

CALIFORNIA STATE UNIVERSITY,  
DOMINGUEZ HILLS

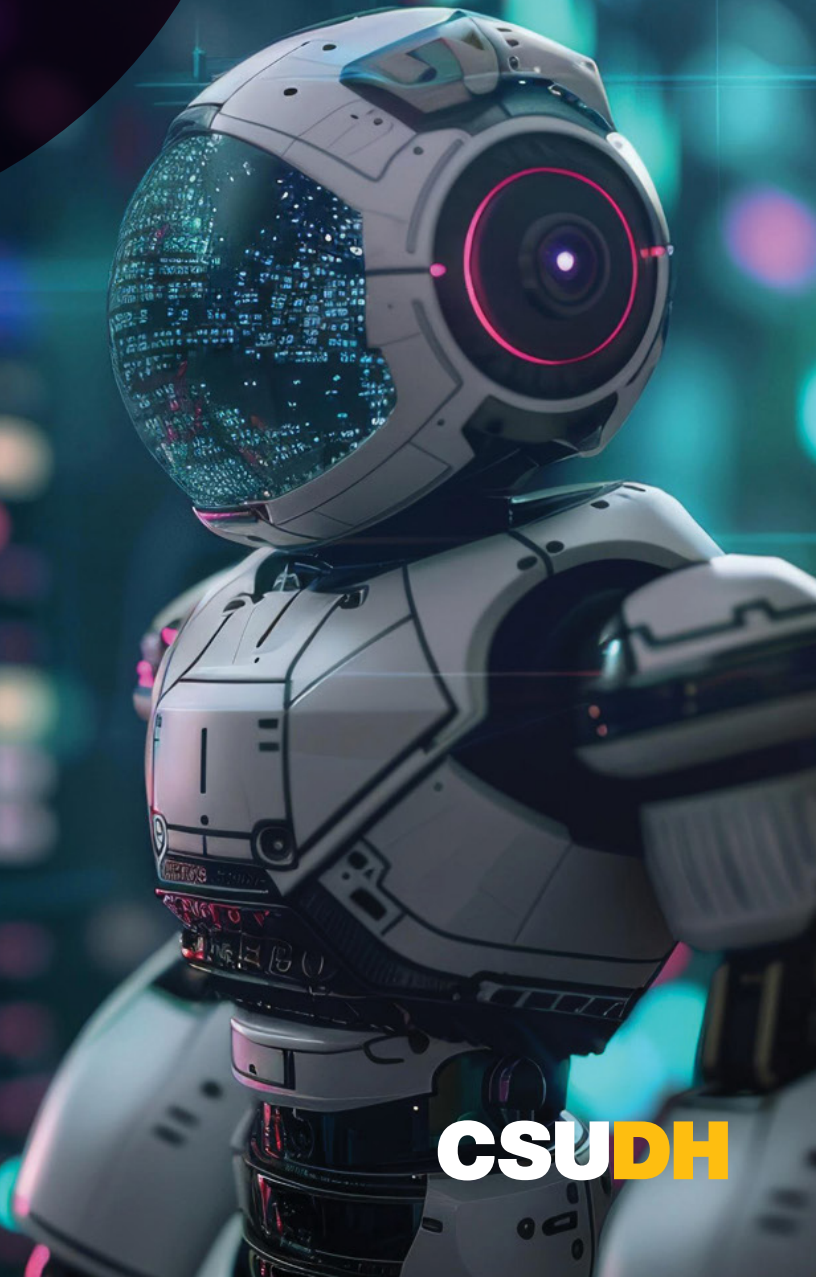
# SOUTH BAY ECONOMIC FORECAST & INDUSTRY OUTLOOK

2024-2025

PREPARED BY

**SOUTH BAY  
ECONOMICS  
INSTITUTE**

**CSUDH**



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# WELCOME

## About California State University, Dominguez Hills

California State University, Dominguez Hills (CSUDH) was founded in 1960 and permanently relocated to Carson in 1965 in response to the Watts Rebellion and the need to increase access to higher education for Southern California residents.

For over 50 years, CSUDH has served a diverse community of learners and educators collaborating to change lives and communities for the better. CSUDH is committed to connecting its students to a high-quality, transformative education while providing the L.A. region with a vital resource for the talent, knowledge, skills, and leadership needed to thrive today and tomorrow. Of the university's over 110,000 alumni, 60% live and work within 25 miles of campus.



Jose N. Martinez, PhD



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## About the South Bay Economics Institute

The South Bay Economics Institute at CSUDH aims to lead the South Bay region with innovative and forward-thinking economics education and research. The Economics Institute serves the College of Business Administration and Public Policy faculty and students, as well as community stakeholders, by:

- Developing CSUDH economics curriculum and teaching while incorporating proven high-impact practices;
- Engaging our diverse student body in economic analysis projects through mentoring programs, guest speakers, and community outreach opportunities;
- Facilitating faculty development through economics research resources, grant writing deliverables, and local business and government community engagement.

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2024

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## OVERVIEW

# Celebrating a Decade of Innovation: South Bay Economic Forecast Highlights AI, Robotics, and Regional Growth

We are excited to celebrate 10 years of the South Bay Economic Forecast. We would like to thank all those involved in planning this event over the years, especially the CSUDH Events and Ceremonies team. Yet again, we have assembled a panel of cutting-edge industry leaders, who this year will discuss the role of AI and robotics innovations in improving productivity across the South Bay, including Chevron’s use of “Spot” robot dogs at their refinery in El Segundo, Torrance company Hadrian’s highly automated precision component manufacturing, Gardena company GrayMatter Robotics autonomous and AI-driven manufacturing systems, and Waymo’s driverless taxis that have been appearing across our region.

Our economic forecast report has been fascinating to write this year because of the mixed and sometimes competing economic news. We are reminded of President Harry Truman’s famous words: “Give me a one-handed economist. All my economists say ‘on ONE hand...’, then ‘but on the other...’” We’re sorry to disappoint Harry, but we have two hands and will be doing some equivocating in this year’s report. On the one hand, most economic indicators suggest that the economy is in good health. On the other hand, there are some areas of concern, especially here in California.

## National

The national economy is a good example of this mixed picture. On the one hand, economic activity—as measured by real gross domestic product (GDP)—has grown for the past eight quarters at an average of 2.8%, and across most major economic sectors (U.S. BEA, 2024b). Retail sales are growing (U.S. Census, 2024a), as inflation has stabilized to a normal range and consumer confidence remains positive (U.S. BLS, 2024a). To feed this demand, manufacturing output is up (Reuters, 2024), as are imports (U.S. Census, 2024b). Stock markets are at record levels despite recent turbulence (DJIA, 2024). Macroeconomic forecasters across the nation project growth in 2025, in the range of 1.6%-2.5% (Table 1). The U.S. Federal Reserve appears to agree that conditions are stable, and so last month it cut interest rates for the first time in four years, and by 0.5% (U.S. Fed, 2024).

On the other hand, while unemployment remains low, and has been since early 2022, it had been trending upwards for much of this year. Thankfully the last two months have seen notable job gains and unemployment declined to 4.1% in September 2024 (St Louis Fed, 2024). Jobs are being added in the range of 100-260K per month since April. To keep unemployment stable at around 4.0%, the US economy needs to add around 150,000 jobs each month. While current trends are in a healthy range, a slow-down in hiring could push the unemployment rate up to uncomfortable levels.

While aggregate statistics tell a story, they also obscure the challenges faced by those unemployed, low income, or in positions where income growth is not keeping up with inflation. Personal income is growing (U.S. BEA, 2024a), hence the positive average consumer confidence indicators. However, annual growth rates in personal income for this current decade are lower than in all recent decades. Moreover, if you are in one of the above groups, then price inflation will come with a painful bite.

## California

The economic picture in California is also mixed. Unemployment is higher than the U.S. average, which is a long-term trend caused by factors including higher levels of worker protections, higher minimum wages, and stricter regulations. Similarly, California inflation is higher than the U.S. average, in part due to eye-watering house prices (see further discussion in the housing section below) and higher taxes on goods that may be passed on to consumers through supply chains.

There are also concerns that we are experiencing a “California Exodus” of residents and businesses leaving the Golden State. On the one hand, California’s population did decline in recent years for the first time since records began. Population increases



# OVERVIEW

were slowing through the 2010s and were spurred on by COVID and the ability to work remotely (see further discussion in the Transportation section below). Also, famous companies such as Tesla, Oracle, Hewlett Packard, Palantir, Honda, and SpaceX have either moved headquarters out of state or are planning to, often to states with lower regulations and taxes such as Texas and Florida. These changes have consequences. Population declines have caused California to lose a congressional district and tax revenue, which is especially a problem when the super-rich leave, as they contribute an out-sized proportion to state taxes (Potts, 2021).

On the other hand, California continues to perform well economically. If you are a homeowner, you will likely benefit from higher house prices. Real GDP growth remains among the top 10 states nationwide—though admittedly below competitors like Texas and Florida—and business applications have increased since the COVID-19 pandemic (higher than Texas but lower than Florida). California still reigns on venture capital investment, with around 40% of total US investments. San Francisco and to a lesser extent Los Angeles and San Jose remain venture capital hotbeds; other innovation hubs, including those in Texas and Florida, do not come close.

California continues to produce and attract highly educated workers who demand high wages. Even recent population declines appear to have turned a corner (CA DoF, 2024). California labor productivity growth remains impressive; second only to Washington state since 2007 (U.S. BLS, 2024c). The last time national labor productivity grew at a higher-than-average level was in the aftermath of the internet and IT advances of the late 1990s. Given the high level of AI investment in California in recent years, it is possible California could see another productivity leap in the coming years.

On the other hand, California also leads the nation on rates of poverty—especially when adjusted for the cost of living—and homelessness (Walters, 2024). While there are mechanisms for social mobility, such as the impressive Community College and CSU systems, many people across California are living in vulnerable conditions. The high price of necessities such as housing, food, and fuel puts pressure on household budgets that often wages are unable to match.

## South Bay and Los Angeles

During this past decade, the South Bay region of Los Angeles County has remained a major engine of the broader Southern California economy. Major productive industries continue to be manufacturing—both durable goods such as aerospace and non-durable goods such as petroleum—real estate, and professional services. Major employers in the South Bay region continue to be in manufacturing, health care, and retail. Despite the major disruption of the COVID-19 pandemic, businesses large and small across the region have remained resilient.

Our South Bay forecast model projects that the economy will continue to grow over the next few years, at 1.9% in 2024, 1.0% in 2025, and 1.5% in 2026 (Table 1, Page 7). Our forecast model is based on a combination of national trends, macroeconomic forecasts, and regional data from U.S. BEA and the Federal Reserve. Our GDP forecasts are usually below the national average due to slower than average national growth among the large sectors in the South Bay.<sup>1</sup>

The Southern California ports, which play a critical role in the regional economy, remain the largest in the U.S., and have been growing impressively since early 2023 (Figure 1, Page 7). This reflects strong national consumer confidence and demand. Retail sales dipped across Los Angeles County in early 2024 but remain stable in the South Bay (Figure 2, Page 8). Stable inflation is likely to continue, and September's federal interest rate cuts are likely to further stimulate consumer confidence and demand, especially in the real estate sector.

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<sup>1</sup> Our model does not include other important factors such as venture capital investments, major events, infrastructure investments, or trade flows that disproportionately affect the South Bay region, and hence our forecast is likely to be conservative. On the other hand, it is also difficult for an already highly-productive region to maintain high levels of growth, especially when most of the land is already being utilized.



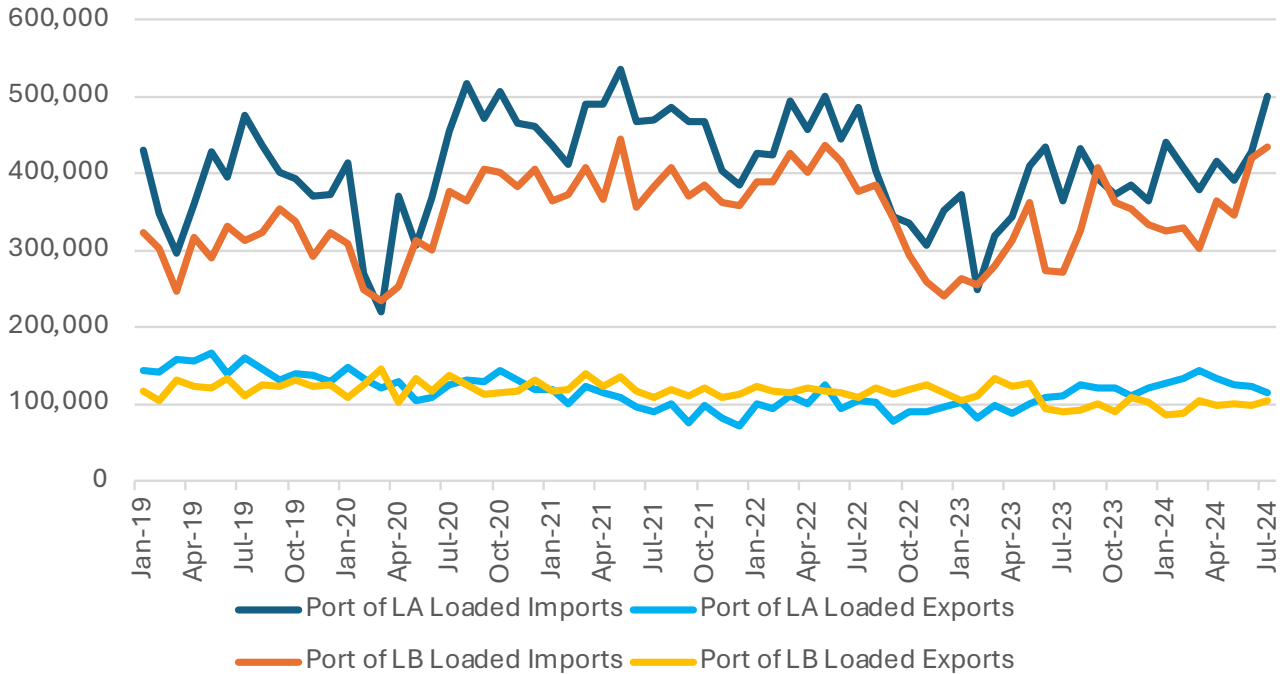
# OVERVIEW

**TABLE 1. SOUTH BAY MACROECONOMIC FORECAST**

FORECASTER	REAL GDP			UNEMPLOYMENT		
	2024	2025	2026	2023	2024	2025
<b>UCLA Anderson Forecast</b>	2.5%	2.5%	2.5%	5.6%	5.1%	5.7%
<b>US Congressional Budget Office</b>	2.6%	2.1%	1.8%	3.9%	4.0%	4.2%
<b>US Federal Reserve</b>	2.1%	2.0%	2.0%	4.0%	4.2%	4.1%
<b>US Fed (Philadelphia)</b>	2.6%	1.9%	2.3%	4.1%	4.3%	4.2%
<b>Wells Fargo</b>	0.8%	1.5%	-	4.2%	4.2%	-
<b>Deloitte</b>	2.4%	1.6%	2.1%	3.7%	3.7%	3.5%
<b>OECD</b>	2.6%	1.8%	-	4.0%	4.0%	-
<b>Fannie Mae</b>	1.9%	1.8%	-	4.1%	4.6%	-
<b>SwissRe</b>	2.5%	2.1%	-	-	-	-
<b>NATIONAL AVERAGE</b>	<b>2.2%</b>	<b>1.9%</b>	<b>2.1%</b>	<b>4.2%</b>	<b>4.3%</b>	<b>4.3%</b>
<b>SOUTH BAY REGION FORECAST<sup>b</sup></b>	<b>1.9%</b>	<b>1.0%</b>	<b>1.5%</b>	<b>5.2%</b>	<b>5.3%</b>	<b>5.4%</b>

<sup>b</sup> Unemployment for South Bay Region is based on L.A. County estimate model

**FIGURE 1. IMPORTS AND EXPORTS AT THE PORTS OF L.A. AND LONG BEACH, 2019-24**



Source: Ports of LA and Long Beach (2024)

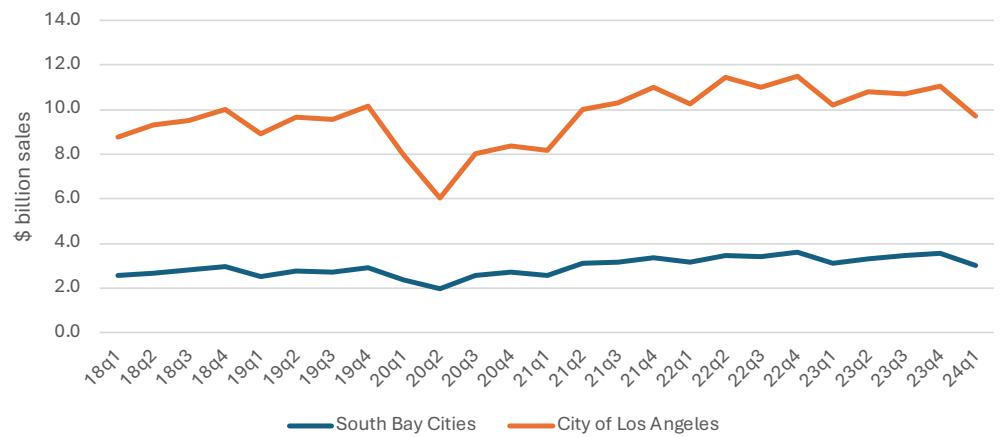
# WORKFORCE

Unemployment remains low (Figure 3), despite being at a higher level than the national average for structural reasons. Our forecast model, based on L.A. County unemployment rates, projects 5.2% for 2024, 5.3% for 2025, and 5.4% for 2026 (Table 1). From a macro perspective, unemployment conditions in L.A. consistently follow the conditions in California and the U.S. as a whole. As seen in the graph below, unemployment rates for L.A. tend to be higher and with more variation than the rates for California and the U.S., especially during economic downturns like the recent COVID-19 pandemic.

According to the employment-by-industry distribution before the COVID-19 pandemic, the main employment industries for the South Bay were Manufacturing, Health Care and Social Assistance, Retail Trade, and Accommodation and Food Services (as shown in Table 2). According to the latest employment figures, most industries' employment figures have returned to pre-pandemic levels. Some industries continue working toward recovery, but are still below pre-pandemic levels, like the Arts, Entertainment, and Recreation, Retail Trade, Transportation and Warehousing, and Educational Services industries. However, this might represent also a permanent fluctuation in the employment trends due to structural changes exacerbated by the COVID-19 pandemic, like the reduction in some forms of transportation, hospitality and leisure, and retail trade.

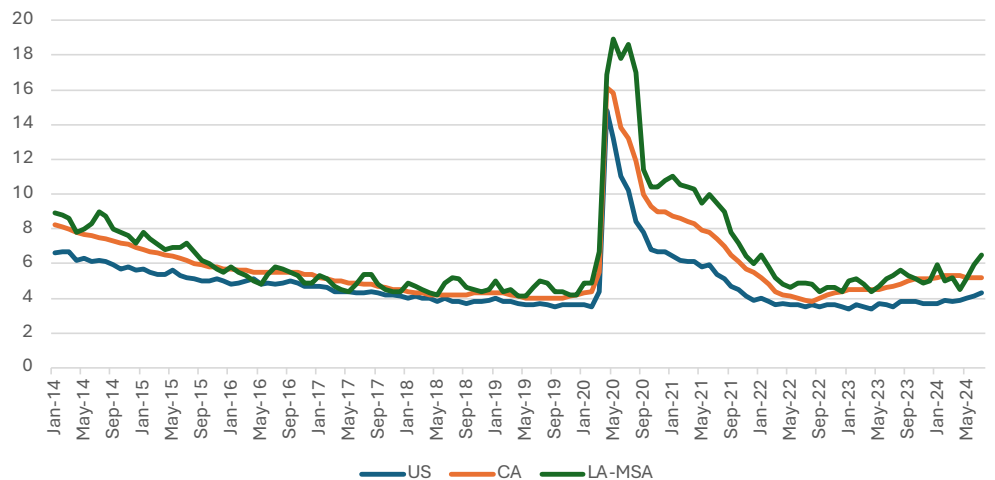
Analyzing the employment situation in the South Bay, L.A. Metropolitan Statistical Area (LA-MSA), and California as a whole, the employment distribution between California and L.A. differs significantly in terms of employment shares in Education and Health Services, Agriculture and Forestry, and Government industries. Comparing LA-MSA employment distribution to that of the South Bay, the latter has a lower weight in Education and Health Services and Government. On the other hand, employment in Manufacturing and Retail Trade is weighted more heavily in the South Bay.

**FIGURE 2. TAXABLE RETAIL AND FOOD SALES, SOUTH BAY CITIES AND CITY OF LOS ANGELES**



Source: California Department of Tax and Fee Administration

**FIGURE 3. MONTHLY UNEMPLOYMENT RATE (%), U.S. AND LOS ANGELES COUNTY**



Source: Bureau of Labor Statistics



## AI, Robotics, Automation, and Employment

Overall, AI technologies, robotics, and automation might be expected to have a negative short-run impact on aggregate overall employment in positions such as from automation of assembly lines, repetitive production tasks, stocking and inventory management, customer service, logistics roles, data entry, order processing, and content creation tasks. As such, the highlighted industries in Table 3 likely have the most short-run exposure negative impacts on employment from AI, robotics, and automation. Interestingly, the South Bay is overrepresented relative to LA-MSA and California in all of them, especially in the manufacturing, Retail Trade, Professional and Business Services, and Transportation, Warehousing, and Utilities industries.

From an economics perspective, AI, robotics, and automation have the potential to disrupt many industries by automating processes and tasks previously done by workers. However, changes in technological progress, like AI, are not always easily translated into overall productivity increases. In addition, these impacts are typically not evenly distributed across occupations and industries in the economy. The productivity paradox phenomenon suggests that in the last 70 years, technological progress has contributed more than 50 percent to the increases in labor productivity. However, there have been historical periods of rapid technological progress that did not translate directly into labor productivity gains or long-run economic growth.

People might expect that the AI revolution might lead to an explosion in total factor productivity, labor productivity, and long-run economic growth. However, lags between technological adoption and improvements in labor productivity, measurement issues, adjustments costs, and the time needed for organizational changes might make labor productivity improvements from technological progress hard to materialize (Mankiw, 2021). In terms of employment changes due to technological progress, there might be some negative impacts from technological progress on employment in the short run, as some industries lose jobs while others experience a lower demand for workers due the productivity increases. However, long run effects of technological progress like AI might have a net positive impact on productivity, employment, and wages.

**TABLE 2. SOUTH BAY EMPLOYMENT SHARE BY INDUSTRY SECTOR**

Industry Sector	Percentage
Manufacturing	15.6%
Health Care and Social Assistance	12.8%
Retail Trade	11.8%
Accommodation and Food Services	10.8%
Administrative and Support and Waste	7.9%
Professional, Scientific, and Tech Services	7.8%
Public Administration	7.0%
Transportation and Warehousing	5.8%
Wholesale Trade	5.3%
Construction	3.5%
Finance and Insurance	2.6%
Information	2.4%
Real Estate and Rental and Leasing	2.1%
Arts, Entertainment, and Recreation	1.9%
Other Services	1.2%
Educational Services	1.0%
Management of Firms and Enterprises	0.4%

Source: California EDD

**TABLE 3. COMPARISON OF CALIFORNIA, LA, AND SOUTH BAY EMPLOYMENT SHARES BY INDUSTRY SECTOR**

Industry	California	LA-MSA	South Bay
Agriculture & Forestry	2.3%	0.1%	0.0%
Construction	5.0%	3.3%	3.5%
Manufacturing	7.2%	6.9%	15.6%
Wholesale Trade	3.6%	4.4%	5.3%
Retail Trade	8.8%	8.9%	11.8%
Transportation, Warehousing, and Utilities	4.5%	4.8%	5.8%
Information	2.9%	4.0%	2.4%
Financial Activities	4.4%	4.6%	2.6%
Professional and Business Services	15.1%	14.1%	16.1%
Education and Health Services	17.4%	20.6%	13.8%
Leisure and Hospitality	11.0%	11.8%	12.7%
Other Services	3.3%	3.5%	1.2%
Government	14.4%	12.9%	7.0%

Source: Bureau of Labor Statistics and California EDD

## CSUDH Alumni Employment

### Toros are upwardly mobile

Our students impress us daily with their grit and resilience. It is no surprise therefore that when it comes to social mobility and value for money, CSUDH consistently ranks among the best in the nation. This means that after graduation our students are more likely to rise into higher income brackets than they were previously.

### Toros stay in the region

Our students are also likely to continue living near to campus, serving the communities they were raised in. Lightcast Alumni Outcomes data shows one third of our alumni live in the City of L.A., with 6% in Long Beach, 4% in Torrance, 2.5% in Carson, 1.4% in Hawthorne, 1.3% in Inglewood, 1.2% in Gardena, and 1.1% in Redondo Beach. Major employers for CSUDH alumni include L.A. Unified School District, the California State University system, Kaiser Permanente, University of California, Northrop Grumman, L.A. County Department of Children and Family Services, Amazon, Providence, Long Beach Unified School District, and Cedars Sinai.

### Toros work across the economy

CSUDH alumni work across all economic sectors. Looking at wages 10 years from graduation for those that stay in California (Table A), the highest paying average incomes in Management of Companies & Enterprises, Utilities, and Manufacturing for bachelor's degree holders, and Information, Manufacturing, and Retail Trade for graduate degree holders. Table A highlights added value to students of obtaining a graduate degree. However, even those with CSUDH bachelor's degrees earn on average \$15,000 per year more than peers without degrees.

**TABLE A. AVERAGE INCOMES BY SECTOR FOR CSUDH GRADUATES, 10 YEARS FROM GRADUATION**

Employment Sector	Bachelors	Employment Sector	Graduate Degree
Management of Companies & Enterprises	\$94,543	Information	\$136,032
Utilities	\$89,047	Manufacturing	\$121,830
Manufacturing	\$79,519	Retail Trade	\$114,098
Government	\$77,419	Finance & Insurance	\$108,380
Information	\$72,037	Government	\$107,445
Finance & Insurance	\$69,215	Educational Services	\$93,767
Professional, Scientific, & Technical Skills	\$63,172	Health Care & Social Assistance	\$79,771

Source: Calstatepays

<sup>1</sup> CSUDH (2023) National Rankings and Awards. <https://www.csudh.edu/about/campus-facts/national-rankings-awards/>

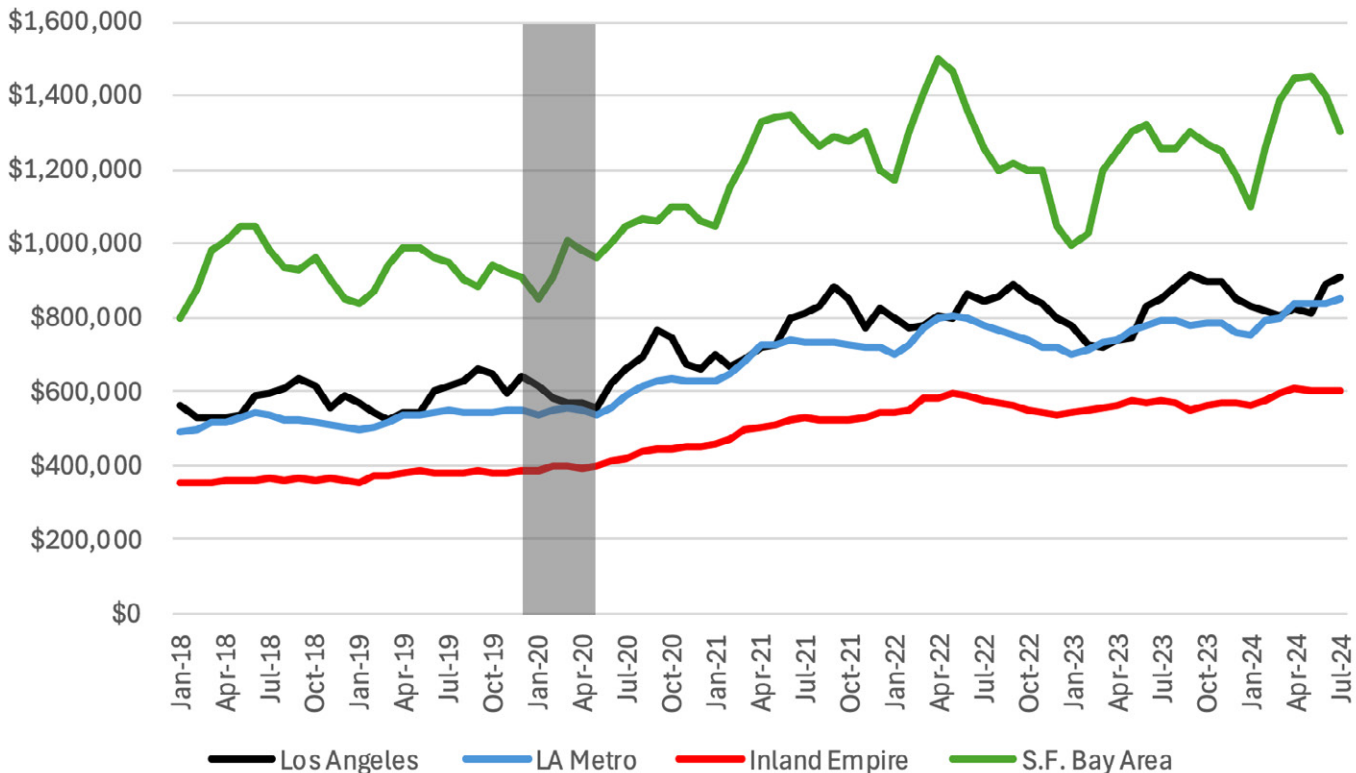
# HOUSING

## Highlights

1. Housing prices in L.A. County increased 3.1% between July 2023 – July 2024, much higher than 0.62% during July 2022 – July 2023, which makes them significantly higher than at the start of the COVID-19 emergency in March 2020.
2. These price increases have been fueled by the same sources as in other metro areas in the nation: growing demand with a scarce supply, evidenced in low Median Time on Market and Sales during the period 2022-2024.
3. Changes at the national level, like the interest rate, have a strong effect on housing prices. However, the L.A. metro region has also important supply side limitations that decelerate housing construction and real estate rotation.

The housing picture is also mixed. Average house prices are closing on \$1 million across Los Angeles County, while the recent spurt of housing construction appears to be helping to bring down rents (Zillow, 2024a, 2024b). Single-Family Home prices are consistently increasing across the three largest Metro areas of California: Los Angeles, Bay Area, and Inland Empire (Figure 4). The effect of COVID on prices was temporary and much smaller than the Great Recession of 2008-09. Housing prices decreased during March-May of 2020, recovered well during 2021-22, and have been growing steadily during 2023-24. The absolute differences between the markets shown in Figure 4 have remained relatively stable, with San Francisco Bay Area the most expensive and Inland Empire the least expensive.

**FIGURE 4. MEDIAN PRICE FOR SINGLE FAMILY HOMES 2018-2024, PER METRO**



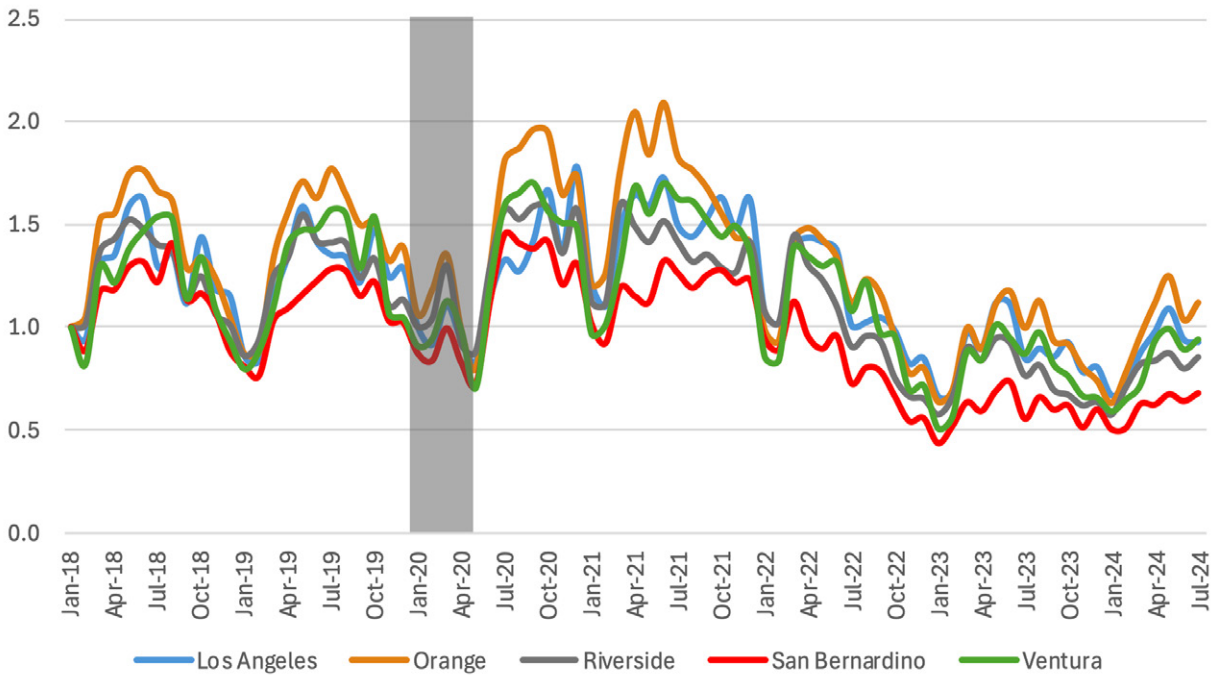
Source: Author's depiction of California Realtors Association data  
 Note: The grey rectangle shows the short-term effect of the Covid-19 pandemic during March-May 2020.



# HOUSING

Since around June of 2021 we have seen price increases alongside zero or negative growth in sales (Figure 5). In economics terms, high prices are down to supply scarcity. The regional housing market has had supply problems for a long time due to restrictive planning, enacted during the 1960s and 1970s, and Proposition 13, enacted in 1978, which slows the rotation of real estate rotation. A comprehensive overhaul of city planning, property taxation, real estate finance, and urban design are required if the region is to sustainably accommodate future economic, population, and household growth.

**FIGURE 5. INDEX OF HOUSING SALES BY L.A. METRO COUNTRY (YEAR-ON-YEAR)**



Source: own elaboration (Index chained from percent changes) using California Realtors Association data

Looking at the number of sales and median home prices for attached and detached units for South Bay cities, coastal and inland regions (Table 4, Figures 6-7), home sales of attached and detached units in coastal and inland cities went down on a year-to-date basis, but the decline was slightly larger for detached units and for inland cities. In terms of median home prices, the data shows significant increases in median home prices, especially for detached units in coastal cities. From a demand and supply of housing perspective, these changes are consistent with a relatively larger decline in housing supply.

**TABLE 4. PERCENT CHANGE IN HOME SALES AND MEDIAN PRICES FOR COASTAL AND INLAND SOUTH BAY REGIONS.**

		YTD % CHANGE	
		Home Sales	Median Prices
COASTAL	Attached	-8.5%	24.2%
	Detached	-9.4%	6.5%
	All	-9.1%	9.2%
INLAND	Attached	-10.8%	8.0%
	Detached	-12.4%	7.0%
	All	-11.9%	8.0%

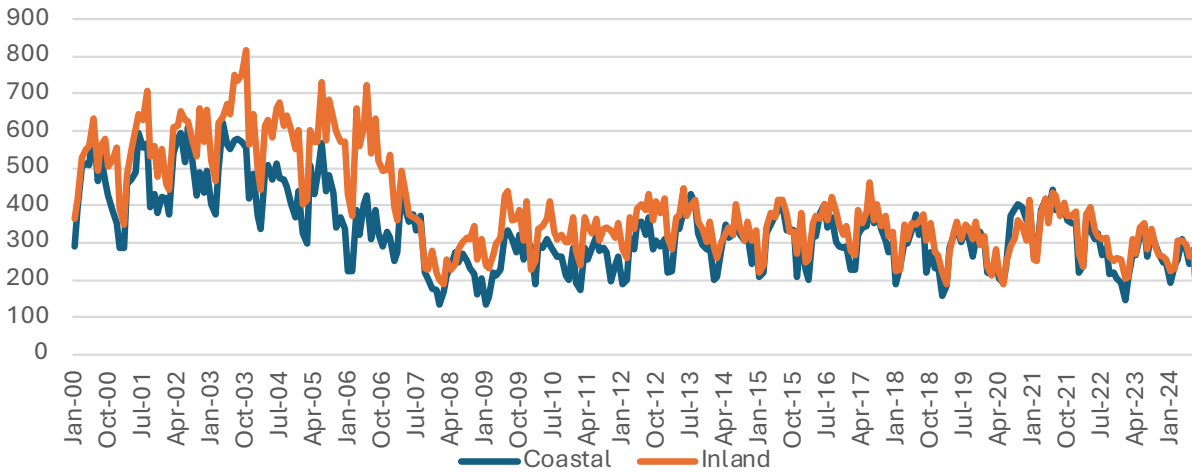
Source: Authors' calculations based on Marketrac Silver Report

Note: Coastal cities include the cities of Avalon, El Segundo, Harbor City, Hermosa Beach, Manhattan Beach, Palos Verdes, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, and San Pedro. Inland cities include Carson, Gardena, Hawthorne, Inglewood, Lawndale, Lomita, Torrance, and Wilmington.

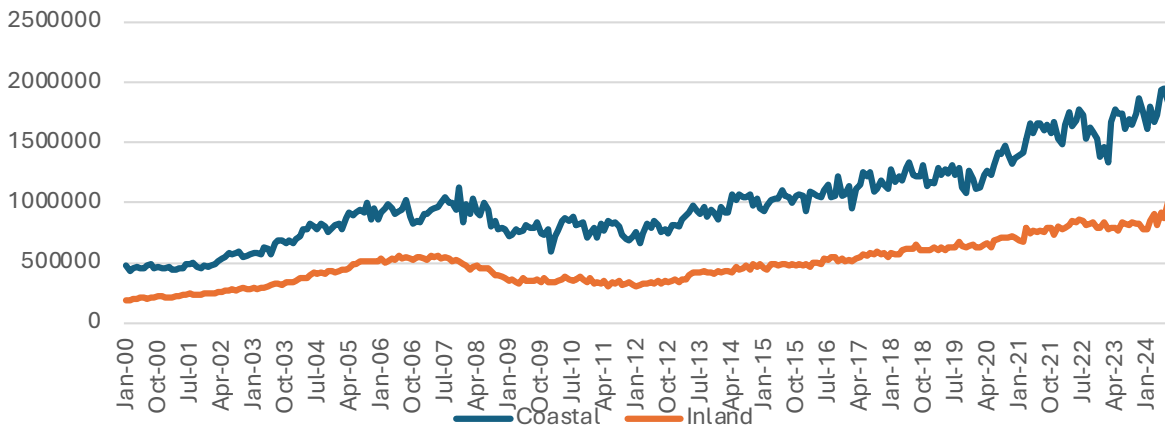


# HOUSING

**FIGURE 6. SOUTH BAY HOUSING MONTHLY SALES – ALL UNITS**



**FIGURE 7. SOUTH BAY HOUSING MEDIAN PRICES (\$) – ALL UNITS**



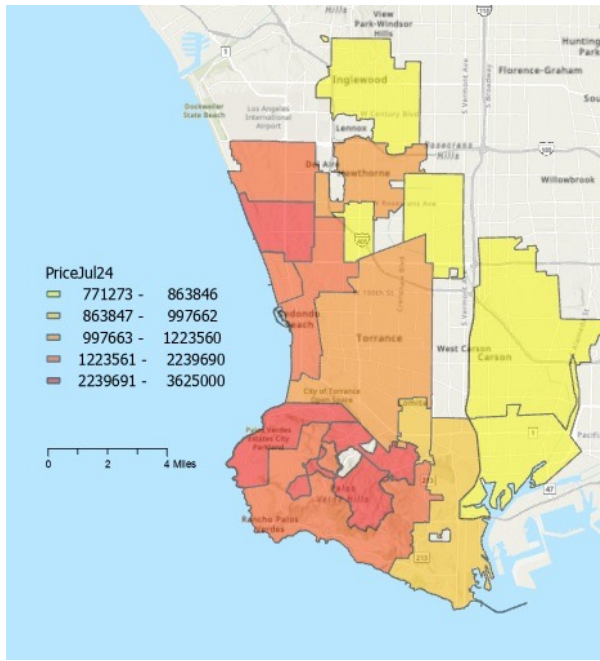
Housing inventory in California remains low and new home construction continues to be inadequate relative to population needs. Our research team recently calculated that California needs about 163,000 new homes annually to keep up with forecasted demand to 2025, though only about 65,000 to meet flatter population forecasts to 2040. Over the past 5 years, an average of 108,000 units have been built (Ke et al., 2023), softening rental prices.

Nonetheless, restricted housing supply and the recent home price increases mean housing affordability in California remains a major issue. The percentage of households that can afford to purchase a median-price single family home in California (Q2 2024: U.S. (33%), CA (14%), L.A. Metro (13%), has reached its lowest level since 2007 (CAR, 2024). In terms of interest rates, the 30-year fixed mortgage rates have been trending downwards since Q4 2023 thanks to a decline in overall inflation and expectations of lower interest rates by the Fed (which have now been realized). The latest figures show a 6.5% mortgage rate, which is far from the historical low of 2.68% from December 2020.

# HOUSING

In this section we map the performance of housing markets with respect to median housing prices and sales counts in South Bay cities. Figure 8 shows that housing prices are relatively high in most of the South Bay, particularly within the coastal cities, although with different growth rates during 2023-24. Sales growth is relatively low and negative in many areas, reflecting the situation depicted in Figure 6.

**FIGURE 8: MEDIAN HOUSING PRICE – JULY 2024**



**FIGURE 9: MEDIAN PRICE GROWTH JULY 2023 – JULY 2024**

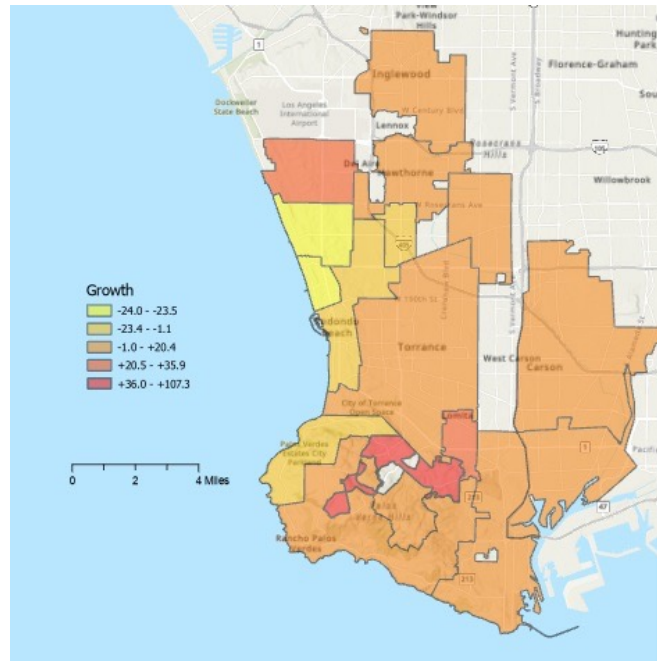
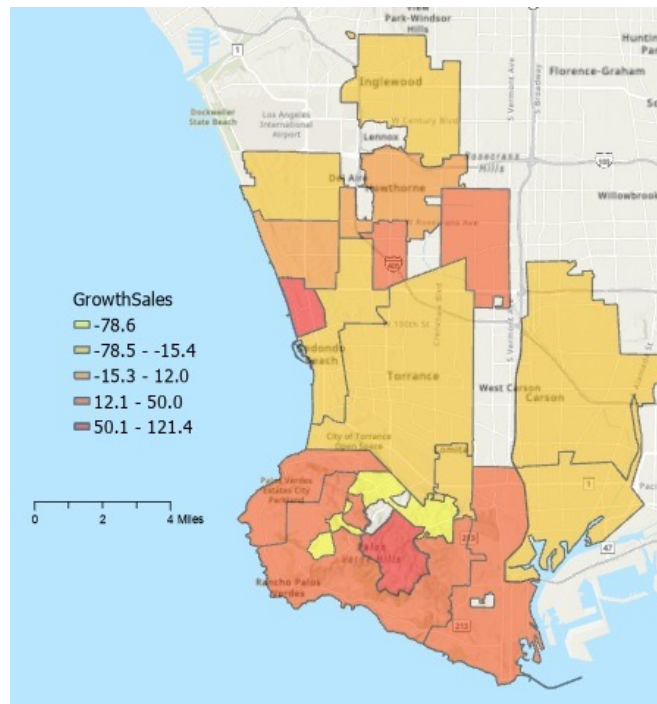


Figure 9 shows that during 2023-24, high value Manhattan and Hermosa Beach both saw house prices decline. In contrast, prices grew significantly in El Segundo and Rolling Hills Estates, as well as in Lomita. Price growth is strongly associated to market dynamics: low supply increases housing prices, and if supply growth is slow or negative, prices tend to increase more strongly due to demand pressure. We have observed this process in former editions of this report, where fast price growth is spatially associated with slow or negative growth in transactions. The patterns observed in Figure 8 tend to contrast with the price growth of Figure 9, where negative price growth in Manhattan and Hermosa Beach coincide with fast growth in Sales in Figure 10.

**FIGURE 10: TRANSACTIONS GROWTH DURING JULY 2023 – JULY 2024**



*Authors' depiction of data from Corelogic and World Map of Arc-GIS*



# HOUSING

In contrast, negative sales growth in Rolling Hills Estates coincides with positive price growth. There is a relatively even distribution of positive and negative growth in sales among the cities of the South Bay. However, and coinciding with Figure 3, the number of sales is quite small in relation to the size of these cities, ranging between 126 in Torrance, a city with more than 140,000 inhabitants, and just 3 in Rolling Hills Estates. The observations at the South Bay level confirm what has been analyzed in the existing scholarly literature regarding the L.A. metro region. There is a low supply of new housing construction, possibly determined by regulatory constraints. Simultaneously, there is low rotation of the existing stock of housing, effectively experiencing the freezing effect on housing supply of Proposition 13, as discussed above.

## Housing Forecast

Our forecasts show a continuing tendency in home sales and median home prices for attached and detached units in L.A. (Table 5). Demand factors like lower interest rates and high employment and income will push for a strong housing demand. On the other hand, historical low levels of housing affordability and significantly low housing inventory and inadequate new home construction points to a restricted housing supply. Together, our forecasts indicate a relatively moderate decline in home sales and a moderate increase in median home prices for coastal and inland cities in the South Bay.

**TABLE 5. FORECAST PERCENT CHANGE IN HOME SALES AND MEDIAN PRICES FOR COASTAL AND INLAND SOUTH BAY REGIONS, (Q4 2024 – Q2 2025)**

		YTD % CHANGE	
		Home Sales	Median Prices
COASTAL	Attached	-8.7%	8.9%
	Detached	-6.0%	1.8%
	All	-6.6%	3.1%
INLAND	Attached	-8.2%	1.9%
	Detached	-7.7%	5.2%
	All	-7.9%	4.9%

Source: Authors' calculations based on Marketrac Silver Report



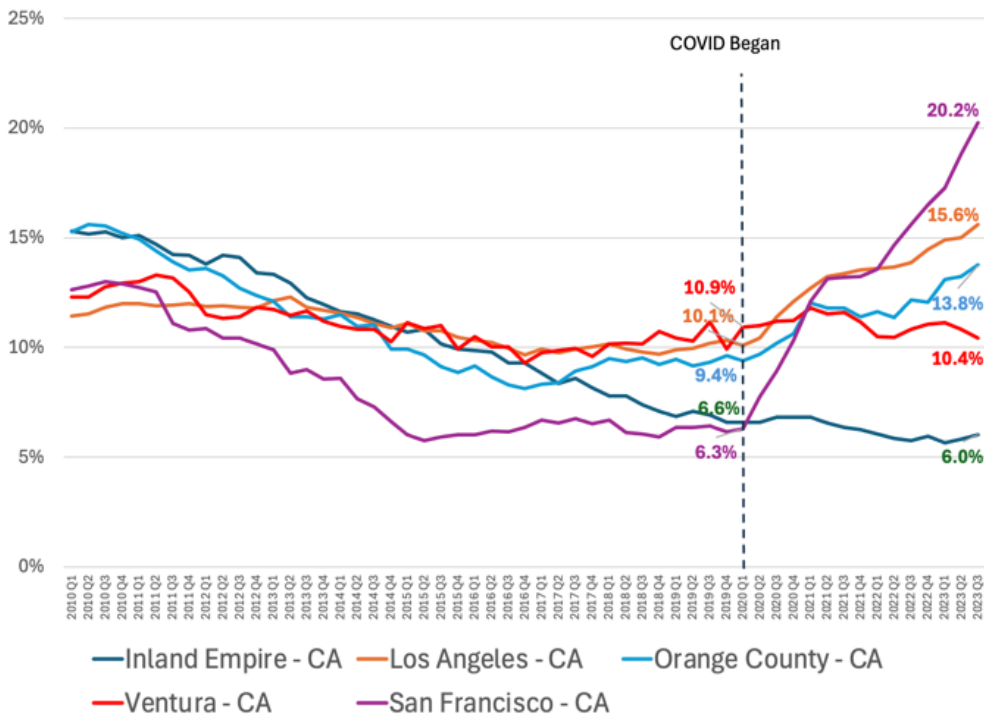
# TRANSPORTATION AND LOGISTICS

As we have discussed in recent years, the COVID-19 pandemic significantly disrupted the movement of people and goods in numerous ways. Here we focus on three trends that continue to impact our region: telecommuting, goods manufacturing, and supply chain deglobalization.

## Telecommuting

Our research team has recently been awarded a major grant from the California Air Resources Board to study the rise of telecommuting, which has increased from around 6-13% pre-pandemic (depending on the measure) to around 30% (Barrero et al., 2021). This phenomenon has led many companies to downsize their office spaces or adopt hybrid work models, reducing the demand for office rentals. Office vacancy rates have increased noticeably in large cities like San Francisco, Los Angeles, and Orange County, while Inland Empire has bucked the trend (Figure 11). High vacancy rates can reduce rental income for property owners, and in turn the banking industry, which has high exposure to commercial real estate loans. Property values have declined, leading to lower loan collateral values.

**FIGURE 11. OFFICE VACANCY RATES IN NORTHERN AND SOUTHERN CALIFORNIA**



Source: CoStar

## U.S. Goods Manufacturing

While U.S. manufacturing increased output over the summer, a monthly survey of purchasing managers (ISM, 2024) showed an index score of 46.8%, which indicates a contraction of the manufacturing sector when below 50%. However, purchasing managers reported sharper drops in new orders, production, employment, and inventory. U.S. manufacturing continued to decline as demand remained weak, with companies hesitant to invest due to the current federal monetary policy and other factors. On the supply side, lead times have improved, and shortages are less severe, with suppliers having capacity available.



# TRANSPORTATION AND LOGISTICS

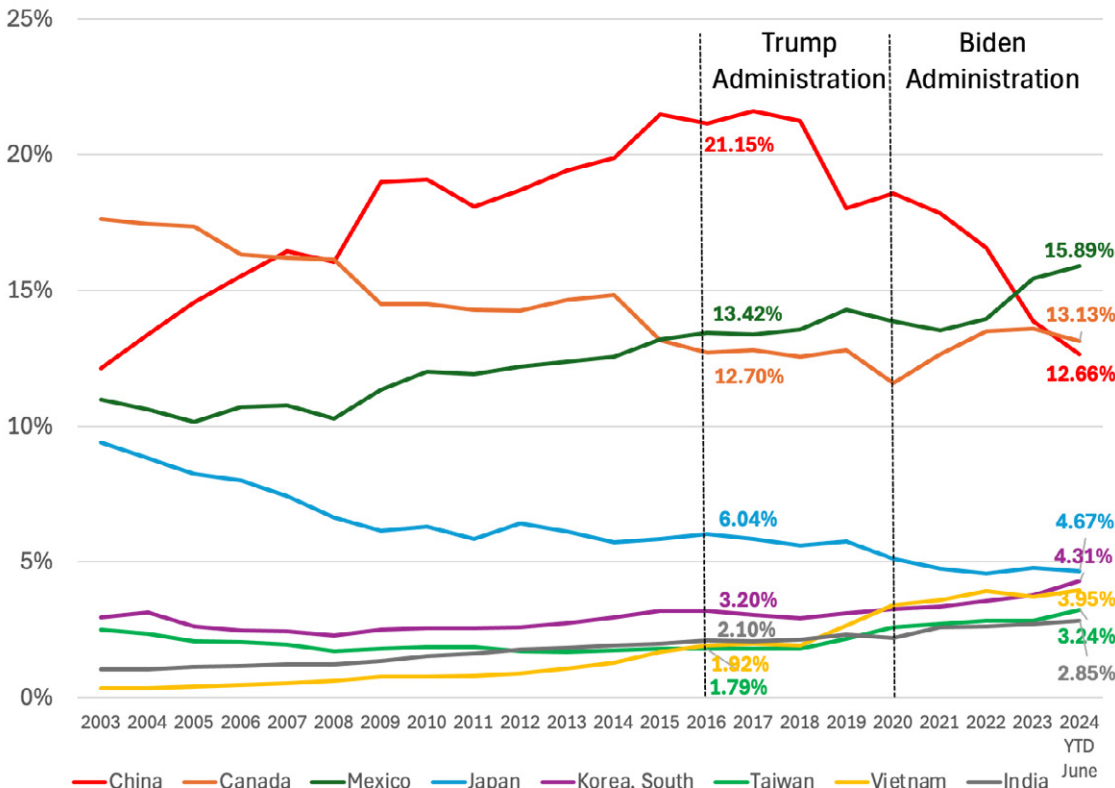
## Supply Chain Deglobalization

Geopolitical conflicts, such as the Russia-Ukraine war, and economic and technological competition between the U.S. and China, will continue to disrupt global supply chains. Consequently, regional supply chains will likely simplify their networks by adopting “nearshoring” and “friend-shoring” strategies. These strategies are rooted in models of trust among nations that share similar values and beliefs. While this trend towards deglobalization may enhance security and resilience, it could also lead to higher prices, reduced consumer choice, and diminished innovation due to smaller market sizes.

Rising geopolitical risks and the benefits of domestic manufacturing are driving more companies to relocate production closer to the U.S. According to Figure 12, Mexico has surpassed China as the top importer since 2023, reflecting these concerns. Other Asian countries, including Vietnam, South Korea, and India, have also seen their shares grow, while China’s dominance has waned. The U.S. government has been encouraging U.S. manufacturers to adopt the China+1 strategy, which involves diversifying trade partnerships beyond China. This approach allows companies to maintain access to established supply chains in China while mitigating the risks of over-reliance on a single country. This strategy has been increasingly evident since the Trump administration’s trade war with China and became more pronounced during the COVID-19 pandemic.

The geopolitical impact is evident in the imports processed by the ports of Los Angeles and Long Beach. As shown in Figure 12, the containerized vessel weight of import cargo from China decreased by 6.7 percentage points, from 58.9% in 2016 to 52.2% in the first half of 2024. Meanwhile, neighboring countries such as Vietnam, South Korea, Thailand, Indonesia, Malaysia, and India have increased their shares. This shift indicates that a portion of global sourcing has moved away from China to other Asian countries.

**FIGURE 12. U.S. IMPORT SHARES BY ORIGIN COUNTRY – MEASURED BY VALUE**



Source: USA Trade Online, U.S. Census Bureau



# ENTREPRENEURSHIP AND INNOVATION

Previous research finds that in 2023 Los Angeles was the third-largest U.S. startup ecosystem, with nearly 4,000 venture-backed companies in the region and only the San Francisco Bay Area and New York were larger in size (Techli, 2024). Using Pitchbook data, we explore venture capital investment through deal activity and capital invested across major tech hubs Silicon Beach, Silicon Valley, Boston, Seattle, and Atlanta. On the other hand, Silicon Beach has not yet had the expected growth in comparison to the investment hubs in Silicon Valley. According to Pitchbook data, in Q3 of 2024, Silicon Valley (even without San Jose) attracted \$118 billion compared to \$13 billion in Silicon Beach (Table 7). Yet, deal activity was less stark, with 1,337 deals in Silicon Valley (less San Jose) and 288 deals in Silicon Beach (Table 6). Both investment hubs have seen slowdowns in terms of both capital invested and deal activity.

**TABLE 6. INVESTMENT ACTIVITY IN SOUTH BAY**

Companies	6,295
Deals	4,546
Investors	3,820
Exits	1,224
Largest Deal	\$67.10 Billion
Capital Invested	\$352.98 Billion

Source: Pitchbook data pulled September 25, 2024

South Bay has a robust economy, with over 6,000 companies 3,800 investors, and over \$350 billion in capital invested (Table 6). On the other hand, Silicon Beach has not yet had the expected growth in comparison to the investment hubs in Silicon Valley. According to Pitchbook data, for 2024 thusfar, Silicon Valley has attracted \$19.85 billion of venture capital investment compared to \$4.37 billion in Silicon Beach, followed by \$3.58 billion in Boston, Seattle at \$1.81 billion and Atlanta at \$866.42 million (Table 5). Yet, deal activity was less stark, with 818 venture capital deals in Silicon Valley and 505 venture capital deals in Silicon Beach, followed by Atlanta at 305 deals, 299 in Boston, and 268 in Seattle (Table 7). All investment hubs have seen slowdowns in terms of both venture capital invested and deal activity since 2021. With the recent interest rate cuts from the Federal Reserve, startup investment may fare better in the next few months with venture capitalists stating that these set of interest rate cuts will improve access to capital and increase initial public offerings (Vartabedian, 2024).

Also, according to Pitchbook data, since September 2024, the primary industry sectors in South Bay with the most capital invested are Financial Services with \$6.10 billion, followed by Business to Business (B2B) at \$2.70 billion, Business to Consumer (B2C) with \$2.63 billion capital invested, and Healthcare at \$2.49 billion, followed by Information Technology ay \$438.33 million (Figure 8). The most deal activity in terms of deal count is Business to Business (B2B) with 44 deals, Business to Consumer (B2C) with 38 deals, followed by Information Technology with 30 deals, Healthcare with 13 deals, and Financial Services with 11 deals.

Vartabedian, M. (September 18, 2024) Venture Capital Industry Cheers Fed Rate Cut, Wall Street Journal. <https://www.wsj.com/articles/venture-capital-industry-cheers-fed-rate-cut-6e6edb4f>

# ENTREPRENEURSHIP AND INNOVATION

**TABLE 7. VENTURE CAPITAL INVESTMENT IN SILICON BEACH, SILICON VALLEY, BOSTON, AND SEATTLE**

Year	Deal Count					Capital Invested				
	Silicon Beach	Silicon Valley	Boston	Seattle	Atlanta	Silicon Beach	Silicon Valley	Boston	Seattle	Atlanta
2024	505	818	299	268	305	4,372.55	19,850.46	3,581.84	1,811.80	866.42
2023	761	1176	452	412	452	5,500.98	15,560.14	5,264.27	1,774.06	1224.32
2022	1017	1478	610	487	609	8,207.01	25,810.91	8,383.44	3,853.03	1685.4
2021	1097	1737	711	546	711	11,749.09	41,088.59	13,484.50	5,526.46	3801.38
2020	803	1292	562	419	562	7,741.20	23,162.36	7,350.07	2,703.24	4039.5
2019	750	1378	573	459	574	7,387.53	16,537.12	5,077.27	3,364.03	2949.42
2018	747	1389	601	421	601	8,351.52	15,678.99	5,640.68	2,222.84	1174.25
2017	687	1412	586	403	585	3,864.21	14,374.20	4,018.22	1,348.50	1559.02
2016	556	1288	490	351	490	5,846.15	9,808.98	3,523.92	1,109.35	666.29
2015	597	1411	540	393	539	2,961.46	10,299.60	3,872.58	1,982.83	1139.45
2014	524	1301	433	293	432	2,603.62	12,467.17	2,127.64	1,565.74	647.84

Source: Pitchbook data from January 1 - September 26, 2024

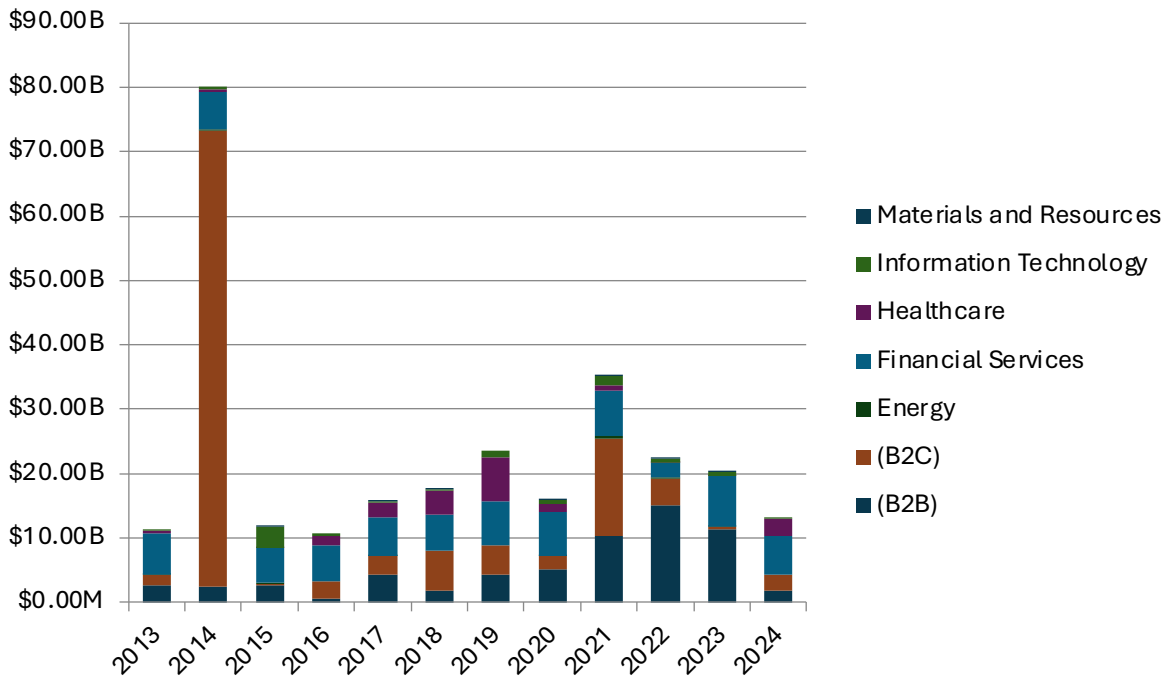
Silicon Beach Cities: Santa Monica, Venice, Marina del Rey, Playa Vista, Playa del Rey, El Segundo, Manhattan Beach, Hermosa Beach, Culver City, and Los Angeles  
<https://www.builtinla.com/articles/silicon-beach-guide-tech-scene#:~:text=As%20we%20see%20it%2C%20Silicon,and%20parts%20of%20Culver%20City>

Silicon Valley Cities: Campbell, Cupertino, Gilroy, Los Altos, Los Gatos, Milpitas, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale, Alviso (officially now San Jose), Belmont, Menlo Park, Redwood City, San Carlos  
<https://www.svcentralchamber.com/we-are-silicon-valley/>

The key companies to watch in terms of capital raised are in the financial services, aerospace, manufacturing, ecommerce, as well as media & entertainment sectors. Government investment is strong within the South Bay area, with key investors from the U.S. Department of Defense, U.S. Department of Energy, NASA, and the National Science Foundation. Key investors are also in venture capital with Wavemaker Partners and Founder Fund as well as angel investment group TCA Venture Group (Figure 13). For 2024, firm investment deal activity in South Bay has primarily been in venture capital, followed by private equity, and mergers and acquisitions (M&A). Firm investment in terms of capital raised has been mainly in private equity with \$8.5 billion capital invested, followed by venture capital with \$768.82 million, and Corporate/Strategic M&A with \$493.73 million. Capital raised has increased since 2023 with deal activity declining from a peak in 2021 (Figure 15 and 16).

# ENTREPRENEURSHIP AND INNOVATION

FIGURE 13. SOUTH BAY LA CAPITAL INVESTED BY PRIMARY INDUSTRY SECTOR



Source: Pitchbook data from January 1, 2024 - September 27, 2024

FIGURE 14. COMPANIES TO WATCH AND TOP INVESTORS IN THE SOUTH BAY

## Companies to Watch (by Most Capital Raised)

<p><b>American Honda Finance</b>                      HQ Location: Torrance, CA                      Primary Industry: Consumer Finance                      Total Raised: \$11.20B                      Last Deal Type: General Corporate</p>	<p><b>SpaceX</b>                      HQ Location: Hawthorne, CA                      Primary Industry: Aerospace and Defense                      Total Raised: \$9.45B                      Last Deal Type: Later Stage VC</p>	<p><b>Internet Brands</b>                      HQ Location: El Segundo                      Primary Industry: Media and Information Systems                      Total Raised: \$7.67B                      Last Deal Type: PE Growth</p>
<p><b>Faraday &amp; Future</b>                      HQ Location: Los Angeles, CA                      Primary Industry: Automotive                      Total Raised: \$6.02B                      Last Deal Type: Sale-Lease back</p>	<p><b>Mattel</b>                      HQ Location: El Segundo, CA                      Primary Industry: Recreational Goods                      Total Raised: \$4.15B                      Last Deal Type: Buyout/LBO</p>	<p><b>DirecTV</b>                      HQ Location: El Segundo, CA                      Primary Industry: Broadcasting, Radio, and Television                      Total Raised: \$2.62B                      Last Deal Type: M&amp;A</p>

## Investors (by Deal Count)

<p><b>U.S. Department of Defense</b>                      Investor Type: Government                      HQ Location: Washington, DC                      Deal Count: 35</p>	<p><b>U.S. Department of Energy</b>                      Investor Type: Government                      HQ Location: Washington, DC                      Deal Count: 29</p>	<p><b>TCA Venture Group</b>                      Investor Type: Angel Group                      HQ Location: Irvine, CA                      Deal Count: 25</p>
<p><b>NASA</b>                      Investor Type: Government                      HQ Location: Washington, DC                      Deal Count: 24</p>	<p><b>Wavemaker Partners</b>                      Investor Type: Venture Capital                      HQ Location: El Segundo, CA                      Deal Count: 23</p>	<p><b>National Science Foundation</b>                      Investor Type: Venture Capital                      HQ Location: San Francisco, CA                      Deal Count: 22</p>



# ENTREPRENEURSHIP AND INNOVATION

FIGURE 14. COMPANIES TO WATCH AND TOP INVESTORS IN THE SOUTH BAY (CONTINUE)

## Acquirers (by Deal Count)

<p><b>Landmark Infrastructure</b></p> <p>HQ Location: El Segundo, CA Investor Type: Real Estate Deal Count: 6</p>	<p><b>Prologis</b></p> <p>HQ Location: San Francisco, CA Investor Type: Real Estate Deal Count: 5</p>	<p><b>Precision Castparts</b></p> <p>HQ Location: Lake Oswego, OR Investor Type: Corporation Deal Count: 5</p>
<p><b>Belkin International</b></p> <p>HQ Location: El Segundo, CA Investor Type: Corporation Deal Count: 3</p>	<p><b>Unilever</b></p> <p>HQ Location: London, UK Investor Type: Corporation Deal Count: 3</p>	<p><b>Transamerican Auto Parts</b></p> <p>HQ Location: Compton, CA Investor Type: Corporation Deal Count: 3</p>

## Top Public Companies (by Market Cap)

<p><b>Skechers</b></p> <p>HQ Location: Manhattan Beach, CA Primary Industry: Footwear Market Cap: \$9.90B Enterprise Value: \$11.59B</p>	<p><b>Mattel</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Recreational Goods Market Cap: \$6.51B Enterprise Value: \$7.05B</p>	<p><b>OSI Systems</b></p> <p>HQ Location: Hawthorne, CA Primary Industry: Aerospace and Defense Market Cap: \$2.43B Enterprise Value: \$2.73B</p>
<p><b>A-Mark Precious Metals</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Brokerage Market Cap: \$985.85M Enterprise Value: \$1.52B</p>	<p><b>Peakstone Realty Trust</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Real Estate Investment Trust Market Cap: \$529.93M Enterprise Value: \$1.77B</p>	<p><b>Beyond Meat</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Food Products Market Cap: \$441.61M Enterprise Value: \$1.50B</p>

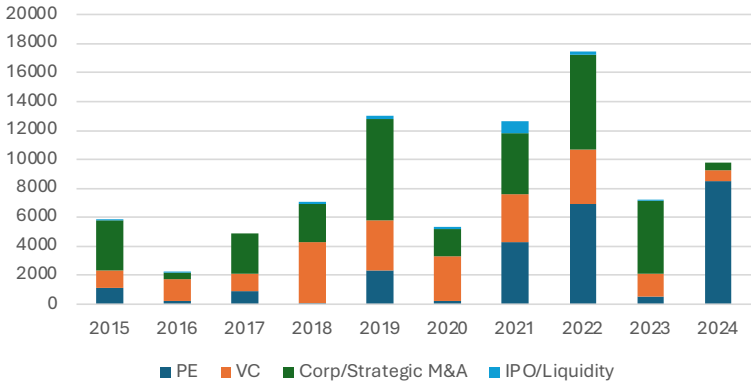
## Top Private Companies (by Post Valuation)

<p><b>Space X</b></p> <p>HQ Location: Hawthorne, CA Primary Industry: Aerospace and Defense Last Post Valuation: \$180.00B Last Deal Type: Later Stage VC</p>	<p><b>TechStyle Fashion Group</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Media and Information Systems Last Post Valuation: \$6.88B Last Deal Type: Secondary Private</p>	<p><b>The Boring Company</b></p> <p>HQ Location: Hawthorne, CA Primary Industry: Infrastructure Last Post Valuation: \$5.68B Last Deal Type: Secondary Private</p>
<p><b>Radiology Partners</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Laboratory Services (Healthcare) Last Post Valuation: \$4.29B Last Deal Type: PE Growth</p>	<p><b>NAX</b></p> <p>HQ Location: Manhattan Beach, CA Primary Industry: Financial Software Last Post Valuation: \$2.12B Last Deal Type: Early-stage VC</p>	<p><b>TechStyle Fabletics</b></p> <p>HQ Location: El Segundo, CA Primary Industry: Clothing Last Post Valuation: \$1.50B Last Deal Type: M&amp;A</p>

Source: Pitchbook data as of September 25, 2024

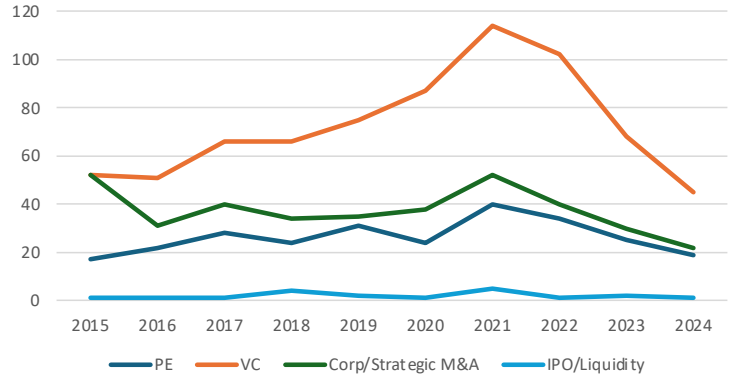
# ENTREPRENEURSHIP AND INNOVATION

**FIGURE 15. INVESTMENTS OVER TIME (BY CAPITAL RAISED)**



Source: Pitchbook data as of September 25, 2024

**FIGURE 16. SOUTH BAY LA DEAL COUNT BY INVESTMENT TYPE**



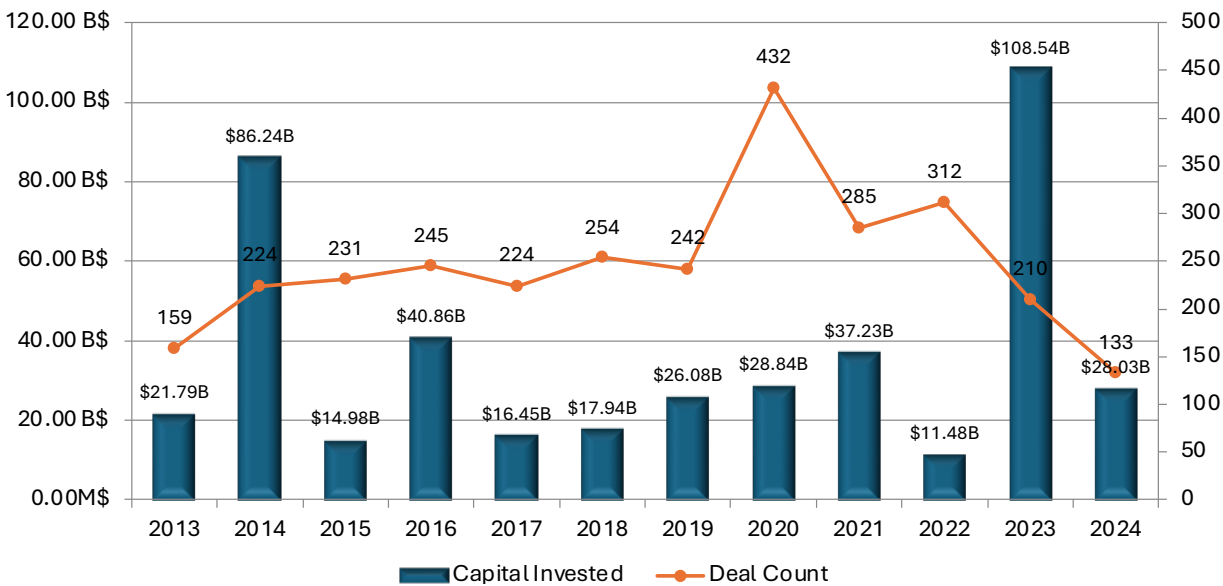
Source: Pitchbook data as of September 25, 2024

## Entertainment Industry in Southern California

The entertainment industry has faced major challenges with contractions in demand for content from major media providers and as the tax incentives offered in other states. Portions of market share from the film industry has gone to different locations throughout the US, but there is yet to be a single rival film hub to Los Angeles (Wagner, 2024).

In 2023, investment in the film industry had increased from \$11.48 billion to \$108.54 billion, with lower deal activity from 312 deals in 2022 to 210 deals in 2023. This indicates that less deals with larger amounts were being made in 2023. What we have seen in terms of investment in the film industry for 2024 until early October 2024 are declines in both capital invested and deal activity with total capital invested at \$28.03 billion with a total of 133 deals (Figure 17).

**FIGURE 17. SOUTHERN CALIFORNIA FILM PRODUCTION CAPITAL INVESTED & DEAL COUNT**



Source: Pitchbook data pulled from Oct 8, 2024

Note: 2024 is Since Q2

City of Los Angeles Area Codes: 213, 323, 738

[https://www.cpuc.ca.gov/213\\_323\\_area\\_codes#:~:text=The%202013%20area%20code%20was,323%20area%20code%20in%201998](https://www.cpuc.ca.gov/213_323_area_codes#:~:text=The%202013%20area%20code%20was,323%20area%20code%20in%201998)

# ENTREPRENEURSHIP AND INNOVATION

## Emerging Industries in the South Bay

The South Bay region has positioned itself as having a diverse set of industries that impact regional growth. The South Bay region is home to several sports complexes and headquarters, which include the new LA Chargers 150,00 square foot headquarters and practice facility in El Segundo (Chargers, 2024). We have recently seen the hand-off of the 2024 Olympics in Paris to Los Angeles in 2028. This major event, along with the 2026 FIFA World Cup, will bring increased investment to the area, such as construction projects through infrastructure improvements with a \$525 million upgrade to the Los Angeles River bicycle path and \$470 million improvements to the LAX/Metro Transit Center Station. Emerging industries in the area capitalize on investment in transportation, innovation, and infrastructure, which include Electric Vehicle (EV) Platforms, EV Charging Infrastructure, Auto Commerce, Commercial Space Launch, Trust & Safety Tech, and Air Taxis.

Emerging industries in the area capitalize on investment in transportation, innovation, and infrastructure, which include Electric Vehicle (EV) Platforms, EV Charging Infrastructure, Auto Commerce, Commercial Space Launch, Trust & Safety Tech, Air Taxis, Small Satellites, and Sustainable Packaging. Sustainable packaging is an emerging industry which provides alternatives to traditional packaging made from material such as bioplastics and plant-based polymers. There may be a rise in sustainable packaging demand for companies to adhere to SB 54, which mandates that single-use packaging be recyclable or compostable.

**FIGURE 18. SOUTHERN CALIFORNIA FILM PRODUCTION CAPITAL INVESTED & DEAL COUNT**

<b>Electric Vehicle Platforms</b> \$49.45B Capital Invested		<b>Auto Commerce</b> \$24.44B Capital Invested		<b>Commercial Space Launch</b> \$14.49B Capital Invested		<b>Counter Aerial Systems</b> \$4.18B Capital Invested		<b>Electric Vehicle Charging Infrastructure</b> \$11.14B Capital Invested	
				<b>NFTs</b> \$1.07B Capital Invested					
		<b>Air Taxis</b> \$1.27B Capital Invested		<b>Trust &amp; Safety Tech</b> \$4.04B Capital Invested					
<b>Sustainable Packaging</b> \$874M Capital Invested	<b>Small Satellites</b> \$798M Capital Invested					<b>Ghost Kitchens</b> \$2.48B Capital Invested			

Source: Pitchbook data as of October 2, 2024  
 Companies headquartered in area codes 310 and 424 (Westside and South Bay regions of L.A. County) referenced from <https://www.cpuc.ca.gov/AreaCodes/>

# ENTREPRENEURSHIP AND INNOVATION

**TABLE 7. TOP TEN EMERGING INDUSTRIES BY CAPITAL INVESTED**

Rank	Name	Sector	Company Count	Deal Count	Capital Invested (in millions)
1	Electric Vehicle Platforms	B2C	3	47	\$49,450
2	Auto Commerce	B2C	18	96	\$24,440
3	Commercial Space Launch	B2B	9	102	\$14,490
4	Electric Vehicle Charging Infrastructure	Energy	74	161	\$11,140
5	Trust & Safety Tech	IT	9	32	\$4,040
6	Ghost Kitchens	B2B	13	49	\$2,480
7	Air Taxis	B2C	8	13	\$1,270
8	NFTs	Finance	157	237	\$1,070
9	Sustainable Packaging	B2B	24	82	\$874
10	Small Satellites	B2B	13	49	\$798

Source: Pitchbook data as of October 2, 2024

Companies headquartered in area codes 310 and 424 (Westside and South Bay regions of L.A. County) referenced from <https://www.cpuc.ca.gov/AreaCodes/>



# ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) has been a market disruptor and there has been an innovation race to become early adopters to the technology and gain first mover advantages. Generative AI has been at the forefront of AI technology, but this requires substantial upfront costs in order to process large amounts of data. Because of this issue, larger firms, such as Meta, Microsoft, and Adobe could sustain their dominance in this space. AI stocks have exhibited strong earnings growth, which has offset losses in other segments in other industries. Increase in demand in AI will also impact other industries, which include energy and data storage.

There are over 5,600 AI companies in California, with almost 12% of California AI companies based in Los Angeles County and 6% in South Bay (Figure 19). AI systems are often centered in the Bay Area, but the South Bay is seeing investment in sector-specific applications. The top private AI companies based in South Bay are Athos Therapeutics in Torrance, GrayMatter Robotics in Gardena, Carbonated and Mapped in El Segundo, and DataPlor in Manhattan Beach. Primary industries include drug discovery, computer hardware, entertainment software, and business/productivity software.. Top South Bay Los Angeles AI investors are venture capital firms Quest Venture Partners, ff Venture Capital, B Capital Group, and Calibrate Ventures; government agency National Science Foundation; and corporate venture capital firm 3M ventures.

Capital investment in South Bay AI companies has increased, from \$18.04 million in 2023 to \$103.60 million in 2024 (Figure 20). Deal activity has remained close from 7 deals in 2023 to 6 deals in 2024, yet deals occurring in 2024 are much larger in size than in 2023.

**FIGURE 19. OVERVIEW OF SOUTH BAY LOS ANGELES AI COMPANIES AND INVESTORS**

Artificial Intelligence Companies					
Area	Companies	Deals	Investors	Largest Deal	Capital Invested
California	5647	15785	15911	\$19.75 Billion	\$521.25 Billion
LA County	657	1765	2673	\$4.00 Billion	\$49.72 Billion
South Bay LA	40	89	149	\$190.00 Million	\$563.32 Million
South Bay Artificial Intelligence (AI) Top Private Companies					
	Athos Therapeutics	GrayMatter Robotics	Carbonated	DataPlor	Mapped
HQ Location	Torrance, CA	Gardena, CA	El Segundo, CA	Manhattan Beach, CA	El Segundo, CA
Primary Industry	Drug Discovery	Computer Hardware	Entertainment Software	Business/Productivity Software	Business/Productivity Software
Last Post Valuation	\$95.42 Million	\$61.00 Million	\$55.50 Million	\$50.00 Million	\$31.50 Million
Last Deal Type	Series B	Series B	Later Stage VC	Series A	Early Stage VC

# ARTIFICIAL INTELLIGENCE

FIGURE 19. OVERVIEW OF SOUTH BAY LOS ANGELES AI COMPANIES AND INVESTORS (CONTINUE)

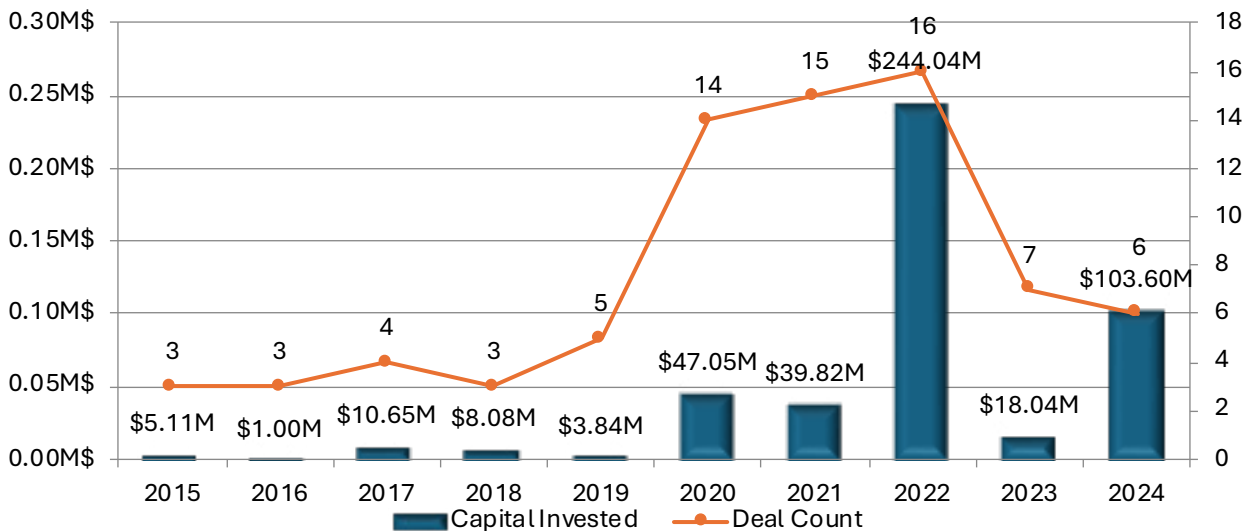
South Bay Artificial Intelligence (AI) Companies to Watch						
	NantMobile	GrayMatter Robotics	Athos Therapeutics	Carbonated	Scalefast	Deep Voodoo
HQ Location	El Segundo, CA	Gardena, CA	Torrance, CA	El Segundo, CA	El Segundo, CA	El Segundo, CA
Primary Industry	Business/Productivity Software	Computer Hardware	Drug Discovery	Entertainment Software	Business/Productivity Software	Media and Information Services
Total Raised	\$ 80 Million	\$69.10 Million	\$59.67 Million	\$34.50 Million	\$33.00 Million	\$20.00 Million
Last Deal Type	Secondary Private	Series B	Series B	Later Stage VC	M&A	Early Stage VC

South Bay Artificial Intelligence (AI) Industry Investors						
	National Science Foundation	Quest Venture Partners	ff Venture Capital	3M Ventures	B Capital Group	Calibrate Ventures
HQ Location	Alexandria, VA	Palo Alto, CA	New York, NY	Saint Paul, MN	Manhattan Beach, CA	Pasadena, CA
Investor Type	Government	Venture Capital	Venture Capital	Corporate Venture Capital	Venture Capital	Venture Capital
Deal Count	5	3	3	3	3	3

Source: Pitchbook data as of September 25, 2024

FIGURE 20. SOUTH BAY LOS ANGELES AI COMPANIES CAPITAL INVESTED AND DEAL COUNT



Source: Pitchbook data as of September 25, 2024

# ROBOTICS

Benefits from robotics technology occurs across industries and investment in robotics is mainly driven by interest in improving operational efficiency and business model adaptations. There are over 1,600 robotics companies in California, with almost 14% in Los Angeles County and 8% of L.A. county robotics companies based in South Bay (Figure 21). The top robotics companies in South Bay Los Angeles are Epirus in Redondo Beach, Nommi and Bobacino in El Segundo, GrayMatter Robotics in Gardena, and Ucode in Manhattan Beach. These companies operate in a range of primary industries, which include Aerospace and Defense, Computer Hardware, and Educational Software. The top investors are from various regions of the U.S., with two from California, being Wavemaker Partners in El Segundo and B Capital Group in Manhattan Beach.

**FIGURE 21. OVERVIEW OF SOUTH BAY LOS ANGELES ROBOTICS COMPANIES AND INVESTORS**

Robotics Companies					
Area	Companies	Deals	Investors	Largest Deal	Capital Invested
California	1627	4450	5545	\$11 Billion	\$173.32 Billion
LA County	285	604	946	\$4 Billion	\$12.43 Billion
South Bay LA	28	48	71	\$200 Million	\$392.29 Million

South Bay Robotics Top Private Companies					
	Epirus	Nommi	GrayMatter Robotics	Ucode	Bobacino
HQ Location	Redondo Beach	El Segundo	Gardena	Manhattan Beach	El Segundo
Primary Industry	Aerospace and Defense	Computer Hardware	Computer Hardware	Educational Software	Computer Hardware
Last Post Valuation	\$1.35 Billion	\$80.59 Million	\$61.00 Million	\$9.11 Million	\$7 Million
Last Deal Type	Later Stage VC	Crowdfunding	Series B	Later Stage VC	Crowdfunding

South Bay Robotics Companies to Watch						
	Epirus	GrayMatter Robotics	Efficient Power Conversion	Future Acres	Bobacino	Ucode
HQ Location	Redondo Beach	Gardena	El Segundo	El Segundo	El Segundo	Manhattan Beach
Primary Industry	Aerospace and Defense	Computer Hardware	Application Specific Semiconductors	Computer Hardware	Computer Hardware	Educational Software
Total Raised	\$293.59 Million	\$69.10 Million	\$7.50 Million	\$7.10 Million	\$5.02 Million	\$3.15 Million
Last Deal Type	Later Stage VC	Series B	Secondary Private	Out of Business	Crowdfunding	Later Stage VC

South Bay Robotics Industry Top Investors						
	8VC	National Science Foundation	OCA Ventures	Wavemaker Partners	3M Ventures	B Capital Group
HQ Location	Austin, TX	Alexandria, VA	Chicago, IL	El Segundo, CA	Saint Paul, MN	Manhattan Beach, CA
Investor Type	Venture Capital	Government	Venture Capital	Venture Capital	Corporate Venture Capital	Venture Capital
Deal Count	4	4	3	3	3	3

Source: Pitchbook data as of September 25, 2024

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