



Monterey County Workforce Development Board

**REIMAGINATION AND RECOVERY
AFTER THE COVID-19 PANDEMIC:**

State of the Workforce for Monterey County

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Executive Summary

INTRODUCTION

The Monterey County Workforce Development Board engaged BW Research to develop a state of the workforce analysis as the region begins to come out from under the influence of the COVID-19 pandemic. The unprecedented turmoil in the economy and labor force caused by the pandemic has left thousands of local workers unemployed and businesses shuttered. One silver lining of the destruction and upheaval caused by the pandemic is an opportunity to reimagine the world of work. The data in this report seek to not only discuss what effects the pandemic has had, but also generate thought and discussion around opportunities to revise the world of work and workforce development in Monterey County.

This research was produced through a range of public and proprietary data sources. Several datasets used in this report were produced specifically for tracking the impacts and outcomes of the pandemic. Continued tracking of the recovery will be an important aspect of gauging the progress of the recovery and areas where additional efforts may be required.

KEY FINDINGS

- 1. While unemployment in Monterey County has fallen since its dramatic peak in April 2020, other signs suggest that the labor market is further away from returning to normal.** Labor force participation in Monterey County was 62% in March 2021, compared to 65% exactly one year earlier. Between May 2019 and May 2021, 6,400 people left the labor force. These displaced workers—who may be early retirees, parents who took on additional childcare duties, or discouraged workers—represent a substantial challenge to the county moving forward and have potential to generate substantial economic ripple effects. A permanent loss of 6,400 workers means there are roughly 6,400 households with less disposable income and lowered economic appetite for local consumption, which can slow other areas of the local economic recovery.
- 2. Several key industry clusters will play a pivotal role in the recovery of Monterey County and its workforce.** These selected industry clusters showed robust growth going into the pandemic and resiliency through the pandemic. They also offer a range of pathways that are available to workers of virtually all backgrounds, providing living wages and upward mobility for workers. These industry clusters are Healthcare; Building and Design; Finance, Insurance, Banking, and Real Estate; and Professional and Business Services. For more information on these career pathways, please see page 30. Other smaller and emerging industry clusters, such as Aviation and Aviation Technology, Information and Communications Technology, and Agricultural Technology, have potential to leverage Monterey County's strengths into sizeable employment opportunities and have a considerable impact on regional job quality and economy. For more on the economic and employment opportunities of Monterey's emerging industry clusters, please see page 5.
- 3. Monterey County businesses have been hit hard.** As of the end of January 2021, business revenue in Monterey County was roughly half (52%) of what it was before the pandemic, compared to a 31% decline statewide. Statewide data—which is available up to a more recent

date and which Monterey County tracks closely with—suggests that business revenues continue to remain suppressed through mid-April 2021. With business revenues low in the county, it will be evermore important to support businesses that have been able to re-open their doors.

4. **Early signs suggest that some new business activity may already be underway.** Primary among these indicators is online job postings. Job postings—particularly in Leisure and Hospitality industries—have seen a tremendous rebound, from levels that were 67% lower in December 2020 than pre-pandemic rates to +5% less than four months later at the start of April 2021. Early data also suggests that entrepreneurial activity blossomed over 2020. In fact, the rate of new business formations statewide in 2020 increased by nearly 20% between 2019 and 2020. Although recent county-level data remains unavailable at this time, if Monterey County continues to follow statewide trends it will have seen a significant increase in new business formations as well.
5. **The pandemic has raised the importance of internet access. Though internet access was once considered a luxury, the pandemic, and an increasingly online world of work, and education, have shown it to be closer to a utility, such as electricity and water.** Yet internet access across the county remains inconsistent. From a geographical perspective, several ZIP codes—predominantly in the southern and eastern portions of the county—have more than 20% of households that lack an internet subscription. Simultaneously, internet access and household incomes are strongly correlated; 36% of households with incomes below \$20,000 per year do not have internet access, compared to only 6% of households with household incomes above \$75,000 per year. Internet accessibility will play an increasingly important role in supporting equity and opportunity in the county.
6. **The pandemic has further exacerbated Monterey County’s economic bifurcation.** In the days before the pandemic, Monterey County residents were largely concentrated around the economic edges, with either substantial or meager household incomes. The pandemic has only sharpened this divide. County-level data suggests that the highest-earning workers have seen mild employment losses (-4%) while workers in the two middle-earning quartiles saw employment losses four-times greater in magnitude (-16%). Though data on the lowest quartile of workers is not available at the local level, statewide data suggests the poorest individuals have been hit even harder. As of the end of March 2021, more than one-in-three (37%) of the lowest-earning quartile of jobs have disappeared statewide.

CONCLUSIONS

BW Research offers the following conclusions for the Monterey County Workforce Development Board based on the research findings and input from key industry leaders within the region.

I. Monterey County's Emerging and Evolving Industry Clusters

Two industry clusters that have the potential to reshape the world of work in Monterey County are aviation and agricultural technology. Aviation, and the emergence of electrified air transportation, bring the promise of a revolutionary approach to move people while lowering carbon emissions and bringing high-quality, high-paying careers to Monterey County and the surrounding region. Agriculture has always played a foundation role in Monterey's economy, but the continued emergence of new technologies and changing supply chains offer challenges and opportunities for the county's workforce and its entrepreneurs.

1. Aviation: an Emerging Innovator

The electrification of transportation is no longer confined to streets and railways. In fact, electrified air transportation is rapidly growing and projected to be a multi-billion-dollar industry. Joby Aviation, operating out of Marina Municipal Airport, is a world leader in this arena and has grown from fewer than 80 to approximately 200 employees in just a few years, and it is expected to continue growing. The company plans to offer commercial passenger service starting in 2024 with its five-person electric air taxi. The air taxi has a range of up to 150 miles and can reach up to 200 miles per hour. Other emerging electric air transportation companies in the region include Wisk, which is headquartered in Mountain View and is flying out of Hollister, as well as Archer Aviation, which is headquartered in Palo Alto.

Electric air transportation and Joby Aviation stand to change Monterey County in two significant ways. First, the range of Joby means that all of Monterey County is only a short air-taxi ride away from the Bay Area. This means that tourists and business travelers alike can enjoy easier access to Monterey County. Second, electric air transportation is an industry full of high-paying jobs, ranging from software designers, aviation mechanics, assemblers, and aerospace engineers. Joby Aviation aims to have as many as 2,000 employees by 2026, which would have significant economic and workforce impacts for Monterey County. Furthermore, innovative activity tends to attract other innovative firms, helping develop regional clusters of specialized firms. Joby Aviation's footprint in personal electric air transit has the potential to spawn further economic activity in Monterey County.

Monterey County Workforce Development Board and its partners in education and economic development should identify, analyze, and prioritize the different workforce and economic development opportunities that could come out of the growth, expansion and commercialization of the air taxi and electric air transportation industry.

2. Agricultural Technology: a new approach to the oldest industry

Agriculture in Monterey County continually evolves as it responds to new technologies and external pressures. When the pandemic struck, the typical flow of produce from Monterey County farms was disrupted. Customers like cruise ships, convention centers, and restaurants—which once offered

steady demand for produce—were no longer ordering produce in the magnitude that they were before this pandemic. This led to a considerable pivot by Monterey’s agricultural industry and the firms that support it. Agricultural businesses saw their customer composition change dramatically as they began selling directly to customers and were supported by new approaches to managing an evolving customer base.

Even before the pandemic, agriculture was increasingly being impacted by new technologies including farm management software, increased automation, and field monitoring sensors, as well as new advances in regenerative agriculture and agricultural biotechnology. These technologies point to new opportunities for Monterey County’s agricultural businesses but will also likely have a sizable impact on the industry’s workforce needs, both now and in the future.

II. New Priorities for Workforce Development

Like so much in the economy, workforce development in Monterey County has new challenges facing it as it looks to recover from the pandemic.

3. Consider three key opportunities for workforce development that have been galvanized by the pandemic:

- a. **Facilitate a rapid return to work** for those workers willing and able to go back. Monterey County has been hit hard by the pandemic and jobseekers need clear direction on where to find immediate employment opportunities. This could include providing contextualized labor market information and projections, public forums about employment opportunities, and working with employers to advertise open positions across the region. An effective recovery will require getting residents back to work as businesses look to re-open and expand in a post-pandemic landscape.
- b. Assist those transitioning and/or beginning **new career pathways**. The pandemic has pushed many workers to reevaluate their previous employment trajectories and has them reconsidering options. The Workforce Development Board and its partners in education should assist this process by providing current information on the career pathways that are available in Monterey County. Efforts that additionally link these pathways to employers that are presently hiring may also meet some success and help further settle the labor market.
- c. **Promote upskilling and increasing educational attainment** to help current workers advance from their current roles while they still work. The returns on educational attainment continue to grow, and the pandemic has only catalyzed this trend as those with higher educational attainment have been considerably less likely to lose their jobs than those with lower educational levels. Strategies to increase individual educational attainment not only give workers more opportunities with their current employers, but they also increase their opportunities to learn new industry and occupational pathways.

4. Reimagining Tourism & Hospitality in Monterey County

The tourism and hospitality industry across the United States and in Monterey County is being forced to adapt quickly and respond to a new landscape. International and business travel has yet to return and is expected to recover at a more moderate pace, while domestic visitors from across California and the country are already driving increased demand for hospitality services. The summer of 2021 will be a transitional time for the tourism and hospitality industry in Monterey County, as the region expects to see a quick recovery in some aspects of the industry (domestic tourism) and a slower recovery in others (business and international travelers). As a result of this change in industry dynamics, some businesses will continue to feel economic hardship while others may be able to better adapt and thrive under this new dynamic.

Monterey County Workforce Development Board and its partners in education and economic development should identify, analyze, and prioritize opportunities to support expanding and emerging tourism employers who need assistance recruiting and developing new employees, while assessing and communicating to potential workers how the industry is evolving and what that means for potential employment.

III. Continue to Learn and Respond as the Recovery Emerges

The findings of this study provide a broad initial assessment of how Monterey County has been impacted by the pandemic in terms of employment perspective and economic activity. Questions remains how the region will recover and rebuild itself after the pandemic. It is important to continue to ask these questions over the next six, to 12, to 18 months.

5. Continue to leverage data to track the recovery and ask key questions about how the world of work is changing

- a. **Explore how the rise of remote work can transform Monterey County.** Given the county's proximity to Silicon Valley, can the county become an attractive option for workers in the tech industry who are able to work remotely and occasionally require accessibility to their headquarters? What impact do these changes have on where people are willing to live in relation to where they work?
- b. **Examine the growth of online shopping and its impact on local retailers** and develop strategies that can help local brick-and-mortar shops adapt and better track how Monterey's small business landscape is changing. How are Monterey County's business birth and death rate changing, both overall and by industry, and what does it mean for workers and employment opportunities in the region?
- c. **Investigate how the pandemic has changed employers' demands for education, skills, and certifications.** Are employers looking for workers with different qualifications in the aftermath of the pandemic? If so, are the region's educational institutions prepared to meet these new demands?

POTENTIAL WORKFORCE DEVELOPMENT STRATEGIES

BW Research offers the following outline for workforce development strategies for the Monterey County Workforce Development Board based on the research findings and input from staff leadership.

1. New Employment in Hospitality & Tourism

This is likely to be an immediate priority, as employers in hospitality and tourism are particularly struggling to find new workers and the employment needs of this industry are changing as employee turnover has increased and older employees have retired. This strategy will focus on connecting with industry employers in tourism & hospitality's key segments.

- Attractions (Aquarium, Museums, Amusement parks...)
- Lodging & Hotels
- Food & Beverage
- Recreation (Marinas, golf, ...)
- Transportation

And identifying the immediate employment needs in each segment and the information sources to stay up to date on their immediate employment needs. This strategy could include, helping employers pre-qualify job candidates, providing job-training or OJT resources to reduce the risk of hiring new employees. This strategy should also assess the impact that reduced business and international travel has had on the industry and how it is changing. This workforce development outcome is focused on getting people back to work quickly and lowering the region's unemployment rate and potentially increasing labor force participation.

2. Supporting Small Business in Monterey County

This is likely to be an immediate priority, as small businesses represent a sizeable portion of employment in the county and the profile of employers are changing as this segment has been impacted by the pandemic. This strategy will include both economic and workforce development as the board will need to decide how it is engaged in these efforts and how it can assist;

- Entrepreneurs and emerging businesses in the county who are coming out of the pandemic and looking to grow and expand their businesses.
- Identify the small business segments that are likely to provide employment opportunities, this could include small businesses in tourism & hospitality, business & professional services, and agriculture connected to food and beverage service.

This strategy will likely require partnering with local chambers and economic development council's as well as those involved in incubators and small business support. This workforce development outcome can be focused on both getting people back to work quickly as well as helping workers find and transition to higher paying career opportunities.

3. Building & Design Employment (Regional Focus)

This is likely to be a short-term and long-term priority, as the need for workers in building, construction and design is likely to evolve as housing needs change and the state transitions to a lower carbon economy. This strategy will be focused on understanding and educating students and job-seekers of the local and regional employment opportunities with;

- Housing – both new housing and retrofits to current housing and offices that become more energy efficient.
- Infrastructure projects around clean energy, water, Internet bandwidth, and transportation that are all likely to be funded both through Sacramento and DC.

This strategy will require working with those that are involved in local and regional building planning, unions, as well as those that are engaged in infrastructure funding, likely at the state or national level. This workforce development outcome will be more focused on getting people trained and educated for new types of work as well as helping workers find and transition to higher paying career opportunities.

4. Aviation & Advanced Manufacturing

This is likely to be a short-term and long-term priority, as the need for workers in aviation and advanced manufacturing will likely increase as Joby moves from developing prototypes to production. This strategy will be focused on understanding and educating students and jobseekers of the local and regional employment in aviation and the emerging air taxi industry that is, at this point centered in California's central coast.

This strategy will require communicating and working with Joby and the organizations that are connected to the emerging air taxi industry. This outcome will be more focused on getting people trained and educated for new types of work as well as helping workers understand the employment pathway found in emerging industries with higher pay.

5. Agriculture & Emerging Technologies

This is likely to be a short-term and long-term priority, as the need for workers in agriculture and related industries (food & beverage, logistics & packaging, and tourism) evolve to respond to the increased impact of new technologies and changing supply chains. This strategy will be focused on understanding and educating students and jobseekers on how this industry is changing and the new skills required for employment but also identify and prepare jobseekers for more immediate opportunities for employment in the industry.

This strategy will require communicating with employers in agriculture as well as the key complimentary industries in food & beverage, logistics & packaging, as well as those technology companies that are developing new products and services for the agricultural industry to better understand both immediate and changing employment needs in the industry. This workforce development outcome can be focused on both getting people back to work quickly as well as helping jobseekers understand the employment pathway found in emerging industries with potentially higher pay.

6. Identifying Evolving Skills for Emerging Workforce Needs

This is a long-term strategy, as the knowledge, skills and ability of workers changes over time. Too often the skill profiles used by labor market information are outdated and fail to reflect the industry specific needs of different employer segments. This strategy would look to better understand the workforce and skill needs of key employer segments in areas that could include;

- Cyber security and the protection related to information and data.
- Artificial intelligence, machine learning and the increase of automation and algorithmic decision-making.
- Product design, advanced manufacturing and the technologies related to 3D printers and emerging materials.

This strategy will require communicating and working with industry employers and technology experts as you continually update key technical skills needed for different industry sectors. This outcome will be more focused on getting people trained and educated for new types of work as well as helping workers understand the employment pathways found in emerging industries with higher pay.

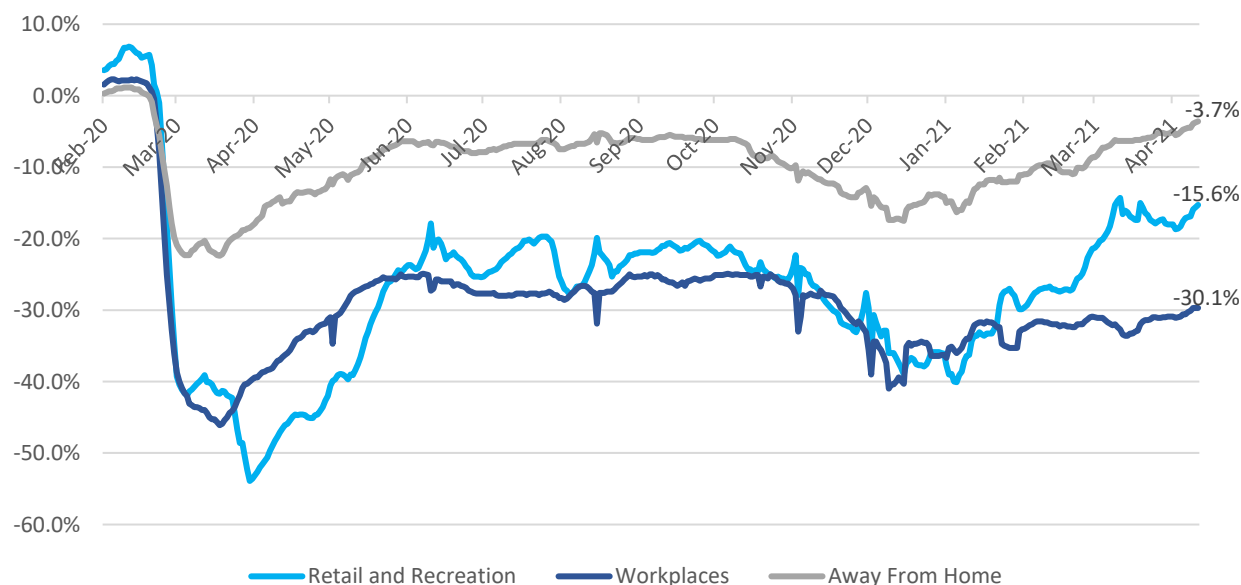
Business Impact

Health concerns and their accompanying changes in consumer behavior, along with public health mandates, have put exceptional strain on Monterey County's businesses. This section of the report highlights the impacts to local businesses across time, and some datapoints highlight the early days of the recovery. While this data hints at the beginning of a recovery and rebound for the county, continually tracking these metrics will help decision-makers better understand the strength and duration of the recovery.

COVID-19 Impacts on Local Businesses

Residents have been spending an increasing share of their time away from home and at retail and recreation locations, including restaurants, movie theaters, and museums. In late January 2021, residents were spending 40% less time at retail and recreation locations than before the pandemic. By early May, residents were only spending 16% less time at these locations. Overall, residents were only spending 4% less time away from home than pre-pandemic levels, suggesting that people are returning to pre-pandemic routines. It is also notable that time at workplaces remains 30% lower, though it is unclear if this is due to a rise in remote work that is permanent or simply continued COVID-19 measures (Figure 1).

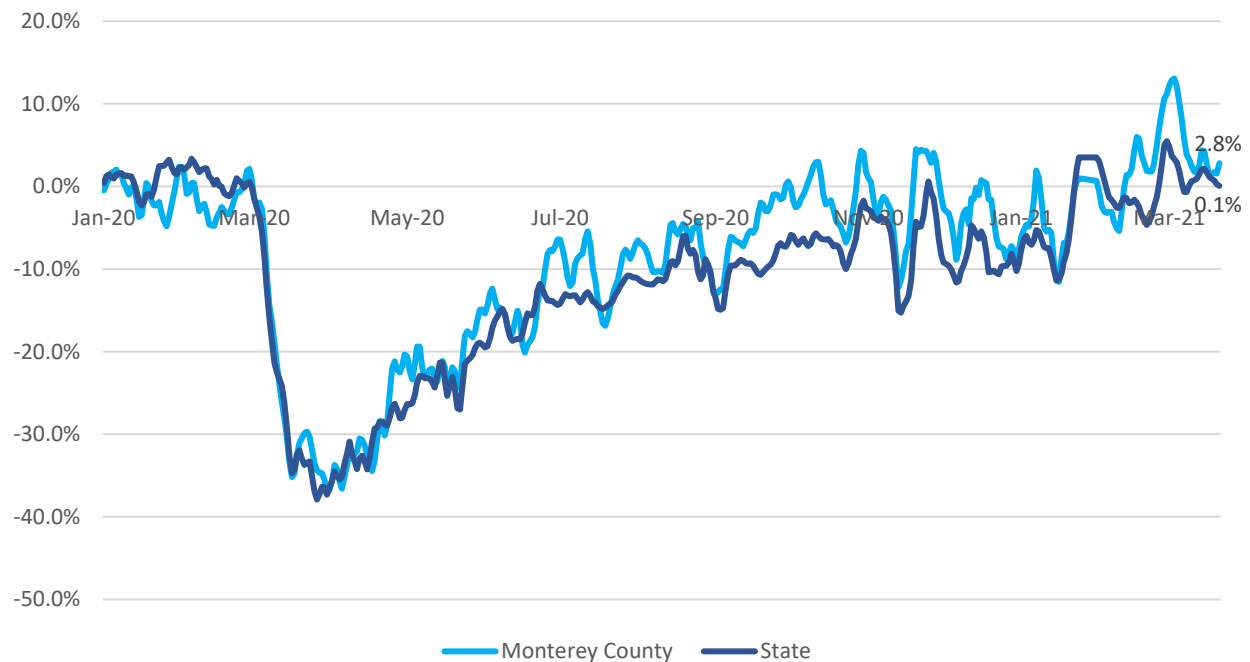
Figure 1. Changes in Residents' Time Spent at Various Locations



Consumer spending in Monterey County has returned to pre-pandemic levels, but it is unclear where that spending is going. Since the end of February 2021, consumer spending has remained at or slightly above pre-pandemic levels (Figure 2). Consumer spending is a useful proxy for considering consumer

confidence and expectations for the future economy. It will be important to continue to monitor this metric to see if spending remains elevated for a significant duration. Consumer spending also does not capture where this money is flowing; in the growing era of online shopping, much of this spending may have transitioned from local transactions to ones that happen online and worldwide.

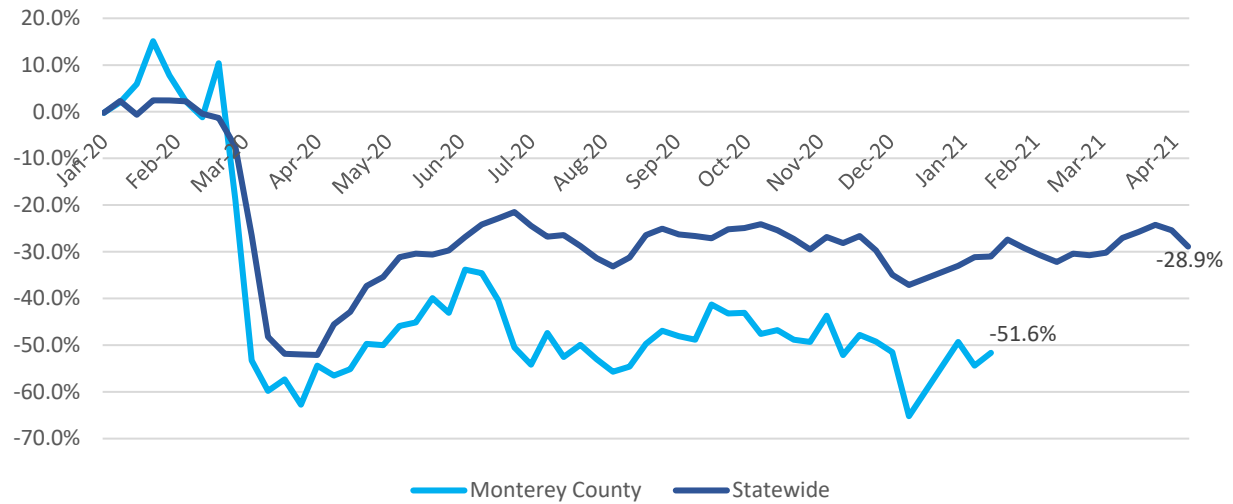
Figure 2. Change in Consumer Spending¹



As of the end of January 2021, business revenues in Monterey County were 52% lower than their pre-pandemic levels. This substantial increase is notably lower than the 32% decline that has been seen statewide during the same period (Figure 3). Statewide data is available more recently—up to the end of April 2021. While early spring was a pivotal time for the pandemic as vaccinations increased and cases decreased, statewide business revenues have largely remained at their suppressed levels through the end of April. Assuming that Monterey County businesses continue to follow the statewide trend, albeit at a lower rate, revenues will not have increased substantially. This data suggests that the recovery for businesses may not be happening as quickly as hoped.

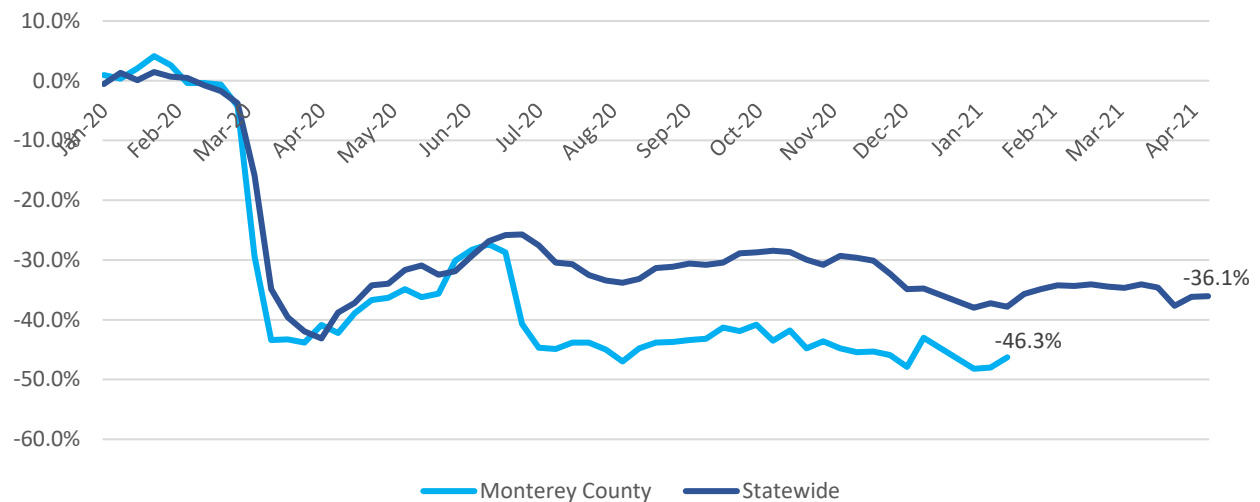
¹ "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data", by Raj Chetty, John Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team. November 2020. Available at: https://opportunityinsights.org/wp-content/uploads/2020/05/tracker_paper.pdf

Figure 3. Change in Business² Revenues in Monterey County³



Following the suppressed rates of revenue, businesses remain closed in Monterey County. As of late January 2021, 46% fewer businesses are open compared to pre-pandemic levels (Figure 4). More recent data at the statewide level suggests that business openings remain depressed; as of the end of April 2021, more than a third (36%) of businesses remain closed relative to pre-pandemic levels.

Figure 4. Change in Open Businesses in Monterey County⁴



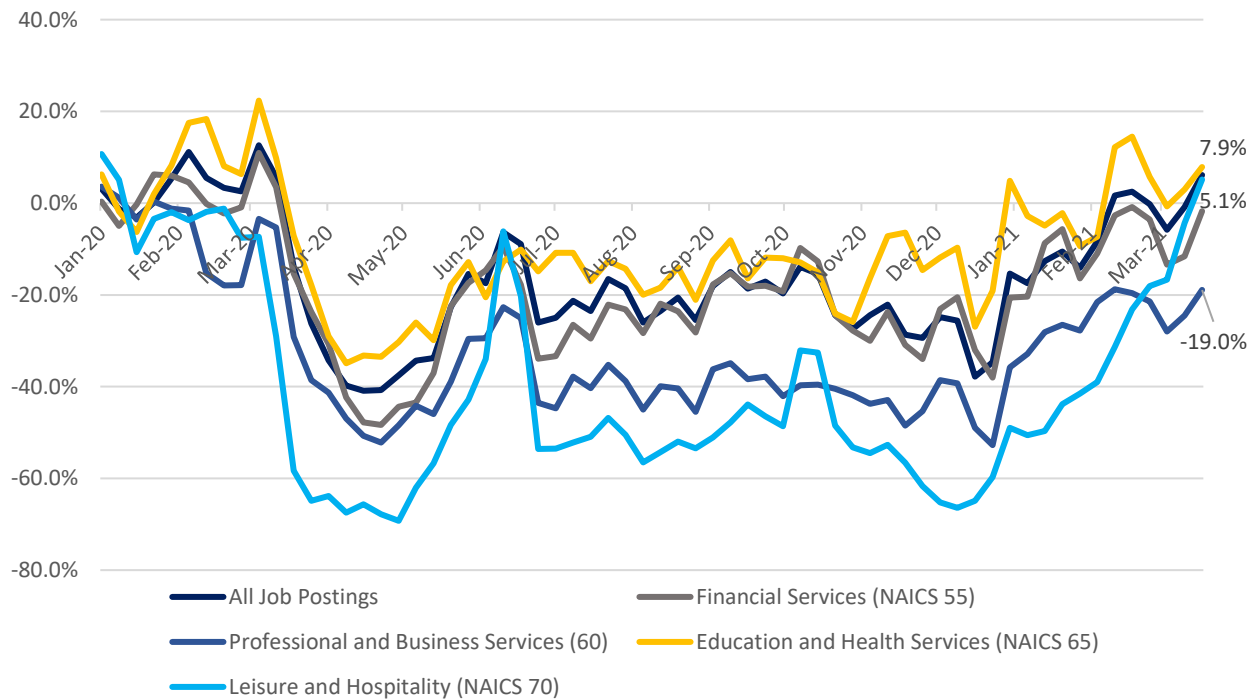
² This analysis uses the SBA definition of a small business and varies by industry. Generally speaking, these are firms with less than 1,200 employees or less than \$45 million in annual revenue, which account for a majority of firms in Monterey County. For more information about this definition, please visit <https://www.sba.gov/document/support--table-size-standards>

³ "Tracking the Recovery." Opportunity Insights.

⁴ "Tracking the Recovery." Opportunity Insights.

Despite lower business openings and revenues, hiring statewide has largely returned to pre-pandemic levels. Job postings can be considered a leading indicator that highlight employer expectations for demand in the future. It is also notable that nearly all industry sectors have recovered to, or above, pre-pandemic rates of job postings, and Leisure and Hospitality postings increased from -67% in December 2020 to +5% by early April (Figure 5).

Figure 5. Change in Online Statewide Job Postings⁵

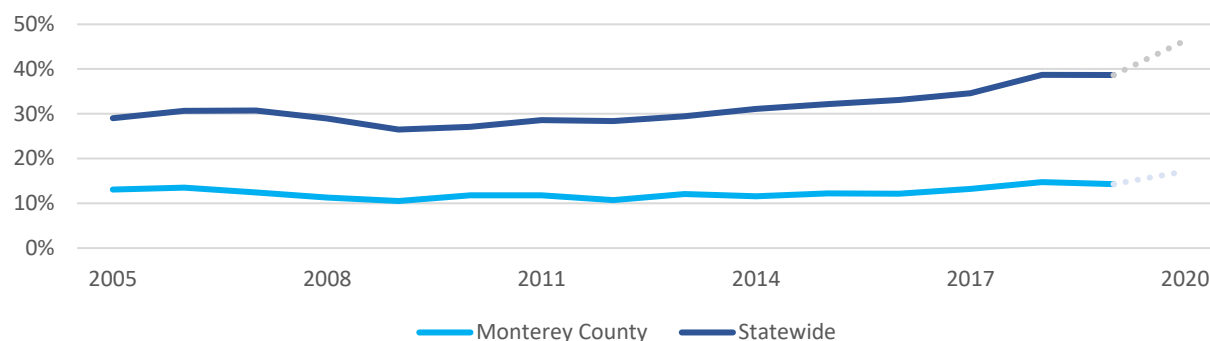


New Businesses and Venture Capital

The rate of new business formations in Monterey County likely hit a new high in 2020. Early data suggests that new business formations statewide in 2020 accelerated at a rate not seen prior to the pandemic. Assuming Monterey County continues to trend closely with statewide rates—albeit at a slower rate—the County will have also seen a substantial influx of new business formations (Figure 6). The business formations reflect economic optimism and present opportunity for future job creation in the county as these businesses expand.

⁵ "Tracking the Recovery." Opportunity Insights.

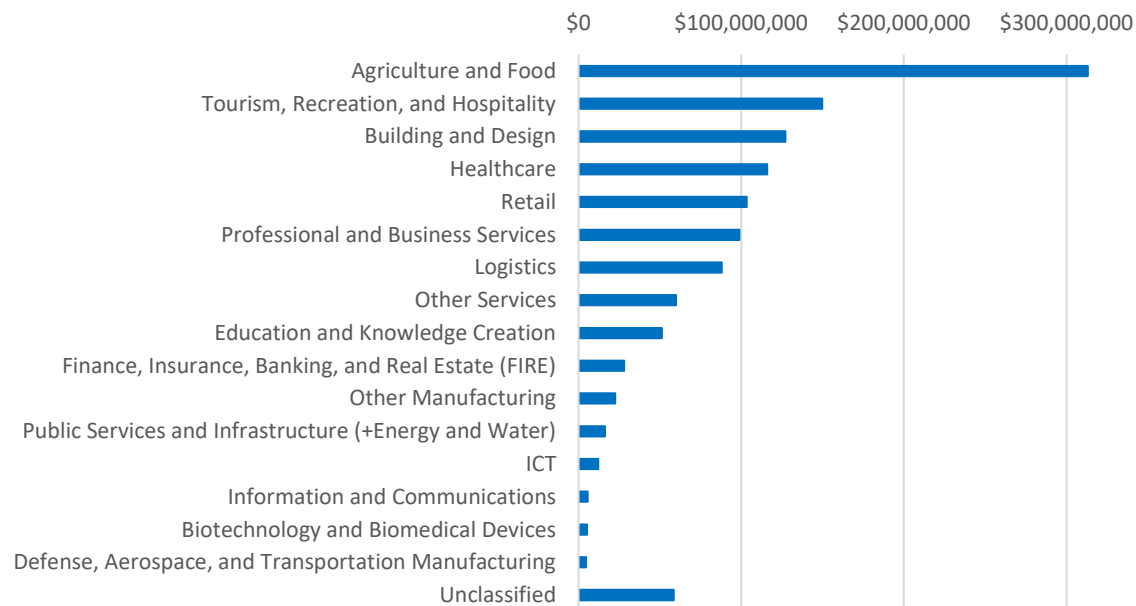
Figure 6. New Business Formation as a Share of Overall Business Establishments^{6 7}



Paycheck Protection Program

The Paycheck Protection Program (PPP), passed as a part of the COVID-Relief CARES Act, disbursed nearly \$1.3 billion in loans to Monterey County businesses during the first round. This money went to 5,806 different businesses that employ more than 111,000 employees, or roughly 58% of the workforce. Agriculture and Food, as well as Tourism, Hospitality, and Recreation, firms received the greatest amount of loans, totaling \$313 million and \$150 million, respectively (Figure 7).

Figure 7. Paycheck Protection Program (PPP) Loans by Industry Cluster (First Round)⁸



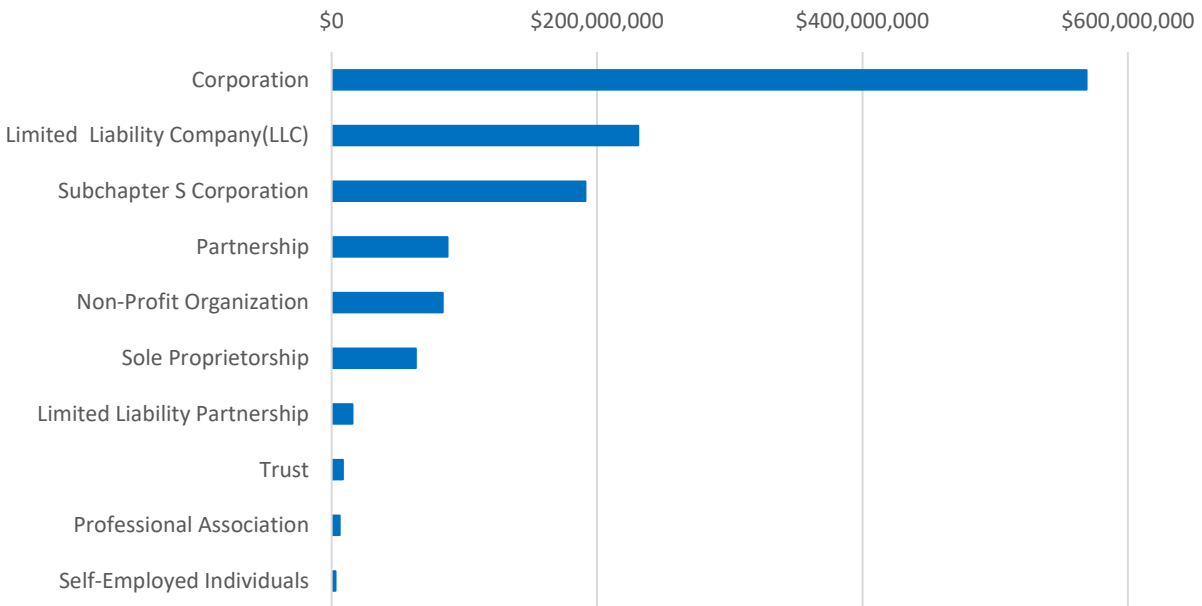
⁶ Data from U.S. Census Bureau Business Formation Statistics Experimental Data.

⁷ 2020 and 2021 Projection are based on annual statewide estimates. These projections present the possible rate of new business formations at the local level but were developed using preliminary statewide data and local base rates.

⁸ Data from the U.S. Small Business Administration

Corporations, Limited Liability Corporations (LLC), and S-Corporations were the types of business organizations that received the greatest amount of loans. It is also notable that non-profits received nearly \$84 million in PPP loans (Figure 8).

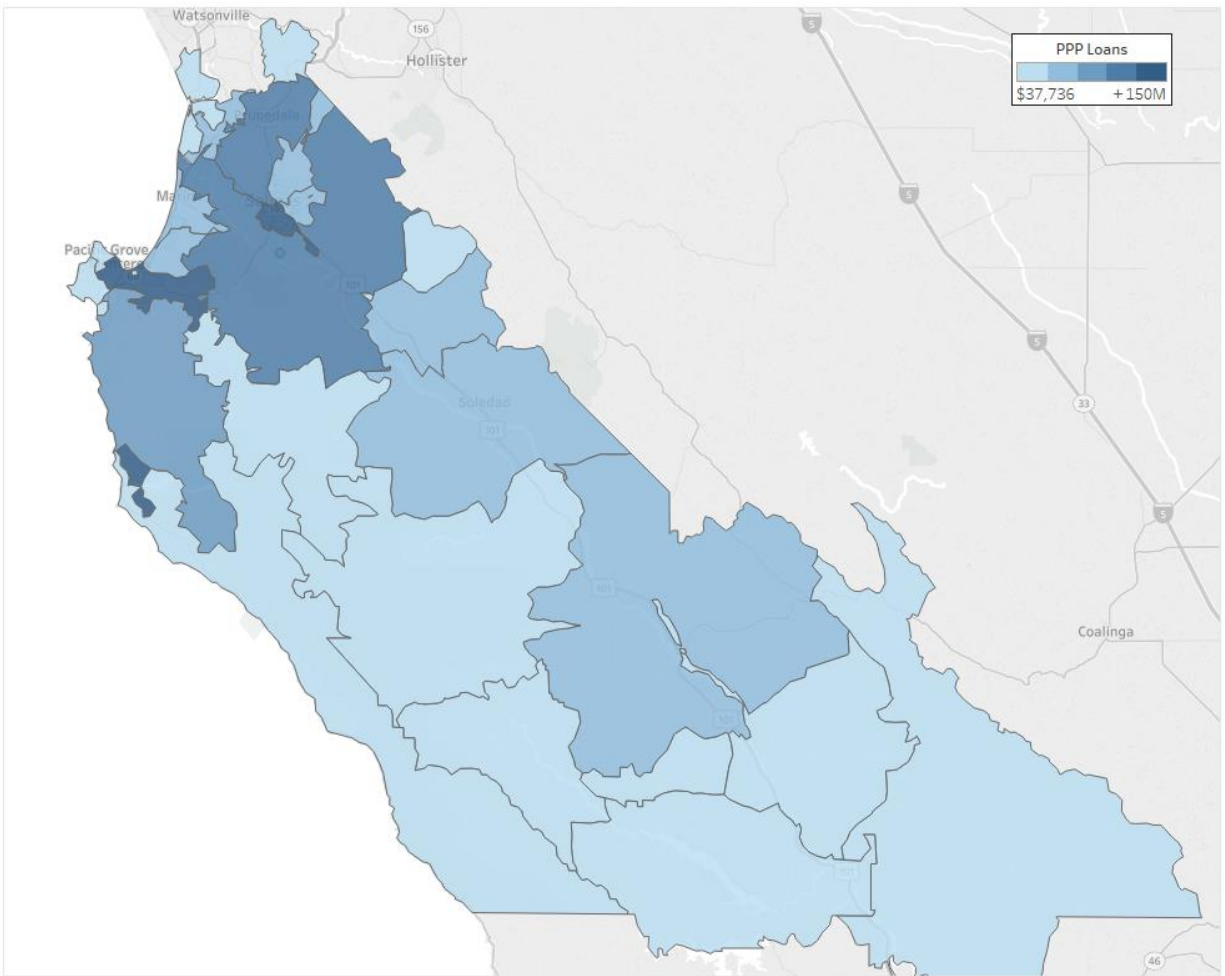
Figure 8. Number of PPP Loans by Business Type⁹



The northern ZIP codes in Monterey County received the greatest amount of PPP loans during the first round. Businesses in the ZIP codes 93940 (city of Monterey), 93901 (Salinas), and 93907 (Prunedale) each received over \$115 million in PPP loans (Figure 9).

⁹ Top Ten Business Types reported. Data from U.S. Small Business Administration.

Figure 9. Total Amount of PPP Loans Received by ZIP Code (First Round)¹⁰



¹⁰ U.S. Small Business Administration

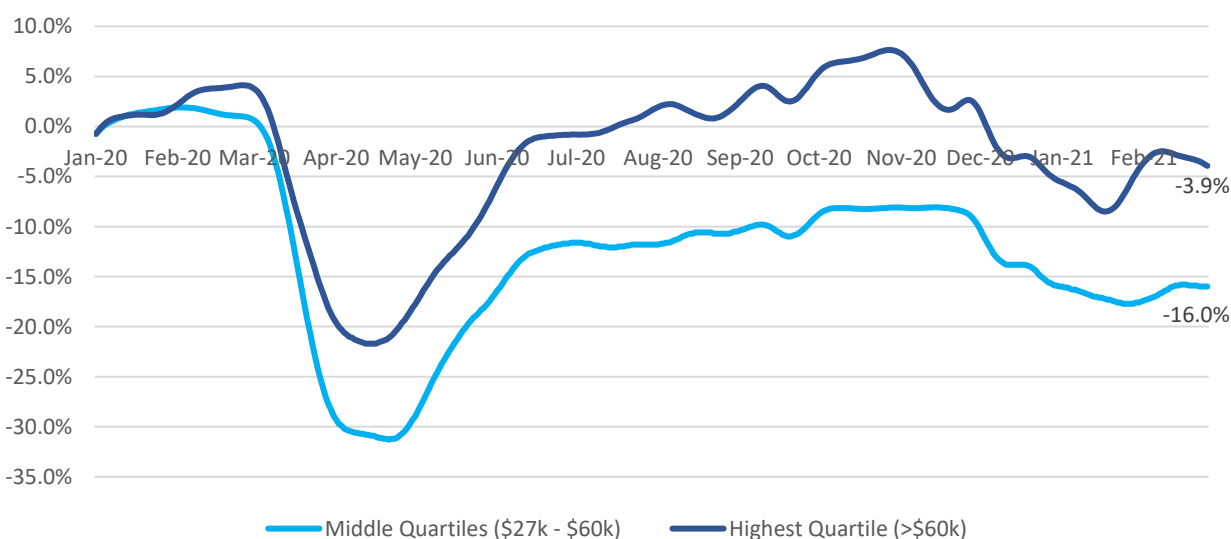
Employment Analysis

The labor market in Monterey County has changed more drastically since 2020 began than it had during the ten preceding years. This turmoil will have a lasting impact on workers in the county. This section highlights some of the various ways in which the dynamics of the local labor market have changed and where recent data suggests the recovery may be headed.

COVID-19 Changes in Employment

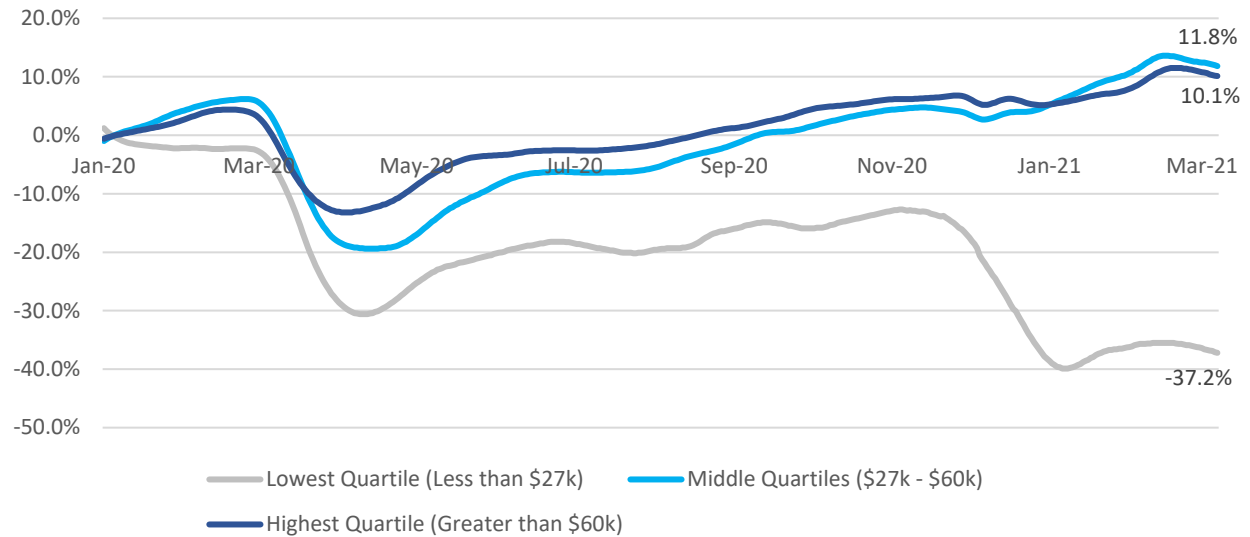
The impacts of the pandemic have differed in intensity across types of workers. Workers in the highest-earning quartile (those making more than \$60,000 per year) saw the number of jobs quickly recover by July 2020. Conversely, workers in the two middle-earning quartiles (those making between \$27,000 and \$60,000 per year) had seen 16% of jobs disappear compared to pre-pandemic levels as of early March 2021 (Figure 10). Though data for the lowest-earning quartile of workers (those making less than \$27,000 per year) is not available for Monterey County, statewide data demonstrates that these workers have seen even more drastic and sustained job losses. As of the end of March 2021, there were 37% fewer statewide jobs among the lowest-earning quartile than before the pandemic (Figure 11). These workers are also those least likely to have sufficient financial safety nets. While some changes may be due to seasonal workers, it is also notable that even Monterey County's middle-earning quartile of workers continue to suffer, while statewide these workers have seen a full recovery—and even growth—since the beginning of the pandemic.

Figure 10. Change in Employment by Income Quartiles in Monterey County¹¹



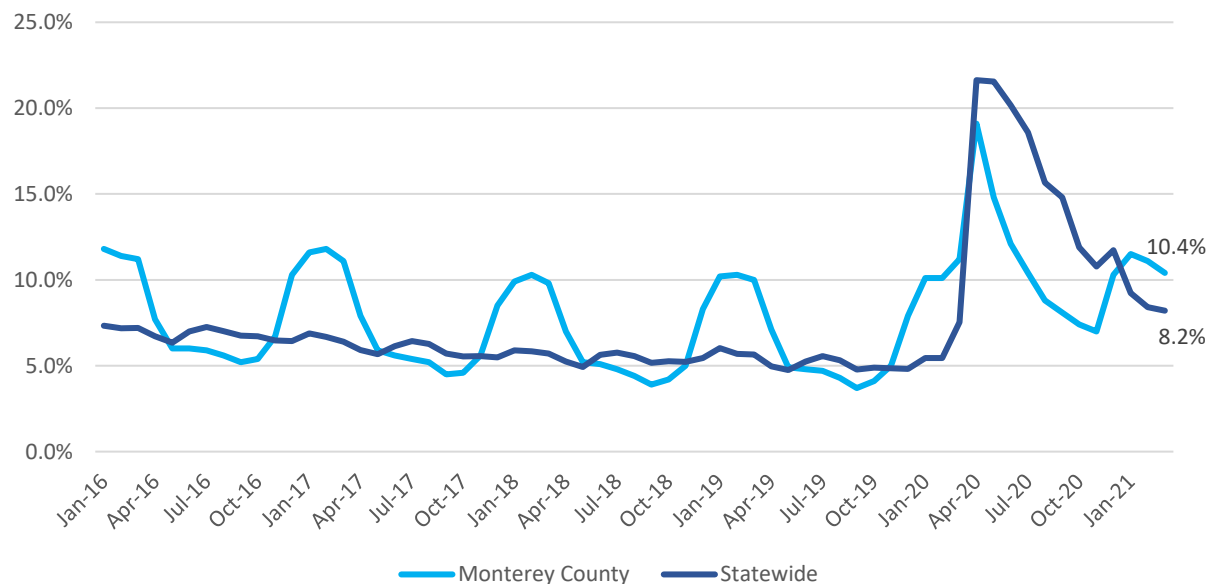
¹¹ "Tracking the Recovery." Opportunity Insights.

Figure 11. Statewide Change in Employment by Income Quartiles¹²



Unemployment in Monterey County has fallen steadily since peaking in April 2020. While Figure 12 shows a rise in unemployment in the winter months of 2020 and early 2021, this appears to be, in-part, seasonally driven. In fact, the unemployment rate of 10.4% in March 2021 is only marginally higher than the 10.0% unemployment rate in March of 2019, when national unemployment was historically low.

Figure 12. Unemployment Rate (2016-2021)¹³

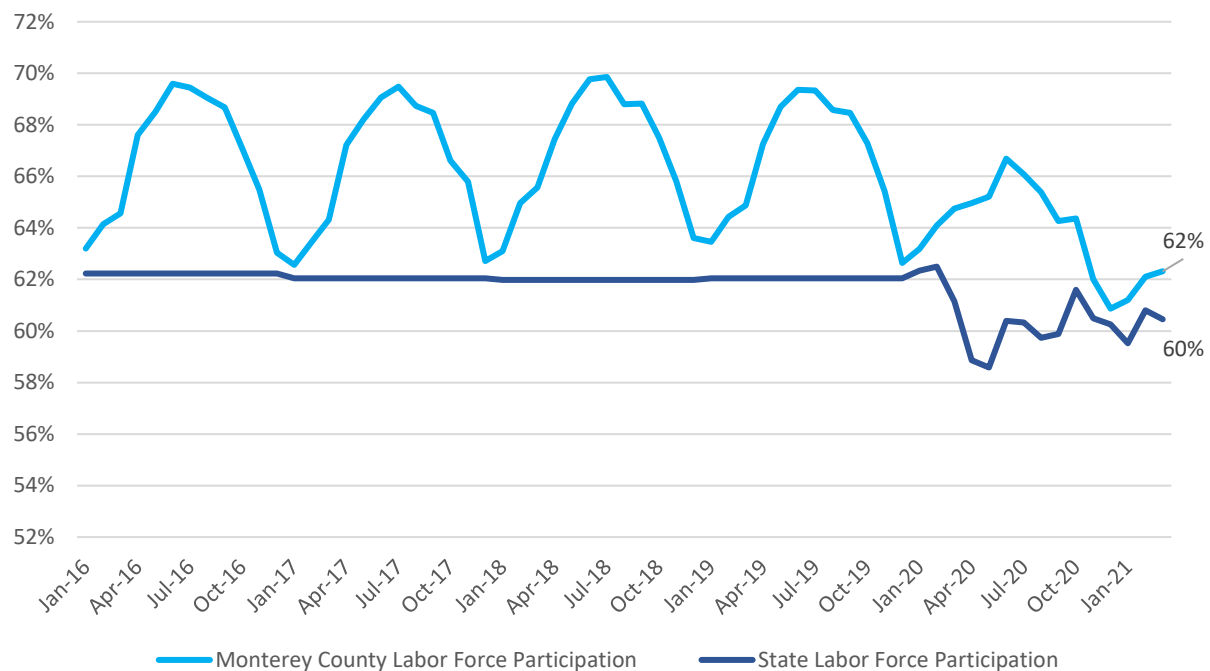


¹² "Tracking the Recovery." Opportunity Insights.

¹³ California Employment Development Department

Labor force participation in Monterey County has also declined over the course of the pandemic. Sixty-two percent of adults ages 16 and over were in the labor force in March 2021, compared to 65% in March of 2019 (Figure 13). Recent data from the California Employment Development Department suggests that between May 2019 and May 2021, 6,400 people have left the labor force. The departure of 6,400 workers from the labor force could present substantial economic costs if long lasting; thousands of fewer people working or seeking work means thousands of households with lower incomes, less discretionary spending for activities in the local economy, and less savings for future economic downturns.

Figure 13. Change in Labor Force Participation¹⁴



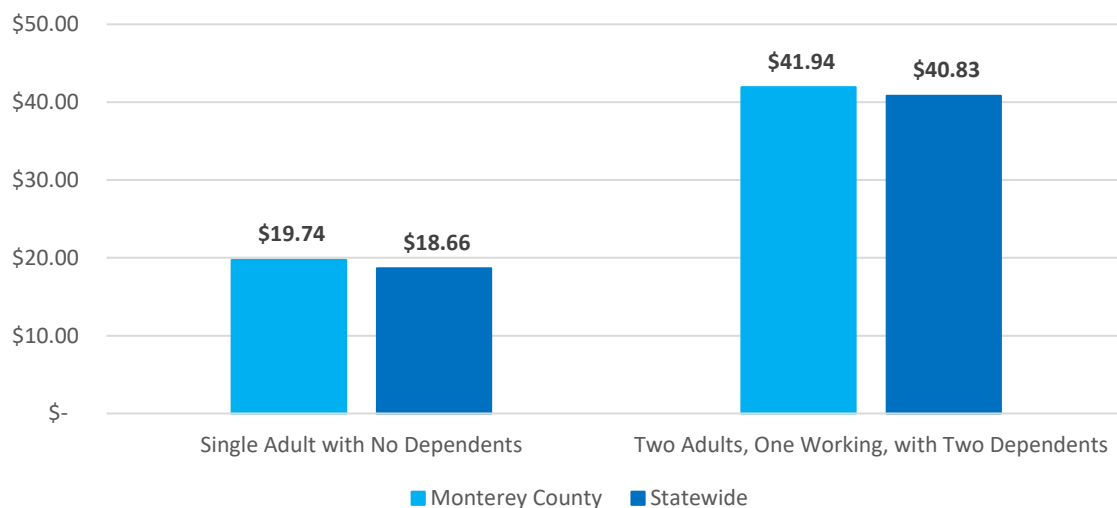
Job Quality

Job quality is a metric that is particularly important in a region, such as Monterey County, where the high costs of living exceed national and even statewide averages. The county's high costs of living are not captured by traditional metrics, such as the poverty rate, which is a national figure that ignores regional fluctuations in prices for staples such as healthcare, housing, and food. As such, a region could have relatively low unemployment and yet many of its workers could be struggling to make ends meet due to an abundance of jobs that do not offer sufficient wages. Thus, job quality is an important lens through which to view Monterey County's labor market.

¹⁴ California Employment Development Department

Figure 14 highlights the high cost of living in Monterey County according to the M.I.T. Living Wage Calculator.¹⁵ For a single adult with no dependents, the living wage in Monterey County is \$19.74 per hour. For a family of four with one working parent, the hourly rate doubles to \$41.94 per hour. These living wages are even greater than the considerably high statewide average. These living wages provide a benchmark through which to consider career pathways and options for workers in the county. If a resident can work full-time and still not be able afford to live within a reasonable distance of work, they are less likely to stay in that job or in the area.

Figure 14. Hourly Living Wages¹⁶



BW Research examined wage data from the Bureau of Labor Statistics' Occupational Employment Statistics (OES) to determine job quality. Occupations within 3-digit NAICS industries were assigned tiers based on median annual earnings. Looking at occupations within specific industries allows for differentiation between occupations across industries. This captures the difference between, for example, a medical equipment sales representative and a clothing retail sales representative. Since wages are strongly correlated with a job's skill, education, and experience requirements, wages provide an intuitive metric to assess job quality.

¹⁵ <https://livingwage.mit.edu/>

¹⁶ M.I.T. Living Wage Calculator.

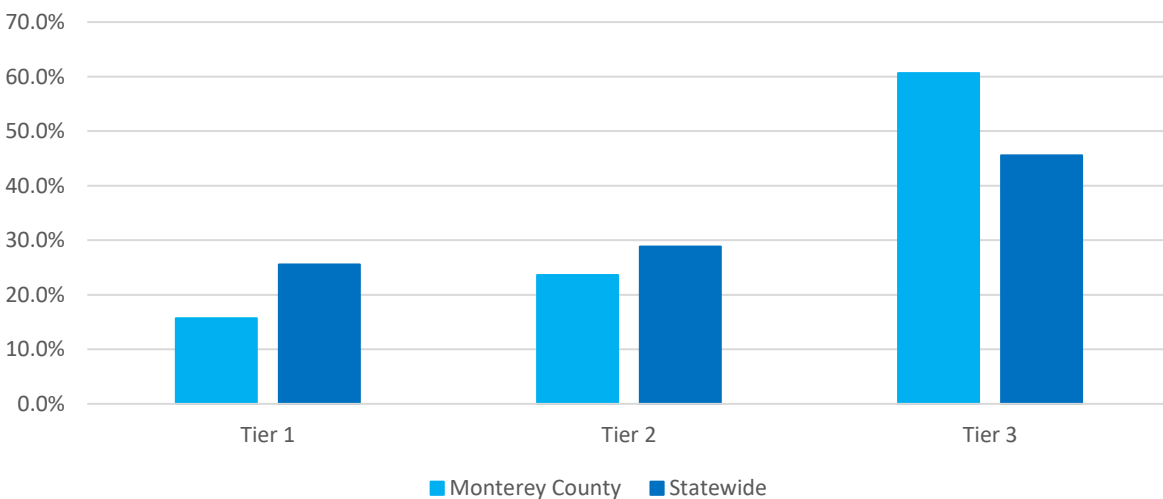
TIER 1 OCCUPATIONS	TIER 2 OCCUPATIONS	TIER 3 OCCUPATIONS
<p>Tier 1 occupations are typically the highest-paying, highest-skilled occupations in the economy. This occupational category includes positions such as managers (e.g., Chief Executives and Sales Managers), professional positions (e.g., Lawyers and Physicians), and highly skilled technology occupations, such as scientists, engineers, computer programmers, and software developers.</p>	<p>Tier 2 occupations are typically the middle-skill, middle-wage occupations. This occupational category includes positions such as technicians, teachers, office and administrative positions (e.g., Accounting Clerks and Secretaries), and manufacturing, operations, and production positions (e.g., Assemblers, Electricians, and Machinists).</p>	<p>Tier 3 occupations are typically the lowest-paying, lowest-skilled occupations that have historically provided the largest portion of employment in the region. These occupations include positions such as security guards, food service and retail positions, building and grounds cleaning positions (e.g., Janitors), and personal care positions (e.g., Home Health Aides and Child Care Workers).</p>

Monterey County has a higher proportion of lower-skill, lower-paying Tier 3 jobs than the state.

Roughly six-in-ten (61%) jobs are Tier 3 jobs in Monterey County, compared to 46% across the state.

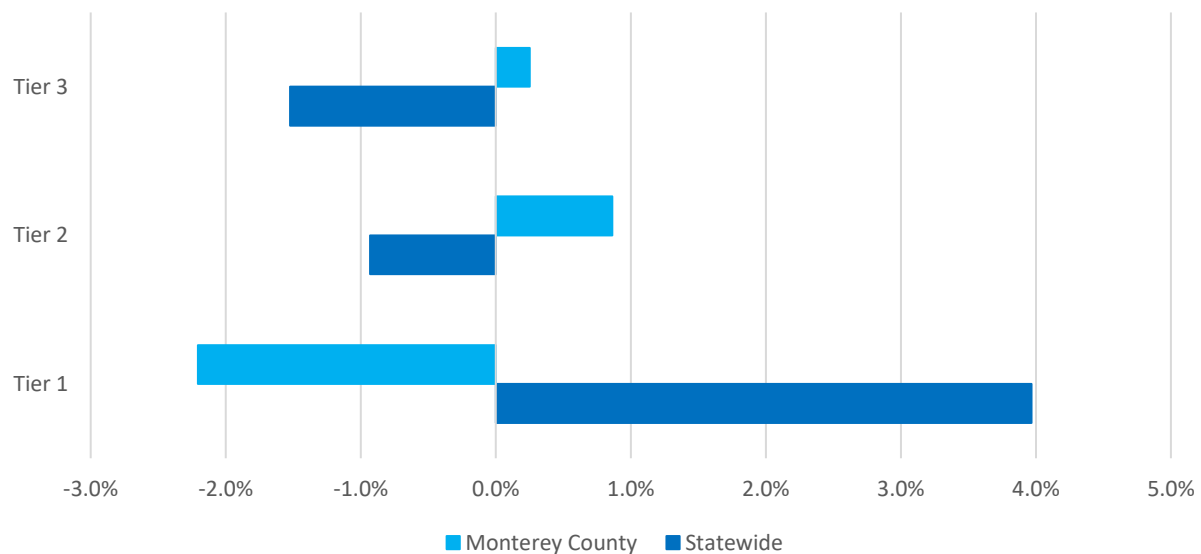
Higher-skill, higher-paying Tier 1 jobs are also underrepresented in the county relative to the statewide average (Figure 15). Lower job quality means that there is generally less opportunity for upward mobility or career advancement, and a greater share of the population likely struggles to make ends meet.

Figure 15. Job Quality



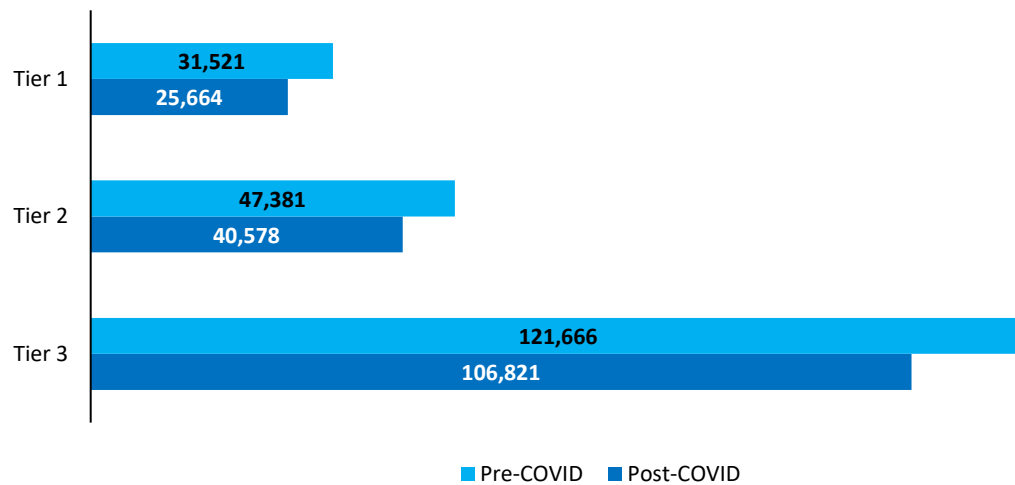
Between 2014 and 2019, the share of Tier 1 jobs declined in Monterey County. Even though the number of Tier 1 jobs in the county increased during this time, growth among Tier 2 and Tier 3 jobs outpaced Tier 1 growth, resulting in the proportion of Tier 1 jobs relative to all jobs diminishing. The state saw a reversal of this trend, with Tier 1 jobs growing at the fastest rate while the proportion of Tier 2 and Tier 3 jobs declined (Figure 16).

Figure 16. Change in Share of Jobs by Tier (2014-2019)



Tier 3 jobs accounted for 54% of all lost jobs in Monterey County. Nearly 15,000 Tier 3 jobs were lost between February 2020 and March 2021 in the county (Figure 17). Further troubling is that Tier 3 workers are the least likely to have substantial savings to fall back on in the event of job loss.

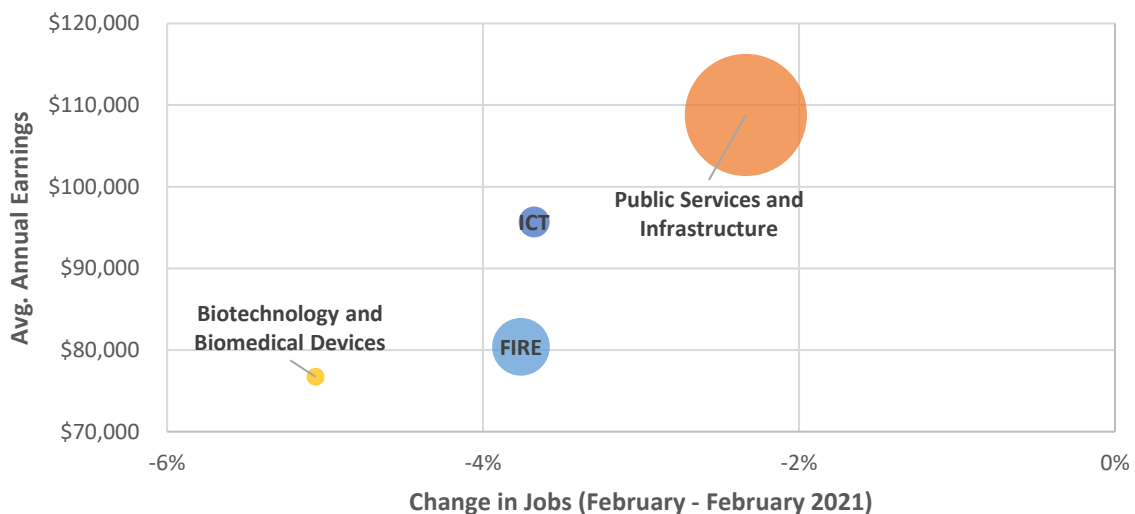
Figure 17. COVID-19 Changes in Employment by Job Quality



Industry Cluster Analysis

The highest-earning industry clusters have been relatively well-insulated from pandemic-related shocks. Of the four industry clusters with the highest average earnings per worker, all had seen job losses less than 6% (Figure 18) between February 2020 and February 2021. Compared to lower-earning industry clusters, these job losses are relatively minimal and suggest that these industries are primed for a quick rebound as recovery progresses.

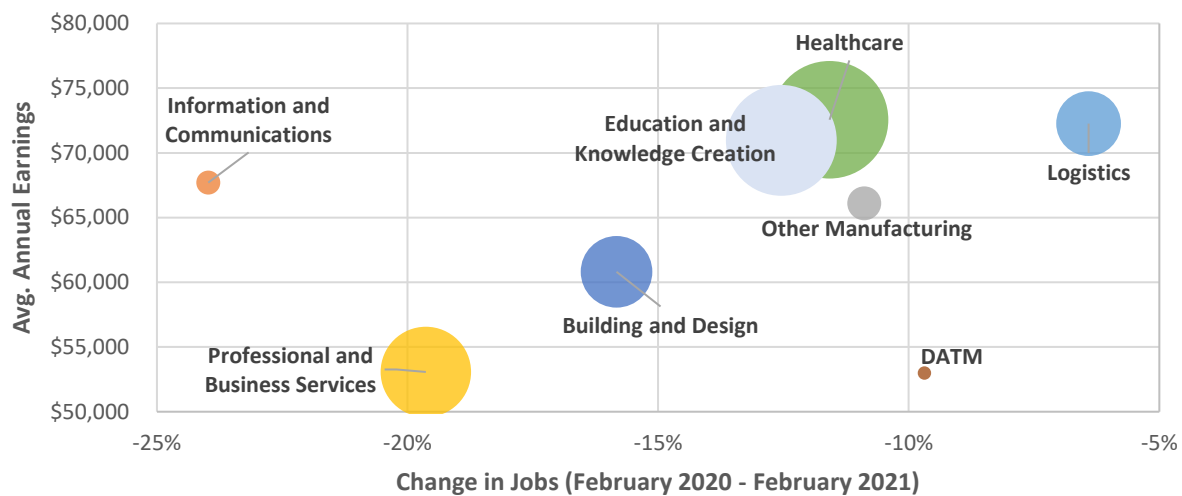
Figure 18. Highest-Earning Industry Clusters¹⁷



¹⁷ Emsi 2020.4

Industry clusters with average earnings between \$50,000 and \$75,000 per year saw job losses ranging from mild to severe. Industry clusters such as Logistics and Defense, Aerospace, and Transportation Manufacturing (DATM) saw mild employment losses of less than 10%, while Professional and Businesses Services, and Information and Communications, saw declines of -20% and -24% respectively, between February 2020 and February 2021. Even Healthcare saw employment fall by 12% as medical providers tightened budgets after a decline in the number of elective surgeries (Figure 19).

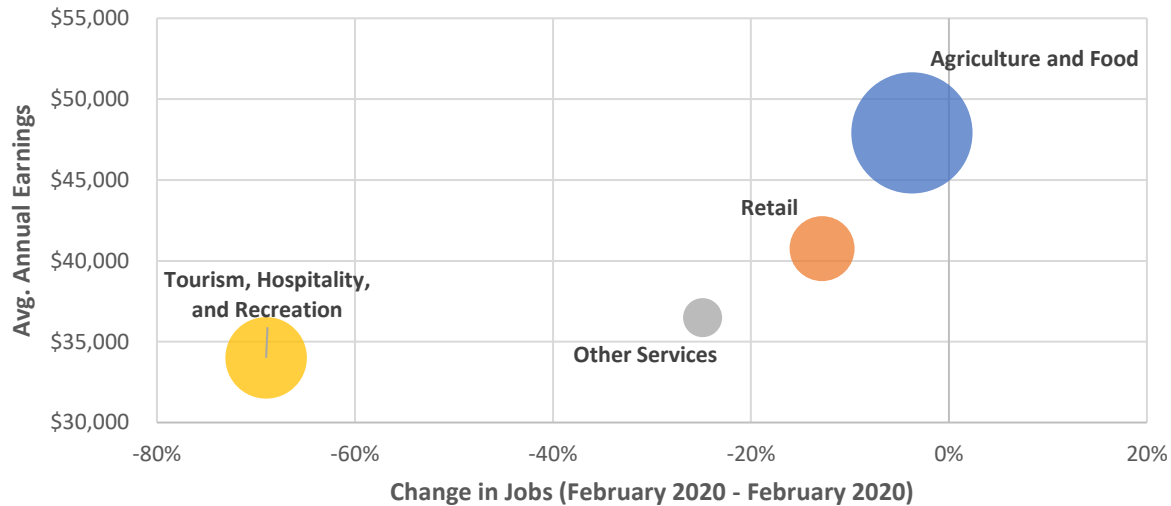
Figure 19. Mid-Earning Industry Clusters¹⁸



The industry clusters with the lowest average earnings have seen some of the greatest employment losses in Monterey County. Nearly seven-in-ten (69%) of jobs in Tourism, Hospitality, and Recreation disappeared between February of 2020 and February 2021. It is also important to consider that many of these jobs may have been tied closely to Monterey County's business travel traffic, which is likely to be one of the last types of travel to return in full. Other Services (which includes businesses such as nail and hair salons) (-25%) and Retail (-13%) saw notable declines in employment as well (Figure 20).

¹⁸ Emsi 2020.4

Figure 20. Lowest-Earning Industry Clusters¹⁹



Recent data from the California Employment Development Department (CA EDD) shows that some of these industry-specific losses have been mitigated, but the damage from COVID-19 persists through May 2021. There were 9,700 fewer jobs in Monterey County in May of 2021 than there were in May 2019. While Agriculture jobs increased by 4,000 jobs during this time, Leisure & Hospitality—accounting for restaurants, bars, and hotels—have lost 7,600 jobs over the course of the pandemic, translating to more than half (55%) of all Nonfarm jobs lost during the pandemic (Table 1).

Table 1. Change in Industry Employment (May 2019-May 2021)

	May 2019-2021 Change	Change in Jobs
Total, All Industries	-4.6%	(9,700)
Total Farm	6.2%	4,000
Total Nonfarm	-9.3%	(13,700)
Total Private	-10.2%	(11,300)
Goods Producing	-8.1%	(1,000)
Mining, Logging, and Construction	1.5%	100
Mining and Logging	0.0%	-
Construction	1.5%	100
Manufacturing	-20.0%	(1,100)
Nondurable Goods	-13.5%	(500)
Service Providing	-9.4%	(12,700)
Private Service Providing	-10.4%	(10,300)
Trade, Transportation & Utilities	-6.0%	(1,600)

¹⁹ Emsi 2020.4

Wholesale Trade	-5.1%	(300)
Retail Trade	-5.4%	(900)
Food & Beverage Stores	5.0%	200
Transportation, Warehousing & Utilities	-9.5%	(400)
Information	-10.0%	(100)
Financial Activities	-11.1%	(500)
Professional & Business Services	3.4%	500
Educational & Health Services	-1.0%	(200)
Health Care & Social Assistance	0.6%	100
Leisure & Hospitality	-28.8%	(7,600)
Accommodation & Food Services	-26.4%	(6,200)
Accommodation	-27.7%	(2,300)
Food Services & Drinking Places	-25.7%	(3,900)
Other Services	-15.4%	(800)

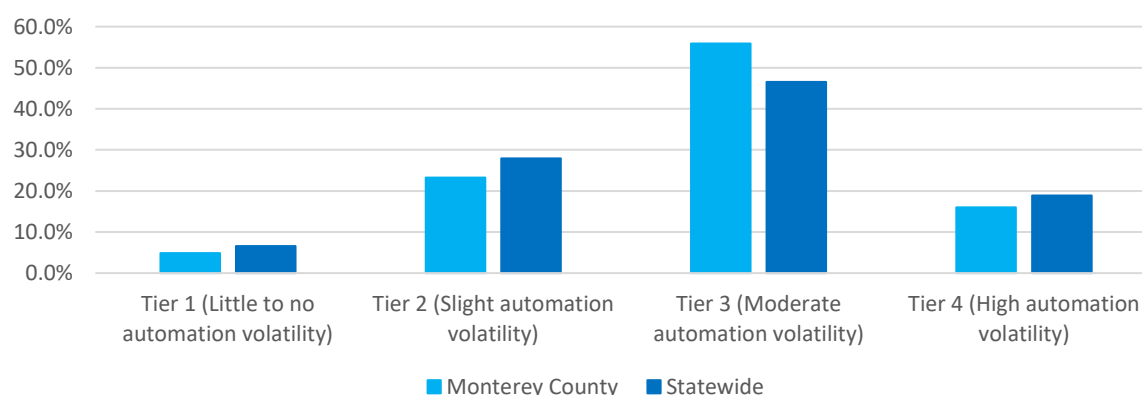
Job Volatility

BW Research has developed a job volatility index that ranks occupations based on the share of their skills and abilities that can be replaced by modern technology. To do this, the research team examined O*NET data that contains occupation-level survey data on 26 different skills. These skills were examined on their relative importance to the job and their complexity. The scores for each of these skills were then aggregated within each occupation, resulting in a metric that demonstrates the relative risk an occupation has of change due to technological advancement.

TIER 1 AUTOMATION VOLATILITY	TIER 2 AUTOMATION VOLATILITY	TIER 3 AUTOMATION VOLATILITY	TIER 4 AUTOMATION VOLATILITY
Tier 1 occupations have a very low share of activities that can be replaced or heavily augmented by technology within five years. These occupations include Coaches and Scouts, Surgeons, and Chief Executives.	Tier 2 occupations have some tasks that can be automated, though automation will likely expand these roles rather than replace them. These occupations include Pest Control Workers, Graphic Designers, and Energy Auditors.	Tier 3 occupations have a moderate share of work that can be replaced by technology. These occupations include Landscaping and Groundskeeping Workers, Dishwashers, and Travel Agents.	Tier 4 occupations are the most at risk of automation. A large share of work activities can be replaced or heavily augmented by technology within five years. These occupations include Slaughterers and Meat Packers, and Sewing Machine Operators.

More than half (56%) of workers in Monterey County are employed in jobs that are at moderate risk of volatility due to automation. While this rate is higher than the statewide average, Monterey County has fewer workers that hold jobs that are classified as Tier 4 jobs, or those at the greatest risk of automation-related volatility (Figure 21). This metric has become particularly important as health concerns and worker shortages encourage employers to explore automation opportunities in their businesses.

Figure 21. Job Volatility Due to Automatability of Tasks

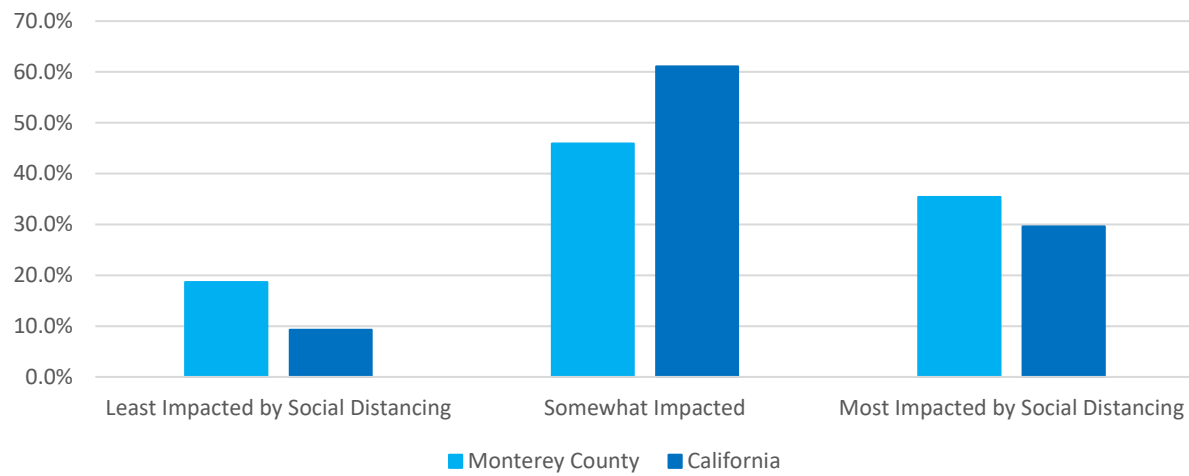


BW Research developed an occupation-level volatility index based on an occupation's physical proximity score in O*NET occupation data. This analysis classifies jobs into three tiers. Occupations where physical proximity to others is most important are classified as Tier 3. Tier 3 occupations, including Waitresses and Teachers, have likely seen notable volatility or disruption due to social distancing and public health mandates. Occupations with middling human-proximity needs, such as Advertising Agents and Real Estate Agents, needs are classified as Tier 2 and have likely seen some volatility and disruption but remain largely unchanged. Tier 1 jobs are occupations, ranging from Graphic Designers to Loggers, with

the lowest need for physical proximity to others. These jobs have been least affected by social distancing requirements.

Monterey County has a substantial number of workers who were most heavily affected by social distancing requirements as well as those whose jobs were likely unchanged. More than a third of the workforce (35%) worked in jobs most-impacted by social distancing requirements (Figure 22). As social distancing requirements relax, these workers will likely see greater demand for their goods and services.

Figure 22. Job Volatility Due to Social Distancing Requirements



Career Pathways

The volatility induced by the COVID-19 pandemic will likely reshape the labor market, reducing some roles and pathways while broadening and creating others. The section below seeks to highlight key opportunities for workers looking to enter, and advance within, the new labor market. These pathways focus on several key industry clusters that have robust career pathways with living wages and demonstrated strong growth leading into the pandemic, resilience throughout the pandemic, and are poised to expand as we rebuild from the pandemic. These industry clusters are Healthcare; Building and Design; Finance, Insurance, Banking, and Real Estate; and Professional and Business Services. This section also includes two growth industry clusters. These growth clusters currently employ relatively few workers within the county but exhibit strong growth potential.

BUILDING & DESIGN

The Building and Design industry cluster consists of firms and industries that design, construct, and repair buildings and infrastructure. Table 2 provides examples of three career pathways that are available within Building and Design. An important aspect of these pathways is that they all have entry-points that are accessible with a high school or community college diploma. The starting points for these pathways also offer median hourly earnings at or above the living wage.

Number of Jobs in Monterey County: 7,500

Table 2. Building and Design Career Pathways ²⁰

	ENTRY-LEVEL	MID-LEVEL	SENIOR LEVEL
Design and Pre-Construction <i>This segment includes the drafting, designing, and planning stages of the construction process</i>	<u>Architectural and Civil Drafters</u> Median Hourly Earnings: \$29.21 Typical Education: Associate's degree	<u>Project Management Specialists</u> Median Hourly Earnings: \$32.31	<u>Civil Engineer</u> Median Hourly Earnings: \$52.81 Typical Education: Bachelor's degree

²⁰ EMSI 2020.3

Construction <i>This segment includes the foundation work, wiring, and building process</i>	<u>Construction Laborers</u> Median Hourly Earnings: \$23.30 Typical Education: No formal education credential	<u>Electrician</u> Median Hourly Earnings: \$32.83	<u>Construction Managers</u> Median Hourly Earnings: \$46.43 Typical Education: Bachelor's degree
Maintenance & Operations <i>This segment includes maintenance, repair, and operational activities required to maintain facilities and infrastructure</i>	<u>General Maintenance and Repair Workers</u> Median Hourly Earnings: \$22.06 Typical Education: High school diploma or equivalent	<u>First-Line Supervisors of Mechanics, Installers, and Repairers</u> Median Hourly Earnings: \$36.60	<u>General and Operations Managers</u> Median Hourly Earnings: \$51.38 Typical Education: Bachelor's degree

Key occupations within Building and Design have substantial employment numbers and notable annual demand projections. The industry cluster employs nearly 360 Construction Laborers, and there are projected to be 151 openings every year for the next three years. Construction Managers are also in high demand; there are projected to be 77 openings per year for the next three years for Construction Manager positions (Table 3).

Table 3. Current Employment and Projected Demand for Key Building and Design Occupations²¹

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
GENERAL AND OPERATIONS MANAGERS	98	30
PROJECT MANAGEMENT SPECIALISTS AND BUSINESS OPERATIONS SPECIALISTS, ALL OTHER	79	26
MAINTENANCE AND REPAIR WORKERS, GENERAL	21	7
CONSTRUCTION MANAGERS	281	77
FIRST-LINE SUPERVISORS OF MECHANICS, INSTALLERS, AND REPAIRERS	182	67
ELECTRICIANS	15	7
CIVIL ENGINEERS	136	34
CONSTRUCTION LABORERS	357	151
ARCHITECTURAL AND CIVIL DRAFTERS	57	18

²¹ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

HEALTHCARE

The Healthcare industry cluster includes industries and firms that provide medical diagnosis and treatment, and includes allied health roles. Table 4 highlights several pathways within the healthcare industry. Though healthcare has notoriously high educational attainment and certification barriers, the pathways listed offer accessible entry-points and upward mobility potential.

Number of Jobs in Monterey County: 20,200

Table 4. Healthcare Career Pathways ²²

	ENTRY-LEVEL	MID-LEVEL	SENIOR LEVEL
Patient Services <i>This segment includes workers who attend and provide medical care to patients</i>	<u>Certified Nurse Assistant CNA</u> Median Hourly Earnings: \$17.73 Typical Education: Postsecondary nondegree award	<u>Licensed Practical and Licensed Vocational Nurses</u> Median Hourly Earnings: \$28.64	<u>Registered Nurse</u> Median Hourly Earnings: \$50.99 Typical Education: Bachelor's degree
Medical Administration <i>This segment includes activities centered around the administration of healthcare activities</i>	<u>Medical Secretaries and Administrative Assistant</u> Median Hourly Earnings: \$19.76 Typical Education: High school diploma or equivalent	<u>Health Technologists and Technicians</u> Median Hourly Earnings: \$22.90	<u>Administrative Services and Facilities Managers</u> Median Hourly Earnings: \$44.62 Typical Education: Bachelor's degree
Diagnostic Services <i>This segment works to find and diagnose the root causes of medical ailments</i>	<u>Medical Assistants</u> Median Hourly Earnings: \$19.76 Typical Education: Postsecondary nondegree award	<u>Radiological Technologists and Technicians</u> Median Hourly Earnings: \$42.68	<u>Physician's Assistant</u> Median Hourly Earnings: \$56.80 Typical Education: Master's degree

Data suggests certain occupations within Healthcare will see substantial demand over the next three years. There are projected to be roughly 2,000 annual openings for Registered Nurses in Monterey County for the next three years, presenting significant opportunity. Other roles, such as Licensed Practical and Licensed Vocational Nurses, Medical Secretaries and Administrative Assistants, and

²² EMSI 2020.3

Nursing Assistants are expected to have 150 or more openings every year for the next three years (Table 5).

Table 5. Current Employment and Projected Demand for Key Healthcare Occupations²³

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
REGISTERED NURSES	2,322	2,005
LICENSED PRACTICAL AND LICENSED VOCATIONAL NURSES	513	151
MEDICAL SECRETARIES AND ADMINISTRATIVE ASSISTANTS	678	274
NURSING ASSISTANTS	854	352
MEDICAL DOSIMETRISTS, MEDICAL RECORDS SPECIALISTS, AND HEALTH TECHNOLOGISTS AND TECHNICIANS, ALL OTHER	237	55
FACILITIES MANAGERS	40	13
ADMINISTRATIVE SERVICES MANAGERS	3	1

PROFESSIONAL AND BUSINESS SERVICES

Firms in Professional and Business Services industries provide a range of services, including legal, accounting, landscaping, consulting, and other specialty services. Each of the career pathways listed below in Table 5 has entry-points that are accessible with a high school diploma or community college certificate. Each pathway also has an opportunity for specialization and advancement, so workers entering the pathway can advance their careers as they develop their education and skillset.

Number of Jobs in Monterey County: 12,000

²³ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

Table 6. Professional and Business Services Career Pathways ²⁴

	ENTRY-LEVEL	MID-LEVEL	SENIOR LEVEL
Legal <i>This segment includes careers that provide legal services to individuals and organizations</i>	<u>Legal Secretaries and Administrative Assistants</u> Median Hourly Earnings: \$22.33 Typical Education: High school diploma or equivalent	<u>Paralegals and Legal Assistants</u> Median Hourly Earnings: \$26.71	<u>Lawyers</u> Median Hourly Earnings: \$53.54 Typical Education: Doctoral or professional degree
Administrative <i>This segment includes the support and administrative services provided to a wide range of companies</i>	<u>Billing and Posting Clerk</u> Median Hourly Earnings: \$20.78 Typical Education: High school diploma or equivalent	<u>Project Management Specialist</u> Median Hourly Earnings: \$31.00	<u>General and Operations Managers</u> Median Hourly Earnings: \$46.95 Typical Education: Bachelor's degree
Accounting <i>This segment includes accounting, bookkeeping, and auditing services</i>	<u>Bookkeeping, Accounting, and Auditing Clerks</u> Median Hourly Earnings: \$23.93 Typical Education: High school diploma or equivalent	<u>Project Management Specialists</u> Median Hourly Earnings: \$31.00	<u>Accountants and Auditors</u> Median Hourly Earnings: \$36.27 Typical Education: Bachelor's degree

Six of the eight key Professional and Business Services occupations identified above are projected to have 62 or more annual openings over the next three years. Many of these are entry-level or early-career positions, including Bookkeeping, Accounting, and Auditing Clerks, and Paralegals and Legal Assistants (Table 7).

²⁴ EMSI 2020.3

Table 7. Current Employment and Projected Demand for Key Professional and Business Services Occupations²⁵

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
GENERAL AND OPERATIONS MANAGERS	224	78
PROJECT MANAGEMENT SPECIALISTS AND BUSINESS OPERATIONS SPECIALISTS, ALL OTHER	217	84
ACCOUNTANTS AND AUDITORS	450	136
LAWYERS	372	65
BILLING AND POSTING CLERKS	69	25
BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS	226	86
LEGAL SECRETARIES AND ADMINISTRATIVE ASSISTANTS	106	28
PARALEGALS AND LEGAL ASSISTANTS	157	62

FINANCE, BANKING, INSURANCE, AND REAL ESTATE

The Finance, Insurance, Banking, and Real Estate industry cluster includes industries and firms that specialize in financial management and transactions, insurance and actuarial activities, and real estate transactions. The pathways presented in Table 8 offer a range of entry-points to interested job seekers and offer strong advancement opportunities.

Number of Jobs in Monterey County: 4,300

Table 8. Finance, Banking, Insurance, and Real Estate (FIRE) Career Pathways²⁶

	ENTRY-LEVEL	MID-LEVEL	SENIOR LEVEL
Banking <i>This segment includes the staff that work at banks, credit unions, and other financial institutions available to the public</i>	<u>Tellers</u> Median Hourly Earnings: \$16.90 Typical Education: High school diploma or equivalent	<u>Loan Officer</u> Median Hourly Earnings: \$32.57	<u>General and Operations Manager</u> Median Hourly Earnings: \$49.95 Typical Education: Bachelor's degree

²⁵ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

²⁶ EMSI 2020.3

Real Estate <i>This segment includes activities centered around real estate transactions</i>	<u>Property, Real Estate, and Community Association Managers</u> Median Hourly Earnings: \$28.77 Typical Education: High school diploma or equivalent	<u>Real Estate Sales Agent</u> Median Hourly Earnings: \$28.52	<u>Real Estate Brokers</u> Median Hourly Earnings: \$31.08 Typical Education: High school diploma or equivalent
Insurance <i>This segment includes roles within the insurance industry</i>	<u>Insurance Claims and Policy Processing Clerks</u> Median Hourly Earnings: \$20.47 Typical Education: High school diploma or equivalent	<u>Insurance Sales Agents</u> Median Hourly Earnings: \$25.37	<u>Claims Adjusters, Examiners, and Investigators</u> Median Hourly Earnings: \$31.19 Typical Education: Bachelor's degree

Several key FIRE occupations present substantial demand in the future. Property, Real Estate, and Community Association Managers are projected to have 79 annual openings for the next three years, and Real Estate Sales Agents are similarly projected to have 75 openings annually (

Table 9).

Table 9. Current Employment and Projected Demand for Key FIRE Occupations²⁷

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
GENERAL AND OPERATIONS MANAGERS	87	26
PROPERTY, REAL ESTATE, AND COMMUNITY ASSOCIATION MANAGERS	315	79
INSURANCE SALES AGENTS	212	66
REAL ESTATE BROKERS	88	28
LOAN OFFICERS	131	35
REAL ESTATE SALES AGENTS	244	75
CLAIMS ADJUSTERS, EXAMINERS, AND INVESTIGATORS	72	17
INSURANCE APPRAISERS, AUTO DAMAGE	9	2
INSURANCE CLAIMS AND POLICY PROCESSING CLERKS	111	32
TELLERS	226	67

²⁷ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

Growth Industries and Pathways

The following industry clusters and career pathways are highlighted because they currently employ a relatively small share of the workforce, but their recent growth, wages, and innovative fields make these industry clusters potential growth opportunities for Monterey County. Other growing sectors—such as Aviation and Air Transit and Agriculture Technology—have even fewer employees than the industry clusters listed below. Given that their pathways are likely to be more narrow, close partnership with relevant companies in these spaces may be more prudent to developing and supporting their talent pools.

INFORMATION AND COMMUNICATION TECHNOLOGY

While the Information and Communications Technology (ICT) industry cluster has seen an overall employment decline in recent years, specific industries within the cluster have seen strong growth and offer opportunities for niche specialization. The growth in ICT has primarily been driven by Custom Computer Programming Services as well as Computer Systems Design Services.

Number of Jobs in Monterey County: 1,200

Table 10. Information and Communications Technology Career Pathways²⁸

	Entry-Level	Mid-Level	Senior Level
Computer Systems <i>This sector includes the design, testing, creation, and support for various computer systems</i>	<u>Computer User Support Specialists</u> Median Hourly Earnings: \$27.02 Typical Education: Some college, no degree	<u>Web Developers and Digital Interface Designers</u> Median Hourly Earnings: \$41.53	<u>Software Developers and Software Quality Assurance Analysts and Testers</u> Median Hourly Earnings: \$51.10 Typical Education: Bachelor's Degree
Sales <i>This segment includes the sales and support services provided to the computer service providers</i>	<u>Customer Service Representatives</u> Median Hourly Earnings: \$18.44 Typical Education: High school diploma or equivalent	<u>Sales Representatives of Services</u> Median Hourly Earnings: \$22.16	<u>Sales Managers</u> Median Hourly Earnings: \$58.71 Typical Education: Bachelor's Degree

²⁸ EMSI 2020.3

Because ICT is a relatively smaller industry cluster within Monterey County, there are fewer employment opportunities relative to the key industry clusters highlighted previously. However, occupations such as Software Developers and Computer User Support Specialists are projected to have 61 and 20 annual openings over the next three years (Table 11).

Table 11. Current Employment and Projected Demand for Key ICT Occupations²⁹

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
SALES MANAGERS	15	5
COMPUTER USER SUPPORT SPECIALISTS	62	20
CUSTOMER SERVICE REPRESENTATIVES	23	9
SOFTWARE DEVELOPERS AND SOFTWARE QUALITY ASSURANCE ANALYSTS AND TESTERS	197	61
WEB DEVELOPERS AND DIGITAL INTERFACE DESIGNERS	16	4
SALES REPRESENTATIVES OF SERVICES, EXCEPT ADVERTISING, INSURANCE, FINANCIAL SERVICES, AND TRAVEL	41	17

OTHER MANUFACTURING

Other Manufacturing is an industry cluster that includes a range of manufacturing activities, from plastics and metals production to textile and fabric finishing. Machine Shops, Corrugated and Solid Fiber Box Manufacturing, and Cut Stone and Stone Product Manufacturing are among the top industries within the county.

Number of Jobs in Monterey County: 1,700

Table 12. Other Manufacturing Career Pathways³⁰

	ENTRY-LEVEL	MID-LEVEL	SENIOR LEVEL
Production <i>This sector includes the design, prototyping, and production of industrial goods, such as farm equipment</i>	<u>Cutting and Slicing Machine Setters, Operators, and Tenders</u> Median Hourly Earnings: \$17.02 Typical Education: High school diploma or equivalent	<u>Machinists</u> Median Hourly Earnings: \$20.25	<u>First-Line Supervisors of Production and Operating Workers</u> Median Hourly Earnings: \$33.38 Typical Education: High School Diploma

²⁹ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

³⁰ EMSI 2020.3

Sales	<u>Shipping, Receiving, and Inventory Clerks</u>	<u>Sales Representatives</u>	<u>Sales Managers</u>
<i>This segment includes the sales and support services provided to the manufacturers</i>	Median Hourly Earnings: \$17.80	Median Hourly Earnings: \$40.94	Median Hourly Earnings: \$58.71
	Typical Education: No formal education required		Typical Education: Bachelor's degree

Occupations like Machinists and First-Line Supervisors of Production and Operating Workers are projected to have a notable number of annual openings over the next three years, with 30 and 20 annual openings, respectively (Table 13).

Table 13. Current Employment and Projected Demand for Key Other Manufacturing Occupations³¹

	2020 EMPLOYMENT	3-YEAR DEMAND (PER YEAR)
SALES MANAGERS	8	1
SHIPPING, RECEIVING, AND INVENTORY CLERKS	30	9
FIRST-LINE SUPERVISORS OF PRODUCTION AND OPERATING WORKERS	58	20
SALES REPRESENTATIVES, WHOLESALE AND MANUFACTURING, EXCEPT TECHNICAL AND SCIENTIFIC PRODUCTS	40	14
MACHINISTS	66	30
CUTTING AND SLICING MACHINE SETTERS, OPERATORS, AND TENDERS	25	10

The Underlying Workforce

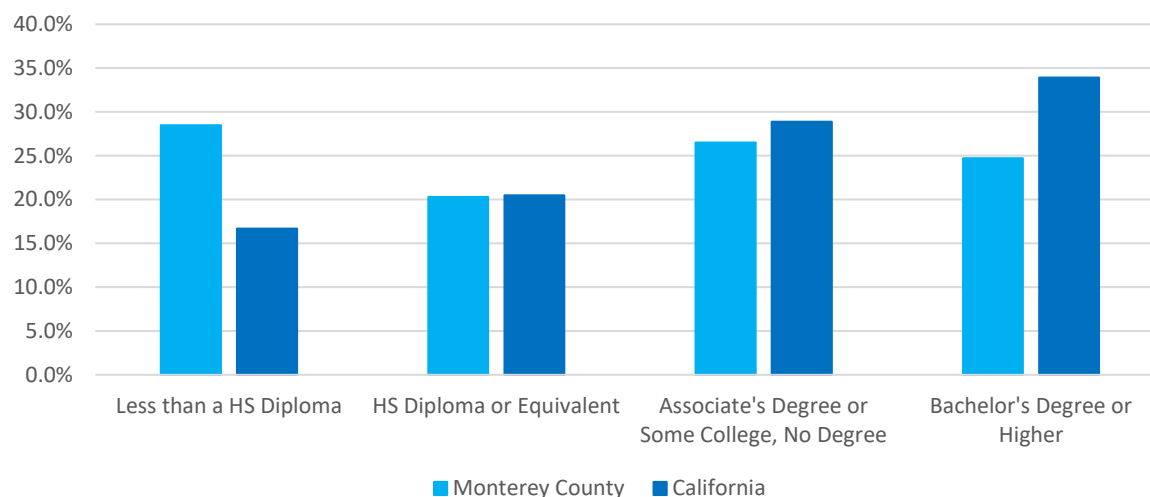
This section provides data on various characteristics of the Monterey County population and workforce. These characteristics provide important context to understanding workforce challenges and opportunities in the county.

Residents in Monterey County tend to have lower levels of education relative to the broader state.

Nearly three-in-ten (29%) residents 25 years and older do not have a high school diploma. Conversely, 25% of adults in Monterey County have a bachelor's degree or higher compared to 34% statewide (Figure 23). This data is important because there are increasingly fewer jobs that do not require a high school degree, and even fewer jobs that offer living wages given the county's high cost of living.

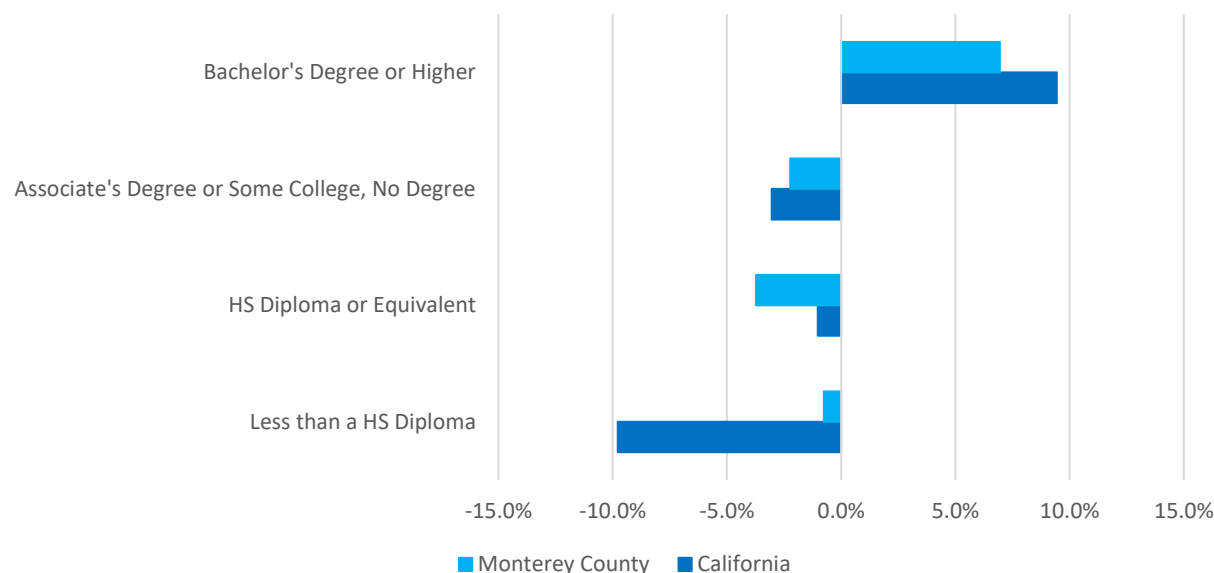
³¹ Data from JobsEQ and the Quarterly Census of Employment and Wages (QCEW).

Figure 23. Educational Attainment of Residents 25 Years and Older³²



Educational attainment has improved in Monterey in recent years, though there is progress to be made. Between 2014 and 2019, the share of residents without a high school diploma or equivalent in Monterey County declined by less than a percent, while statewide the proportion decreased by 10% during the same time. Attainment in bachelor's degrees and higher increased by 7% during this time, representing a substantial positive increase in educational attainment (Figure 24). Education—and opportunities for workers to advance their education while continuing to work—will be important in ensuring that the Monterey County workforce is prepared for high quality jobs.

Figure 24. Change in Educational Attainment (2014-2019)³³

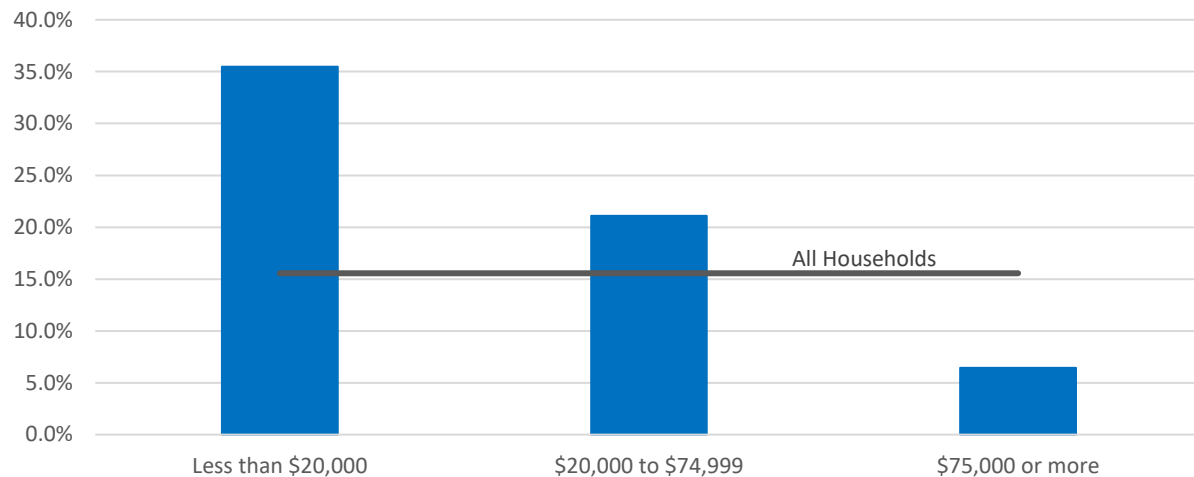


³² U.S. Census Bureau, 2014-2019 American Community Survey 5-Year Estimates.

³³ U.S. Census Bureau, 2014-2019 American Community Survey 5-Year Estimates.

Nearly one out of every seven (16%) households in Monterey County do not have an internet subscription. Lower income households are substantially less likely to have internet access; more than a third (36%) of households with incomes lower than \$20,000 per year reported not having an internet subscription. Among households with incomes between \$20,000 and \$74,999 per year, roughly one-in-five (21%) lack an internet subscription (Figure 25).

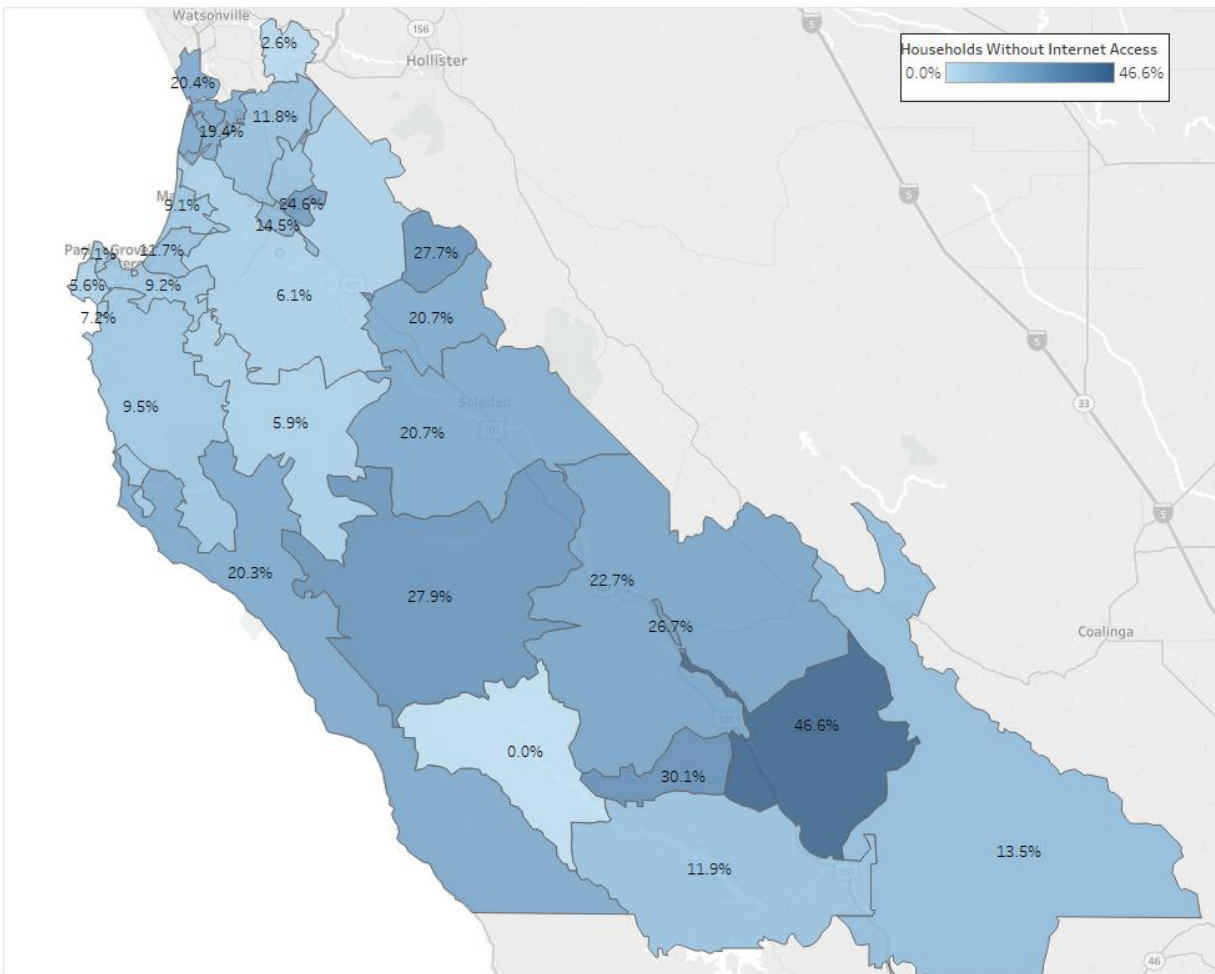
Figure 25. No Internet Access and Annual Household Income³⁴



Southern and rural regions of Monterey County tend to have the highest rates of households without internet access. Some northern ZIP codes, such as 95039 (20%) and 95012 (19%), also have high rates of households without internet (Figure 26).

³⁴ U.S. Census Bureau, 2014-2019 American Community Survey 5-Year Estimates.

Figure 26. Share of Households Without Internet Access (2019)³⁵



³⁵ U.S. Census Bureau, 2014-2019 American Community Survey 5-Year Estimates.

Appendix A: Research Methodology

Population and demographic figures at the ZIP code and county level were obtained from the U.S. Census Bureau, 2014-2019 American Community Survey 5-Year Estimates.

BW Research utilized EMSI and JobsEQ for baseline employment figures. EMSI updates data quarterly. The 2020.3 dataset was used for this report.

To capture the most up-to-date data available on the impacts of the COVID-19 pandemic, BW Research drew from a range of data sources. Employment and unemployment claims data were collected from the California Employment Development Department, and small business loan data retrieved from the U.S. Department of the Treasury. Another substantial source of COVID-19 impact data was retrieved from Opportunity Insights, a team of researchers at Harvard University led by Raj Chetty. The Opportunity Insights data is compiled from a range of private sources, which provide a near real-time picture of national and local economies. For more information about the Opportunity Insights data and methodology, please visit <https://www.tracktherecovery.org/>.