 2021, which is above the February 2020 rate of 3.5% as shown in Exhibit 2.26.

Exhibit 2.26: Unemployment Rate Forecasts – Orange County and the US



3.0 Economic Recovery – OCERS Business Survey

Summary Analysis

As part of the Orange County Economic Recovery Strategy (OCERS), the County of Orange conducted a business survey to better understand regional businesses' concerns about the effects of COVID-19 on their operations. The Orange County Center of Excellence for Labor Market Research (OC COE) administered this survey using Qualtrics, an online survey platform. The survey was sent through various channels to thousands of businesses throughout Orange County between September 4 and October 3, 2020; 433 businesses responded to the survey.

Key Findings:

Note: Several questions included in the survey allowed respondents to select more than one response. For that reason, the sum of the percentages for certain findings below may exceed 100%. Findings for which this situation applies are denoted with an asterisk (*).

- **Orange County businesses have been adversely affected by the COVID-19 pandemic.** Businesses have experienced declines in sales, revenue, and employees that will likely affect their ability to stay in business in the partial shutdown of the economy.
    - **Business operations have changed negatively for 76% of businesses.**
        - 74% of businesses are expecting a more than 25% shortage in revenue when compared to their original budget projections. Only 3% will have no shortage or will have increased revenues.
        - 56% of businesses have experienced more than a 50% reduction in sales; only 5% of businesses have experienced no reduction or an increase.
    - **A decline in business/sales was identified as a major or moderate problem for 92% of respondents.***
        - These concerns were echoed in the response to an open-ended text response question in which the loss of business and jobs was identified as the biggest concern for 30% of respondents, followed by government mandated closures/restrictions (21%), and the health and safety of employees and customers (15%).*
    - **65% of respondents (280) estimate that they can sustain their business for less than a year in the partial shutdown of the economy**; 17% (75) do not know how long they can sustain their business and another 17% (75) can sustain their business for one or more years.
        - Of the 370 businesses (85%) with less than 50 employees, **70% estimate that they can sustain their business for less than a year,** 18% do not know, and only 12% estimate they can sustain their business for more than a year**.**
    - **63% of businesses anticipate they will have laid off employees by the end of the year** while 37% anticipate either no layoffs or increasing their staffing levels.
- Despite these challenges, **Orange County businesses are trying new methods to minimize the impacts of COVID-19, but anticipate it will take time to return to pre-COVID-19 levels.**
    - 42% (156) of Orange County's companies have moved to more online business, 42% (156) are assisting employees with transitional resources, and 38% are having regular

discussions with other local businesses to brainstorm ideas and share their experiences.*

- 84% of businesses in the Accommodation and Food Services industry are offering carryout/delivery services and another 6% are considering doing the same.
- 39% (145) of businesses think it will take one year or more for their business to return to pre-COVID-19 levels and 6% (21) say they will not be able to return to pre-COVID-19 levels.
  - Based on survey responses, businesses in the Arts, Entertainment, and Recreation industry appear to be most concerned about returning to pre-COVID-19 levels, with 59% saying it will take one year or more and another 10% saying they will not be able to return to pre-COVID-19 levels. Businesses in the Arts, Entertainment, and Recreation industry were also the hardest hit by shutdowns, as 47% of respondents in this industry said they have completely shut down due to the pandemic.

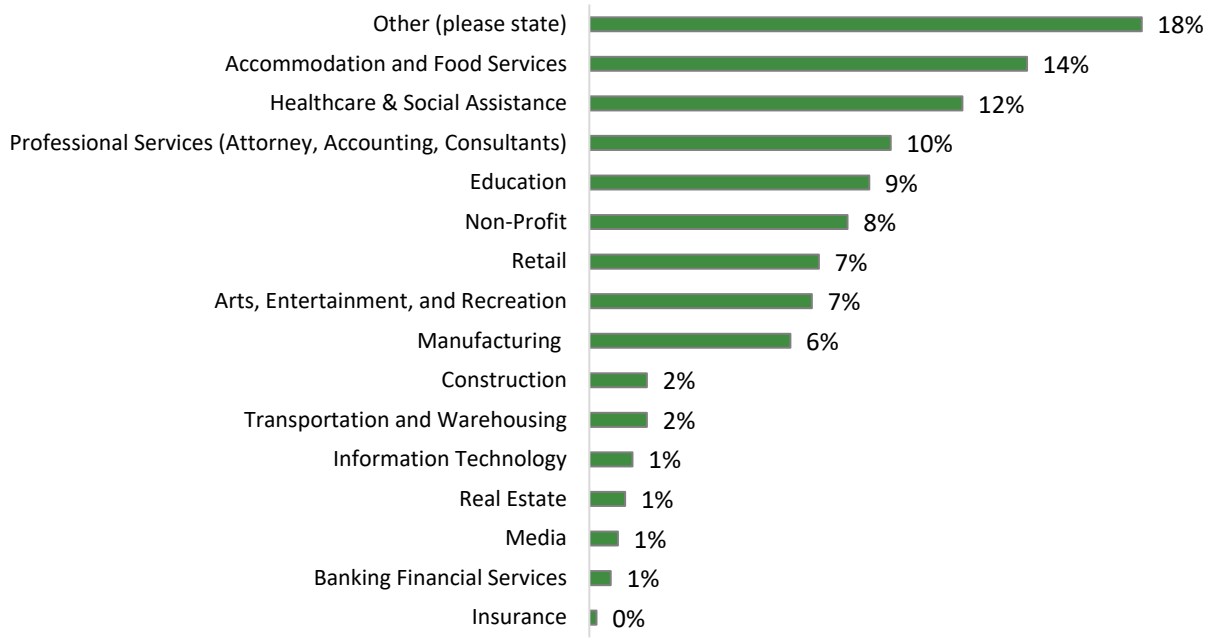
- **Survey respondents listed financial assistance, renewed access to customers, Small Business Administration support, and working to innovate together and find new ways to support local business/commerce as important areas for businesses recovery efforts.**
  - Companies said they would like the County and partnering agencies to help businesses recover by offering financial assistance in the form of providing grants, offering tax credits and tax relief, subsidizing wages, offering support with worker safety and protections, offering reduced permitting and licensing fees, and offering low-interest loans.

Business Demographics

Industry

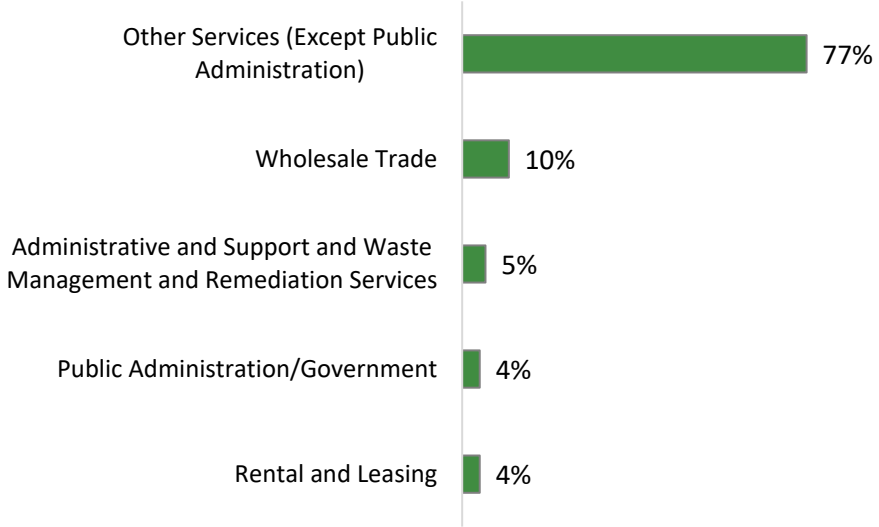
Exhibit 3.1, on the following page, shows the distribution of respondents across industries. Of the 433 business that responded, 61 (14%) were in the Accommodation and Food Services industry, 52 (12%) were in Healthcare and Social Assistance, 42 (10%) were in Professional Services, and 36 (8%) were in Non-Profit.

Exhibit 3.1: Respondents by Industry (n=433)



Of the 77 businesses that selected "Other" as their industry, 59 (77%) were in the Other Services (except Public Administration) industry, which includes personal care services such as hair and nail salons, automotive repair services, yoga studios, and pet care. The remaining "Other" businesses were in Wholesale Trade (8), Administrative and Support and Waste Management and Remediation Services (4), Public Administration/Government (3), and Rental and Leasing (3). Exhibit 3.2 shows the distribution of respondents that selected "Other" as their industry.

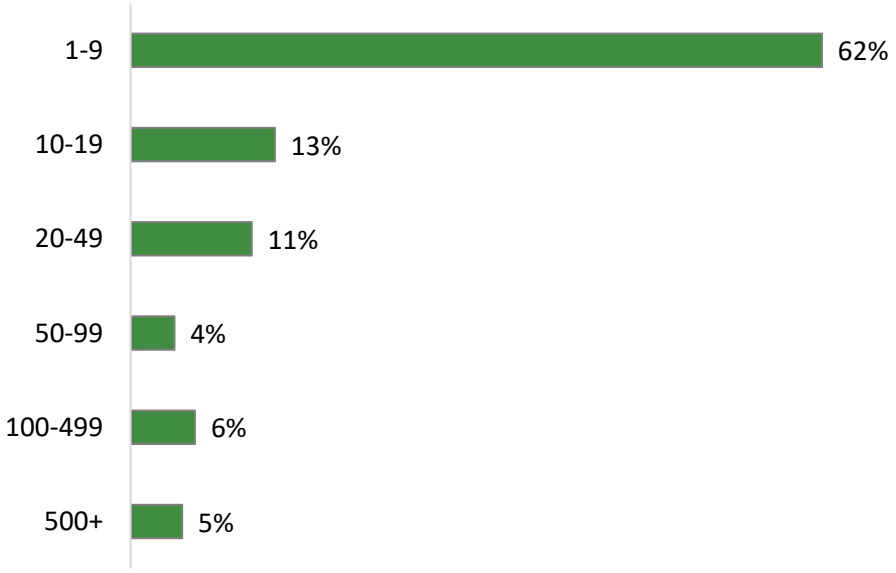
Exhibit 3.2: Distribution of "Other (please state)" Responses (n=77)



Business Size

Exhibit 3.3 shows the distribution of business size by number of employees. The majority of respondents, 268 (62%), have between one and nine employees; 20 (5%) respondents have 500 or more employees.

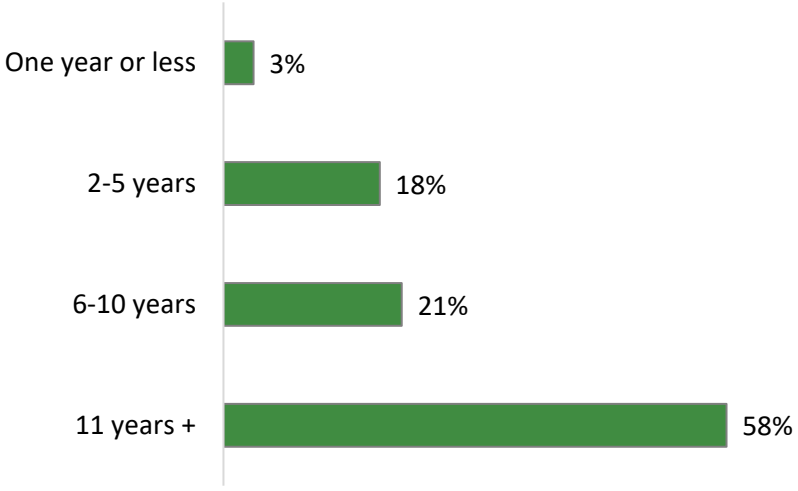
Exhibit 3.3: Business Size (n=433)



Business Age

Exhibit 3.4 shows the number of years respondents' businesses have been in operation. The majority of businesses, 241 (58%), have been in operation for 11 years or more. Only 15 (3%) businesses have been in operation for one year or less.

Exhibit 3.4: Number of Years in Operation (n=433)



Effects of the COVID-19 Pandemic on Business Operations

Decline in Business and Sales

Orange County businesses have been adversely affected by the COVID-19 pandemic, with 330 respondents (76%) stating that business operations have changed negatively due to the impacts of the COVID-19 pandemic; only 28 respondents (7%) say their business operations have changed positively. Negatively impacted companies have experienced declines in sales, revenue, and employees that may affect their ability to stay in business during the partial shutdown of the economy. Business sales and revenues have been hit hard, as 224 respondents (56%) said they have experienced a more than 50% reduction in sales; only 5% of respondents have experienced no reduction or an increase. Revenue is also down with 293 businesses (74%) expecting more than a 25% shortage in revenue when compared to their original budget projections. Only 10 businesses (2%) expect to either not have a shortage or to have increased revenues.

Of the 405 businesses that responded to a question asking how business operations have been affected, 371 (92%) said that a decline in business/sales was a major or moderate problem. Other major or moderate problems included not having the funds to pay employees (75%), the emotional health of employees (70%), difficulty paying commercial rent, commercial mortgage or lines of credit (70%), ability to stay in business (70%), business closed or hours reduced by government executive orders (67%), lack of events to promote their business area (66%), ability of employees to pay rent/mortgages on reduced income (65%), concern about the well-being of employees being exposed to COVID-19 on the job (62%). Exhibit 3.5 shows the full list of issues businesses are facing as a result of the impacts of the COVID-19 pandemic. *Respondents could identify multiple issues as a major problem, moderate problem, minimal problem, or not a problem, therefore the percentages listed in the columns of Exhibit 3.5 do not add up to 100%.**

Exhibit 3.5: Problems as a Result of the COVID-19 Pandemic (n=405)*

Issue	Major Problem	Moderate Problem	Minimal Problem	Not a problem
Decline in business/sales	72%	20%	5%	3%
Not having the funds to pay our employees	47%	27%	13%	12%
Business closed or hours reduced by government executive orders	49%	19%	12%	21%
Difficulty paying our commercial rent, commercial mortgage or lines of credit	50%	19%	14%	17%
The emotional health of our employees	32%	38%	22%	8%
Ability to stay in business (permanent closure)	38%	31%	16%	15%
Ability of employees to pay rent/mortgages on reduced income	40%	25%	18%	17%
Concern about the well-being of our employees being exposed to COVID-19 on the job	35%	26%	23%	16%
Concern about the well-being of our employees being exposed to COVID-19 on the job	34%	25%	23%	17%
Lack of events to promote our business area	40%	26%	19%	15%
The closure of major area attractions and hotels	32%	16%	19%	33%

Companies were asked to respond to an open-ended question regarding their biggest concerns for their business and employees related to the COVID-19 pandemic and its impacts. Of the 433 businesses that responded to the survey, 405 (94%) entered a response for this question. Of those, 123 (30%) were concerned about the loss of business and jobs, 85 (21%) were concerned about government mandated closures/restrictions, 61 (15%) were concerned about the health and safety of their employees and customers, and 53 (13%) were concerned about the lack of foot traffic and customers. Exhibit 3.6 shows the full list of concerns businesses shared in response to this question. *This was an open-ended question in which respondents could enter multiple concerns, therefore the percentages listed in the columns of Exhibit 3.6 do not add up to 100%.**

Exhibit 3.6: Concerns About COVID-19 for Business and Employees (n=405)*

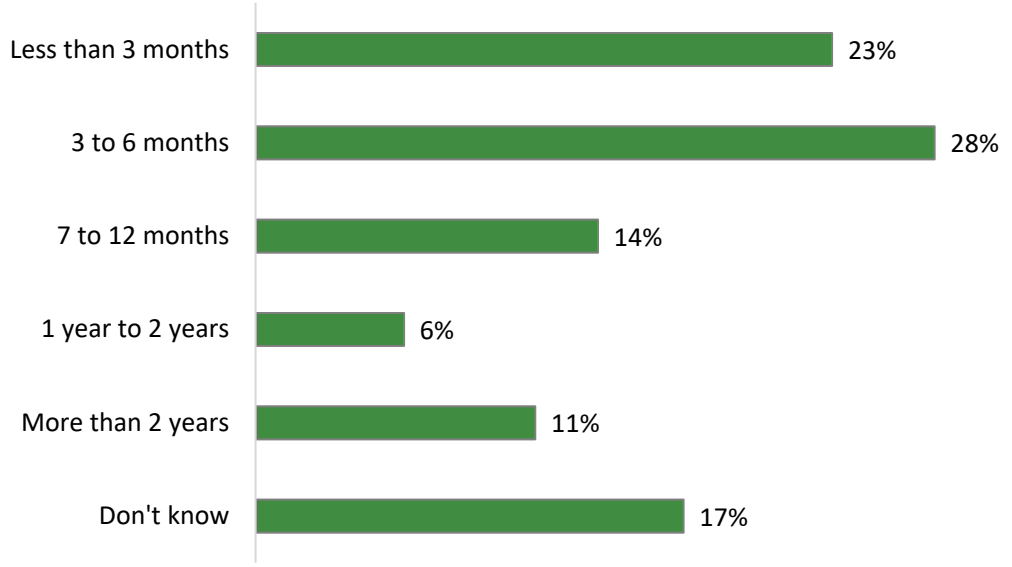
Concern	Number of Respondents	% of Respondents
Loss of business and jobs	123	30%
Government mandated closures/restrictions	85	21%
Health and safety of employees and/or customers	61	15%
Lack of foot traffic/customers	53	13%
Paying rent	48	12%
Contracting, or being exposed to, COVID-19/getting sick (either on the job or outside of work)	36	9%
Economic/financial well-being of employees	35	9%
Ability to retain employees due to lower revenue, reduced hours, etc.	27	7%
Uncertainty regarding government mandates and/or future closures	26	6%
Length/uncertainty of the pandemic/shut-downs and their effects on business, employees, and the time it takes to recover	26	6%
Lack of meeting/event space or inability to host events/gatherings	22	5%
Unknown	21	5%
Potentially permanently closing my business	18	4%
Lack of travel/tourism and its effects on business	18	4%
Adapting to "new normal" and/or remote/virtual work environment	14	3%
Distrust in local, state, and/or federal government due to conflicting messages/information	14	3%
Future financial obligations due to deferrals, loan payments, etc.	11	3%
Difficulty recruiting/hiring new employees	7	2%
Increased expenses to buy PPE, clean, disinfect, etc.	7	2%
Lack of government assistance (e.g. not eligible for PPP, still waiting for PPP decision, etc.)	5	1%
Difficulty bringing back furloughed employees	4	1%
Disneyland closure and its effect on resort area businesses	4	1%

Concern	Number of Respondents	% of Respondents
People refusing to follow government mandates	4	1%
COVID-19 outbreak traced to my business	3	1%
Work-life balance for employees/parents as they assist children with online schooling	3	1%
Ability to compete with competitors	1	0.2%
State budget cuts	1	0.2%

Business Longevity

Orange County may see a loss of companies in the near future, as 280 respondents (65%) estimate that they can sustain their business for less than a year in the partial shutdown of the economy; 75 (17%) companies do not know how long they can sustain their business and another 75 (17%) can sustain their business for one or more years. The length of the partial shutdown could be particularly harmful for small businesses. Of the 370 businesses with less than 50 employees, 70% estimate that they can sustain their business for less than a year, 18% do not know how long they can survive, and only 12% estimate they can sustain their business for more than a year. Exhibit 3.7 shows how long respondents estimate they anticipate they can sustain their business.

Exhibit 3.7: Business Projected Sustainability in the Partial Shutdown of the Economy (n=430)



Layoffs

The decline in sales and revenues has resulted in many businesses laying off employees, with 243 respondents (63%) saying that they anticipate they will have laid off employees by the end of the year; 88 (23%) anticipate they will have a more than 50% reduction by the end of the year. Though many businesses anticipate a reduction in their workforce, 146 respondents (37%) anticipate either having no layoffs or even increased staffing levels by the end of the year.

Minimizing the Impacts of COVID-19 and Returning to Pre-COVID-19 Levels

How Orange County Businesses Have Responded to the Pandemic

Despite the challenges described in the previous section, Orange County businesses have responded by shifting services and taking additional actions to minimize the impacts of the COVID-19 pandemic on their income and employees. Of the 372 companies that responded to the question, 156 (42%) have moved to conducting more online business, 42% (156) are assisting employees with transitional resources, and 38% are having regular discussions with other local businesses to brainstorm ideas and share their experiences.*

While pre-COVID-19 data related to restaurants offering carryout/delivery is not available, 84% of businesses (43) in the Accommodation and Food Services industry are offering carryout/delivery services and another 6% (3) are considering doing the same. Exhibit 3.8 shows the full spectrum of how Orange County businesses have responded to the impacts of the COVID-19 pandemic. *Respondents could select multiple options, therefore, the percentages listed in the columns of Exhibit 3.8 do not add up to 100%.**

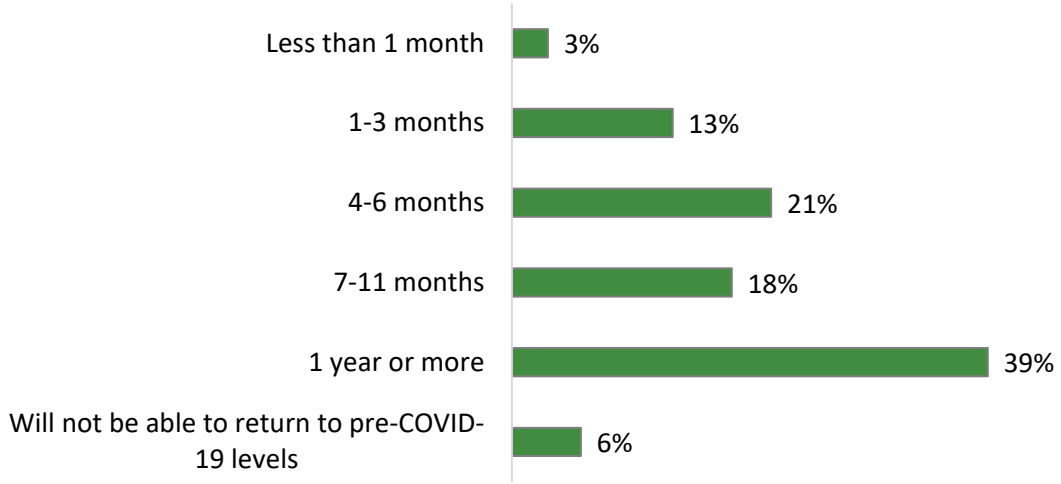
Exhibit 3.8: Activities to Minimize Impact of COVID-19 Pandemic (n=372)*

Activity	Already doing	Considering	Not considering	Not applicable
Moving to more online business	42%	10%	5%	43%
Offering carryout/delivery	20%	3%	1%	76%
Having regular discussions with other local businesses to brainstorm ideas and share experiences	38%	19%	12%	31%
Assisting employees with transitional resources (e.g. unemployment, etc.)	42%	10%	11%	37%
Working with Chamber(s) and/or local government to promote businesses	26%	29%	17%	28%
Working with other community stakeholders to begin discussions with landlords about rent abatement or mortgage relief	23%	26%	16%	35%

Returning to Pre-COVID-19 Levels

While companies continue to respond to the impacts of the COVID-19 pandemic, it is unclear when they will be able to return to pre-COVID-19 levels of business. While the majority of companies, 206 (56%), believe it will take their business less than one year to return to pre-COVID-19 levels following a reduction in COVID-19 cases and loosening of business guidelines, another 145 (39%) think it will take one year or more for their business to return to pre-COVID-19 levels. An additional 21 companies (6%) say they will not be able to return to pre-COVID-19 levels. Exhibit 3.9 shows how long businesses think it will take to return to pre-COVID-19 levels.

Exhibit 3.9: Length of Time to Return to Pre-COVID-19 Levels (n=372)



Businesses in the Arts, Entertainment, and Recreation industry appear to be concerned the most about returning to pre-COVID-19 levels, with 59% of respondents in this industry saying it will take one year or more and another 10% saying they will not be able to return to pre-COVID-19 levels. According to survey respondents, the Arts, Entertainment, and Recreation industry was the hardest hit by shutdowns, as 47% of businesses in this industry said they have completely shut down due to the pandemic. Exhibit 3.10 shows the length of time, by industry, businesses expect it will take them to return to their pre-COVID-19 levels.

Exhibit 3.10: Length of Time to Return to Pre-COVID-19 Levels by Industry (n=372)

Industry	# of Respondents	Less than 1 year	1 year or more	Will not be able to return to pre-COVID-19 levels
Accommodation and Food Services	51	51%	45%	4%
Administrative and Support and Waste Management and Remediation Services	4	50%	25%	25%
Arts, Entertainment, and Recreation	29	31%	59%	10%
Banking Financial Services	3	100%	0%	0%
Construction	7	57%	43%	0%
Education	32	69%	25%	6%
Healthcare & Social Assistance	45	62%	31%	7%
Information Technology	6	83%	17%	0%
Insurance	1	100%	0%	0%
Manufacturing	27	52%	48%	0%
Media	4	75%	0%	25%
Non-Profit	31	58%	42%	0%
Other Services (Except Public Administration)	51	45%	43%	12%

Industry	# of Respondents	Less than 1 year	1 year or more	Will not be able to return to pre-COVID-19 levels
Professional Services (Attorney, Accounting, Consultants)	34	65%	32%	3%
Public Administration/Government	1	100%	0%	0%
Real Estate	3	67%	0%	33%
Rental and Leasing	3	33%	33%	33%
Retail	27	52%	48%	0%
Transportation and Warehousing	6	33%	67%	0%
Wholesale Trade	7	86%	14%	0%
All Industries	**372**	**55%**	**39%**	**6%**

Business Recovery Efforts

Respondents were asked how important several forms of assistance would be to their business recovery efforts, as well as what the County and partnering agencies could do to aid in their recovery. Financial assistance, renewed access to customers, Small Business Administration support, and working to innovate together and find new ways to support local business/commerce were identified as the areas in which they most wanted assistance for businesses recovery efforts. Exhibit 3.11 shows the importance of each form of assistance for business recovery efforts according to respondents. *Respondents could select multiple options, therefore, the percentages listed in the columns of Exhibit 3.11 do not add up to 100%.**

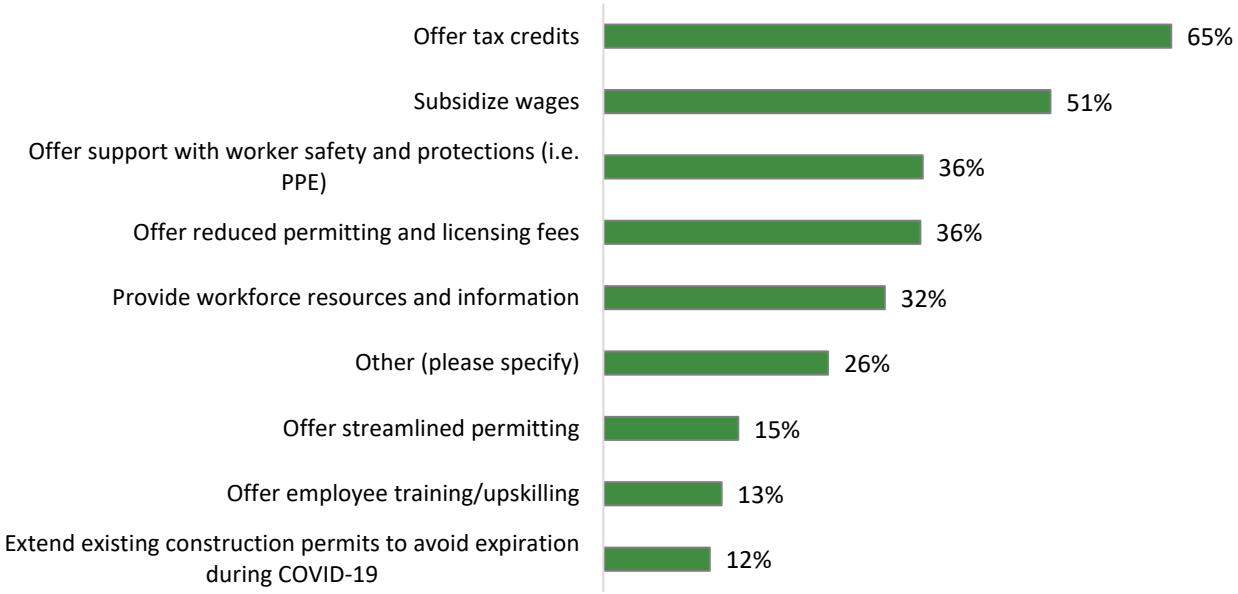
Exhibit 3.11: Importance of Assistance to Business Recovery Efforts (n=372)*

Form of Assistance	Very important	Moderately important	Minimally important	Not important
Grants	84%	5%	4%	8%
Renewed access to customers	72%	15%	6%	8%
No/low interest loans	53%	17%	13%	18%
Income tax relief	66%	12%	9%	13%
Vendor payment deferrals	28%	20%	19%	33%
Regulatory relief	44%	20%	15%	22%
Line of credit	33%	16%	21%	29%
Sales tax deferral	24%	14%	20%	41%
New employee staffing assistance	18%	18%	21%	43%
Training for current employees	15%	18%	24%	43%
Business resilience planning	25%	24%	25%	26%
Small Business Administration support	47%	22%	16%	15%
Gathering virtually for education and discussion	20%	25%	24%	31%

Form of Assistance	Very important	Moderately important	Minimally important	Not important
Developing/participating in problems solving groups	20%	23%	26%	32%
Working to innovate together and find new ways to support local business/commerce	29%	26%	23%	22%

Companies said that the County and partnering agencies could help businesses recover by offering financial assistance including offering tax credits and subsidizing wages, as well as offering support with worker safety and protections, and providing workforce resources and information. Exhibit 3.12, on the following page, shows the full list of activities for which they would like the County and partnering agencies to assist in business recovery. *Respondents could select multiple options, therefore, the percentages listed in Exhibit 3.12 do not add up to 100%.**

Exhibit 3.12: How the County and Partnering Agencies Could Help Businesses Recover (n=372)*



Of the 372 respondents that answered a question about what the County and partnering agencies could do to help their business recover, 95 (26%) selected "Other" and entered a text response. Of those, 50 (53%) said they would like the County to offer financial assistance in the form of grants, loans, a moratorium on minimum wage increases, rent relief, tax relief, utilities relief, or waiving business license fees. Many of those forms of financial assistance were included as selectable options, demonstrating the importance of financial assistance to businesses in Orange County. Exhibit 3.13 shows the full list of topics respondents included in their text responses. *Respondents could enter multiple responses in their text response, therefore, the percentages listed in Exhibit 3.13 do not add up to 100%.**

Exhibit 3.13: Other Ways the County and Partnering Agencies Could Help Businesses Recover (n=95)*

Form of Assistance	Number of Respondents	% of Respondents
Financial assistance (grants, loans, minimum wage increase moratorium, rent relief/moratorium, tax relief, etc.)	50	53%
Reopen/ease business restrictions	15	16%
Expand funding opportunities to new businesses, home-based businesses, non-profits, and others	9	9%
Help promote local businesses	6	6%
Establish county-wide health policies/guidelines to slow the spread of COVID-19	5	5%
Legal assistance for lease/rental agreements	4	4%
Nothing at this moment	4	4%
Provide physical space for businesses	3	3%
Advocate for more federal assistance	2	2%
Education/re-training incentives	2	2%
Be understanding/compassionate	1	1%
Invest in physical infrastructure	1	1%
Provide data so businesses can recover strategically	1	1%
Work with businesses to meet the needs of the county's underserved communities	1	1%

Additional Notable Observations

The following sections provide an analysis of responses to open-ended questions in which respondents could respond without any character limits. To better understand the themes discussed in these responses, each response was grouped into a broader category for analysis.

Impact of COVID-19 on Business Operations

Of the 402 respondents that answered a question about how business operations are being impacted by the COVID-19 pandemic, 48 (12%) responded with "Other" and entered a text response. Answers varied, but 6 (13%) respondents said their operations were being impacted by frequent changes in government regulations, another 6 (13%) stated that they have implemented best practices to reduce COVID-19 exposure (including using PPE, masks, and social distancing), and another 6 (13%) said they have had operations impacted by reducing capacity to maintain social distancing. Exhibit 3.14 shows the full list of themes included in text responses from respondents that selected "Other". *Respondents could enter multiple responses in their text response, therefore, the percentages listed in Exhibit 3.14 do not add up to 100%.**

Exhibit 3.14: Impact of COVID-19 on Business Operations (n=48)*

Response	Number of Respondents	% of Respondents
Frequent changes in government regulations are impacting operations	6	13%
Implemented best practices to reduce COVID-19 exposure (PPE, masks, social distancing, etc.)	6	13%
Reduced capacity to maintain social distancing	6	13%
Difficulty hiring/bringing back furloughed employees due to unemployment benefits	5	10%
Offering services virtually/remotely	5	10%
Unknown	5	10%
Increased expenses to comply with regulations	4	8%
Loss of clientele	4	8%
Reduced services	4	8%
Slowdown in business due to reduced travel	3	6%
No immediate impact	2	4%
Employees unable to work due to COVID-19 exposure	1	2%
Our supply chain is interrupted	1	2%
Reduced pay/salaries for some employees	1	2%

Effect of COVID-19 on Employees Work Location

Of the 389 respondents that answered a question about employees' physical work location has been affected in response to COVID-19, 52 (13%) responded with "Other" and entered a text response. Of those, 17 (33%) said that their employees cannot work due to closures, 11 (21%) said employees can work from home only if their duties can be performed remotely, and 8 (15%) said employees have been furloughed or laid off. Exhibit 3.15 shows the full list of themes included in text responses from respondents that selected "Other". *Respondents could enter multiple responses in their text response, therefore, the percentages listed in Exhibit 3.15 do not add up to 100%.**

Exhibit 3.15: Effect of COVID-19 on Employees Work Locations (n=52)*

Effect	Number of Respondents	% of Respondents
Employees cannot work due to closures	17	33%
Employees can work from home if their duties can be performed remotely	11	21%
Employees have been furloughed	4	8%
Employees have been laid off	4	8%
Front-line workers are required to work on-site	4	8%
No changes	3	6%
Reduced hours	3	6%
Employees are quitting/not returning to work	2	4%
Established virtual platforms for conducting business	2	4%
None are applicable	2	4%

Effect	Number of Respondents	% of Respondents
Reduced capacity to maintain social distancing	2	4%
Employees duties changed	1	2%
No in-person meetings	1	2%

Changes to Sick or Vacation Leave Policies

Of the 389 respondents that answered a question asking if they have changed any sick or vacation leave policies to help employees at risk for COVID-19 self-isolate or quarantine, 60 (15%) responded yes and entered a text response explaining how they changed these policies. Of those, 18 (30%) said they updated policies to comply with the Families First Coronavirus Response Act (FFCRA), 8 (13%) said they added additional sick days for COVID-19 related illnesses, and another 8 (13%) said they implemented a mandatory quarantine if an employee was exposed to COVID-19 or exhibiting symptoms. Exhibit 3.16 shows the full list of themes included in text responses from respondents that indicated they changed sick or vacation leave policies. *Respondents could enter multiple responses in their text response, therefore, the percentages listed in Exhibit 3.16 do not add up to 100%.**

Exhibit 3.16: Changes to Sick or Vacation Leave Policies (n=60)*

Policy Change	Number of Respondents	% of Respondents
Policies updated to comply with Families First Coronavirus Response Act (FFCRA)	18	30%
Added additional sick days for COVID-19 related illness	8	13%
Mandatory quarantine if employee is exposed to COVID-19 or exhibiting symptoms	8	13%
Allowed employees to cash out unused vacation accrual	3	5%
Allowed employees to use unaccrued sick time/PTO	3	5%
Policies updated to comply with California COVID-19 Supplemental Paid Sick Leave	3	5%
Allow vacation time to cover sick time once all sick time accruals have been used	2	3%
Days missed due to a COVID-19 related illness is not deducted from accrued sick time	2	3%
Increased vacation accrual limit	2	3%
Mandatory 14-day quarantine if an employee travels	2	3%
No questions asked sick days	2	3%
Reduced number of hours required to maintain benefits	2	3%
Added flexibility (unspecified)	1	2%
Eliminated black out days for vacation	1	2%
Extended FMLA leave for COVID-19	1	2%
Mandatory-quarantine if employee is exposed to COVID-19 or exhibiting symptoms	1	2%
Paid employees even if they could not work	1	2%
Paid for employees COVID-19 testing if they exhibited systems	1	2%
Started offering paid time off	1	2%

4.0 Workforce Recovery

Ongoing Work

The main objective of the Workforce Recovery Team was to develop strategies to retrain and place dislocated workers, particularly those affected by the pandemic. It is important to point out that Orange County has had an ecosystem with services available for training and job seekers for quite some time, thus the discussions on the Workforce Recovery Team centered around ways to leverage and align current resources to create better efficiency in the awareness and delivery of services. Two potential areas of opportunity that surfaced were getting more community colleges on the i-TRAIN provider list, and developing a cross-agency referral system to track participant progress and outcomes; the latter seems to be most feasible goal to achieve due to the possibility of leveraging the capacity of the CalJOBS statewide system through a pilot being developed, which would provide more data access to partnering agencies (e.g. community colleges, non-profits, etc.). Pending follow-up discussions, it is our hope that through a countywide referral system we will be able to expand on the current level of services provided to individuals looking for training and job opportunities in our county.