



## COUNTY OF MONTEREY

# Countywide Comprehensive Economic Development Strategy: 2021–2026

## YEAR 3 UPDATE (2023–2024)

SEPTEMBER 2025

## ACKNOWLEDGEMENTS

### COMMISSIONED BY THE COUNTY OF MONTEREY



Monterey County is located on the Central Coast of California just south of the Bay Area, about 45 miles from San Jose, and 106 miles from the City of San Francisco. The rich Salinas Valley extends through the heart of the County, making Monterey the third largest agricultural county in California. The County also offers the longest coastline of any California county and attracts more than 3 million visitors annually to destinations such as Fisherman's Wharf, the Cannery, and the Monterey Bay Aquarium. As a subdivision of the state, the County is charged with providing numerous services that affect the lives of all residents, including law enforcement, tax collection, public health protection, public social services, elections, and flood control.

### PREPARED BY:



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Note: All figures and tables that appear throughout this document are based on the most recent data available at the time of analysis.



## PREFACE

In June 2021, the County of Monterey released the Countywide Comprehensive Economic Development Strategy (CEDS): 2021–2026. The County must prepare a new CEDS at least every five years for local communities and organizations to qualify for U.S. Economic Development Administration (EDA) funding. More broadly, the CEDS development process provides a vehicle for regional stakeholders—including, but not limited to, community-based organizations, nonprofits, organized labor, local governments, academic institutions, and private industry—to chart a path towards greater economic wellbeing.

This document is the third update to the most recent CEDS. The Year 1 Update focused on Monterey County's recovery from the Covid-19 pandemic with respect to numerous economic, demographic, and housing metrics and an emphasis on target sectors, and the Year 2 Update assessed the county's emerging technology ecosystem. This year's report dives deeper into the state of the county's Agriculture sector and examines how climate change is affecting the economic landscape.



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## INTRODUCTION

Monterey County stands at a pivotal moment in its economic development trajectory, where traditional approaches to growth and prosperity face unprecedented challenges that demand innovative, integrated solutions. The region's economic foundation rests on three primary pillars—agriculture, tourism and hospitality, and healthcare—yet these sectors operate within an increasingly complex web of interconnected pressures that threaten their long-term viability and the communities they sustain.

The county's economic landscape over the past couple of years exhibits characteristics of a region undergoing structural transformation, where established industries can perform well while simultaneously creating conditions that challenge long-term sustainability. This paradox emerges from a fundamental economic tension where sector-specific achievements in agriculture and tourism coincide with systemic challenges in housing affordability and infrastructure capacity, creating feedback loops where economic success in primary industries generates secondary effects that can limit continued expansion.

Housing emerges as perhaps the most critical challenge threading through every aspect of economic development, illustrating how Monterey County must navigate the relationship between growth and the structural requirements that support that growth. The crisis manifests differently across the county's diverse communities but creates

universal constraints on growth and prosperity. In some areas, dramatic demographic shifts since 2020 have brought new residents, while other communities struggle with workforce retention as median home prices approach \$830,000. This “missing middle” housing problem affects essential workers across all sectors, from agricultural laborers to medical professionals, forcing lengthy commutes that double some cities' populations each weekday and creating significant environmental impacts with limited public transportation alternatives.

The interconnected nature of these challenges becomes particularly evident when examining how climate change, federal policy uncertainty, and local resource constraints compound existing problems. Traditional economic development strategies that focus primarily on business attraction and job creation metrics prove insufficient for addressing these systemic issues. Instead, the current environment demands approaches that integrate workforce development, housing, transportation, environmental resilience, and social equity as inseparable components of sustainable economic growth. This reality becomes especially acute as federal funding streams face uncertainty under changing national priorities, necessitating greater local self-sufficiency and innovative approaches to revenue generation and economic resilience.



## YEAR 3 UPDATE FOCUS

The focus of this year's update to Monterey County's Comprehensive Economic Development Strategy (CEDS) responds to these realities by building on previous years' analysis of the county's emerging technology ecosystem with an emphasis on agriculture and climate resilience. These two areas receive particular emphasis this year because they represent both the greatest immediate risks and the most significant opportunities for positioning Monterey County as a national leader in sustainable economic development.

The agriculture sector's evolution from traditional farming toward technology-integrated, climate-resilient practices offers pathways for creating higher-wage employment while maintaining the county's role as a vital food production center. Similarly, proactive climate adaptation strategies can transform environmental challenges into competitive advantages, attracting investment and innovation while protecting the natural assets that anchor both agricultural productivity and tourism appeal.

The report begins with a comprehensive examination of existing conditions within the agriculture sector, analyzing employment trends, workforce demographics, economic impacts, and the mounting challenges that threaten the industry's sustainability. It also explores how technological integration and market repositioning can serve as platforms for broader regional development rather than constraints on growth.

Next, a spotlight on climate risk and resilience examines how rising temperatures, extreme weather events, water scarcity, and sea level rise affect not only agricultural productivity but also tourism infrastructure, community safety, and overall economic stability. This climate focus reflects growing recognition that economic development strategies must integrate environmental resilience as a core component rather than treating it as a separate concern; this would position the county for resilient economic development that can withstand external shocks and maintain competitiveness over extended periods.

Understanding these interconnections—between housing and workforce retention, between climate resilience and agricultural sustainability, between federal policy changes and local economic security—provides the foundation for developing strategies that can navigate current uncertainties while building long-term prosperity for all residents of Monterey County.

## ECONOMIC CONDITIONS

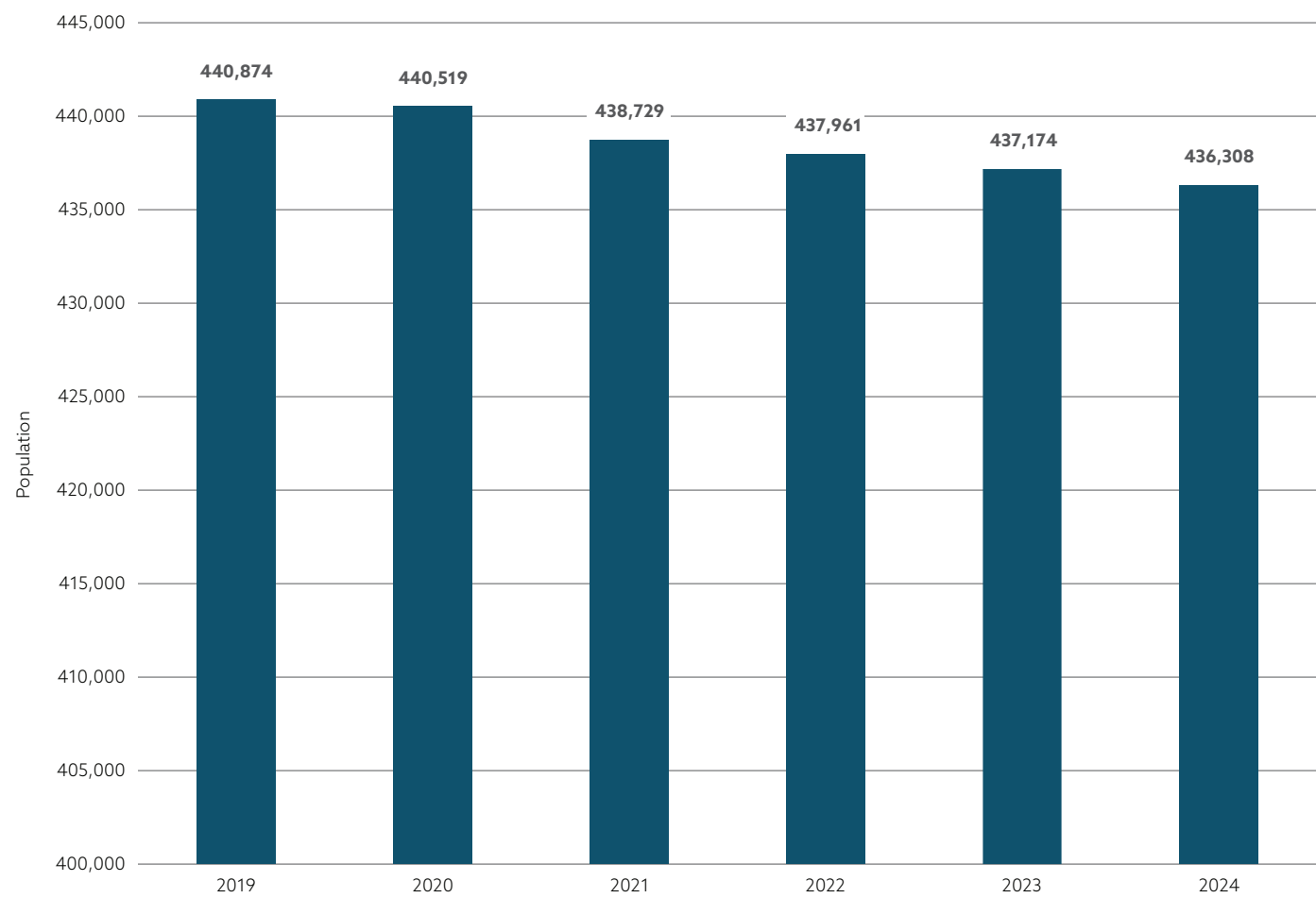
In 2024, Monterey County was home to just over 436,300 residents. Since 2019, the county has experienced a continuous year-over-year decline, shedding a total of more than 4,500 residents over five years (Figure 1). This trend reflects broader patterns of slowed population growth and outmigration seen in parts of coastal California, particularly in regions facing high housing costs and economic uncertainty in key industries like agriculture and tourism.

Population changes fluctuated at the city level. Seaside saw the steepest decline, with a 6.4% drop in population—losing over 2,000 residents. Monterey and Soledad also experienced notable declines of 3.5% and 3.0%, respectively. In contrast, King City grew by 7.0%, adding 935 residents, and Marina grew by 2.3%, likely due to their relative affordability to other cities. Salinas, the county's largest city, remained essentially flat with no significant population change over the same period.



**FIGURE 1: CHANGE IN RESIDENT POPULATION**  
2019 TO 2024

(A) MONTEREY COUNTY



(B) SELECT CITIES IN MONTEREY COUNTY | 2019 VS. 2024

	2019 POPULATION	2024 POPULATION	ABSOLUTE CHANGE	PERCENT CHANGE
Salinas	162,008	162,037	29	0.0%
Seaside	32,272	30,197	-2,075	-6.4%
Monterey	28,100	27,106	-994	-3.5%
Soledad	27,799	26,966	-833	-3.0%
Marina	22,190	22,695	505	2.3%
King City	13,281	14,216	935	7.0%

Source: California Department of Finance, CVL Economics.

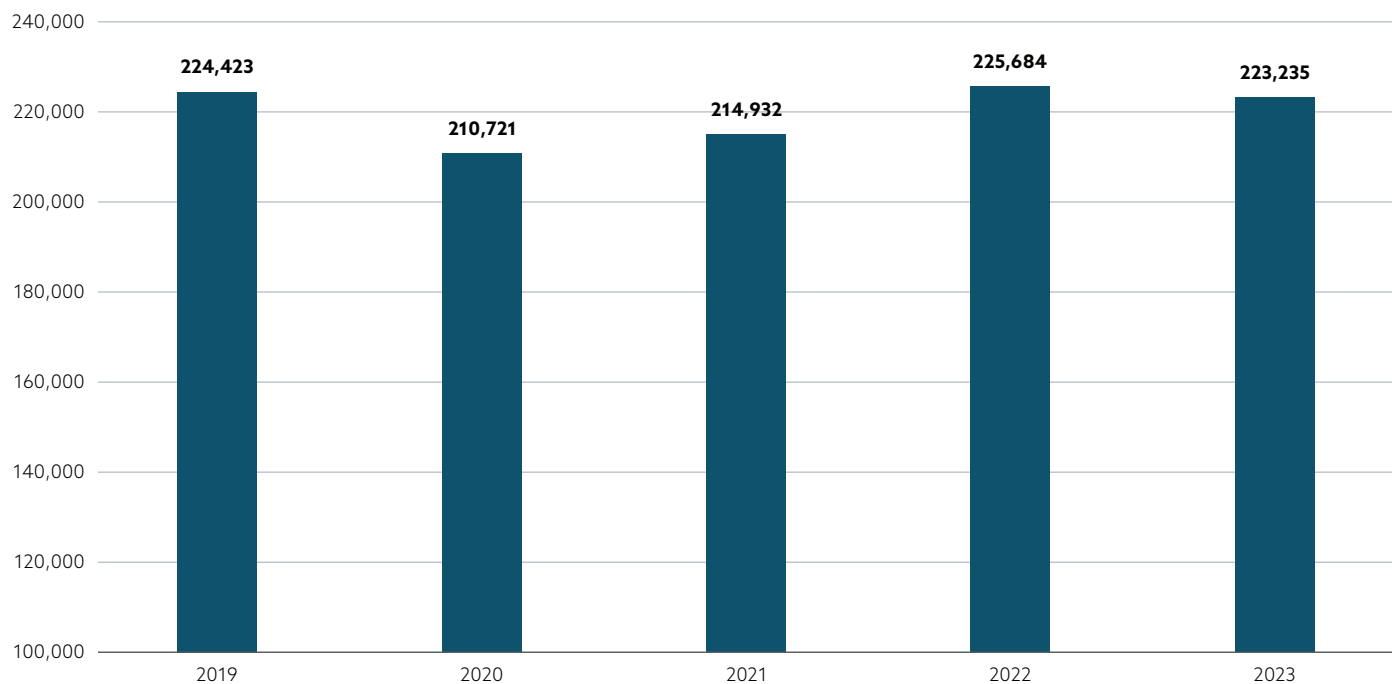




Between 2019 and 2023, total employment in Monterey County fluctuated, reflecting both the impacts of the COVID-19 pandemic and the region's shifting economic landscape (Figure 2). In 2019, the county had just over 224,400 jobs, followed by a sharp decline in 2020 to roughly 210,700 jobs—a drop of over 13,700 jobs, or 6%, driven largely by widespread pandemic-related shutdowns and contractions in hospitality, retail, and service sectors. Employment increased to over 214,900 in 2021 and peaked above pre-pandemic levels at nearly 225,700 in 2022. Employment declined again to about 223,250 in the following year as the labor market began to cool amid growing uncertainty across key sectors. This net change—roughly 1,200 fewer jobs in 2023 compared to 2019—masks considerable variation across industries, with some sectors experiencing steady growth and others facing notable declines.

On the growth side, Construction led all industries with a 6.5% increase, adding over 550 jobs. Educational Services (+6.3%) and Health Care & Social Assistance (+4.7%) also expanded (Table 1). Smaller gains were also seen in Arts, Entertainment & Recreation and Government. However, several sectors experienced contraction. Retail Trade and Accommodation & Food Services—two historically strong sources of local employment, but impacted by pandemic-era volatility and longer-term shifts in consumer behavior—declined by 3.6% and 2.5%, respectively. Agriculture, the county's foundational industry, saw a slight decline of 0.7% (or 400 jobs). More acute losses occurred in Utilities (–30.5%), Finance & Insurance (–11.7%), and Information (–11.5%).

**FIGURE 2: EMPLOYMENT IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes W-2 and self-employed workers.

Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.





**TABLE 1: EMPLOYMENT BY SECTOR IN MONTEREY COUNTY**  
2019 VS 2023

	NUMBER OF JOBS		
	2019	2023	% Change
Construction	8,557	9,111	6.5%
Educational Services	2,871	3,053	6.3%
Health Care & Social Assistance	18,989	19,883	4.7%
Arts, Entertainment & Recreation	3,563	3,636	2.1%
Management of Companies & Enterprises	1,514	1,544	2.0%
Government	40,057	40,485	1.1%
Real Estate & Rental & Leasing	2,685	2,702	0.6%
Wholesale Trade	5,868	5,848	-0.3%
Agriculture, Forestry, Fishing & Hunting	57,567	57,157	-0.7%
Admin., Support, Waste Management & Remediation Services	9,602	9,531	-0.7%
Other Services (except Public Administration)	10,295	10,109	-1.8%
Professional, Scientific & Technical Services	6,794	6,665	-1.9%
Accommodation & Food Services	23,798	23,204	-2.5%
Retail Trade	17,671	17,043	-3.6%
Manufacturing	5,658	5,390	-4.7%
Transportation & Warehousing	3,818	3,487	-8.7%
Mining, Quarrying & Oil and Gas Extraction	266	240	-9.8%
Information	1,150	1,017	-11.5%
Finance & Insurance	2,865	2,531	-11.7%
Utilities	833	579	-30.5%
<b>Total</b>	<b>224,423</b>	<b>223,235</b>	<b>-0.5%</b>

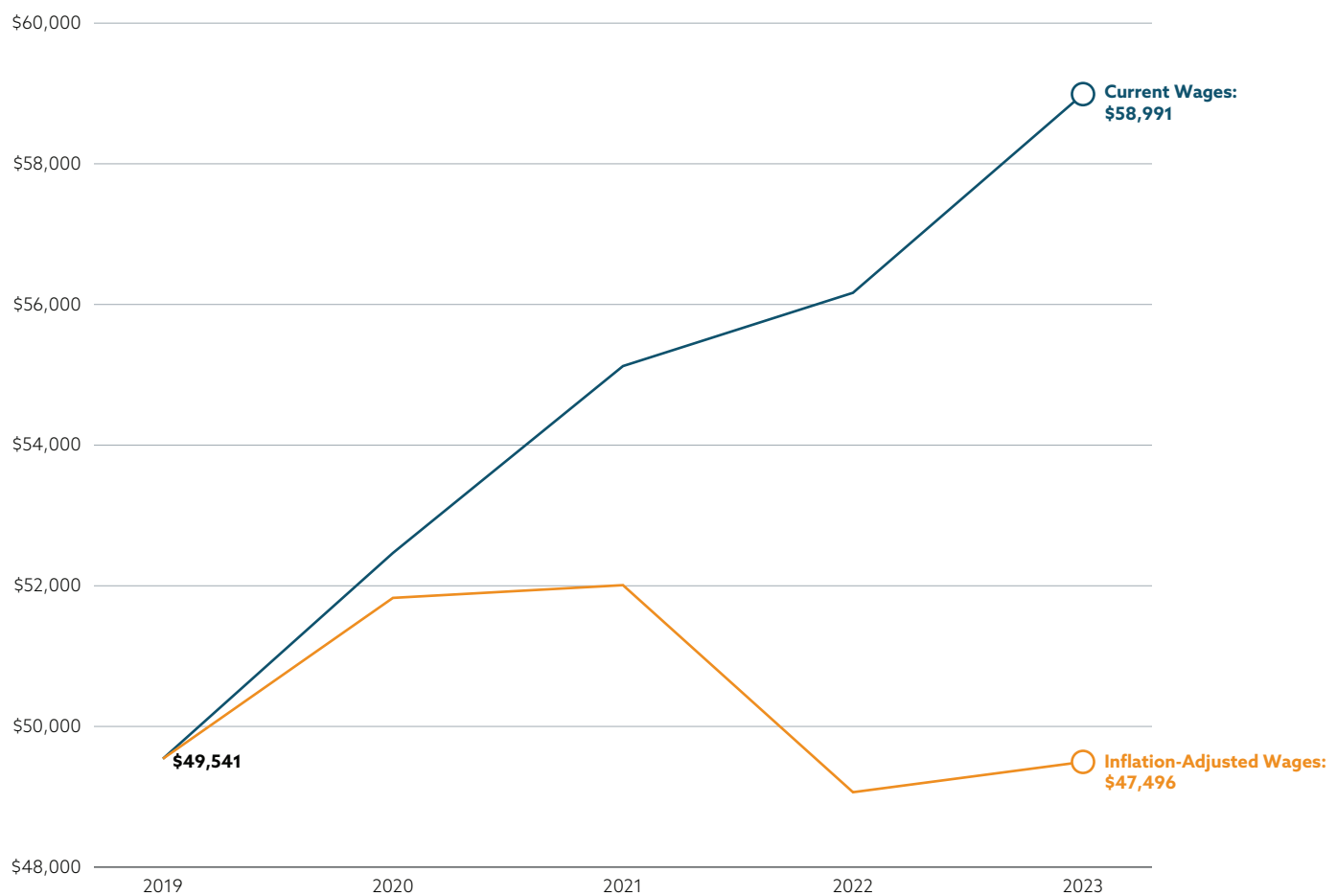
Note: Includes W-2 and self-employed workers. Highlighted rows indicate Monterey County's target industries.

Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

Between 2019 and 2023, the average annual wage in Monterey County rose from \$49,541 to \$58,991, an increase of nearly 20% in nominal (non-adjusted) terms (Figure 3). On the surface, this suggests strong wage growth across the local economy. However, when adjusted for inflation, the picture is less optimistic. Real wages—which reflect actual purchasing power—have remained flat over the five-year period, starting at \$49,541 in 2019 and ending slightly lower at \$49,496 in 2023.

This divergence highlights a key challenge facing Monterey County’s workforce: while paychecks may be getting larger, rising costs for housing, transportation, food, and other essentials have eroded any real gains in income. The sharpest drop in inflation-adjusted wages occurred between 2021 and 2022, mirroring broader statewide trends driven by post-pandemic inflation. For many workers—especially in lower-wage sectors like agriculture, food service, and retail—this means continued financial strain despite upward movement in headline wage figures.

**FIGURE 3: AVERAGE ANNUAL WAGES IN MONTEREY COUNTY**  
2019 TO 2023



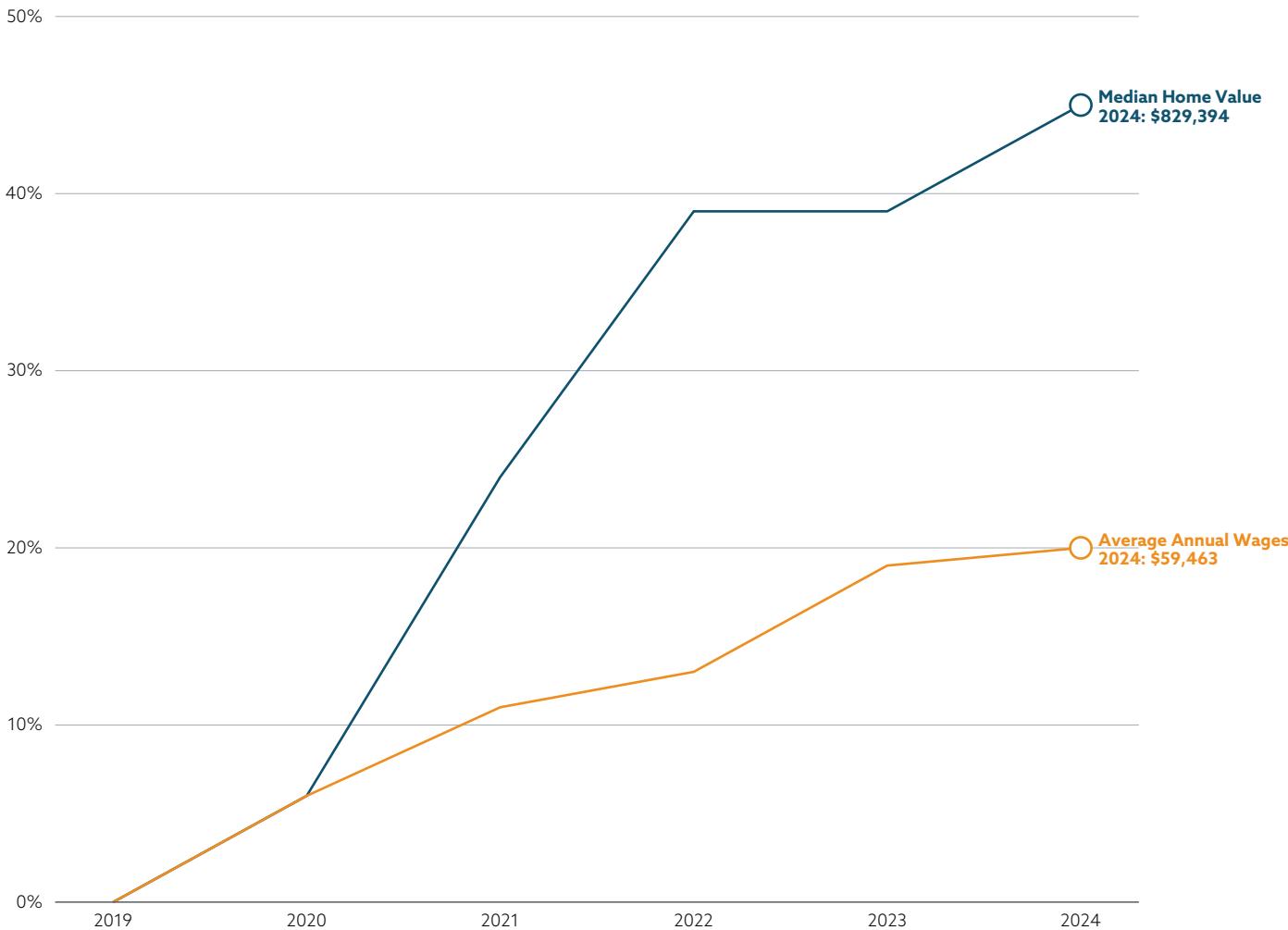
Note: Includes wages for W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.



A closer look at changes in housing prices relative to wages provides a case in point. Between 2019 and 2024, home prices in Monterey County have surged far beyond local wage growth, deepening affordability challenges across the region (Figure 4). While nominal average annual wages increased by about 20% over this five-year period—reaching \$59,463 in 2024—nominal home values have risen by more than 50%, with the median home price reaching \$829,394 in 2024.

This growing gap between wages and housing costs underscores a persistent strain on working families, particularly for those in lower-wage sectors like Agriculture, Leisure & Hospitality, and Retail. Wages have failed to keep pace with the cost of homeownership, making it increasingly difficult for residents to buy homes or remain in the communities where they work. The widening disconnect between earnings and housing affordability remains a core challenge for regional economic resilience and workforce stability.

**FIGURE 4: PERCENT CHANGE IN HOME PRICES AND AVERAGE ANNUAL WAGES IN MONTEREY COUNTY 2019 TO 2024**



Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Zillow, CVL Economics.



## THE AGRICULTURE SECTOR

Monterey County's agriculture sector stands at a critical juncture, balancing its position as a national leader in crop production with mounting pressures that threaten its long-term viability. As the United States' top-ranked county for vegetable production and third-highest overall for agricultural market value, Monterey generated \$4.4 billion in agricultural output in 2023, directly employing over 58,000 workers across 57,000 jobs in the broader agriculture industry. This economic powerhouse extends far beyond the farmlands, supporting an additional 15,712 jobs through indirect and induced impacts while contributing \$8.2 billion in value added to the regional economy and generating nearly \$2 billion in tax revenue across all levels of government.

However, beneath these impressive figures lies a sector grappling with fundamental structural shifts that demand urgent attention. The industry faces an acute labor shortage exacerbated by an aging workforce, immigration policy uncertainties, and the county's dramatic increase in H-2A visa certifications—increasing from just 44 positions in 2013 to over 8,000 in 2023, now representing nearly 30% of California's total. This workforce transformation

occurs alongside accelerating consolidation, as small and mid-sized farms struggle with disproportionate regulatory burdens, escalating compliance costs, and food safety requirements that can destroy hundreds of feet of crops due to minor infractions. Climate pressures compound these challenges, as increasing water scarcity, extreme heat events, and flooding threaten crop viability while pushing some growers to fallow land entirely.

The wine industry exemplifies these broader struggles, with 3,000 to 4,000 acres of vineyards removed in recent years due to declining consumption patterns and economic pressures. Meanwhile, rising housing costs create workforce retention challenges across all skill levels, from field workers to the emerging AgTech professionals needed for the sector's technological evolution. Despite significant investments in agricultural workforce housing, the "missing middle" housing gap persists, affecting the very workers essential for the industry's modernization and sustainability efforts that could position Monterey County as a global leader in agricultural innovation and climate resilience.

## CURRENT LANDSCAPE

Monterey County stands at the forefront of U.S. agriculture, consistently ranking among the top three counties nationwide for agricultural market value. In 2022, it led California—and the nation—in crop production, driven by production of vegetables, while also ranking highly for fruits and berries (Table 2).

Monterey County's \$4.4 billion in agriculture production market value in 2023 was actually a drop from the previous year, sitting slightly below pre-pandemic levels (Figure 5). While still one of the highest-producing agricultural counties in the nation, the decline from the 2022 peak of \$4.6 billion reflects mounting challenges facing the region's growers. Rising labor costs, limited water availability, and shifting market dynamics have all contributed to increased volatility in year-to-year production value.

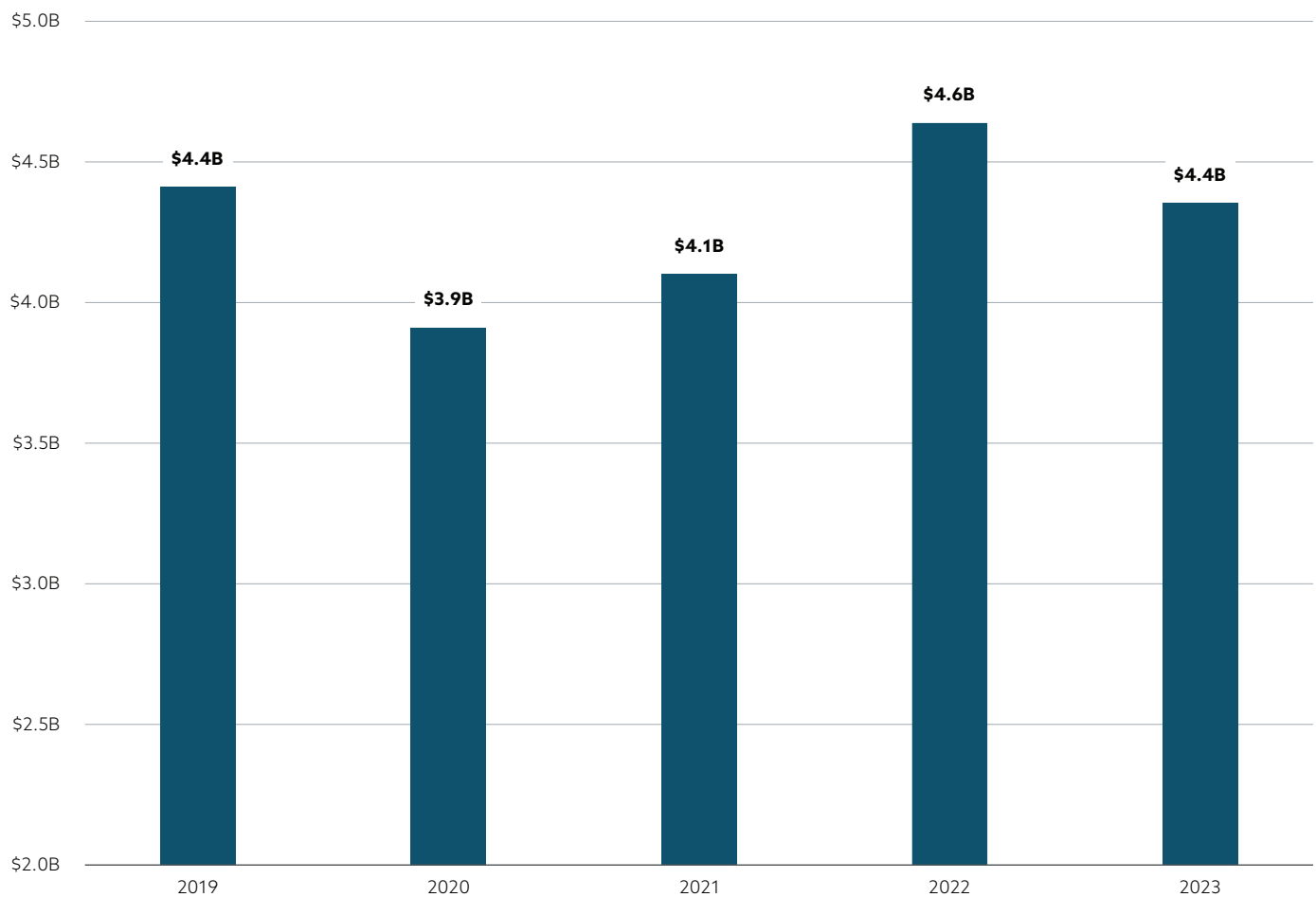


**TABLE 2: RANK OF MONTEREY COUNTY AGRICULTURE PRODUCTS BY MARKET VALUE**  
2022

	RANK IN CALIFORNIA	RANK IN UNITED STATES
Crops	1	1
Vegetables, melons, potatoes, sweet potatoes	1	1
Fruits, tree nuts, berries	5	5
Nursery, greenhouse, floriculture, sod	7	19
Grains, oilseeds, dry beans, dry peas	26	2,040
Livestock, poultry, and products	19	1,080

Source: U.S. Census of Agriculture.

**FIGURE 5: GROSS PRODUCTION VALUE OF MONTEREY COUNTY AGRICULTURE PRODUCTS**  
2019 TO 2023



Source: County of Monterey Office of the Agricultural Commissioner, CVL Economics.



Monterey County's crop portfolio remains both diverse and high-value. Strawberries, leaf lettuce, and head lettuce were the top three crops by value in 2023, collectively generating more than \$2.1 billion (Table 3). These crops not only drive local revenues but also serve as core exported goods (Table 4). Yet sustaining this level of productivity in the face of ongoing climate stress and labor shortages will require strategic investments in irrigation efficiency, workforce infrastructure, and long-term resource planning. At the same time, changes in federal trade policy can shift market dynamics in ways that local growers have little control over, adding another layer of uncertainty to an already complex landscape.

Several of the county's top crops are moderately to highly water intensive, placing pressure on already limited supplies.

**TABLE 3: MONTEREY COUNTY TOP CROPS BY PRODUCTION VALUE**

2023

CROPS	CROP VALUE
Strawberry	\$903.8 Million
Leaf Lettuce	\$782.1 Million
Head Lettuce	\$493.5 Million
Broccoli	\$468.9 Million
Wine Grape	\$194.6 Million
Cauliflower	\$188.2 Million
Celery	\$173.8 Million
Spinach	\$139.0 Million
Nursery & Flower	\$128.9 Million
Livestock & Poultry	\$115.6 Million

Source: County of Monterey Office of the Agricultural Commissioner, CVL Economics.

**TABLE 4: MONTEREY COUNTY TOP EXPORTS BY COMMODITY**

2023

COMMODITY	TOTAL POUNDS
Lettuce	88,567,000
Strawberry	80,100,000
Celery	18,486,000
Spinach	16,882,000
Cabbage	16,551,000
Broccoli	16,042,000
Cauliflower	10,901,000
Brussels Sprouts	3,445,000
Radicchio	2,618,000
Raspberry	2,436,000

Source: County of Monterey Office of the Agricultural Commissioner, CVL Economics.

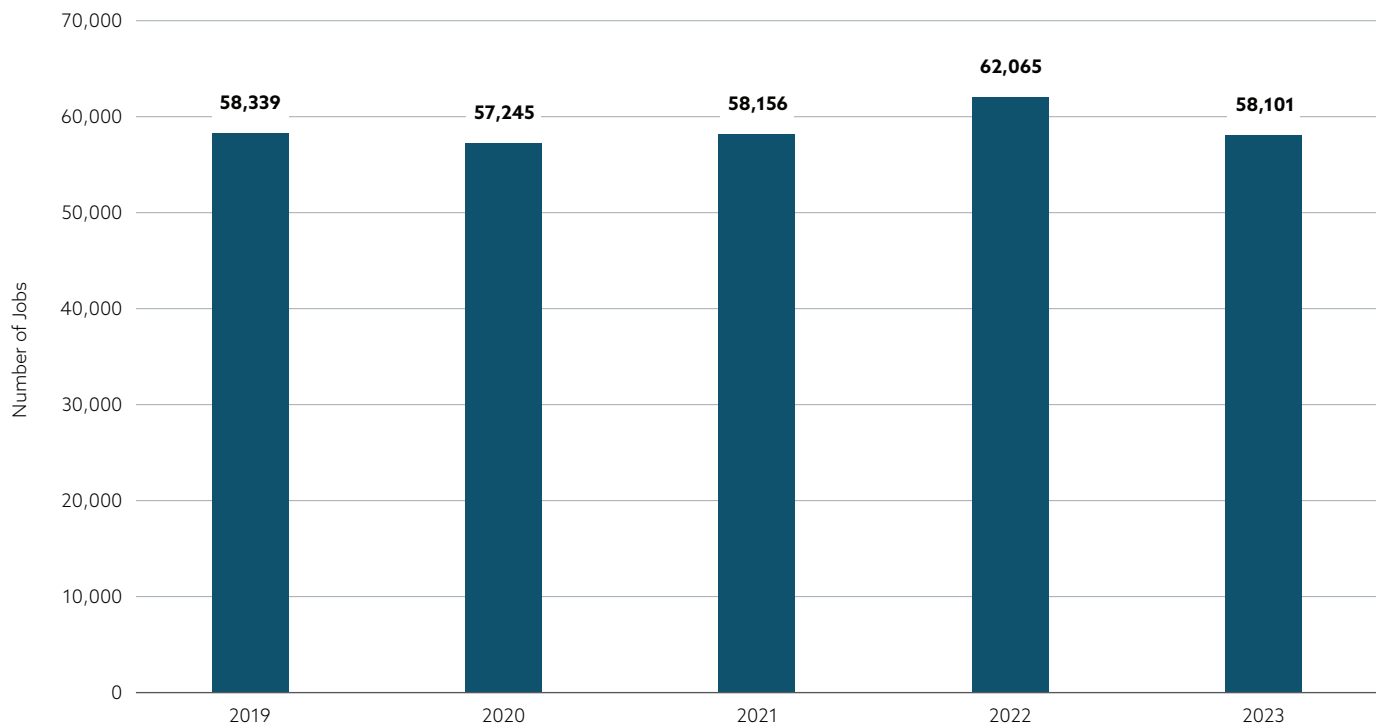
EMPLOYMENT AND WAGES

Agricultural employment in Monterey County totaled 58,101 jobs in 2023, slightly below pre-pandemic levels (Figure 6). In 2019, the sector directly employed 58,339 jobs, but employment dipped in 2020 amid pandemic-related disruptions. While there was a temporary rebound in 2022—reaching a high of 62,065 jobs—the sector shed nearly 4,000 jobs the following year. While overall agricultural employment in Monterey County has remained relatively stable, the underlying subsectors have experienced notable shifts in recent years (Figure 7). Crop Production, the county’s largest agriculture subsector, saw little movement between 2019 and 2023, but sat one percentage point below pre-pandemic levels in 2023. In contrast, Animal Production experienced a strong rebound during the

pandemic—growing by 15% between 2019 and 2020 and continuing upward through 2022—but saw a steep 24% drop in 2023 from 2019 levels.

The standout trend lies in Manufacturing & Processing, which has expanded dramatically—growing 173% between 2019 and 2023. However, this remains the county’s smallest agriculture subsector, with only 82 jobs in 2023. Meanwhile, wineries—which faced significant setbacks during the early pandemic years—declined sharply by 24% in 2020, before rebounding to 11% growth in 2023 from 2019 levels. Together, these trends illustrate both the resilience and the structural shifts occurring within Monterey County’s diverse agricultural economy.

FIGURE 6: AGRICULTURE EMPLOYMENT IN MONTEREY COUNTY  
2019 TO 2023

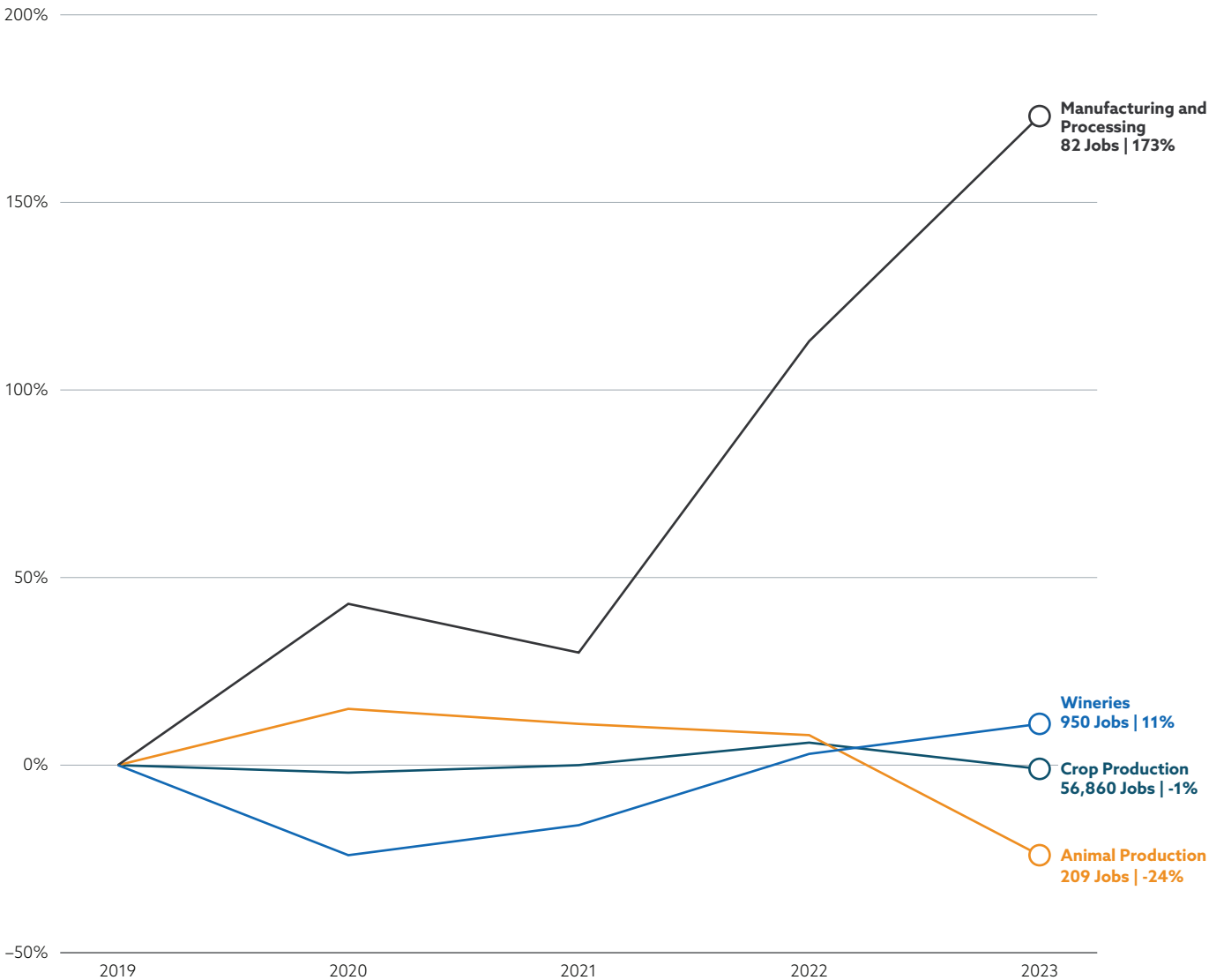


Note: Includes W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.





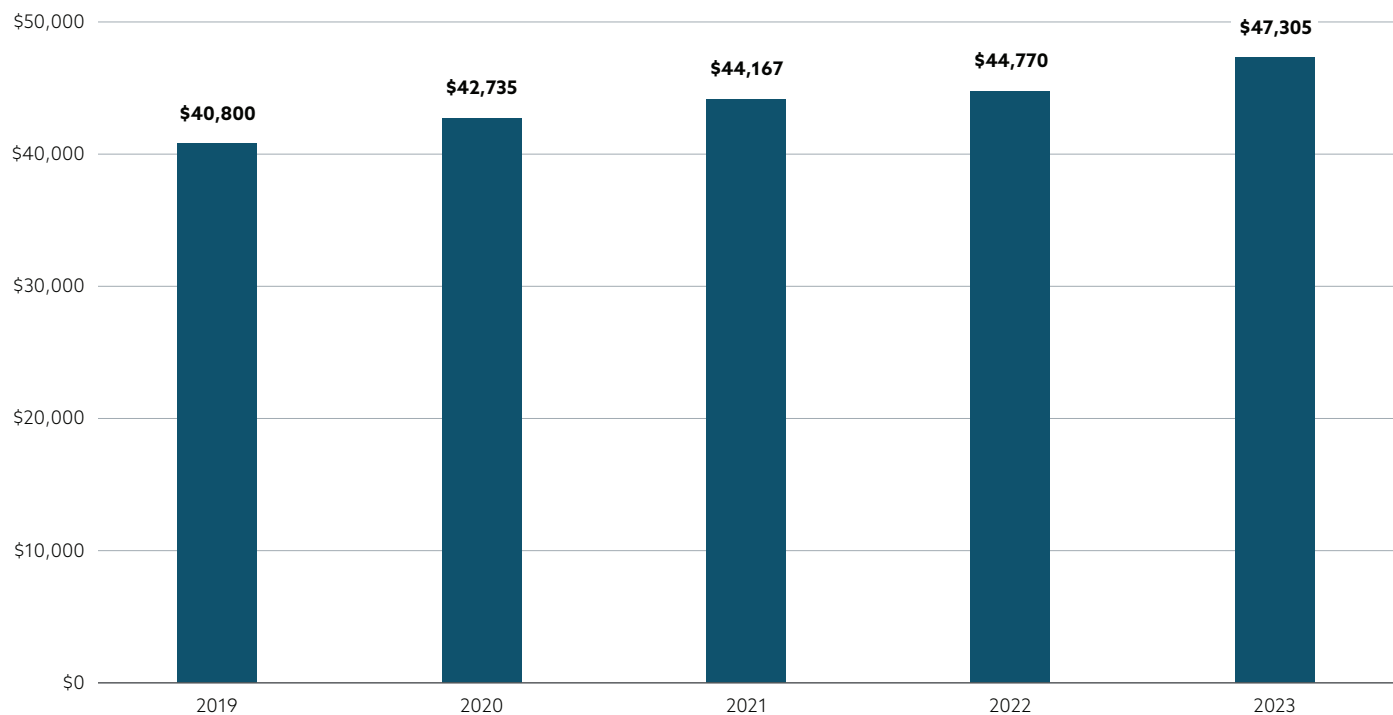
**FIGURE 7: EMPLOYMENT GROWTH BY AGRICULTURE SUBSECTOR IN MONTEREY COUNTY**  
2019 TO 2023



**Note:** Includes W-2 and self-employed workers.  
**Source:** U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

Between 2019 and 2023, the average annual wage in Monterey County’s agriculture sector rose from \$40,800 to \$47,305, marking a 16% increase over five years (Figure 8). While this reflects steady year-over-year growth, it falls slightly below the cumulative inflation rate of approximately 19% during the same period. Agricultural wages remain well below the countywide average across all industries, which reached nearly \$59,000 in 2023. In a region where housing and living costs have grown rapidly, especially in areas like the Monterey Peninsula and Salinas Valley, these wage levels continue to present affordability challenges for many workers. While the agriculture sector remains the largest employer in the county, ensuring that wage growth keeps pace with rising costs of living will be essential for workforce retention, economic mobility, and long-term sector resilience.

**FIGURE 8: AGRICULTURE AVERAGE ANNUAL WAGES IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes wages for W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

**ECONOMIC IMPACT**

Beyond its direct employment, Monterey County’s agriculture sector creates significant ripple effects throughout the regional economy. In 2023, an additional 30,252 jobs were supported through indirect and induced impacts—ranging from trucking and equipment services to retail, health care, and education (Table 5). These jobs reflect the broader ecosystem that agriculture sustains: businesses that supply inputs, process products, maintain equipment, and provide services to both farms and farmworkers. As agriculture and associated employees spend their earnings on goods and services in the community, their household spending further circulates dollars through local businesses, amplifying the sector’s economic footprint. Altogether, the sector generated over \$6.0 billion in labor income and contributed \$9.1 billion in value added—the local component of GDP—demonstrating how agriculture fuels both job creation and economic growth far beyond the fields.

The agriculture sector also generates significant fiscal contributions. In 2023, the industry contributed nearly \$13.8 billion in federal, state, and local tax revenue across direct, indirect, and induced activity. This includes almost \$9.4 billion from direct agricultural operations alone, underscoring the sector’s importance not just to rural livelihoods but to the broader public sector. These tax revenues help fund essential services such as schools, infrastructure, and public health, making agriculture a foundational pillar to Monterey County’s economy.



**TABLE 5: ECONOMIC AND FISCAL IMPACT OF THE AGRICULTURE INDUSTRY IN MONTEREY COUNTY**  
2023

	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TAX REVENUE
Direct	58,101	\$3,969,550,887	\$6,067,454,789	\$9,389,024,931
Indirect	16,601	\$1,110,936,448	\$1,433,176,784	\$1,902,166,324
Induced	13,651	\$931,541,724	\$1,631,140,954	\$2,465,501,212
<b>Total</b>	<b>88,353</b>	<b>\$6,012,029,058</b>	<b>\$9,131,772,528</b>	<b>\$13,756,692,467</b>

Note: Tax Revenue includes Federal, State, and Local tax revenue generation.

Source: IMPLAN, CVL Economics.

## WORKFORCE DEMOGRAPHICS

The majority (55%) of the agriculture workforce in Monterey County are Hispanic or Latino (Table 6). About a third (33%) of the sector are White, 6.2% are Asian, and 4.3% are Black or African American. Smaller shares identify as Two or More Races (1.1%), American Indian or Alaska Native (0.4%), or Native Hawaiian or Other Pacific Islander (0.3%).

Crop, Nursery, and Greenhouse Farmworkers are the largest occupation group in Monterey County's

agriculture industry, comprising 50% of the total industry. This segment represents the backbone of the region's agricultural labor force, responsible for the hands-on work of planting, tending, and harvesting the county's high-value crops. These roles are predominantly held by Hispanic or Latino workers, who account for nearly 68% of the workforce in this category—significantly higher than their share of the overall industry.

**TABLE 6: RACE AND ETHNICITY OF AGRICULTURE SECTOR AND FARMWORKERS IN MONTEREY COUNTY**  
2023

RACE/ETHNICITY	TOTAL AGRICULTURE SECTOR	CROP, NURSERY, AND GREENHOUSE FARMWORKERS
Hispanic or Latino	54.6%	67.8%
White	33.1%	23.3%
Asian	6.2%	4.6%
Black or African American	4.3%	3.1%
Two or More Races	1.1%	0.6%
American Indian or Alaska Native	0.4%	0.4%
Native Hawaiian or Other Pacific Islander	0.3%	0.2%

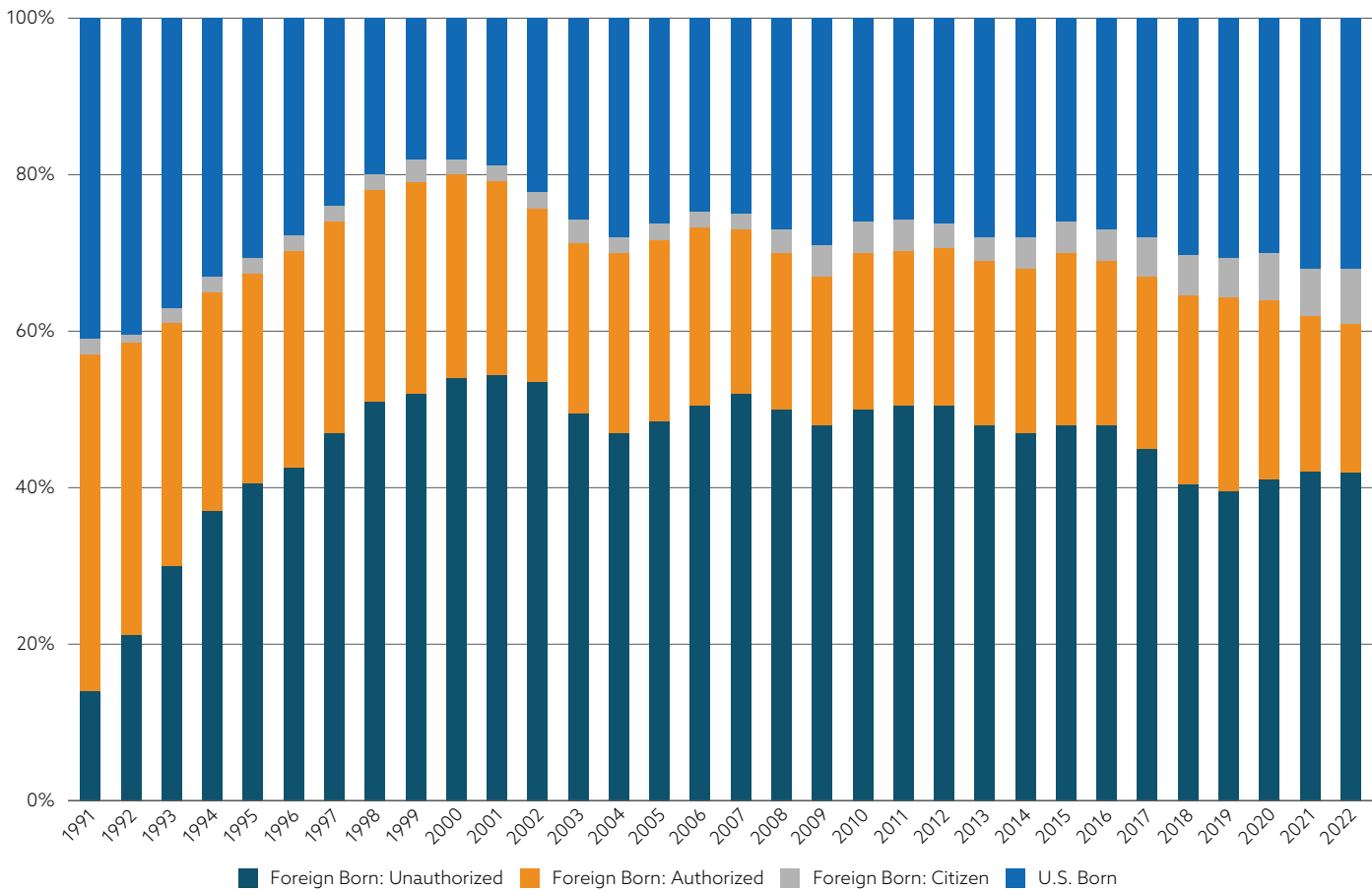
Source: U.S. Census Bureau, CVL Economics.



A significant share of farmworkers are foreign-born, and many are immigrants from Mexico and Central America. From the mid-1990s through the early 2000s, the share of unauthorized farmworkers in the U.S. peaked at over 50%, highlighting the agricultural sector’s long-standing reliance on undocumented labor nationwide (Figure 9). Although that share has slightly declined in recent years, sitting at 42% in 2022, the share of U.S.-born farmworkers has remained relatively low compared to immigrant labor. This national trend mirrors what’s unfolding in Monterey County, where labor-intensive crops are increasingly supported by temporary foreign workers recruited through the H-2A visa program.

The rise in H-2A guestworker certifications in Monterey County over the past decade has been dramatic (Table 7). In 2013, just 44 H-2A positions were certified in the county, representing only 1.0% of California’s total. By 2023, that number had surged to 8,157, accounting for nearly 30% of all H-2A certifications statewide, the highest share of any California county. This exponential growth—an increase of over 18,400%—reflects Monterey County’s increasing dependence on immigrant labor to sustain its agricultural output. Monterey now issues more H-2A certifications than any other county in California, signaling a structural shift in how the region is sourcing and managing its workforce.

**FIGURE 9: LEGAL STATUS OF HIRED CROP FARMWORKERS IN THE UNITED STATES**  
1991 TO 2022



Source: U.S. Department of Agriculture, U.S. Department of Labor, CVL Economics.



**TABLE 7: H-2A CERTIFICATIONS BY SELECT COUNTIES IN CALIFORNIA**

2013 VS. 2023

	2013		2023	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL
Kern	48	1.1%	230	0.8%
Monterey	44	1.0%	8,157	29.4%
Fresno	9	0.2%	1,089	3.9%
Tulare	21	0.5%	80	4.7%
Santa Barbara	158	3.5%	4,581	16.5%
Imperial	661	14.7%	1,481	5.3%
<b>Total California</b>	<b>4,505</b>	<b>-</b>	<b>27,759</b>	<b>-</b>

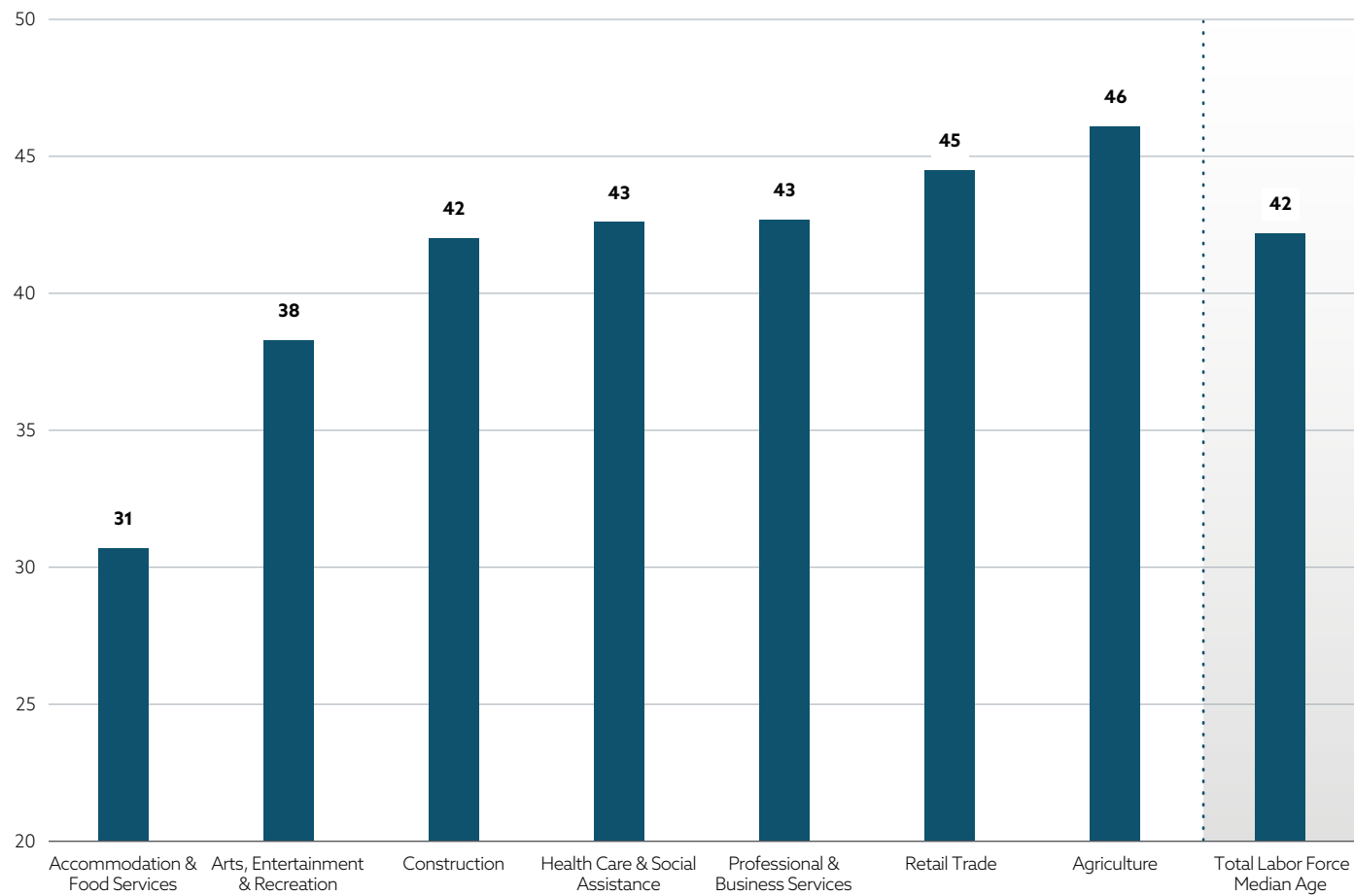
Source: UC Davis Labor and Community Center of the Greater Capital Region, U.S. Department of Labor, Department of Homeland Security, CVL Economics.

The sector's workforce also skews older than in previous decades, with a growing proportion of agriculture workers aged 40 and above, reflecting both limited pipeline development and declining entry among younger generations (Figure 10).<sup>1</sup> The median age of agriculture workers in the U.S. is 46 years old, compared to 43 in Health Care & Social Assistance (another key sector in Monterey County), and below 40 in sectors like Accommodation & Food Services and Arts, Entertainment & Recreation. On average, agricultural workers are four years older than the median age of the entire U.S. labor force. These demographic realities—combined with language barriers, limited access to healthcare, and heightened climate vulnerability—underscore the urgent need for workforce development strategies that center equity, legal protections, and long-term economic mobility.

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<sup>1</sup>U.S. Census Bureau (American Community Survey Public Use Microdata Sample).

**FIGURE 10: MEDIAN AGE OF U.S. EMPLOYMENT BY INDUSTRY**  
2024



Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau (Current Population Survey), CVL Economics.

**NEEDS ASSESSMENT**

While Monterey County remains a national leader in crop production, the region’s agricultural sector is facing major challenges. A combination of workforce instability, resource scarcity, regulatory burdens, and structural shifts threatens the long-term viability of smaller operations and the profitability of larger corporations. The following needs have emerged as critical priorities for the region’s agricultural resilience and economic future:

- **Labor Shortages and Workforce Vulnerability:** Monterey’s growers face acute labor shortages, exacerbated by immigration enforcement concerns and a lack of legal pathways for consistent farm labor. Increasing reliance on H-2A workers comes with its own challenges, including housing, transportation, and integration needs. Compounding this is a broader population decline and shrinking school enrollments, which narrow the pipeline of future local agricultural workers. Labor uncertainty is already prompting some producers to scale back operations or shift to crops that can be more easily mechanized.



- **Regulatory Complexity and Compliance Burdens:** Local growers have repeatedly cited a regulatory environment that is increasingly difficult to navigate. Concerns include prolonged project approval timelines, CEQA litigation risks, and electrification mandates that are difficult to implement in field-based operations. These regulations tend to disproportionately burden small and mid-sized farms, which lack the administrative and financial capacity to absorb additional compliance costs. As a result, some smaller growers are leasing or selling their land, fueling a trend of industry consolidation that runs counter to public interest in preserving small, community-rooted farms.
- **Housing Affordability and Infrastructure Barriers:** With median home prices approaching \$1 million, housing affordability remains a top concern for attracting and retaining both field and high-skill agricultural workers. Although over 5,000 farmworker beds have been built in the last decade, access to housing for AgTech professionals, drone operators, and skilled mechanics remains limited. Regulatory hurdles continue to slow housing approvals, and many potential development sites lack basic utility access. These constraints inhibit both labor force stability and regional economic diversification.
- **Climate Stress and Water Security:** Extreme heat, drought, and increasingly erratic weather are changing the viability of key crops and threatening farmland in low-lying areas such as the Salinas Valley (see Spotlight: Climate Risk and Resilience). Water supply remains one of the most urgent concerns. With limited storage and no connection to the State Water Project, growers rely on increasingly stressed groundwater and localized surface supplies. SGMA-related pumping restrictions, saltwater intrusion, and regulatory uncertainty have already pushed some land into fallowing, particularly for smaller and resource-limited farms. Delays in implementing approved reservoir and recycling projects further heighten the risk.
- **Technology Access and Education Gaps:** While AgTech offers significant potential—particularly in automation, precision irrigation, and data analytics—adoption remains uneven. Small and mid-sized farms face steep barriers in accessing capital, training, and technical support needed to modernize. Meanwhile, K-12 agricultural education in much of the county remains under-resourced, limiting awareness of career paths in farming, ag mechanics, or sustainable land stewardship. Successful high school FFA programs in areas like Greenfield and King City show what’s possible, but many other districts lack the facilities or staffing to build robust agriculture career pipelines. Stakeholders emphasized the importance of expanding career technical education and promoting ag-related fields starting in middle and high school, especially as student interest grows in areas like drone operation and mechatronics.



# CONSIDERATIONS

Stakeholders across the industry stressed that addressing complex issues cannot happen in isolation. What's needed is a coordinated, countywide vision that aligns agriculture with broader economic development goals and fosters collaboration among public, private, and educational partners. With the right structures and shared priorities in place, Monterey has the opportunity to evolve from a center of production into a national leader in agricultural innovation and sustainability.

## POSITIONING MONTEREY COUNTY AS AN AGTECH LEADER

Monterey County is well-positioned to become a national leader in AgTech. Stakeholders identified a rising demand for skilled operators in precision agriculture, drone piloting, and data-driven farm management. Institutions like Hartnell College and Rancho Cielo are expanding training programs in AgTech Mechatronics, aviation mechanics, and drone certification, aligning with employer needs. However, political fragmentation and the absence of a unified county-wide AgTech strategy limit momentum.

Investments in incubators, mechatronics training, drone certification, and data science offer a viable path to high-wage, innovation-based employment. Making AgTech a formal priority of the County, with workforce pipelines and startup infrastructure, could rebrand the region as a leader in modern agriculture and technology.

**Recommendation:** Position Monterey County as a leader in agricultural technology innovation by supporting AgTech startup incubation, workforce development, and regional marketing efforts that emphasize the County's unique crop profile and technological edge.

## CASE STUDY

### Fresno-Merced Future of Food (F3) Innovation Initiative

Part of the broader Fresno DRIVE strategy, the F3 Initiative is a regional AgTech ecosystem effort backed by a \$65 million Build Back Better EDA grant. The initiative unites Fresno County, UC Merced, community colleges, and AgTech startups to develop technology solutions tailored to specialty crops. It features AgTech incubators, demonstration farms, and targeted workforce development—all coordinated through a regional innovation hub model. With strong alignment across research institutions, economic development leaders, and workforce agencies, the F3 Initiative demonstrates how a rural region can lead in agricultural innovation through strategic collaboration.





## REIMAGINING WORKFORCE DEVELOPMENT AND EDUCATION

The workforce pipeline remains a central concern. While postsecondary programs are expanding, stakeholders expressed frustration at the lack of investment in agricultural education at the K-12 level. To recruit the next generation, education must reflect the modern agricultural reality: robotics, sustainability, data, and global food systems. Stakeholders urged the County to support CTE completion pathways, update facilities, and treat agricultural education as essential economic infrastructure.

**Recommendation:** Strengthen the education pipeline from middle school through college by investing in and expanding CTE pathways, upgrading agricultural program facilities, and aligning curricula with emerging AgTech careers.

## CASE STUDY Central Valley Ag Prep Academies

In the Central Valley, school districts in Tulare and Modesto have implemented Ag Prep Academies that integrate agricultural science, technology, and business education into high school curricula. Students can earn college credit, gain hands-on experience, and transition into postsecondary AgTech programs. These programs are often supported by local employers and community colleges, creating a full pipeline from high school to high-wage careers.



## REVITALIZING SMALL FARMS THROUGH ECOSYSTEM DEVELOPMENT

The current trajectory of industry consolidation is squeezing out small and mid-sized farms. While consumers express strong support for local and organic agriculture, policy and regulatory burdens disproportionately affect smaller operators. Stakeholders pointed to a need for land access programs, mentorship for new farmers, and inclusion in AgTech training to help keep small farms viable.

Monterey County is already home to a leading example in this space: the Agriculture and Land-Based Training Association (ALBA) in Salinas, which provides aspiring farmers—many of them former farmworkers—with access to land, organic farming education, and small business support. Building on models like ALBA, there is also an opportunity to expand regenerative agriculture demonstration sites as community learning and incubation spaces—helping farmers access land, water, and knowledge.

**Recommendation:** Develop demonstration projects and targeted support programs to improve small and mid-sized farmers' access to land, regenerative practices, and new technologies that promote long-term resilience.

## CASE STUDY Marin Carbon Project

The Marin Carbon Project is a nationally recognized initiative that pioneered carbon farming on working lands, showing how practices like compost application and rotational grazing can sequester carbon in soil. Led by a coalition including the Marin Agricultural Land Trust (MALT), UC Berkeley, NRCS, and local ranchers, the project helped shape California's Healthy Soils Program and set the standard for climate-beneficial farming practices now replicated across the state and beyond.







## ADDRESSING THE HOUSING IMBALANCE

Housing affordability is the linchpin of workforce retention. Despite progress in building 5,000+ units of agricultural workforce housing, most developments cater to field workers, not the skilled AgTech and management workforce. High costs, long timelines, and CEQA-related delays are persistent barriers.

There is growing interest in alternative models like community land trusts to help lower costs and support a more stable agricultural ecosystem. Housing solutions must be diversified to match the sector's changing labor profile—from field to firmware.

**Recommendation:** Advocate for regulatory reforms and explore community land trust models to increase the supply of affordable housing, particularly for mid-skill and AgTech professionals in the agricultural workforce.

## CASE STUDY

### Watsonville Community Land Trust

The Community Land Trust of Santa Cruz County (CLT-SCC) has developed several permanently affordable housing projects in and around Watsonville, a predominantly agricultural community with a high concentration of farmworkers and low-wage agricultural employees. Through the CLT model, the land is owned by the nonprofit trust, while residents own or rent the homes with long-term affordability agreements in place.



## BUILDING MONTEREY COUNTY'S REPUTATION AS A LEADER IN AGRICULTURAL SUSTAINABILITY

Climate adaptation is both an existential challenge and an area of innovation. From electrification mandates to extreme heat, Monterey's farms are at the frontlines of climate stress. While mandates like those for electric farm equipment raise serious operational concerns, initiatives like carbon markets, cooling stations, and regenerative demonstration farms show a proactive path forward. Stakeholders called for greater alignment

across sectors to develop a "culture of sustainability," connecting water, land use, forestry, and energy policies to agricultural resilience.

**Recommendation:** Create a compelling narrative around sustainable agriculture that positions Monterey County as a national leader in climate resilience, carbon farming, and regenerative innovation—with cross-sector coordination to match.

## UNLOCKING AGRICULTURAL TOURISM AND STORYTELLING POTENTIAL

Agricultural tourism remains underutilized due to food safety regulations and restrictive zoning policies. However, there is renewed momentum around creative alternatives like Highway 68's potential transformation into an agricultural showcase corridor. Projects at Regenerative California and Reservoir Farm highlight how tourism, public education, and sustainability can intersect. More than just a revenue stream, agricultural tourism presents an opportunity to reshape the public

narrative of agriculture—from a struggling industry to an innovative, sustainable driver of the regional economy.

**Recommendation:** Develop agritourism demonstration sites along key corridors (e.g., Highway 68) to connect regenerative farming, AgTech, and public education while working to modernize zoning and general plan policies that currently limit growth.





## SPOTLIGHT: CLIMATE RISK AND RESILIENCE

The effects of climate change have already impacted the lives of Californians in profound ways. Rising temperatures have intensified the frequency and severity of extreme weather events, such as wildfires, drought, and storms. With 85% of the state's population living in coastal counties, rising sea levels pose one of the most urgent climate risks. At the same time, growing water scarcity and instability increase the risks of both floods and droughts. Wildfires, now synonymous with the Golden State, have burned an average of 865,000 acres annually between 2000 and 2023.<sup>2</sup>

Monterey County is certainly not immune to these challenges. Its coastal location is one of its main attractions and central to its economy, but it also makes it increasingly vulnerable to rising sea

level impacts and shifting temperature patterns. Warmer conditions and more frequent extreme heat days are reshaping seasonal norms. Wildfires, fueled by prolonged drought and dry vegetation, are increasingly a year-round threat. Drought also heightens flood risk by reducing the land's ability to absorb and store water, making the region more vulnerable during periods of heavy rainfall and rising sea levels. Without sufficient groundwater recharge or storage, much of this excess water is lost rather than captured for future use. As a result, even in wet years, long-term water scarcity remains a persistent challenge, especially for the county's agriculture-driven economy. This spotlight section takes a closer look at how each of these climate threats is affecting Monterey County today.

## CLIMATE RISKS

### TEMPERATURES AND EXTREME HEAT DAYS

There is little doubt that Monterey County's climate is getting warmer. In 2024, the average annual temperature was 60.1° Fahrenheit (Table 8). Between 1974 and 2024, Monterey's annual average temperature has gone up by roughly 2.3° F, which is a faster rate compared to the statewide average (an increase of 1.8° F to 59.2° F over the same period). Summer temperatures have increased at a similar pace, with 24-hour cycle temperatures between June and August in Monterey consistently exceeding 70° F on average annually in the last few years.

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<sup>2</sup> California Department of Forestry and Fire Protection (CAL FIRE), State of California Office of Environmental Health "Hazard Assessment."

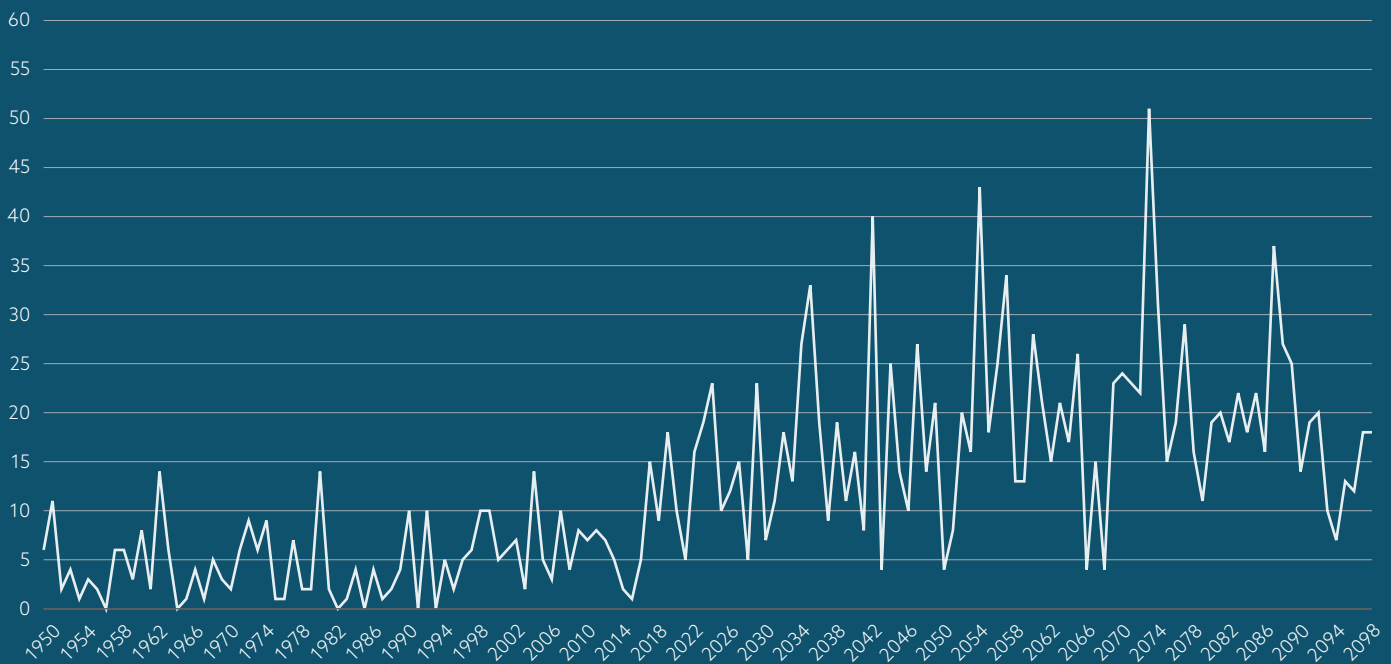


**TABLE 8: MONTEREY COUNTY AVERAGE TEMPERATURES BY DECADE**

TIME PERIOD	ANNUAL TEMPERATURE (JANUARY TO DECEMBER)	SUMMER TEMPERATURES (JUNE TO AUGUST)
1990 to 1999	58.54	68.15
2000 to 2009	58.65	68.78
2010 to 2019	59.52	69.3
2020 to Present	59.60	70.32

Source: National Centers for Environmental Information, National Oceanic and Atmospheric Administration, CVL Economics.

According to the California Department of Public Health, Monterey County's future annual average temperature increase can range from moderate to significant, based on the volume of carbon emissions, and is expected to continue rising. Average annual temperatures in a low-emissions scenario are expected to reach 62.3°F in Monterey by the end of the century (Figure 11). In a high-emissions scenario, temperatures are expected to average 64.4°F by the end of the century—a 5.2°F increase from the historical average. The number of extreme heat days in Monterey County (an extreme heat day is defined as having a temperature of 92.5° F or higher) between 2010 to 2024 was on average nine a year. From 2025 to 2040, the average number of extreme heat days is expected to jump up to 16 days a year. Between 2050 and 2099, the number of extreme heat days is forecasted to average 20 a year.

**FIGURE 11: OBSERVED AND FORECASTED NUMBER OF EXTREME HEAT DAYS IN MONTEREY COUNTY 1950 TO 2100**

Source: Cal-Adapt, CVL Economics.





## WILDFIRES

Wildfires have become all too familiar for California residents, with events occurring on an annual basis throughout various regions across the state. Since 1911, Monterey County has averaged four wildfires a year, with roughly 17,000 acres burned annually. The county's largest wildfire, the Marble Cone Fire, occurred in 1977, with almost 178,000 acres burned. The next three largest wildfires have all occurred since 2008, with the most recent being the Dolan Fire, which resulted in over 128,000 acres of burned land. There is now strong scientific consensus that climate change has exacerbated the severity of wildfires. Of the top ten largest wildfires in Monterey County's history, three of them have occurred in just the last five years.

Monterey County's topography, combined with occasional drought and rising heat, increases the region's susceptibility to wildfires. Areas with the highest risk of fires include Carmel Valley, State Highway 68 corridor, Pine Canyon, North Monterey County, and Pebble Beach. In total, approximately 80% of Monterey County's land is classified as high, very high, or extreme fire threat.<sup>3</sup>

## FLOODING

Monterey County is no stranger to flooding. From the March 1995 flood to the October 2009 storm and, more recently, the Pajaro flood in 2023, there has been extensive damage done due to flooding in the county. Monterey County is at risk to primarily four types of flooding: coastal (high tide events), riverine (overbank flooding), flash flooding, and localized storm water flooding (flooding due to storm drainpipes being at overcapacity). Floods have brought significant economic damage to Monterey County in the past: in the last ten years, floods in 2016, 2017, and 2019 caused over \$60 million in infrastructure damage alone.<sup>4</sup>

Beyond infrastructure, flooding in Monterey County has had serious repercussions on businesses, especially its agriculture industry. Flood events in 2017 and 2023 affected tens of thousands of acres, delaying planting, damaging crops, and impacting harvests. These repeated disruptions underscore the increasing vulnerability of Monterey's farming sector to extreme weather events.

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<sup>3</sup> County of Monterey Department of Emergency Management, <https://www.readymontereycounty.org/prepare/wildfires>.

<sup>4</sup> County of Monterey Department of Emergency Management, <https://www.readymontereycounty.org/prepare/flooding>.



## WATER SCARCITY

Monterey County faces significant water challenges shaped by its limited local supply and heavy demand from households, businesses, and particularly its agriculture sector, which accounts for over 90% of the county's total water usage.<sup>5</sup> Unlike many regions in California, Monterey County does not receive water from the Sierra Nevada snowpack due to its geographic separation and infrastructure limitations (i.e., not being connected to water deliveries from the State Water Project or Central Valley Project). Instead, it relies primarily on two local sources: the Carmel River and the Seaside Groundwater Basin. However, these supplies are becoming increasingly stressed, prompting regulatory restrictions and ongoing efforts to manage extraction more sustainably.

As climate conditions grow more erratic, the risk of prolonged droughts and shifting precipitation patterns threatens the region's crop reliability, jobs, and trade. Water scarcity also constrains urgently needed residential development. Restrictions on new water connections have led to de facto building moratoriums in parts of the county, stalling efforts to expand housing—especially affordable housing and workforce units.

In response to long-standing water shortages, agencies like California American Water (Cal Am) and the Monterey Peninsula Water Management District have pursued alternative solutions to support the region's growing needs. Key efforts include the Monterey Peninsula Water Supply Project, the Pure Water Monterey recycled water program, and a proposed desalination facility to serve thousands of households. While these projects aim to diversify and strengthen the County's water portfolio, as demand grows and climate risks intensify, ensuring a reliable, affordable, and sustainable water future remains one of Monterey County's most pressing challenges.<sup>6</sup>

## ECONOMIC IMPLICATIONS

### AGRICULTURE

The impact of climate change on agriculture in Monterey County is multifaceted. At its core are the direct effects of shifting weather patterns and rising temperatures, which threaten both crop yields and the stability of the broader agricultural economy. Increases in the number of extreme heat days, particularly during the spring and summer growing seasons, pose a critical threat to Monterey County's most valuable crops, including lettuce, broccoli, and celery, which are all cool-weather crops that thrive around 60° F. Even strawberries, another staple crop of the region that can survive in higher temperatures, face growth challenges when temperatures exceed 85° F, particularly during flowering and fruit development.

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<sup>5</sup> County of Monterey Agricultural Commissioner, 2023 County of Monterey Crop and Livestock Report, <https://www.countyofmonterey.gov/home/showpublisheddocument/132827/638798007408370000>.

<sup>6</sup> Monterey Peninsula Water Supply Project and Desalination Project, <https://www.watersupplyproject.org/fact-sheet#:~:text=The%20Need%20in%20Monterey%20County,water%20supplies%20at%20greater%20risk>.



As temperatures rise, so too does the presence of pests and plant diseases, necessitating more intensive and costly pest management.<sup>7</sup> Drier conditions in the summer due to increased temperatures can lead to greater fire risks, affecting not only the crops and animal stock, but also the agriculture infrastructure and workforce.<sup>8</sup> Meanwhile, altered precipitation patterns—including more rainfall and less snowfall—are shifting the timing and availability of surface water. Prolonged drought and declining groundwater reliability have led to some growers to fallow land or take fields out of production entirely. However, prolonged drought can also harden and dry out soil, making it less able to absorb water when heavy rains do arrive—exacerbating flood risks. When floods occur, they can cause soil erosion, nutrient loss, and, in severe cases, render farmland temporarily or permanently unusable.<sup>9</sup>

The economic ripple effects extend beyond the field. In 2023, heavy rains and flooding inundated an estimated 20,000 acres of farmland in the county, causing nearly \$1 billion in regional damages, including \$500 million in direct agricultural and infrastructure losses, and an additional \$500 million in indirect impacts to sectors reliant on farming, such as warehousing, logistics,

and local small businesses.<sup>10</sup> Flooded highways and damaged roadways also interrupted the transport of goods, delaying exports and reducing access to imported supplies.

Perhaps most severely affected are the people working on the ground. Agricultural workers—many of whom are immigrants or low-income residents—are especially vulnerable to climate impacts. The 2023 Pajaro flood forced more than 2,000 residents to evacuate, damaged over 900 homes, and displaced a largely farmworker community.<sup>11</sup> In a county already facing a housing crisis, extreme weather events deepen inequality and leave marginalized communities with few recovery options.

The California Department of Public Health has highlighted that low-income and marginalized communities are disproportionately at risk of climate impacts, including heat, floods, and agricultural disruption.<sup>12</sup> In Monterey County, protecting these communities—many of whom sustain the very industries most at risk—will require targeted investments in climate adaptation, workforce protection, and resilient infrastructure.

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<sup>7</sup> "General Climate Trends and Impact," California Climate Hub, U.S. Department of Agriculture, [https://www.climatehubs.usda.gov/sites/default/files/2024-11/Module2\\_Area2Impacts.pdf](https://www.climatehubs.usda.gov/sites/default/files/2024-11/Module2_Area2Impacts.pdf)

<sup>8</sup> Ibid.

<sup>9</sup> Al-Kaisi, Mahdi, "Soil Erosion: An agricultural production challenge," Iowa State University Extension and Outreach, July 24, 2000, <https://crops.extension.iastate.edu/encyclopedia/soil-erosion-agricultural-production-challenge>

<sup>10</sup> Richard Smoley, "Estimating the Monterey storm damage costs," Blue Book, March 28, 2023, <https://www.bluebookservices.com/estimating-the-monterey-storm-damage-costs/>; Todd Fitchette, "Monterey County continues to tally flood damage," Farm Progress, May 26, 2023, <https://www.farmprogress.com/vegetables/monterey-county-continues-to-tally-flood-damage>.

<sup>11</sup> Zach Fuentes and Lauren Martinez, "Monterey County flooding forces evacuations as farmers face serious impacts," ABC7 News, March 14, 2023, <https://abc7news.com/levee-break-in-monterey-county-pajaro-river-breach-locations-flooding-california/12950556/>; Jessica Flores, "Residents warned of hazards as they return to flood-devastated Pajaro," San Francisco Chronicle, March 22, 2023, <https://www.sfchronicle.com/climate/article/pajaro-flood-levee-return-17854414.php>.

<sup>12</sup> "Climate Change and Health Equity," California Department of Public Health, <https://www.cdph.ca.gov/Programs/OHE/Pages/Climate-Health-Equity/Health-Impacts.aspx>.



## TOURISM & HOSPITALITY

Tourism & Hospitality is one of Monterey County's primary economic drivers, with millions of visitors drawn each year to its coastline, natural landmarks, wineries, and much more. While in the short-run the effects of climate change are not likely to alter tourism significantly, there is greater cause for concern in the medium- and long-term as to how Monterey County can maintain its tourist appeal amidst changing weather patterns and environmental hazard-related road closures during peak travel seasons.

One of the biggest concerns in the long run is the sea level changes that have been forecasted to occur along the coastline of Monterey County. Coastal erosion threatens the region's popular beaches, trails, and scenic routes. Some forecasts have estimated that Monterey County may see an increase of 150cm, or almost 60 inches, in sea level by the end of the century. A vulnerability assessment done by the City of Carmel-by-the-Sea found that should forecasts be accurate, much of Carmel Beach from its southern end and its northern end will be severely impacted. Even if changes to sea levels aren't as high as 60 inches, the beaches will nonetheless become narrower and inaccessible during and after severe storms.<sup>13</sup> Monterey County's coastline plays a huge role in drawing in tourists annually. A loss of access to these natural sites means loss of visitors, and significant decline in revenue annually.

Moreover, environmental threats can cause visitors to reconsider their travel, even if there is little damage done. For example, while the Los Angeles fires in January 2025 were devastating to the communities of Pacific Palisades and Altadena, most of Los Angeles County was fortunately unscathed. However, word of mouth and media exposure caused tourism to drop. Hotel cancellations increased and local businesses—even those miles away from the fires—saw notable losses of revenues.<sup>14</sup> Monterey County is similarly at risk given the increase in wildfire threats as temperatures rise. With the summer months (June–September) being the most popular times to visit the county, there is also potential for disruption given that it aligns with “fire season.”

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<sup>13</sup> “City of Carmel-by-the-Sea Vulnerability Assessment,” City of Carmel-by-the-Sea, April 2021, [https://ci.carmel.ca.us/sites/main/files/file-attachments/vulnerability\\_assessment\\_rpt\\_working\\_draft\\_040921.pdf?1618005161#:~:text=This%20phenomenon%20of%20beach%20loss,norm%20conditions%20\(Figure%203\)](https://ci.carmel.ca.us/sites/main/files/file-attachments/vulnerability_assessment_rpt_working_draft_040921.pdf?1618005161#:~:text=This%20phenomenon%20of%20beach%20loss,norm%20conditions%20(Figure%203))

<sup>14</sup> Chris Dong, “A plea to tourists: Los Angeles wants you back,” San Diego Union-Tribune, March 17, 2025, <https://www.sandiegouniontribune.com/2025/03/17/a-plea-to-tourists-los-angeles-wants-you-back/>.



## INFRASTRUCTURE

The effects of climate change on infrastructure are far reaching. While the coastline is at risk of sea level changes, inland areas—which make up about 80% of the county—are at risk of wildfire damage. Over the next thirty years, there are over 85,500 properties in Monterey County identified as at some risk of wildfire exposure, with 82,300 residential properties and 5,200 commercial properties at risk. Property losses have severe downstream effects, from increases in homelessness to loss of fiscal revenue from government agencies. Infrastructure protection and mitigation efforts not only protect residents and their homes but also provide protection against fiscal losses from severe climate-related events.

Public infrastructure is also at threat of climate-related events. Sea level changes affect roads, treatment plants, and harbors. In Moss Landing, rising sea levels could compromise harbor operations, disrupting jobs and trade with severe economic and fiscal losses. The cost to protect the coastal infrastructure in just the City of Monterey is estimated to exceed \$74 million by 2040, while the total cost for the County could reach \$628 million.<sup>15</sup> Flooding and fires can disrupt and damage access to highways, cutting links between residents' homes, jobs, and essential commercial stores. Agricultural routes can also be disrupted, further impacting the industry and trade, increasing costs for producers and eventually consumers.

## OPPORTUNITIES

While the threats posed by climate change are severe, there is opportunity to develop strategies to help limit these effects as well as invest towards a more sustainable, resilient economy. Several cities in Monterey County have been active in protecting their resources against the threats of climate change, with the City of Monterey and Carmel-by-the-Sea developing vulnerability assessments to strategize on how to protect coastlines and inland areas.

Monterey County is surrounded by academic and research institutions that can play a huge role in understanding climate-related changes, how they could affect the region, and how to develop climate-resilient strategies. Developing partnerships with Monterey Bay Aquarium Research Institute (MBARI) or the Naval Postgraduate School (NPS) can provide the County with the right tools and information on climate adaptation, wildfire mitigation, and sustainable practices. The Middlebury Institute of International Studies, located in Monterey, has done extensive research through the Center for the Blue Economy on ocean and coastal resource management, climate adaptation, and environmental policy. California State University Monterey Bay (CSUMB) has partnered with local farmers to research and develop "climate-smart" practices that aim to offset greenhouse gas emissions and make farms more resilient to climate change.<sup>16</sup>

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<sup>15</sup> "Susan Landry, "Water, Water Everywhere: State and local cities tackle challenges of sea level rise," Voices of Monterey Bay, June 27, 2019, <https://voicesofmontereybay.org/2019/06/27/water-water-everywhere>.

<sup>16</sup> Elena Neale-Sacks, "Cal State Monterey Bay researchers are expanding climate-smart practices through a partnership with local farmers," 90.3 KAZU, December 17, 2024, <https://www.kazu.org/kazu-news/2024-12-17/cal-state-monterey-bay-researchers-are-expanding-climate-smart-practices-through-a-partnership-with-local-farmers>.



The Monterey County Regional Conservation Investment Strategy, which began in January 2019 and was approved by the Transportation Agency Board of Directors in 2021, helps provide guidelines on how conservation efforts can work hand-in-hand to mitigate the effects of climate change-related events on vulnerable species and habitats. This includes land acquisition, habitat protections, and restoration efforts—which will benefit public health and safety, agriculture, transportation air quality, and more.<sup>17</sup>

Natural infrastructure has proven to be a cost-effective and sustainable method in mitigating the risk of climate-related events. The former Hamilton Air Force Base in Marin County was converted into a wetland, which has developed a thriving natural ecosystem with various wildlife and vegetation; this has also created a natural buffer against sea level changes and storm surges.<sup>18</sup> The City of Ventura relocated the coastal trail alongside Surfers' Point and restored the beach with vegetated sand dunes, which created a natural infrastructure to protect against coastal threats.<sup>19</sup>

Entrepreneurship plays a key role in driving research around climate change mitigation, as well as adopting the strategies to help generate sustainable growth. In California's Central Valley, AgTech companies are using advanced technologies to enhance water efficiency as a measure to fight against water scarcity. Farmonaut, an AgTech firm specializing in AI for agriculture, has found success in improving water efficiency by 20% and seeing a 30% drop in crop losses.<sup>20</sup> The Environmental Science Associates (ESA), a California-based consulting organization, has proven successful in coastal restoration efforts, which help mitigate long-term shoreline erosion and flooding.<sup>21</sup> ESA has worked across multiple fields in sustainability, including water resources, flood and stormwater management, and climate change resilience.

Developing tools to mitigate the environmental threats to residents, wildlife, and infrastructure through sustainable practices not only provides returns on investments through new jobs but also helps support the key sectors that the County relies on, especially agriculture and tourism. Without a proper strategic plan to protect the region from future climate-related threats, these sectors will be vulnerable to shocks that can result in increased homelessness, business closures, and loss of fiscal revenue. Investing in a sustainable economy is investing in Monterey County's future and its economic development.

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<sup>17</sup> The Monterey County Regional Conservation Investment Strategy | SB 1 Adaptation Planning Grant: Final Case Study, ResilientCA.org, <https://resilientca.org/case-studies/monterey-regional-conservation-investment>

<sup>18</sup> "Hamilton Wetland Restoration Project," US Army Corps of Engineers, <https://budm.el.erdc.dren.mil/ss/hamiltonwetland.html>

<sup>19</sup> "Surfers' Point Shoreline Management," Environmental Science Associates, <https://esassoc.com/projects/surfers-point-shoreline-management/#:~:text=The%20Surfers'%20Point%20Managed%20Shoreline,infrastructure%20away%20from%20coastal%20hazards.>

<sup>20</sup> "Revolutionizing Agriculture: How Farmonaut's AI and Remote Sensing Technologies Are Shaping California's Future Farms," Farmonaut, [https://farmonaut.com/usa/revolutionizing-agriculture-how-farmonauts-ai-and-remote-sensing-technologies-are-shaping-californias-future-farms?utm\\_source=chatgpt.com](https://farmonaut.com/usa/revolutionizing-agriculture-how-farmonauts-ai-and-remote-sensing-technologies-are-shaping-californias-future-farms?utm_source=chatgpt.com)

<sup>21</sup> "Coastal Restoration," Environmental Science Associates, <https://esassoc.com/services/restoration/coastal-estuarine-restoration/>





## CONCLUSION

Monterey County stands at a defining crossroads where the choices made today will determine whether the region emerges as a national leader in sustainable economic development or succumbs to the mounting pressures threatening its foundational industries. The convergence of climate change, housing affordability challenges, workforce transformation, and technological evolution demands a fundamentally different approach to economic development—one that integrates agriculture, climate resilience, and innovation as inseparable components of a unified strategy rather than competing priorities. This moment of challenge also presents an opportunity unique to the region: Monterey County possesses the agricultural expertise, research infrastructure, natural assets, and entrepreneurial capacity to pioneer solutions that other regions can eventually adopt and thus position itself at the forefront of the climate-resilient economy of the future.

The agriculture sector's evolution toward technology integration and sustainable practices can serve as the foundation for broader economic transformation, while proactive climate adaptation strategies can attract investment and innovation rather than merely respond to threats. By positioning AgTech as a County priority, strengthening educational pipelines from middle school through college, addressing housing imbalances through innovative models like community land trusts, and developing compelling narratives around sustainable agriculture and tourism, Monterey County can transform current vulnerabilities into competitive advantages. The path forward demands bold leadership, sustained collaboration, and the recognition that economic resilience and environmental sustainability are not constraints on growth, but rather the prerequisites for long-term prosperity in an era of unprecedented change.



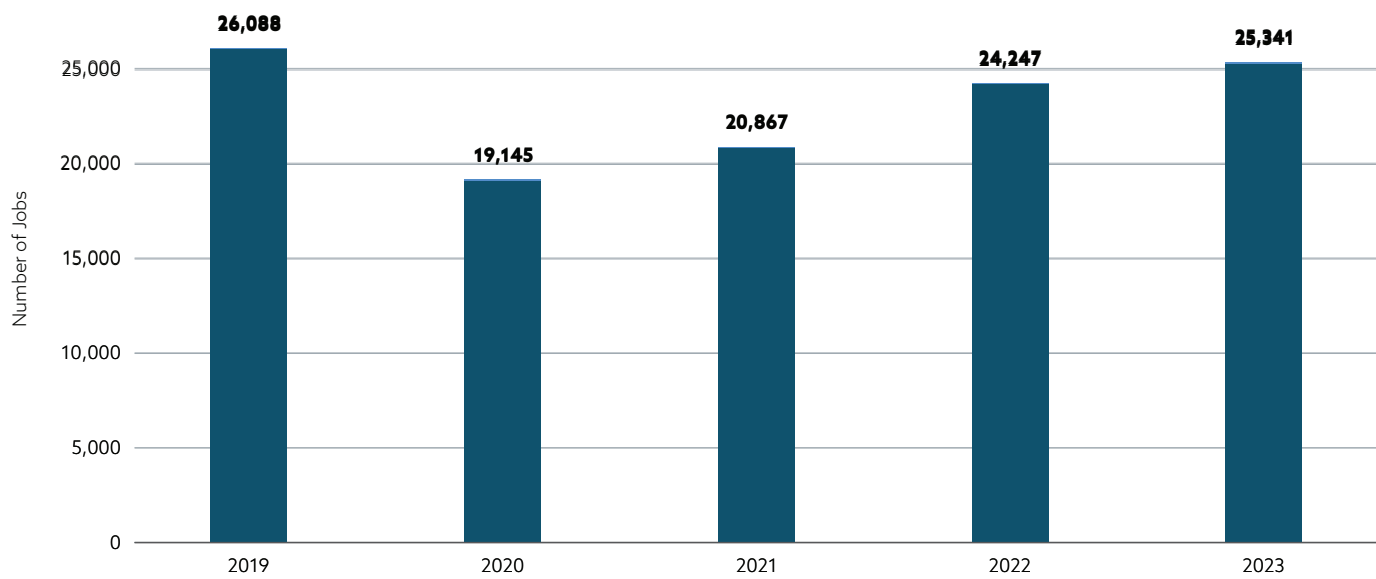
APPENDIX A: ADDITIONAL TARGET SECTORS

TOURISM & HOSPITALITY

Tourism & Hospitality operates as a significant employment sector with economic characteristics that illustrate both the benefits and inherent instabilities of visitor-dependent industries. With 25,341 jobs in 2023, the sector shows a 2.5% decline from pre-pandemic levels, revealing sensitivity to external disruptions even as other parts of the economy recovered; yet, the industry’s broader economic impact extends to 33,342 total jobs when including indirect and induced effects. This employment base generates \$3.4 billion in value added and over \$5 billion in tax revenue, demonstrating tourism’s substantial capacity to bring external dollars into the regional economy and create economic activity beyond direct visitor services.

However, wage patterns within the sector typically fall below county medians, contributing to regional income disparities even as the industry supports substantial employment numbers, illustrating how visitor-dependent economies must balance job creation with income quality considerations. The sector’s vulnerability to infrastructure disruptions and external market perceptions creates volatility that affects not only direct employment but also the broader network of businesses dependent on visitor spending. Examining tourism requires understanding how this industry balances revenue generation with community impacts, infrastructure demands, and the challenge of maintaining competitive positioning while managing the costs and uncertainties associated with dependence on external visitor flows.

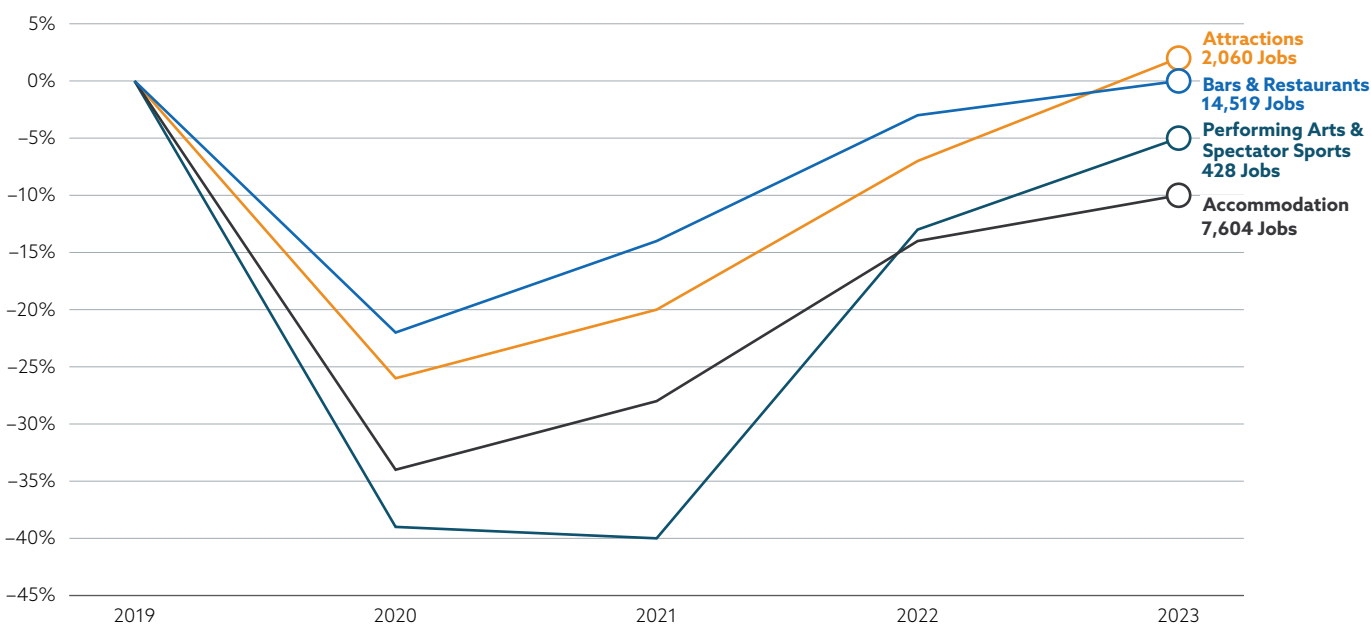
FIGURE A1: TOURISM & HOSPITALITY EMPLOYMENT IN MONTEREY COUNTY  
2019 TO 2023



Note: Includes W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

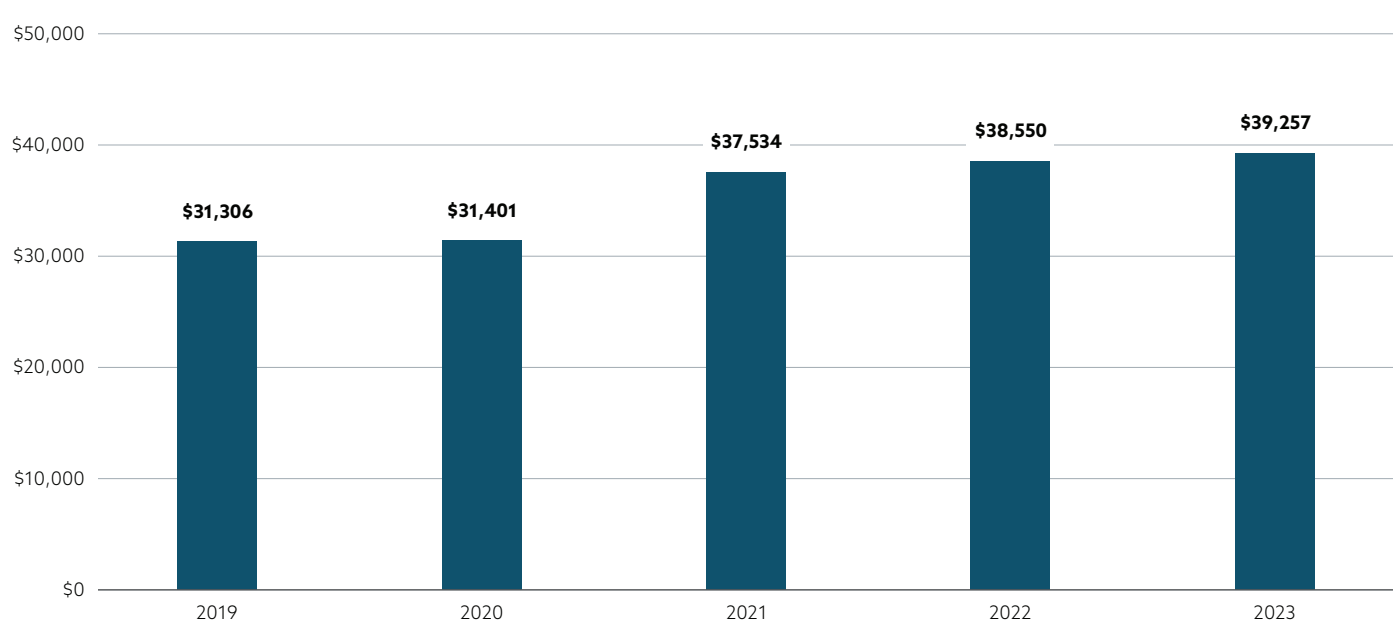


**FIGURE A2: EMPLOYMENT GROWTH BY TOURISM & HOSPITALITY SUBSECTOR IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

**FIGURE A3: TOURISM & HOSPITALITY AVERAGE ANNUAL WAGE IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes wages for W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.



**TABLE A1: ECONOMIC IMPACT OF TOURISM & HOSPITALITY SECTOR IN MONTEREY COUNTY**  
2023

	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TAX REVENUE
Direct Impact	25,341	\$1,560,514,866	\$2,386,020,134	\$3,500,405,658
Indirect Impact	3,427	\$281,085,158	\$405,887,068	\$689,564,612
Induced Impact	4,574	\$307,916,255	\$587,133,147	\$859,534,439
<b>Total Impact</b>	<b>33,342</b>	<b>\$2,149,516,279</b>	<b>\$3,379,040,348</b>	<b>\$5,049,504,709</b>

Note: Tax Revenue includes Federal, State, and Local tax revenue generation.

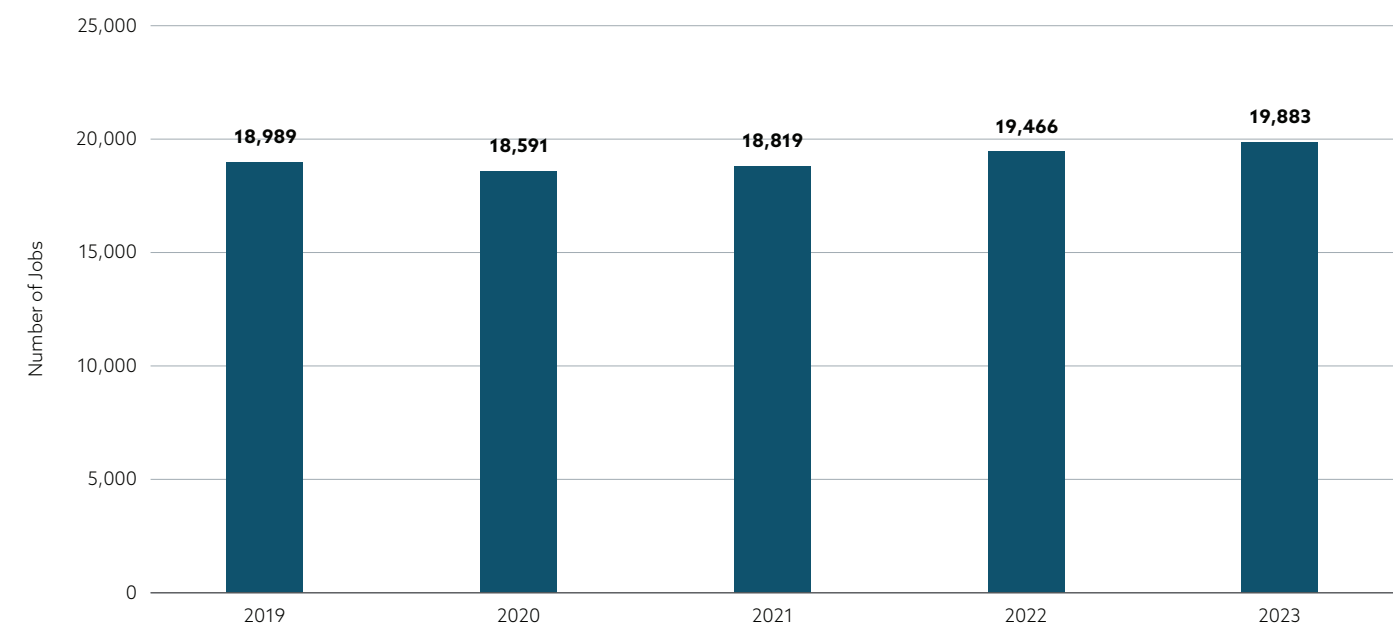
Source: IMPLAN, CVL Economics.

## HEALTH CARE & SOCIAL ASSISTANCE

Health Care & Social Assistance presents a complex economic profile where service expansion occurs alongside cost dynamics that create broader implications for regional economic competitiveness. The sector's employment growth from 18,989 jobs in 2019 to 19,883 in 2023 represents a 4.7% increase that contrasts sharply with contraction or stagnation in most other major county industries, positioning healthcare as one of the few expanding employment sectors during a period of economic uncertainty. This growth generates substantial economic ripple effects, with total employment impact reaching 27,058 jobs when including indirect and induced effects, while contributing \$2.8 billion in value added and nearly \$4.1 billion in tax revenue that demonstrate the sector's capacity to drive broader economic activity.

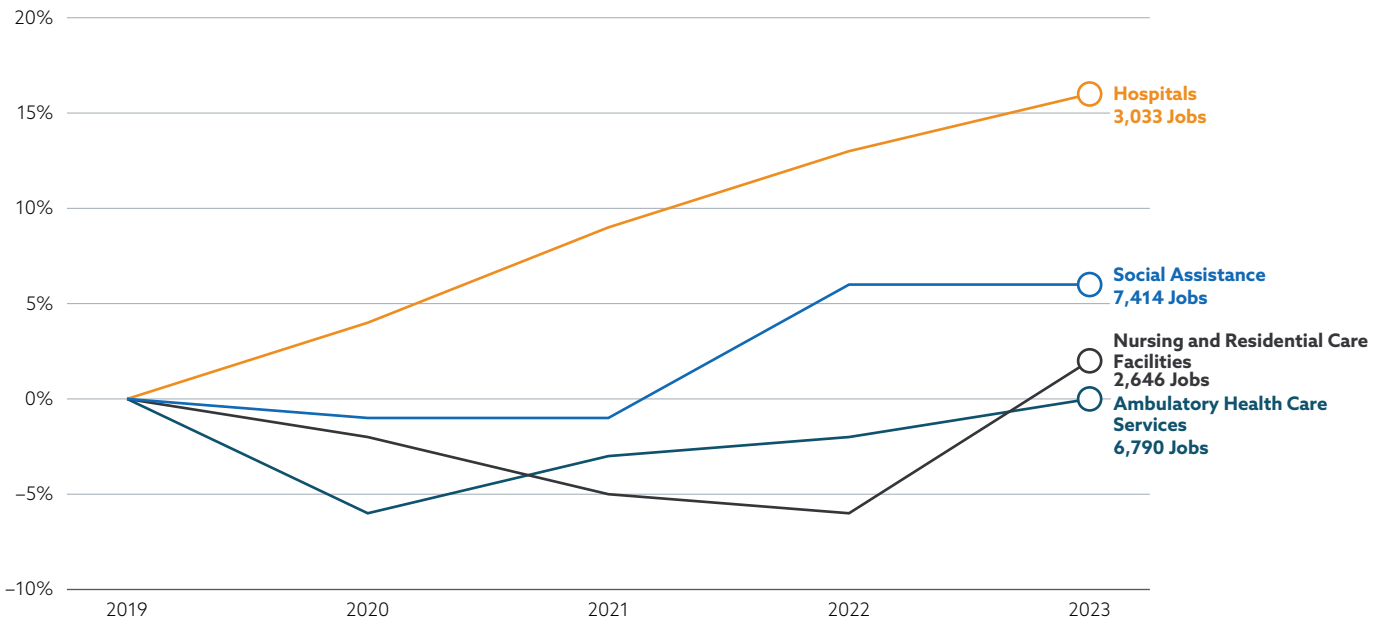
The industry's wage patterns show earnings that exceed county averages, indicating its role as a source of middle-income employment; this same dynamic, however, contributes to cost structures that create affordability challenges for both individual access and business operations. Analyzing this sector requires understanding how healthcare functions simultaneously as a community necessity, an employment generator, and an economic factor that influences broader development patterns through its impact on business costs and household budgets, creating both opportunities and constraints for regional economic development.

**FIGURE A4: HEALTH CARE & SOCIAL ASSISTANCE EMPLOYMENT IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

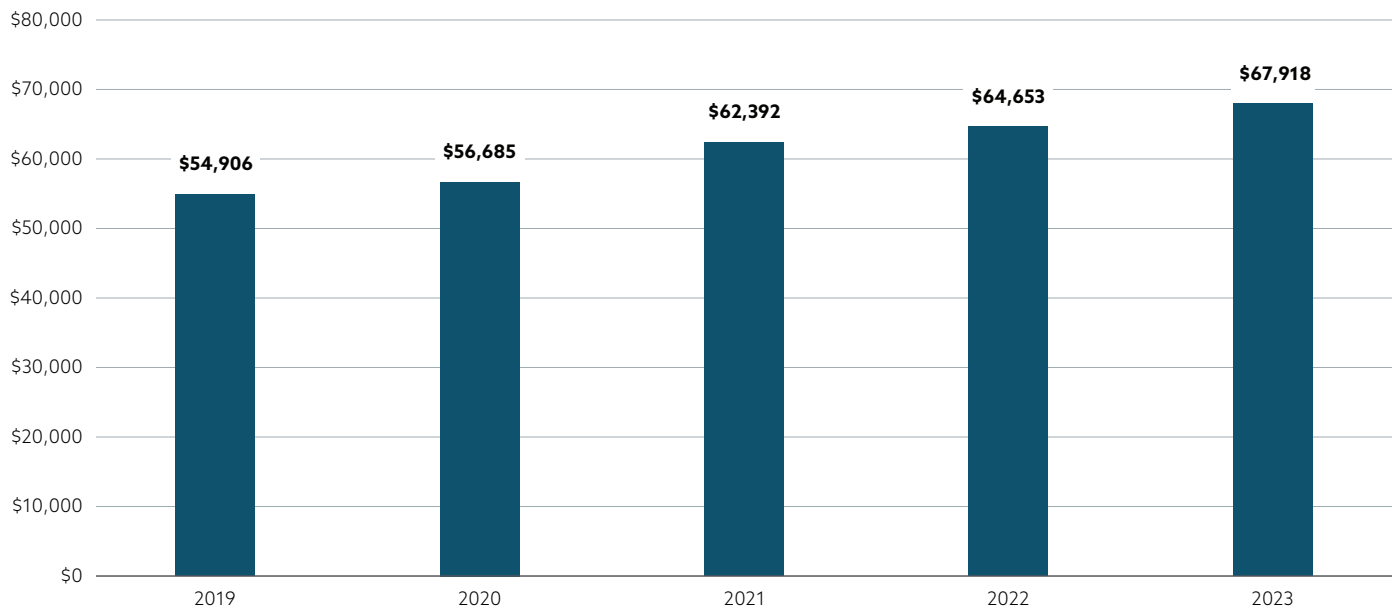
**FIGURE A5: EMPLOYMENT GROWTH BY HEALTH CARE & SOCIAL ASSISTANCE SUBSECTOR IN MONTEREY COUNTY**  
2019 TO 2023



Note: Includes W-2 and self-employed workers.  
Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.



**FIGURE A6: HEALTH CARE & SOCIAL ASSISTANCE AVERAGE ANNUAL WAGES IN MONTEREY COUNTY  
2019 TO 2023**



Note: Includes wages for W-2 and self-employed workers.

Source: U.S. Bureau of Labor Statistics, U.S. Census Bureau, Lightcast, CVL Economics.

**TABLE A2: ECONOMIC IMPACT OF HEALTH CARE & SOCIAL ASSISTANCE SECTOR IN MONTEREY COUNTY  
2023**

	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TAX REVENUE
Direct Impact	19,883	\$1,680,764,640	\$1,899,163,573	\$2,706,290,985
Indirect Impact	2,355	\$168,473,943	\$302,338,002	\$489,823,954
Induced Impact	4,820	\$336,295,809	\$584,995,043	\$876,826,417
<b>Total Impact</b>	<b>27,058</b>	<b>\$2,185,534,392</b>	<b>\$2,786,496,618</b>	<b>\$4,072,941,356</b>

Note: Tax Revenue includes Federal, State, and Local tax revenue generation.

Source: IMPLAN, CVL Economics.



## APPENDIX B: YEAR 3 UPDATE DEVELOPMENT PROCESS

Work on the *Year 3 Update* began in January 2025 with a deep dive into the changing nature of the agriculture sector and ongoing challenges as well as the implications of climate change (and associated mitigation/adaptation strategies) for economic development planning. The project team also met with the Board of Supervisors on an individual basis to identify priorities for this year's report.

In collaboration with the County, Grow America and CVL Economics convened one focus group with agriculture stakeholders to understand current conditions (beyond employment, wages, and economic impact) in greater detail and solicit insights into improving the sector's competitiveness and maintaining its viability in the face of increasing headwinds.

The quantitative analysis conducted in this report draws from the most recent data available for a given indicator. In many cases, there can be a lag as much as 12 to 18 months between when official state and federal data are collected and when they are officially released. Given that certain data sets are only released on an annual basis, trends analyses that appear in this report (particularly for employment and average annual wages) run only through 2023. For other indicators, such as home values, reporting occurs more frequently, which allows for more timely analysis.



# APPENDIX C: PROJECT PARTICIPANTS

## BOARD OF SUPERVISORS

Luis Alejo	District 1
Glenn Church	District 2
Chris Lopez	District 3
Wendy Root Askew	District 4
Kate Daniels	District 5

## FOCUS GROUP PARTICIPANTS

Sharon Albert	Rancho Cielo
Danny Bernstein	The Reservoir
Michael Castro	Community Foundation for Monterey County
Richard Michael Chapman	Hartnell College
Kristin Coates	Regenerative Monterey
Hannah Ditty	Regenerative Monterey
Dennis Donohue	Director, Western Growers
Walt Duflock	Western Growers
Paul Farmer	Monterey County Business Council
Belen Gonzales	Hartnell College
Juan Gonzalez	Hartnell College
Norm Groot	Monterey County Farm Bureau
Sonja Kohler	Bright Beginnings
Monica Lal	Monterey Peninsula Chamber of Commerce
Marilyn Martinez	Kitchen Table Advisors
Chris Padgett	Hartnell College
Cora Panturad	Monterey County Sustainability Program Manager

