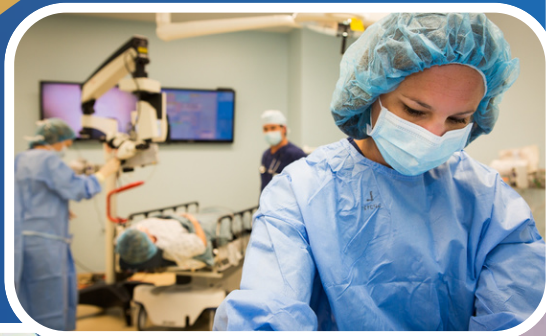




2022-
2028



LOS ANGELES:

PEOPLE, INDUSTRY AND JOBS

INSTITUTE FOR APPLIED ECONOMICS
Los Angeles County Economic Development
Corporation

May 2024



LOS ANGELES: PEOPLE, INDUSTRY AND JOBS

2022 - 2028



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This report was commissioned by the City of Los Angeles Workforce Development Board.

The LAEDC Institute for Applied Economics specializes in objective and unbiased economic and policy research in order to foster informed decision-making and guide strategic planning. In addition to commissioned research and analysis, the Institute conducts foundational research to ensure LAEDC's many programs for economic development are on target. The Institute focuses on economic impact studies, regional industry and cluster analysis and issue studies, particularly in workforce development and labor market analysis.

Every reasonable effort has been made to ensure that the data contained herein reflect the most accurate and timely information possible and they are believed to be reliable. This report is provided solely for informational purposes and is not to be construed as providing advice, recommendations, endorsements, representations or warranties of any kind whatsoever.

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LOS ANGELES COUNTY ECONOMIC DEVELOPMENT CORPORATION

April 02, 2024

The Los Angeles Economic Development Corporation is a 501(c)3 nonprofit organization whose approach to economic development in the Los Angeles region combines research, industry growth, business assistance, foreign direct investment, and workforce development to form an integrated “5 Pillar Strategy” to drive our commitment toward equitable economic growth and resiliency.

The LAEDC Institute for Applied Economics (Institute), one of LAEDC’s 5 Pillars, performs objective economic research and analysis providing intelligence about specific industry clusters, labor force, and workforce development issues, to provide decision makers with critical insights from which to make informed decisions. The *People, Industry and Jobs* report is one such example; it grew out of a series of labor market and industry cluster studies conducted for the Los Angeles City and County Workforce Development Boards (WDB) over the last decade, intended to provide government officials with economic data to ensure the continued growth of our region.

The Los Angeles City WDB is embarking on the development of a new Five-Year Workforce Development Strategic Plan through 2028. In addition to being a resource of data and information for a variety of stakeholders in our region (nonprofits, community benefit organizations, small businesses, our public partners, and more), this year’s *People, Industry and Jobs* report is intended to serve as a foundational piece presenting an overview of the economic base, workforce, and key socioeconomic characteristics of the resident population in Los Angeles City and Los Angeles County. An employment forecast through 2028 is provided, identifying key target industries and occupations, with additional discussions of living wage jobs and green jobs included. A separate data appendix presents a closer look at the various communities across the City by providing much of the same data and information included in the pages of the full report for smaller geographic areas including: the unincorporated areas of the county; the five Los Angeles County Supervisorial Districts; the fifteen Los Angeles City Council Districts, and the 36 Los Angeles City Community Planning Areas (CPAs. Mapping of select data using GIS software to spatially display variations and concentrations across each geographic area can also be found in the data appendix.

We invite you to immerse yourself in this foundational report that illuminates the intricate dance between people, industry, and jobs in the dynamic tapestry of Los Angeles. The LAEDC Institute for Applied Economics presents *Los Angeles: People, Industry and Jobs 2022-2028*.

Sincerely,

The Institute for Applied Economics

EXECUTIVE SUMMARY

Workforce Development Boards (WDBs) are components of a federally funded system designed to connect job seekers with employer businesses in local communities in order to improve the prosperity of both residents and industry in those communities. WDBs engage in a holistic and regionally cooperative approach to its programs such that workforce development is aligned with economic development priorities.

The City of Los Angeles Workforce Development Board is embarking on the development of a new five-year Strategic Plan and are looking to this updated study as foundational piece providing current baseline information on the people, industry and jobs in Los Angeles, and growth projections for leading industries and occupations, from which they can identify and develop data-based strategies to be included in their new plan.

These pages outline the characteristics of the people, industry and jobs in Los Angeles County and in the City of Los Angeles.

Economic Overview

The industrial base of the Los Angeles economy plays a crucial role in supporting the county and city's vibrant and diversified economic landscape. Los Angeles County is one of the largest manufacturing centers in the U.S. (by employment) and is home to the nation's busiest port complex. Key drivers of the local economy include international trade, entertainment, aerospace, and tourism, in addition to other significant industries such as high-tech industries, finance, telecommunications, healthcare and biotechnology, education and research, manufacturing, and transportation.

Key drivers also include the residents of Los Angeles County. **Exhibit E-1** shows that Los Angeles County has about 9,721,100 residents, with 3,822,200 residing specifically in the City of Los Angeles. Los Angeles County possesses roughly 25 percent of the state's population. Median household incomes are somewhat lower in Los Angeles County and the City of Los Angeles than in California as a whole, resulting in greater numbers of people living beneath the poverty line. The cost of living,

Exhibit E-1

Selected Demographic and Income Characteristics 2022

	California	LA County	City of LA
Population	39,029,342	9,721,138	3,822,224
Median age	37.9	38.2	37.1
Households	13,550,586	3,415,726	1,439,805
Average household size	2.82	2.79	2.58
Median household income	\$91,551	\$82,516	\$76,135
HH below poverty level	12.1%	14.1%	16.4%
Per capita income	\$46,661	\$43,171	\$45,270
Individuals below poverty	12.2%	13.9%	16.8%
Median home value	\$715,900	\$805,600	\$903,700

Source: 2022 ACS 1 year estimates

as indicated by median housing values, is also higher in the county and city.

The COVID-19 Pandemic

At the beginning of 2020, Los Angeles County was experiencing a long and unprecedented period of economic strength. However, by the end of the first quarter of 2020, the COVID-19 pandemic struck, temporarily halting economic growth and stability in the region.

The structure of the Los Angeles County economy is characterized by a relatively high prevalence of the types of industries (and their accompanying workforce) that were most impacted by the pandemic. These industries require a high degree of in-person interaction, and include sectors focused on entertainment, particularly the film and television industry, and the types of businesses that cater to tourists such as restaurants and hotels. As a result, Los Angeles County was particularly hard-hit compared to California or the nation as a whole. Between February of 2020 and May of 2020, Los Angeles County shed more than 784,000 jobs across the county.

Los Angeles County's economy has recovered from the pandemic-induced downturn; by the 3rd quarter of 2022, nonfarm employment finally surpassed pre-pandemic levels, reaching beyond 4.6 million payroll workers. However, that economic recovery has been uneven, some industries experienced a stronger recovery than others, and we are experiencing the longer lasting effects of the measures taken to mitigate the spread of the virus, including the increased digitization across a variety of

industries and the continuing phenomena of remote and hybrid work options.

Employment

Los Angeles County is home to over 244,000 employer firms, providing more than 4.6 million nonfarm jobs across its myriad industries in 2023. Health care & social assistance, professional and business services, government, accommodation and food services, retail trade, and manufacturing employ the most workers, together these 6 sectors employ just under 70 percent of all nonfarm payroll workers in 2023.

From pre-pandemic 2019 to post pandemic 2023, six industries increased their share of nonfarm employment in Los Angeles County: health care and social assistance; professional and business services; transportation, warehousing and utilities; private education services, and arts, entertainment and recreation (which includes spectator sports) displaying the most percentage point growth. Industries that lost shares of nonfarm employment over the period include manufacturing, wholesale trade, and government.

Over 94 percent of the employer firms in Los Angeles County have fewer than 20 employees, and just under 89 percent are considered microbusinesses, those with fewer than 10 employees.

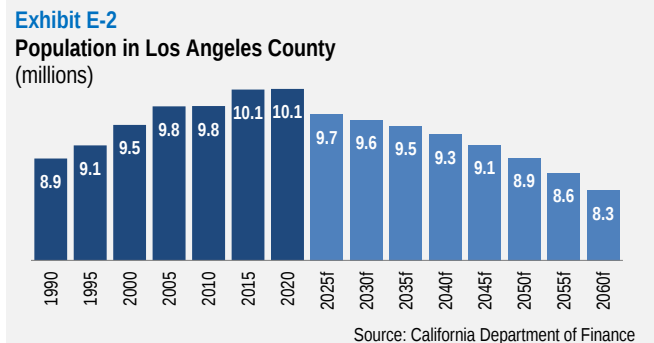
Small businesses and entrepreneurship help drive economic growth, fostering innovation, creating jobs, and provide an avenue for increased economic mobility. These small and nimble operations are often characterized by their flexibility, adaptability, and innovation, and have additional benefits that extend beyond just their financial contributions.

Demographic Portrait

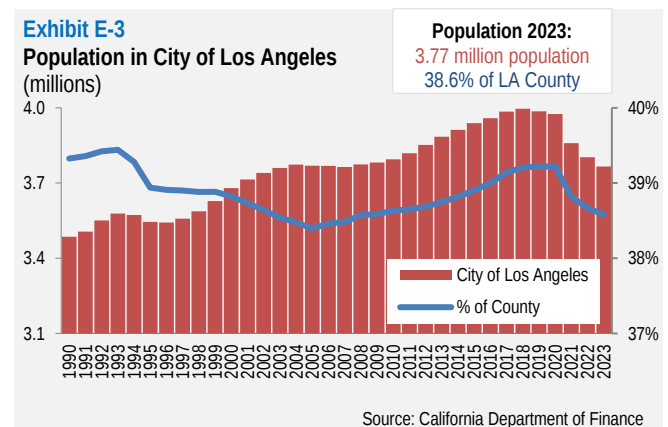
The social and economic characteristics of the residents of Los Angeles County provide context and insight into the strengths and challenges of the community. Data on these characteristics can reveal useful trends and patterns that can help inform targeted outreach programs and other types of development efforts.

Population dynamics in particular are important to resource allocation and future planning and development in an area. The size of a population, along with its growth and/or decline, will affect an area's standard of living, levels of consumption, environmental footprint, infrastructure needs, and more.

Between 1990 and 2018, the population of Los Angeles County grew significantly, peaking at nearly 10.2 million residents. From 1990 to 2018, the population grew at an average annual growth rate of 0.5 percent per year. However, from 2019 through 2023, the population declined at an average annual rate of -0.9 percent. The county's current annual growth rate from last year is approximately -0.7 percent. The California Department of Finance forecasts that the county's population will continue to decrease, reaching 9.3 million by 2040 and 8.3 million by 2060 (**Exhibit E-2**).



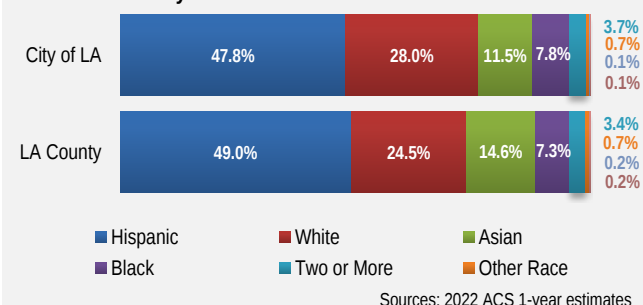
The population in the City of Los Angeles has also declined in recent years after a prolonged period of growth that lasted from 1990 through 2018. Just under 511,000 residents were added, an increase of 14.7 percent between 1990 and 2018, an average annual growth rate of 0.5 percent (**Exhibit E-3**). At its high point in 2018, the City of Los Angeles had 3,996,000 residents. Since 2018, however, the city lost 230,000 residents, representing a 5.8 percent decrease or an annual average decline of -1.2 percent.



Race and Ethnicity

The City of Los Angeles and Los Angeles County as a whole are racially and ethnically diverse. Approximately half of the resident population in both geographies identify as having Hispanic or Latino origins (**Exhibit E-4**).

Exhibit E-4
Race and Ethnicity 2022



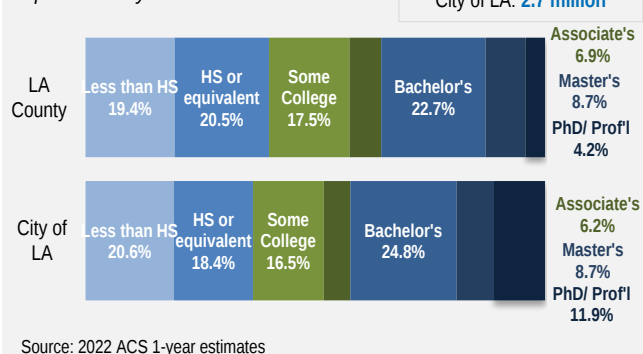
Educational Attainment

Educational attainment is a key element in understanding challenges and opportunities present in the available workforce. For an individual, it is a factor in unemployment, earnings potential and poverty status, while from a business perspective, educational attainment of the resident population represents the quality of their labor pool.

Areas with high rates of low educational attainment typically face challenges such as higher rates of unemployment and poverty and will therefore use higher levels of public services and resources.

The city and county both have a large proportion of their resident population with low levels of educational attainment (**Exhibit E-5**). Almost 40 percent of the population has either less than a high school education or a high school diploma (or equivalent). As an increased number of jobs require higher skill levels, a shortage of individuals with higher levels of education can result in fewer prospects for their employment, and consequently higher rates of unemployment.

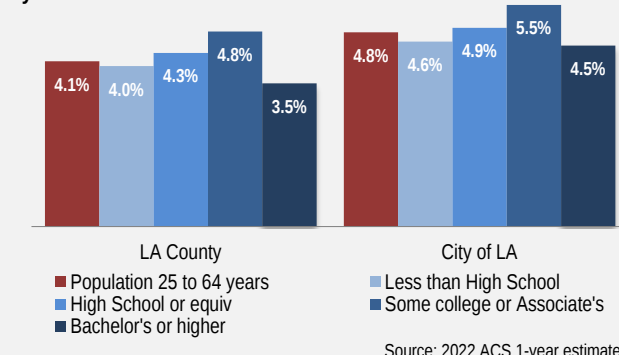
Exhibit E-5
Educational Attainment
Population 25 years and over



Education and Unemployment

Unemployment rates for individuals with an educational attainment of high school or less are generally reflective of the overall unemployment rate in both the City of Los Angeles and Los Angeles County. Surprisingly, those with some college or an Associate's degree experienced the highest rates of unemployment (**Exhibit E-6**). They had unemployment rates of 4.8 percent in the county (5.5 percent in the City) in 2022. By contrast, residents with a Bachelor's degree or higher had an unemployment rate of only 3.5 percent in the County (4.5 percent in the City) in 2022.

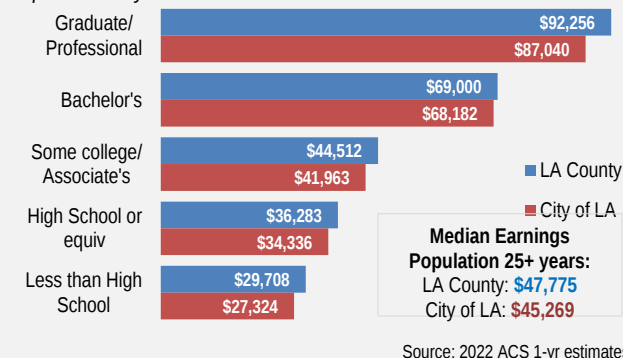
Exhibit E-6
Civilian Unemployment Rate by Educational Attainment 2022



Income and Poverty

For many, earnings from employment represent the most significant portion of all income. Job-related earnings provide insight into the population's standard of living. Identifying specific areas or populations that may need targeted services or programs may increase their efficacy. Earnings differentials exist among employed individuals with varying levels of educational attainment. Those with the highest level of education—a graduate or professional degree—earn an annual wage premium of around \$60,000 or more over those with less than a high school education (**Exhibit E-7**).



Exhibit E-7**Median Earnings and Educational Attainment 2022***Population 25 years and older*

Approximately 43 percent of working residents in Los Angeles County earn more than \$65,000 per year (**Exhibit E-8**). The majority of working residents in the County and in the City of Los Angeles earn between \$15,000 and \$65,000 annually. Residents who earned less than \$15,000 per year represented close to four percent of the total. Working residents earning \$100,000 or more annually account for nearly one quarter of all employed residents in both geographies.

Exhibit E-8**Residents Annual Job Earnings 2022**

The combination of higher rates of unemployment and lower annual median earnings yield higher levels of poverty for those with lower levels of educational attainment.

Poverty is a relative measure of income inequality. Those who live below poverty level face additional challenges as they lack the resources necessary to maintain a certain quality of life; they do not have the same choices and options in regards to nutrition, health care, housing, education, safety, transportation and such.

Of the total families in Los Angeles County in 2022, about 10 percent have had their incomes fall below the poverty level in the 12 months prior (**Exhibit E-9**). In the City of Los Angeles that share increases to just over 12 percent.

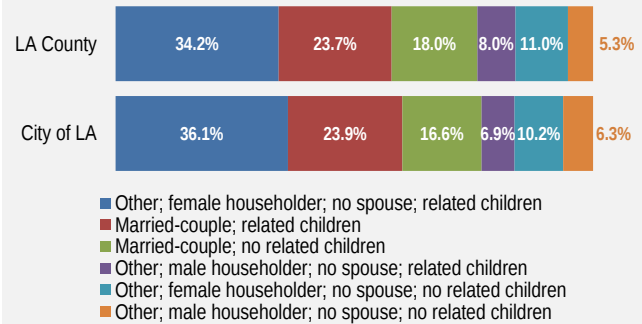
Of those families living below the poverty level in the county, single mothers with children under the age of 18 years head approximately 34 percent (36 percent in the city). Families headed by a married couple account for around 41 percent of all families living under the poverty level, the majority of whom have children under the age of 18 years.

Exhibit E-9**Families and Poverty 2022***Income in the past 12 months below poverty level***Families below level**LA County: **226,837**

(10.2% all families)

City of LA: **100,720**

(12.2% all families)



Characteristics of Select Groups

The data was disaggregated and examined based on race, ethnicity, gender, disability, income, veteran status, age, and other significant demographic factors. This process aimed to gain a deeper understanding of the well-being of various populations and to provide insights into the needs of underserved and underrepresented communities within the City of Los Angeles and Los Angeles County.

Key findings are presented for each group, including Women, Hispanic/Latinx, Asian/Pacific Islander, Black/African American, American Indian/Alaskan Native, Individuals with Disabilities, Youth with Disabilities, Older Individuals, Youth (Ages 16-24), Individuals with Limited English Proficiency, and Single Parents. These findings highlight disparities in household income, poverty rates, occupational distribution, and ethnic composition between the City and County, shedding light on areas where targeted interventions may be needed to address inequities and improve well-being.

Within the city, significant variations in income, poverty rates, and occupational distributions are evident among different demographic groups. Notably, women comprise a substantial portion of the population but face higher rates of poverty compared to men, with approximately 20

percent of women living below the poverty line. Despite representing similar proportions across age groups, the disparity in poverty rates highlights the unique economic challenges faced by women within the city.

Ethnic disparities also feature prominently in the analysis, with Hispanic/Latinx individuals constituting the largest ethnic group in both the city and county. However, within the city, they experience lower average household incomes and higher poverty rates, with approximately 25 percent living below the poverty line. This suggests persistent economic hurdles despite their significant presence in industries such as natural resources and construction. Similarly, Asian/Pacific Islanders and Black/African Americans exhibit disparities in income and poverty levels, with around 15 percent of both groups living below the poverty line in the city, compared to lower rates in the county.

Moreover, individuals with disabilities face notable economic challenges within the city, characterized by higher poverty rates and lower household incomes. Approximately 30 percent of individuals with disabilities live below the poverty line, underscoring the need for enhanced economic inclusion and accessibility measures to support this vulnerable population.

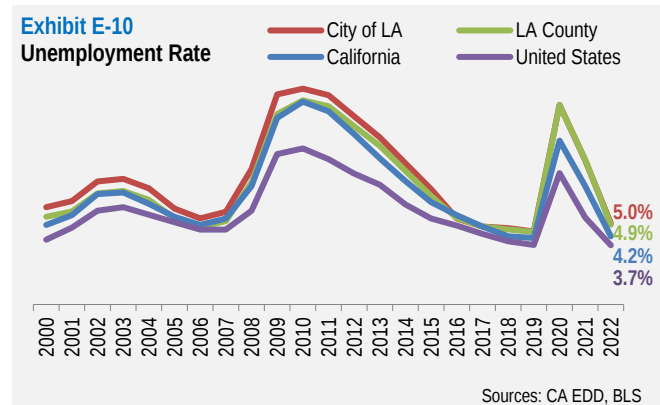
These findings emphasize the urgency of targeted interventions and policy initiatives aimed at addressing disparities and fostering economic opportunities for marginalized communities within the City of Los Angeles and its surrounding areas.

Employment, Industries and Jobs

Employment opportunities for residents of Los Angeles County and the City of Los Angeles will depend on the health of the regional economy.

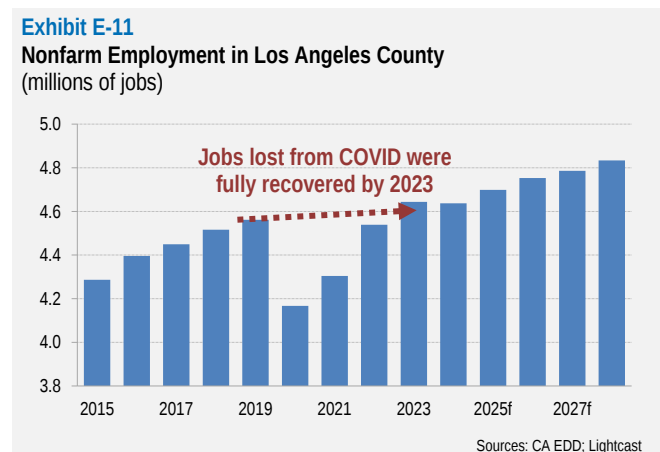
Exhibit E-10 shows the unemployment rate for the U.S., California, Los Angeles County and the City of Los Angeles back to 2000. As shown, county-wide and city-wide unemployment rates are driven largely by factors outside of their control. Unemployment rose in the aftermath of the dot-com bubble in the early 2000s, peaking in 2003 at 7.0 percent for Los Angeles County (7.7 percent for the city). The next shock came as a result of the Great Recession, where the unemployment rate hit 12.6 percent in the county in 2010 (13.3 percent in the city). After a slower, more prolonged improvement, unemployment rates skyrocketed again because of the economic dislocations caused by the COVID-19 pandemic. Unemployment in both Los Angeles County and the

City of Los Angeles reached 12.3 percent in 2020. After a more rapid recovery, the unemployment rate in 2022 stood at 4.9 percent and 5.0 percent, respectively.



What is noticeable is that unemployment in the county and city typically exceeds that seen in California and the U.S. To some extent, this is due the region's specific industrial makeup and socioeconomic characteristics. But it also suggests that local investment and policy decisions can have some effect on the health of the regional economy.

Unlike the protracted recovery after the Great Recession, the recovery after the Covid-19 pandemic occurred more quickly. In Los Angeles County, all jobs lost during the pandemic were fully recovered by 2023 (**Exhibit E-11**). That said, the county has not reached the employment levels suggested by the per-pandemic growth trend.



Most industry sectors will follow this general contour of post-downturn recovery followed by moderation. However, there are differences among industries. Recovery strength in many cases is determined by the magnitude of the industry's decline during the downturn. Industries where employment fell steeply are expected to

experience stronger than average growth as they recover from these deep losses.

The expected employment growth in individual sectors at the county level is shown in **Exhibit E-12**. While these growth rates are expected to apply at the city level as well, the projected job creation will differ given the different mix of industries in the two regions.

Exhibit E-12

Industry Employment Growth 2020-2028 in Los Angeles County

	Annual Average % Growth	Δ Employment (000s)
Total Nonfarm Employment	1.1	354.1
Good Producing Industries:	-0.8	-27.3
Natural Resources and Mining	-2.2	-0.2
Construction	0.8	8.4
Manufacturing – Durable Goods	-1.3	-17.5
Manufacturing – Nondurable Goods	-1.9	-17.8
Service Providing Industries	1.5	361.7
Wholesale Trade	-0.5	-7.2
Retail Trade	0.1	2.6
Transportation, Warehousing, Utilities	1.4	21.7
Information	1.6	26.1
Financial Activities	0.0	-0.4
Professional and Business Services	1.1	50.2
Educational and Health Services	2.8	168.4
Leisure and Hospitality	2.5	88.2
Other Services	1.2	12.2
Government	0.5	20.9

Sources: Lightcast, California Employment Development Department; LAEDC

Between 2020 and 2028, the economy is expected to add 354,100 new jobs in nonfarm industries across Los Angeles County including the city.

Industries to Target

Economic development priorities are organized around several priorities. Among these are encouraging job growth in industries that are most competitive and that will generate high-paying jobs that will propel economic growth and wealth creation for all residents.

Workforce development priorities are often in alignment with economic development goals and cognizant of the need to supply a workforce prepared for the jobs of the future, but are also motivated by the immediate need to match those most in need with viable employment opportunities. To fulfill this mission, a broader view of the job market is needed. Augmenting those industries that will drive economic growth and prosperity, population-

serving industries will provide the largest number of jobs in terms of job creation, since while they may grow slowly they are large employers.

Our criteria for choosing target industries thus include (1) industry growth rate – those demonstrating high rates of growth are preferred to those growing slowly; (2) potential job creation – the numbers of jobs projected to be added is also an important metric; (3) industry competitiveness – in light of regional economic development goals, industries that are competitive against other regions are preferred; and (4) prevailing wages – higher wages benefit workers and are preferred to industries that pay lower wages.

Using these sometimes overlapping, sometimes competing goals, the following industries are identified as targets for specific economic and workforce development interventions (in order of relevant NAICS):

- ▶ Construction Industries (NAICS 236, 237, 238)
- ▶ Transportation (NAICS 481-484, 488)
- ▶ Motion Picture and Sound Recording (NAICS 512)
- ▶ Health Care Services (NAICS 621, 622, 623)
- ▶ Social Assistance (NAICS 624)
- ▶ Performing Arts, Spectator Sports, and Related Industries (NAICS 711)
- ▶ Biomedical Manufacturing (NAICS 3254, 3391)

Occupational Analysis

The overall net growth of an occupation is a consequence of its contribution to industries that are growing and to industries that are declining. Additionally, workers within industries leave their current positions, either through retirement or through promotion, or for other reasons, leaving positions open and in need of replacement.

The largest number of overall openings will occur in the largest occupational groups, such as office and administrative support occupations, food preparation and serving occupations, and healthcare occupations (practitioners, technicians, and support) (**Exhibit E-13** shows openings for the City of Los Angeles). Many of these occupations require lower levels of education and training, but approximately half of all occupational openings are middle-skilled occupations, requiring an educational attainment of more than a high school credential but less than a four-year college degree.

Exhibit E-13**Occupational Growth in Los Angeles City 2022-2028**

SOC	Occupational Group	New Jobs	Replacement	Total *
11-0000	Management occupations	16,200	64,500	80,700
13-0000	Business and financial	13,500	64,200	77,700
15-0000	Computer and mathematical	6,900	23,200	30,100
17-0000	Architecture and engineering	2,100	10,900	13,000
19-0000	Life, physical, social science	2,100	6,900	9,000
21-0000	Community and social services	9,900	22,200	32,100
23-0000	Legal occupations	6,000	14,100	20,000
25-0000	Education, training and library	17,600	63,000	80,600
27-0000	Arts, entertainment, sports	3,400	38,200	41,600
29-0000	Healthcare practitioners	16,600	51,800	68,400
31-0000	Healthcare support	47,800	79,600	127,400
33-0000	Protective services	8,100	26,400	34,500
35-0000	Food preparation and serving	25,800	71,300	97,100
37-0000	Building/grounds maintenance	5,300	21,100	26,400
39-0000	Personal care and service	9,500	21,500	31,000
41-0000	Sales and related	6,600	68,400	75,000
43-0000	Office and administrative	6,000	114,300	120,300
45-0000	Farming, fishing and forestry	0	1,500	1,500
47-0000	Construction and extraction	4,900	22,600	27,600
49-0000	Installation, maint / repair	6,600	24,300	30,900
51-0000	Production	-1,100	34,300	33,200
53-0000	Transportation/material moving	14,900	76,500	91,400
Total*		228,700	920,700	1,149,400

* May not sum due to rounding

Source: Estimates by LAEDC

Target Occupations

A selection of target occupations are presented by skill level. Target occupations were selected based on education required for entry, future growth projections, and living wages. The target occupations are as follows:

LESS THAN HIGH SCHOOL

- ▶ Construction Laborers
- ▶ Industrial Truck and Tractor Operators
- ▶ Painters, Construction and Maintenance
- ▶ Bus Drivers, School
- ▶ Refuse and Recyclable Material Collectors
- ▶ Cement Masons and Concrete Finishers
- ▶ Drywall and Ceiling Tile Installers

HIGH SCHOOL

- ▶ Customer Service Representatives
- ▶ Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
- ▶ Light Truck Drivers
- ▶ Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- ▶ Maintenance and Repair Workers, General



- ▶ Medical Secretaries and Administrative Assistants
- ▶ Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel
- ▶ Social and Human Service Assistants
- ▶ Production, Planning, and Expediting Clerks
- ▶ Police and Sheriff's Patrol Officers

MIDDLE-SKILL

- ▶ Heavy and Tractor-Trailer Truck Drivers
- ▶ Bookkeeping, Accounting, and Auditing Clerks
- ▶ Licensed Practical and Licensed Vocational Nurses
- ▶ Preschool Teachers, Except Special Education
- ▶ Paralegals and Legal Assistants
- ▶ Hairdressers, Hairstylists, and Cosmetologists
- ▶ Automotive Service Technicians and Mechanics
- ▶ Computer User Support Specialists
- ▶ Massage Therapists

Living Wage Jobs

Living wage jobs, defined as those providing workers with sufficient earnings to cover basic living expenses, play a pivotal role in fostering economic stability and social well-being. By ensuring that individuals earn enough to meet essential needs such as housing, food, healthcare, transportation, and education, these jobs contribute to overall community health and vitality. Moreover, they serve as a crucial mechanism for lifting individuals and families out of poverty, offering the prospect of financial stability and independence while breaking the cycle of intergenerational poverty.

Addressing income inequality is another significant outcome of promoting living wage jobs. As the income gap widens, fair and adequate compensation becomes imperative for creating a more equitable distribution of

resources and opportunities. Additionally, the economic benefits of living wage jobs extend beyond individual households. Increased consumer spending resulting from higher wages stimulates economic growth and supports local businesses, while reduced turnover rates among workers foster a more skilled and experienced labor force, benefiting both employers and employees alike.

In 2023, Los Angeles County boasted over 2,525,200 living wage jobs, with the City of Los Angeles alone accounting for over 1,104,000 such positions. However, despite this progress, a substantial portion of the workforce still earns below the living wage threshold. Closing the wage gap for these workers represents a significant opportunity, with the potential for billions of dollars in additional labor income in both the city and county. Looking ahead, projections indicate continued growth in the number of living wage jobs, highlighting the ongoing importance of prioritizing fair compensation practices.

Ultimately, the promotion of living wage jobs is integral to creating a more just and equitable society. As discussions surrounding labor rights and economic justice persist, emphasizing the importance of fair compensation for work remains paramount in shaping a sustainable and inclusive future for all. By championing policies and initiatives that support living wage standards, we can pave the way for greater prosperity and opportunity, ensuring that individuals and families have the means to thrive in today's economy.

Green Occupations

Green occupations, spanning industries focused on the environment, conservation, clean energy, climate change, and sustainability, are integral to California's efforts to meet climate goals and promote environmentally friendly practices. With a significant emphasis on interdisciplinary skills, innovation, and social equity, these roles contribute to economic resilience and address evolving industry needs. As California transitions towards sustainability, there is a rising demand for skilled workers adept at developing, implementing, and maintaining eco-friendly technologies and solutions across various sectors, including renewable energy, sustainable agriculture, green construction, and environmental research.

The importance of green occupations becomes even more apparent as climate change and environmental challenges impact industries worldwide. Workers trained in green jobs play a crucial role in helping businesses and communities adapt to changing environmental conditions, develop sustainable solutions, and mitigate



climate-related risks. Many green occupations require a blend of technical expertise and environmental knowledge, fostering a workforce capable of addressing complex challenges and driving the transition towards a sustainable economy.

In Los Angeles County, employment in green occupations has been steadily increasing, with over 843,300 workers employed in such roles in 2022, representing a diverse array of skill levels and occupations. Despite this growth, there remains significant potential for further expansion, with forecasts indicating a continued upward trajectory in green job opportunities. Notably, the majority of green occupations in the county require middle-skill levels or below for entry-level employment, making them accessible to individuals with varying levels of education.

The top green occupations in Los Angeles County span a wide range of industries, including transportation, management, office support, and construction, among others. These occupations not only contribute to environmental sustainability but also offer living wages, with many surpassing the MIT living wage threshold. Additionally, workforce development programs that provide access to green job training opportunities can empower individuals from diverse backgrounds, contributing to reduced inequality and inclusive economic growth.

As industries evolve and society embraces sustainability, green occupations will continue to play a vital role in achieving climate objectives and fostering a resilient labor market. By prioritizing green jobs and incorporating green skills across sectors, California can lead the way towards a more sustainable and inclusive economy, ensuring that industries are well-equipped to thrive in the face of environmental challenges and opportunities.

Recommendations

- Encourage and support small business and entrepreneurship.
- Additional research on truly small and micro businesses in the City of Los Angeles.
- Develop programs and initiatives to increase capital investment and catalyze innovation and entrepreneurship.
- There are opportunities to employ innovative approaches to develop new housing at scale.
- Engage in outreach efforts to connect diverse-owned businesses to upcoming procurement opportunities in both infrastructure projects and the 2028 Summer Olympics and Paralympics.
- Provide support services to small businesses to scale their operation to take advantage of procurement opportunities with public agencies who have complex procurement processes and lengthy repayment windows.
- Workforce development opportunities may exist upon completion of large-scale developments in the sports entertainment industry, connecting local residents to employment opportunities.
- Local hire requirements for large projects represent opportunities for engaging local residents and connecting them with opportunities in the construction trades.
- In addition to LWOs, an earned income tax credit program may be an alternate way to increase family/household disposable income, as they are exempt from payroll taxes and are not generally used when determining eligibility for many government assistance programs.
- Workforce development programs can help individuals acquire the expertise needed to meet the demands of emerging green roles and technologies across existing and emerging occupations and industries.
- Workforce development programs that provide access to green job training opportunities can empower individuals from diverse backgrounds, including disadvantaged communities



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INTRODUCTION

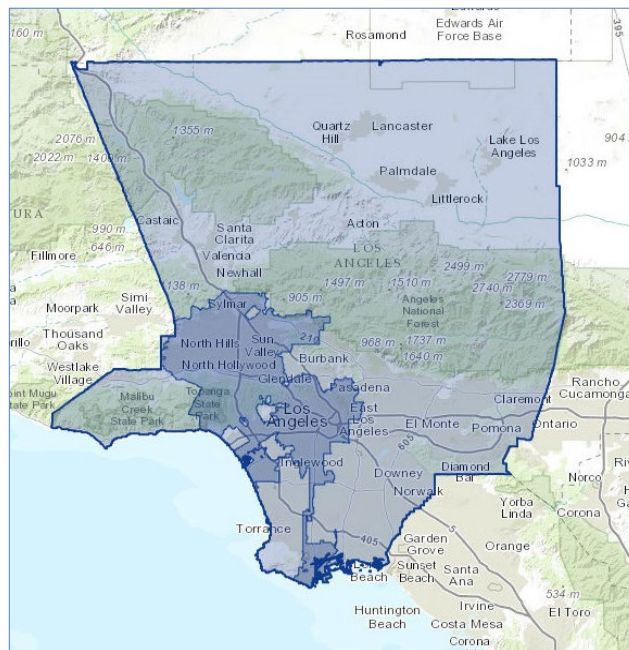
Workforce Development Boards (WDBs) are components of a federally-funded system designed to connect job seekers with employer businesses in local communities in order to improve the prosperity of both residents and industry in those communities. WDBs engage in a holistic and regionally cooperative approach to its programs such that workforce development is aligned with economic development priorities.

The City of Los Angeles Workforce Development Board is embarking on the development of a new five-year Strategic Plan and are looking to this updated study as foundational piece providing current baseline information on the people, industry and jobs in Los Angeles, and growth projections for leading industries and occupations, from which they can identify and develop data-based strategies to be included in their new plan.

Los Angeles County stretches across a geographic area of 4,088 square miles adjacent to Orange, San Bernardino, Kern, and Ventura counties in Southern California. The most populous county in the nation, with over 10.0 million residents, its amenities include beaches, national forests, the San Gabriel Mountains, Catalina Island, the Mojave Desert and numerous tourist destinations such as museums, theaters, sports venues and amusement parks. Composed of dense urban areas such as the City of Los Angeles, to the barren desert of Mojave and the bedroom communities in between, the County has a rich and diverse population with a wide range of skills and a diverse industry base too. Although home to 88 incorporated cities, most of the land area is unincorporated, falling under county jurisdiction for the provision of programs and services.

The City of Los Angeles stretches across the southwest portion of Los Angeles County; it has a geographic area of approximately 470 square miles (245,400 acres). Surrounding cities are numerous and include Burbank, Glendale, Pasadena, Alhambra, Vernon, Carson, Long Beach, Torrance, Inglewood, Santa Monica, Calabasas, and many others. The most populous city in the county and in the state, with over 3.9 million residents, the city's amenities include the Los Angeles Port, beaches, Griffith Park, and numerous other tourist destinations. From the

Exhibit 1-1
Los Angeles County and the City of Los Angeles¹



¹ Santa Catalina Island and San Clemente Island are not shown.
Sources: ESRI, LAEDC.

dense urban central city to the bedroom communities to the east and in the San Fernando Valley, the City of Los Angeles too has a rich and diverse population with a wide range of skills as well as a varied industry base.

In this report, the Los Angeles County Economic Development Corporation provides a demographic, industry, employment, and occupational analysis of the county and separately of the City of Los Angeles.

The report is organized into five broad sections:

Economic Overview

The local Los Angeles economy is significantly different compared to the last time we conducted an analysis for the City of Los Angeles Workforce Development Board. In this section we provide a current overview and discuss some of the changes that have taken place as a result of the economic shock created by the COVID-19 pandemic.

Demographic Portrait

The residents of Los Angeles County and the City of Los Angeles are their most significant and valuable asset. This section presents a picture of the characteristics of this population. Additionally, a deeper dive into select special groups are presented.

Employment, Industry and Jobs

The industrial makeup of the City of Los Angeles and Los Angeles County is examined in this section, and employment by industry quantified. A detailed industry employment forecast provides a picture of where the economy is heading, and which industries look like promising targets for job creation and economic development. Industry clusters are presented identifying those in our region that display a competitive advantage.

Occupational Analysis

Industry and employment analysis is used to estimate the occupational makeup of the region, occupational projections, and the education and skills required for entry into the occupations forecast to be added in the coming years. This section presents the outlook for jobs by occupation in the region. A focus on green jobs and a living wage analysis is provided.

Conclusions and Considerations

Based on the data collected and analyzed for this study, key findings and considerations will be presented.

Data Appendix

A data appendix that includes detailed data tables and geographic break outs of the material presented herein for the five Los Angeles County Supervisorial Districts, the fifteen Los Angeles County City Council Districts, and the 35 City of Los Angeles Community Plan Areas. GIS maps that visually display this data overlaid across the city and county are also presented.

Additional content in the data separate appendix includes socioeconomic data for selected groups, including: Women; Hispanic; Black; Asian and Pacific Islander; American Indians and Alaska Natives; Individuals with Disabilities; Youth with Disabilities (under 18 years of age); Older Individuals (aged 55 years and older); Population Ages 16 to 24 Years; Individuals with limited English proficiency; and Single Parents.

The data appendix is presented as a separate document.



1 ECONOMIC OVERVIEW

Key Findings for this Section

- City of Los Angeles accounts for 33.1 percent of all payroll jobs in the manufacturing sector within Los Angeles County.
- As of June 2023 nonfarm jobs in the city reached just under 1.9 million, exceeding the February 2020 pre-pandemic peak by 5.7 percent.
- Health Care & Social Assistance, Professional & Business Services, and Government remained the top three industries for employment distribution from 2019 to 2023.
- Health Care & Social Assistance had the greatest change in employment distribution in the City of Los Angeles and the county as a whole from 2019 to 2023, increasing by 1.0 percent and 1.4 percent, respectively.
- Manufacturing and Wholesale Trade experienced the largest declines in employment distribution in Los Angeles County from 2019 to 2023 at -0.6 percent.
- Accommodation & Food Services experienced the largest decline in employment distribution in the City of Los Angeles from 2019 to 2023, decreasing by -1.1 percent.
- Over 90 percent of employer firms in the City of Los Angeles, and more than 94 percent in the county are small businesses with fewer than 20 employees.
- As of the third quarter of 2023, only 11 percent of households in Los Angeles County can afford to purchase a median-priced, single-family home, down from 31 percent just 10 years earlier.
- Over 57 percent of renters in the City of Los Angeles are rent-burdened, paying more than 30 percent of their household income in rent.
- Los Angeles County, similar to the United States and California as a whole, will experience more restrained economic growth over the next two years, with a projected real GCP growth rate of 1.4 percent in 2024 and 1.5 percent in 2025.
- The cost of living in the Los Angeles metro is 8% and 51% higher than the state and national average, respectively.
- Significant investment is occurring in transportation and infrastructure, spectator sports, new housing, film and television production, and bioscience.

The industry base in the Los Angeles economy plays a crucial role in supporting the vibrant and diversified economic landscape in the city. Los Angeles County is one of the largest manufacturing centers in the U.S. (by employment) and the City of Los Angeles accounts for 33.1 percent of all payroll jobs in the sector. The San Pedro Bay is home to the nation's busiest port complex, with the city operating the Port of Los Angeles. Key drivers of the local economy include international trade, entertainment, aerospace, and tourism, in addition to other significant industries such as high-tech industries, finance, telecommunications, healthcare and biotechnology, education and research, manufacturing, and transportation.

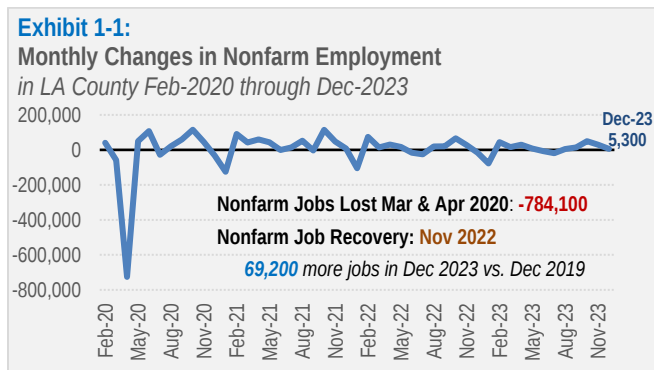
The economic shock related to the global COVID-19 pandemic created long lasting and secondary effects that are still influencing or local economy today. An economic overview of Los Angeles City and County is provided for context and to address some of these continuing effects of the pandemic that are still influencing industries and the labor market of today.

1:1 COVID-19 and Jobs

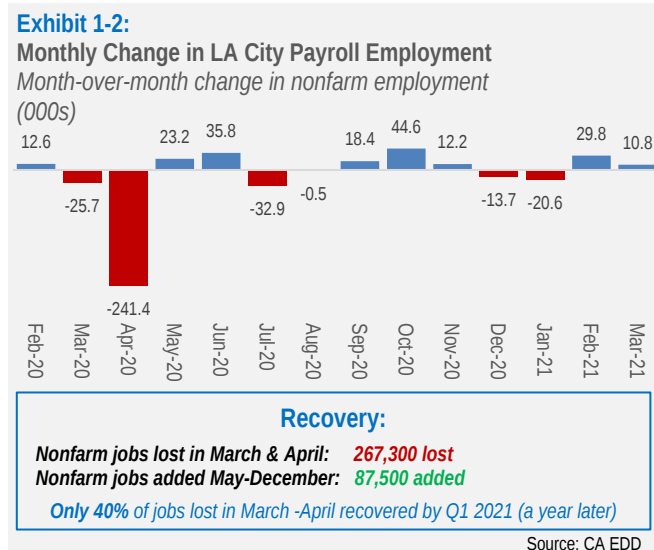
At the beginning of 2020, Los Angeles was experiencing a long and unprecedented period of economic strength. However, by the end of the first quarter of 2020, the COVID-19 pandemic struck, temporarily halting economic growth and stability in the region. The structure of the Los Angeles City and County economy is characterized by a relatively high prevalence of the types of industries (and their accompanying workforce) that were most impacted by the pandemic. These industries require a high degree of in-person interaction, and include sectors focused on entertainment, particularly the film and television industry, and the types of businesses that cater to tourists such as restaurants and hotels. As a result, Los Angeles City and County were particularly hard-hit compared to California or the nation as a whole.

Between February of 2020 and May of 2020, Los Angeles County shed more than 784,000 jobs across the county (**Exhibit 1-1**). Nonfarm employment in the

county dipped below 4 million from April through August of 2020 when health orders were most severe.



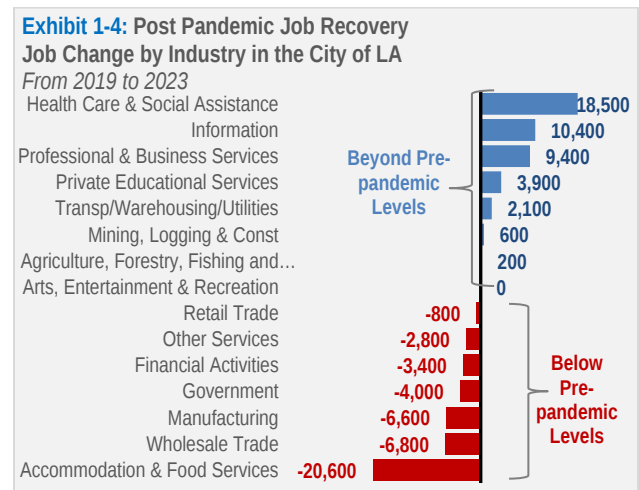
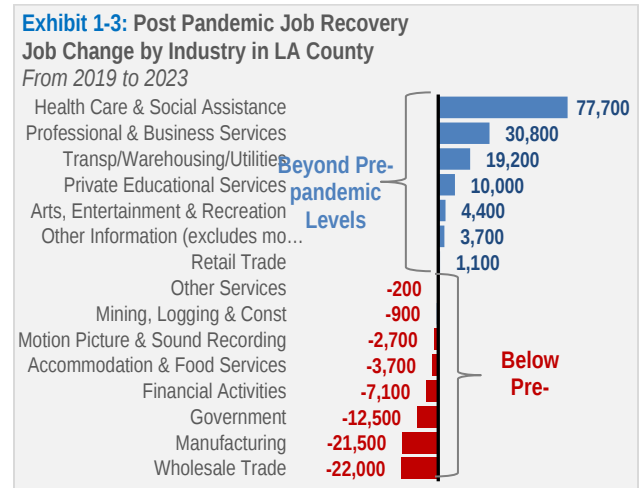
At the city level, in the months of March and April of 2020, the City of Los Angeles shed more than 267,000 jobs across the city (**Exhibit 1-2**). A year later, only 40 percent of the jobs were recovered from May of 2020 through March 2021. Nonfarm employment in the City of Los Angeles fully recovered too; as of June 2023 (the most recent data available), nonfarm jobs in the city reached just under 1.9 million, exceeding the February 2020 pre-pandemic peak by 5.7 percent.



Job losses for workers were concentrated in certain hardest-hit industries at the start of the pandemic. Based on these industries, the following occupational groupings were identified as experiencing the most job loss: restaurants (waiters and waitresses and restaurant cooks specifically); retail trade (retail salespersons, cashiers and sales representatives of

services); film and television production (where actors, producer and directors were most impacted directly); labor-intensive occupations, (such as laborers and material movers, janitors and cleaners); and recreation (including amusement and recreation attendants).

Los Angeles County's economy has recovered from the pandemic-induced downturn; by the 3rd quarter of 2022, nonfarm employment finally surpassed pre-pandemic levels, reaching beyond 4.6 million payroll workers. The Los Angeles City economy was slower to recover, with nonfarm payroll jobs not exceeding pre-pandemic levels until 2023. However, economic recovery has been uneven in both jurisdictions, some industries experienced a stronger recovery than others (**Exhibit 1-3 and Exhibit 1-4**), and we are experiencing the longer lasting effects of the measures taken to mitigate the spread of the virus, including the increased digitization across a variety of industries and the continuing phenomena of remote and hybrid work options.



Increased digitization leads to changes in industries and labor markets, which can have cost implications. Businesses in affected industries need to create and implement digital platforms that will allow for successful delivery of their goods and services. For workers, new demand for digital skills has been changing their individual roles and the composition of different occupations across different industries; workers in industries that have significantly shifted towards digitization are required to possess the ability to effectively offer their goods and services through new digital platforms. Workers who do not possess these skills need to be trained to successfully perform their duties in the new digital age.

Automation and AI are significantly reshaping the employment landscape by both creating and displacing jobs. On one hand, these technologies enhance productivity and efficiency, leading to the creation of new job categories in tech development, data analysis, and AI maintenance. They also enable the emergence of innovative industries and business models that require a human workforce with specialized skills. On the other hand, automation and AI can lead to job displacement, particularly in roles involving routine and repetitive tasks, as machines and algorithms often perform these functions more efficiently and at lower costs. This shift necessitates a workforce transition, emphasizing the importance of upskilling and reskilling programs to equip workers with the skills needed in the evolving job market. Overall, while automation and AI drive economic growth and innovation, they also pose challenges related to job displacement and the need for workforce adaptation.

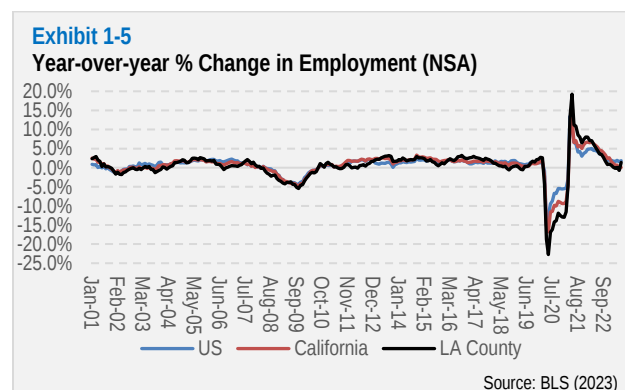
In this transitioning landscape, economic and workforce development programs are now more important than ever, as they guide workers and businesses in Los Angeles County through the post-pandemic economy and increase the resiliency of our economy against any future disruption.

1:2 Industry Employment

During the initial stages of the pandemic, the year-over-year percent change in employment across the nation witnessed a dramatic and unprecedented decline due to widespread lockdowns and restrictions to curb the spread of the virus. This sharp decline was uniformly across the entire U.S. (reaching -15.0 percent in April 2020) and California (reaching -16.8 percent in May

2020) but was more substantial in the Los Angeles County (falling to -22.7 percent in May 2020). All regions experienced a steady recovery in the last two years, with Los Angeles County showing a particularly strong rebound. As of December 2023, total employment in Los Angeles County was 4.7 million and total employment in the City of Los Angeles was 1.9 million.

Exhibit 1-5 displays the year-over-year percent changes in nonfarm employment for the U.S., California, and Los Angeles County since 2001.^{1,2} Employment changes are shown year-over-year to control for potential seasonal effects.



Generally, Los Angeles County's employment growth often mirrors the national and state trends, but with occasional deviations. Before the COVID-19 pandemic, the average year-over-year percent change in employment was about 1.3% in the U.S. The rate is slightly higher in California and Los Angeles County at 1.6% and 1.4%, respectively.

Los Angeles County

Los Angeles County is home to over 244,000 employer firms, providing more than 4.6 million nonfarm jobs across its myriad industries in 2023. **Exhibit 1-6** shows the distribution of payroll jobs in Los Angeles County by industry sector in 2019 and in 2023. Health care & social assistance, professional and business services, government, accommodation and food services, retail trade, and manufacturing employ the most workers, together these 6 sectors employ just under 70 percent of all nonfarm payroll workers in both years.

¹ BLS. 2023. Labor Force Statistics from the Current Population Survey. <https://www.bls.gov/cps/data.htm>.

² BLS. 2023. Local Area Unemployment Statistics. <https://www.bls.gov/lau/data.htm>.

Exhibit 1-6:
Employment Distribution In Los Angeles County
in 2019 and 2023

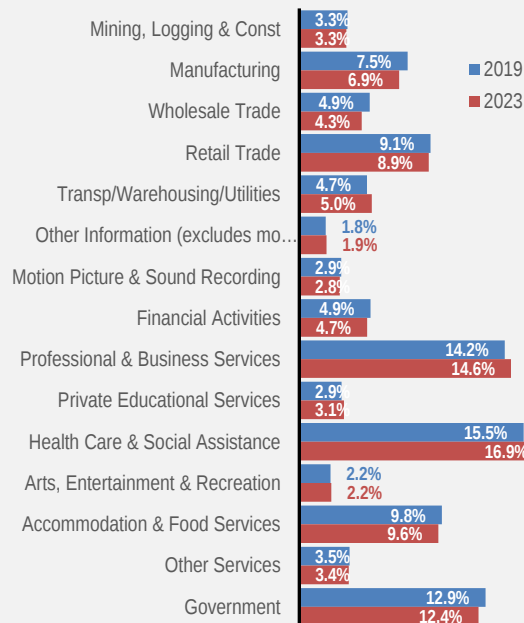
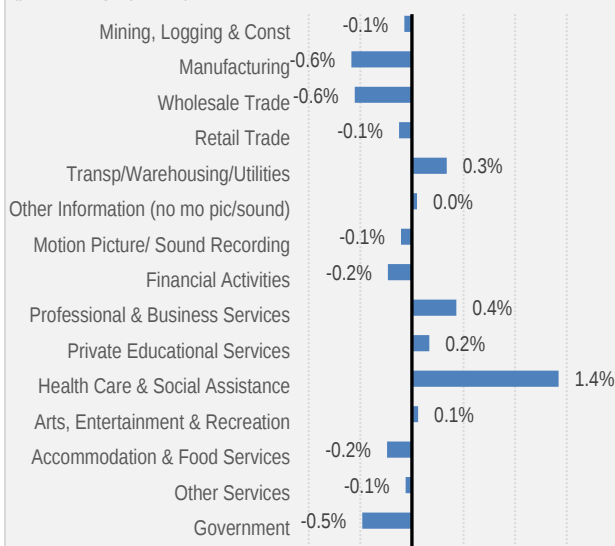


Exhibit 1-7 and **Exhibit 1-8** identify changes in the distribution and rank of payroll employment across these industries that occurred, respectively, from pre-pandemic 2019 to post pandemic 2023. These represent the longer term and secondary impacts that the COVID-19 pandemic had on our local economy.

Exhibit 1-7: Change in Employment Distribution
In Los Angeles County from 2019 to 2023
(percentage points)



While the top six industries have remained the same, industries ranked 7th, 8th and 9th shuffled around, with transportation, warehousing, and utilities boosting up two positions from 9th to 7th between 2019 and 2023, with that change attributed to job growth in the transportation sector. Financial activities fell to 8th place and wholesale trade fell to 9th.

Exhibit 1-8: Top 10 Largest Industries by Employment
in Los Angeles County

Rank	2019	2023
1	Health Care & Social Assistance	Health Care & Social Assistance
2	Professional & Business Svcs	Professional & Business Svcs
3	Government	Government
4	Accommodation & Food Svcs	Accommodation & Food Svcs
5	Retail Trade	Retail Trade
6	Manufacturing	Manufacturing
7	Financial Activities	Transp/Warehousing/Utilities
8	Wholesale Trade	Financial Activities
9	Transp/Warehousing/Utilities	Wholesale Trade
10	Other Services	Other Services

Six out of the fifteen industries presented in **Exhibit 1-7** increased their share of nonfarm employment in Los Angeles County with: health care and social assistance; professional and business services; transportation, warehousing and utilities; private education services, and arts, entertainment and recreation (which includes spectator sports) displaying the most percentage point growth. Industries who lost shares of nonfarm employment over the period include manufacturing, wholesale trade, and government.

City of Los Angeles

Employer firms in the City of Los Angeles County provided more than 1.9 million nonfarm jobs across all industries in 2023. **Exhibit 1-9** shows the distribution of payroll jobs in the City of Los Angeles by industry sector in 2019 and in 2023. Health care & social assistance, professional and business services, government, accommodation and food services, retail



trade, and manufacturing employ the most workers, together these 6 sectors employ slightly more than two-thirds of all nonfarm payroll workers in both years.

Exhibit 1-9:
Employment Distribution In City of Los Angeles
in 2019 and 2023

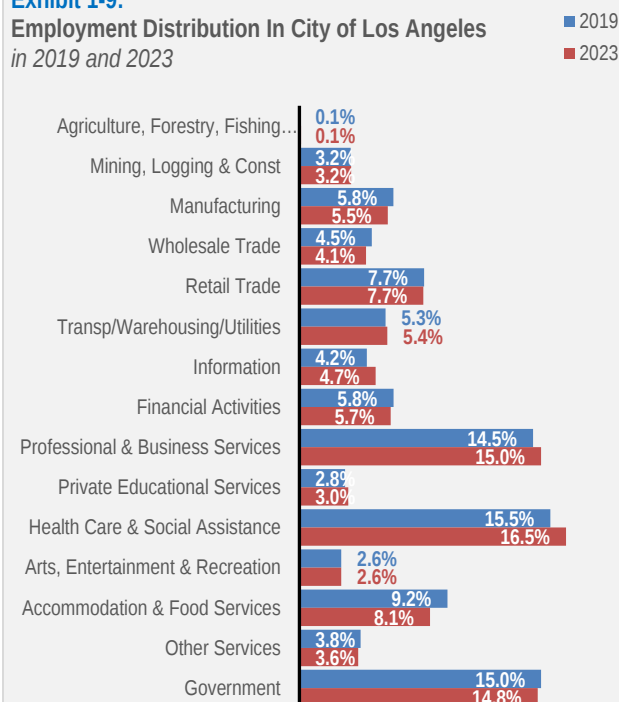


Exhibit 1-10: Employment Distribution Change
In the City of LA from 2019 to 2023
(percentage points)

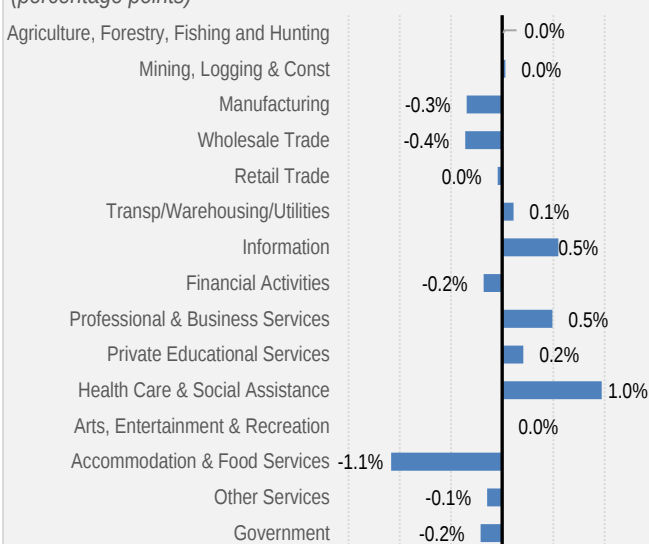


Exhibit 1-10 and **Exhibit 1-11** identify changes in the distribution and rank of payroll employment across these industries that occurred, respectively, from pre-

pandemic 2019 to post pandemic 2023. These represent the longer term and secondary impacts that the COVID-19 pandemic had on our local economy.

Exhibit 1-11: Top 10 Largest Industries by Employment
in the City of Los Angeles

Rank	2019	2023
1	Health Care & Social Assistance	Health Care & Social Assistance
2	Professional & Business Services	Government
3	Government	Professional & Business Services
4	Accommodation & Food Services	Accommodation & Food Services
5	Retail Trade	Retail Trade
6	Financial Activities	Financial Activities
7	Manufacturing	Manufacturing
8	Transp/Warehousing/Utilities	Transp/Warehousing/Utilities
9	Information	Wholesale Trade
10	Wholesale Trade	Information

The healthcare and social assistance industry retained its top position. Professional and business services and government maintained their 2nd and 3rd positions but swapped places. Likewise, information and wholesale trade held the 9th and 10th ranks in both 2019 and 2023, with their relative positions switching between the two years.

Eight out of the fifteen of the industries presented in **Exhibit 1-10** increased their share of nonfarm employment in the City of Los Angeles with: health care and social assistance; professional and business services; information; and private education services displaying the most percentage point growth. Industries who lost shares of nonfarm employment over the period include accommodation & food services, wholesale trade, manufacturing, financial activities, government, other services, and retail trade.

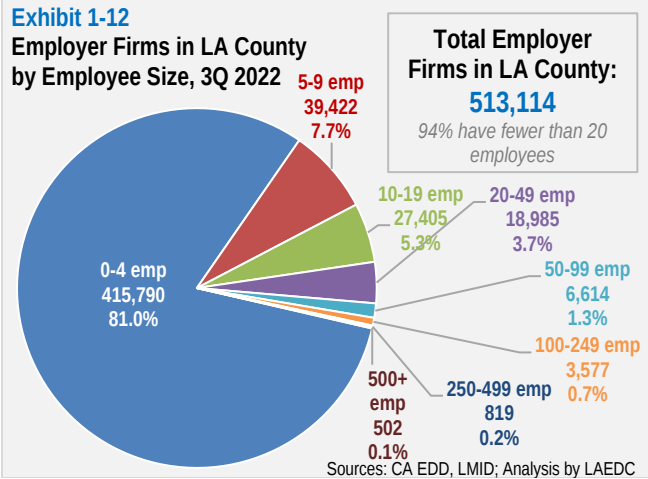
1:3 Business and Entrepreneurship

Los Angeles County is home to over 244,000 employer firms across its diverse industry base. These businesses vary in size by employment, wages paid and in revenues.

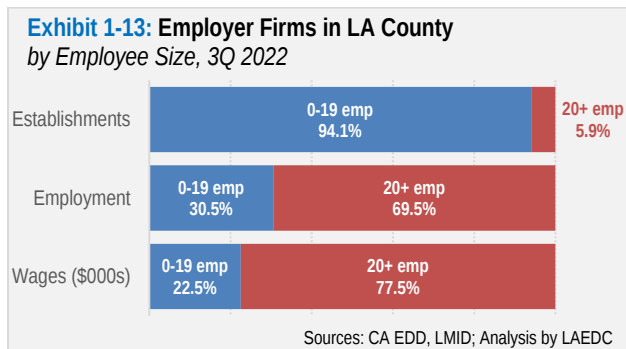
Business Size: A Home for Small Businesses

LOS ANGELES COUNTY

Over 94 percent of the employer firms in Los Angeles County have fewer than 20 employees, and just under 84 percent are considered microbusinesses, those with fewer than 10 employees (**Exhibit 1-12**).

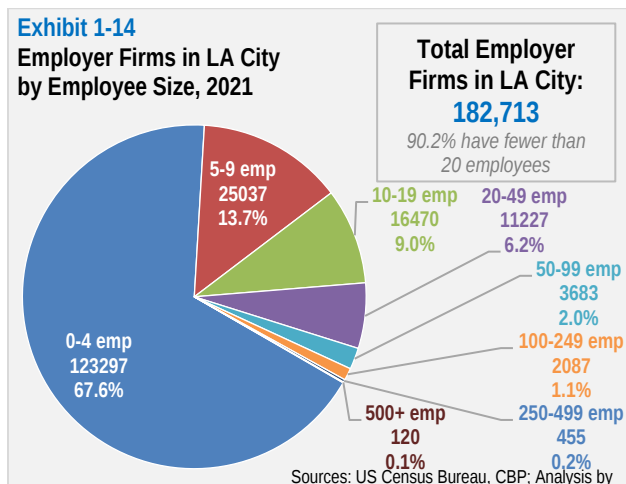


Business establishments in the county employing fewer than 20 employees account for 94 percent of all employer firms, 30.5 percent of all payroll employment and 22.5 percent of all wages (**Exhibit 1-13**).

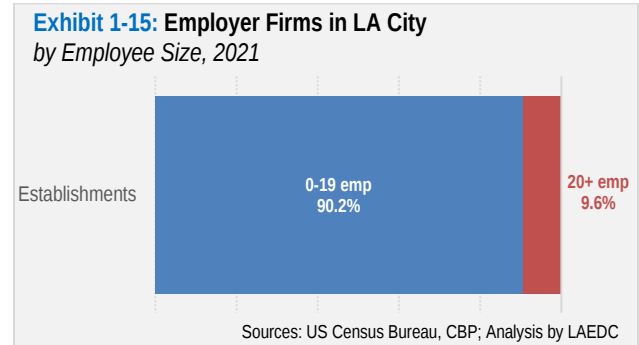


LOS ANGELES CITY

Over 90 percent of the employer firms in Los Angeles City have fewer than 20 employees, and just over 81 percent are considered microbusinesses, those with fewer than 10 employees (**Exhibit 1-14**).



Business establishments in the city employing fewer than 20 employees account for over 90 percent of all employer firms (**Exhibit 1-15**).



The Role of Entrepreneurship and Small Business

Small businesses and entrepreneurship help drive economic growth, fostering innovation, creating jobs, and provide an avenue for increased economic mobility. These small and nimble operations are often characterized by their flexibility, adaptability, and their innovation, and have additional benefits that extend beyond their financial contributions.

JOB CREATION

Small businesses play a large role in job creation, they can adapt quickly to changing market demands, leading to increased employment opportunities. The 1.6 million people employed in truly small businesses, with less than 20 employees, contribute to reduced unemployment and, consequently, reduced unemployment rates. As these operations grow, they require more labor, providing opportunities for individuals to enter or re-enter the workforce.

Small businesses often foster a close-knit working environment where employees can feel valued and have a direct impact on the company's success. This leads to higher job satisfaction and increased employee engagement, contributing to productivity and long-term success.

Additionally, startups and small businesses often serve as incubators for new talent, providing valuable work experience and skill development.

INNOVATION

Small business and entrepreneurship are often a center of innovation and creativity. These operations are typically more agile than their larger counterparts,

enabling them to experiment with new ideas and solutions. This innovation fosters economic development by introducing new products, services, and business models that can disrupt and improve industries.

Their nimbleness allows them to swiftly respond to market changes, adapting their products or services to meet evolving consumer preferences. This flexibility allows them to seize new opportunities and navigate challenges more effectively than larger operations.

MARKET COMPETITION AND GLOBAL COMPETITIVENESS

The presence of small businesses ensures healthy competition in the marketplace. Their diverse array of products and services offer consumers more choices and increased efficiency. Competition encourages businesses, both small and large, to continually improve and innovate to meet customer needs.

Small businesses help diversify the economy as they operate across various industries. Their presence helps reduce dependence on a few large industries, making the economy more resilient to economic shocks. Diversification also enhances a region's ability to adapt to changing national or global trends.

Additionally, these small businesses can help drive our global competitiveness by fostering a culture of innovation. Successful small businesses can become key players in international markets, representing the economic strength and innovation of their home countries.

SMALL BUSINESS AND ENTREPRENEURIAL ECOSYSTEMS

Supporting small businesses and entrepreneurs to help them start, thrive and grow can lead to a larger



ecosystem that includes support networks, mentorship programs, access to funding, and educational resources. Governments, nonprofits, and private organizations often play a role in nurturing this ecosystem to facilitate the growth of small businesses.

LOCAL ECONOMIC DEVELOPMENT

Small businesses are often deeply rooted in their local communities. Their success has a direct impact on the economic health and vibrancy of the community. They bring economic activity to areas that may otherwise face challenges, contributing to the development of infrastructure, services, and a sense of community pride. Small businesses contribute to local tax revenue, support nearby suppliers, and enhance the overall quality of life. This interconnectedness reinforces community resilience and sustainability.

INCLUSIVE GROWTH: Small business and entrepreneurship provides an avenue for individuals from diverse backgrounds to participate in economic activities. It offers opportunities for minority-owned, women-owned, and other underrepresented businesses to thrive, promoting inclusive economic growth and mobility.

Recommendation

Encourage and support small business and entrepreneurship

Small businesses and entrepreneurship are vital pieces of our local economy. Their role in job creation, innovation, market competition, local economic development, make them indispensable, they are a means of helping the Los Angeles economy to achieve sustained growth and prosperity. Encouraging and supporting small business and entrepreneurship creates a strong foundation for a resilient and diverse economic landscape.

Additional research on truly small and micro businesses in the City of Los Angeles

Additional research diving deeper into quantifying truly small and micro businesses in the City of Los Angeles is recommended to understand the landscape specific to the city and its role in inclusive, equitable growth and economic mobility.

1:4 Economic Growth

Los Angeles County's gross domestic product exceeded \$836 billion in 2021. This significant contribution represents about one quarter of California's state product. Nationally, it ranks first in gross domestic product among U.S. counties. Its economic output surpasses all but seven U.S. states (excluding California). In the global context, if Los Angeles County were an independent nation, it would hold the rank of the world's 19th largest economy.

Over the past two decades, Los Angeles County's real gross county product grew from \$473.3 billion in 2001 to \$712.6 billion in 2022 (measured in 2012 real dollars). **Exhibit 1-16** compares the annual growth rate of real GDP for the U.S., California, and Los Angeles County. California and Los Angeles County often display higher annual growth than the nation.



Prior to the Great Recession, the U.S. had an average annual growth rate of about 2.3%, while California and Los Angeles County had slightly higher rates of approximately 2.4% and 2.8%, respectively. During the Great Recession, the U.S. contracted by about -2.6%, with California and Los Angeles County experiencing steeper declines of -3.2% and -4.0%. From 2010 to 2019, as recovery took place, the country experienced growth rates again, which were between 1.5% and 3% at the national level and between 1.5% and 4.5% at the state and county level.

Following the hit of the COVID-19 pandemic in 2020, GDP growth rates dropped to -2.8% and -2.3% in the U.S. and California, with Los Angeles County facing a sharper decline of -5.7%. In the aftermath of the pandemic, the U.S. experienced significant GDP growth of approximately 5.9% in 2021, followed by more moderate rates of about 2.1% in 2022. California and Los Angeles County had similar patterns, with substantial growth in 2021 (7.8% and 7.9%,

respectively) and much modest growth in 2022 (0.4% and 0.1%, respectively).

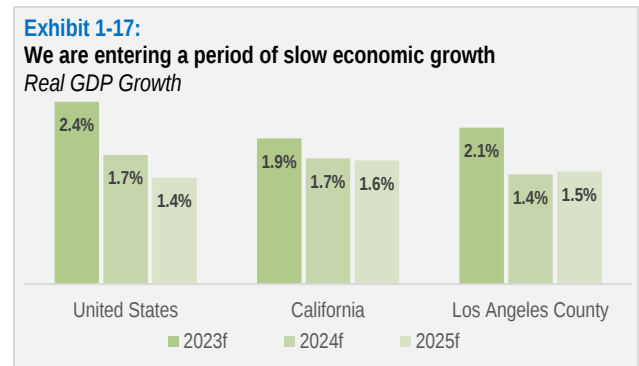
LAEDC Forecasts a Period of Slow Economic Growth

Los Angeles was hit with the COVID-19 pandemic in 2020 and the sharp economic dislocations that ensued. Los Angeles County saw a 5.7 percent contraction in real gross county product (GCP) and severe job losses, with total employment falling by 8.6 percent. It saw an exodus of workers from the urban core, tourism grind to a halt, and extended shortages of goods from supply chain disruptions. In response to the pandemic, the federal government injected roughly \$5 trillion into the national economy.

Los Angeles was on the path to economic recovery in 2021 and 2022 when it faced a new scourge: inflation. As the Federal Reserve rapidly hiked interest rates to slow the economy and rein in inflation, the region also experienced higher costs for mortgages, automobile loans, credit cards and business loans. As 2022 came to a close, the Los Angeles economy recovered the number of jobs lost during the COVID-19 pandemic. Moreover, inflation had subsided by the end of 2023, and the Federal Reserve had paused its rate hikes, easing fears that the country would tip into recession. As 2024 opens, we find that the large, systemic challenges that the region faced prior to 2020—from high housing costs to a slowing (now declining) population—are reemerging to take center stage.

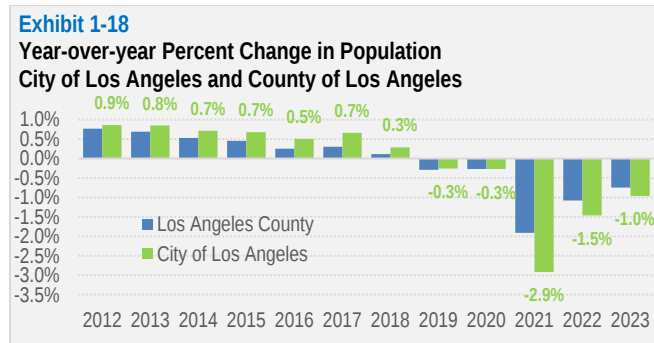
ECONOMIC GROWTH FORECAST

We forecast the U.S., California and Los Angeles County will experience more restrained economic growth over the next two years, with a projected real GCP growth rate of 1.4 percent in 2024 and 1.5 percent in 2025 in the county (**Exhibit 1-17**).



POPULATION DECLINE

Projections show that the Los Angeles region is expected to lose population over the foreseeable future. Both the City and County of Los Angeles began experiencing negative growth rates in 2019, but this decline was part of a general trend of slowing growth that has been ongoing for years (**Exhibit 1-18**). These losses were accelerated by the COVID-19 pandemic and the shift to remote work that occurred during that time.



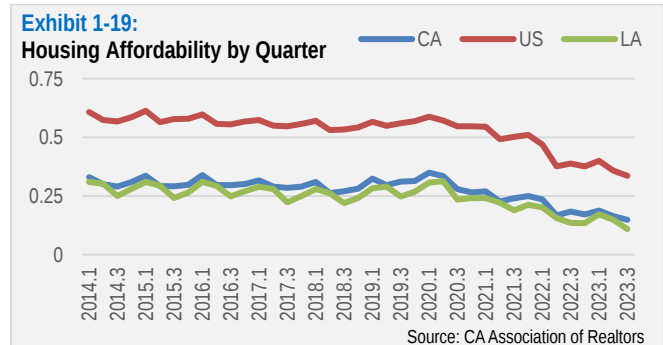
While the rate of population decline eased somewhat during 2022 and 2023, the losses are not expected to reverse. The California Department of Finance, which develops demographic estimates for counties in California, projects that by 2034—just ten years from now—Los Angeles County will fall below 9.5 million residents, down from its high of 10.2 million in 2018.³ In the long term, the potential end result of population decline is stagnating economic growth, due to the negative implications it has on our labor force.

In general, the factors behind regional population decline are many, ranging from the high cost of housing to demographic birth and death trends to high regulations and taxes to reduced immigration.

HOUSING AFFORDABILITY

Housing affordability is a significant challenge in the Los Angeles region. Data from the California Association of Realtors (CAR) show that as of the third quarter of 2023, only 11 percent of households in Los Angeles County can afford to purchase a median-priced, single-family home here. This is down from 31 percent just 10 years earlier (**Exhibit 1-19**).⁴

This lack of affordability hits Black and Latino communities particularly hard. In 2022, CAR statistics showed that while 17 percent of all households could



afford a median-priced home in Los Angeles County, only 9 percent of Black and 10 percent of Latino households could.

Renters are not immune from these effects either. The latest numbers from the U.S. Census Bureau indicate that a majority of renters in Los Angeles County (55.3 percent) and the City of Los Angeles (57.3 percent) are rent-burdened, meaning they pay more than 30 percent of their household income in rent.

The Los Angeles region needs to markedly increase the local housing supply to help moderate prices and increase affordability.

MOVING FORWARD

The region can address these challenges head-on, but it will have to do so in an environment of slower economic growth. While we believe that the nation and the Los Angeles region will avoid a recession during the next two years, higher interest rates will continue to weigh down the economy for some time. How we decide to address our challenges and position ourselves to take advantage of emerging opportunities will shape the trajectory, equity, and resilience of the regional economy into the future.

³ California Department of Finance. (2023, July). *Total Estimated and Projected Population for California and Counties: July 1, 2020 to 2060*. Report P-2A.

⁴ The median house price of \$897,610 in the third quarter of 2023 required a minimum qualifying income of \$235,200.

Recommendations

Develop programs and initiatives to increase capital investment and catalyze innovation and entrepreneurship

Through increased capital investment and innovation, though, the Los Angeles region could spur economic growth even with a declining population. Programs and initiatives can be developed to address barriers to investment, support small business, and catalyze entrepreneurship and innovation.

There are opportunities to employ innovative approaches to develop new housing at scale

These opportunities range from regulations encouraging faster accessory dwelling unit (ADU) development to financing more adaptive reuse, particularly in underused downtown areas. They also include reducing potential barriers to increased housing development, such as the setting of impact fees; based on a 2015 survey, the average impact fee on a single-family home in California is more than four times that in other states.

1:5 Interest Rates, Inflation, and LA's Cost of Living

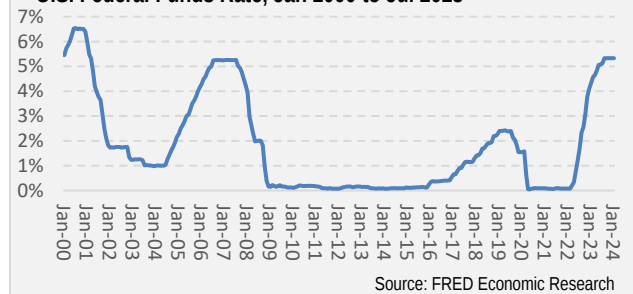
Fiscal and monetary policy are significant determinants of economic performance and the inflation rate. The United States Federal Reserve conducts monetary policy by influencing short-term interest rates and the amount of money and credit circulating in the economy. Fed policy triggers a chain of events that impacts the Federal Funds rate – the overnight interest rate at which commercial banks lend and borrow excess reserves. Changes in the Federal Funds rate affect short- and long-term interest rates, foreign exchange rates, the money supply, and the level of credit available to borrowers in the economy. These monetary factors significantly influence employment, prices, and economic output.

Exhibit 1-20 depicts the Federal Funds Rate (FFR) since 2000. At the beginning of the decade, the rate ranged from around 5.5% to 6.5%. Following the recessions in 2001 and 2008, the Federal Reserve (Fed) reduced the rate to almost zero. The rate remained at that level until 2016. When the COVID-19 pandemic hit the economy, it forced the Fed to impose another cut to almost 0%. However, with recent inflationary pressures, the Fed started implementing a tightening policy once more.

During the 2022 to 2023 cycle, the Fed increased rates 11 times to slow inflation. The rates were raised to 5.25%-5.50% at the July 2023 meeting, which represents the highest level in more than 22 years. After that, the interest rates have been kept unchanged at that level. In the most recent January 2024 meeting, Federal Reserve Chair Jerome Powell stated that reducing interest rates would not be appropriate until

Exhibit 1-20

U.S. Federal Funds Rate, Jan 2000 to Jul 2023



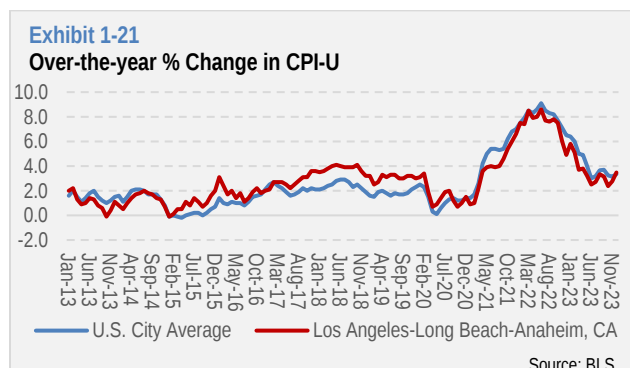
the committee gains more confidence that inflation is consistently progressing toward 2%.

Although interest rate projections are usually focused on the near term, some forecasts extend to the long term, ranging from 2 to 3 years. According to Trading Economics, their global macroeconomic models predict that the FFR would remain at 5.50% by the end of the current quarter and subsequently decline to 4.8% by the end of 2024 and trend around 3.75% in 2025. As of February 8, 2024, ING forecasted that 3-month interest rates would drop to 3.9% by the end of 2024 and 3% by the end of 2025.

Inflation

The Consumer Price Index (CPI), which measures the average price change over time of a basket of goods and services commonly purchased by households (such as food, transportation, housing, and medical care), is a commonly used indicator to track inflation trends in the U.S. or regional economy and to monitor changes in the cost of living. When the CPI increases, it indicates that the cost of living is increasing, and the purchasing power of the currency is decreasing.

Inflation became one of the main economic headlines since late 2021, when the nation entered a period of sharply rising prices for goods and services. **Exhibit 1-21** shows the year-over-year percent change in the CPI (i.e., comparing CPI in each month with the CPI in the same month of the previous year) over the period of January 2013 to June 2023 for the U.S. and Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area (MSA).



The year-over-year percent change in CPI has generally increased over time, with some fluctuations (i.e., with some years showing higher inflation than others). Comparing the Los Angeles metropolitan area with the U.S. city average level, the U.S. CPI experienced relatively moderate fluctuations. Moreover, the Los Angeles MSA had consistently higher inflation rates compared to the U.S. average level until 2021. Since 2021, the CPI has been increasing rapidly, with a peak of 9.1% in the U.S. and 8.6% in Los Angeles MSA in June 2022. Since June 2022, the CPI growth rate has been declining, although there was a slight increase beginning in the third quarter of 2023. As of December 2023, the year-over-year percentage increase in CPI stood at 3.4% for the U.S. and 3.5% for the LA metropolitan area, both still surpassing the Federal Reserve's target of 2.0 percent.

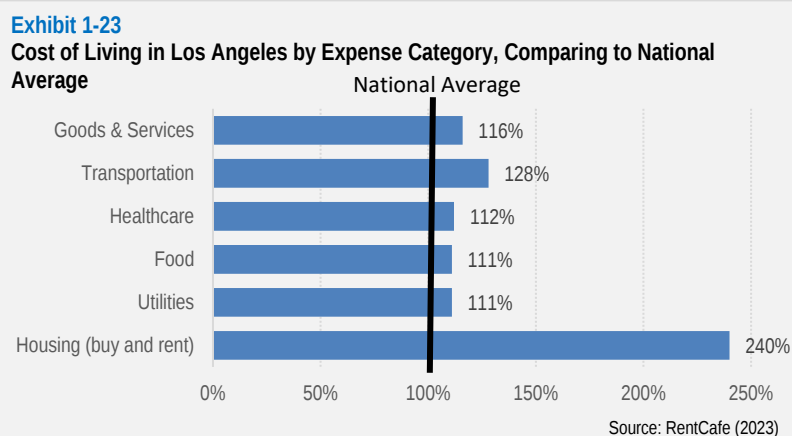
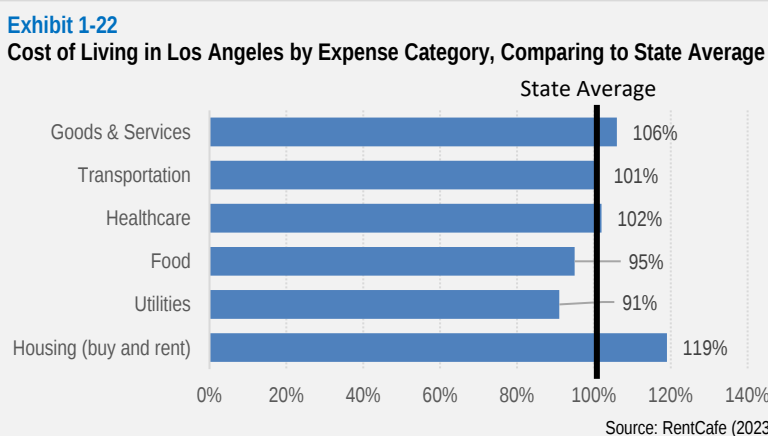
The Federal Reserve Bank of Cleveland provides estimates on the expected inflation rate for the next three decades for the U.S. These estimates are computed using a model that takes into account several factors including Treasury yields, inflation information, inflation swaps, and survey-based evaluations of inflation prospects. The estimates of 1-year, 2-year, 5-year, and 10-year expected inflation rates released in January 2024 are 2.43%, 2.33%, 2.18%, and 2.16%, respectively.



Cost of Living

Exhibit 1-22 and **Exhibit 1-238** compares the cost of living in Los Angeles with the state and national average levels, respectively, for various expense categories. Generally speaking, the cost of living in Los Angeles is 8% and 51% higher than the state and national average, respectively.

Looking at individual expense categories, housing in Los Angeles is 140% more expensive than the U.S. average. Groceries and clothing, which represent basic necessities, are about 16% more expensive in Los



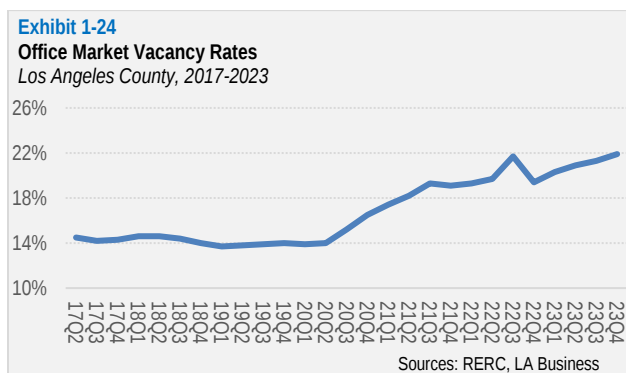
Angeles compared to the rest of the country. Additionally, healthcare services cost 12% more in Los Angeles, while other goods and services such as entertainment and grooming services are 16% pricier. Compared to state averages, housing in Los Angeles is about 19% and healthcare is about 2% more costly.

1:6 Beyond Recovery

The Los Angeles County economy has overcome most challenges faced during the COVID-19 pandemic. Total payroll jobs moved beyond pre-pandemic levels in late 2022. Following the recovery, population decline, housing supply and affordability, and poverty have risen to the surface as the county's primary challenges. Over the past year, the county's economy has been facing new challenges including labor disruptions, slowing global economic growth, geopolitical conflict, and a struggling office market feeling the continued effects of hybrid and remote work.

The Office Sector

The office sector in Los Angeles is facing challenges in the post-pandemic era. While it has seen steady growth in the past decade due to the expansion of tech companies and the need for innovative office spaces, it is now encountering challenges due to factors such as trends to remote work and downsizing office footprints by many businesses. Economic uncertainties, including high inflation rates and high interest rates, further contribute to the challenges faced by the office market in Los Angeles County. The market is facing high office market vacancy rates (**Exhibit 1-24**), weak leasing activities and negative absorption rates and defaults and foreclosures. Several office properties in downtown Los Angeles (DTLA) have undergone foreclosure due to missed payments and defaults, indicating distress in the DTLA office market.



Although the vacancy rate in Los Angeles is high compared to historical levels, it is still better than that of other major metro areas like San Francisco. This indicates a certain level of stability in demand. Additionally, vacant spaces and lower lease and rental rates are opportunities for new businesses to enter the market or for existing tenants to relocate or renegotiate new terms and reduced costs.

1:7 Upcoming Investment and Opportunity in the Region

Significant investment is occurring, and planned to occur, across Los Angeles County's diversity of industries over the next few years. These investments have the potential to transform the region and markedly increase the job opportunities open to its residents, not only by growing industries but also by increasing mobility and access to job centers.

Transportation and Infrastructure

The Biden administration awarded a combined \$6.1 billion to the California High-Speed Rail Authority and Brightline West in early December 2023, covering a large fraction of the overall project cost for the Rancho Cucamonga to Las Vegas corridor.

Looking ahead, there are significant investments planned at our local airports including LAX's plans to build a Terminal 9 and a Concourse 0 in advance of the 2028 Olympics, and Hollywood Burbank Airport's plans to break ground on a retro replacement terminal with an anticipated opening of 2026. Beyond that, Hollywood Burbank Airport may also be home to a high-speed rail station.

In Downtown Los Angeles, the expansion of the Metro Rail continues in Downtown Los Angeles and beyond. The proposed Arts District Metro station at-grade stop would be located at the tail end of the Division 20 rail yard, just south of the Sixth Street Viaduct, and connect to surrounding streets via a pedestrian tunnel. And the K Line Northern Extension would create an important north-south link by connecting the K Line to Mid-City, Miracle Mile, West Hollywood, and Hollywood.

Much of the anticipated transportation-related infrastructure will come through two sources: Senate Bill (SB) 1, the Road Repair and Accountability Act of 2017, and the Infrastructure Investment and Jobs Act (IIJA). SB 1 is notable because it provides the first significant, stable, and ongoing increase in state

transportation funding in over twenty years, averaging about \$5.4 billion annually. It will be used by local agencies and Caltrans to fix roads and bridges, reduce traffic delays, improve goods movement, and increase options for transit, intercity rail, and active transportation.

IIJA will provide federal infrastructure funding to California based on formula and competitive grants. This funding will be used to support existing and new projects for bridge replacement and repairs, public transportation, and expansion of the Electric Vehicle charging network. It will also invest in the areas of climate action, zero-emission vehicle deployment, social equity, goods movement, and multi-modal transportation.

In the upcoming years, SB 1 and IIJA funding are expected to contribute to the development \$6.59 billion of currently planned projects in Los Angeles County.

With respect to goods movement, the U.S. Department of Energy (DOE) has awarded \$1.2 billion in grant funding to California's Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) to create a clean hydrogen (H₂) hub at the Ports of Long Beach and Los Angeles. This investment will help develop the green economy in Los Angeles County and in the process create new jobs while reducing pollution in affected neighborhoods.

Spectator Sports

The Los Angeles Basin (comprised of Los Angeles and Orange counties) is one of the two largest markets for collegiate and professional sports in the United States. The professional sports landscape continues to grow in the Los Angeles Basin. Continued massive investments in infrastructure include the continuing construction of the Intuit Dome in Inglewood adjacent to the recently completed SoFi Stadium and Kia Forum. Once completed, its opening will provide significant job opportunities in the industry here in Los Angeles County.

Los Angeles Rams: Stan Kroenke, owner of the Los Angeles Rams is investing a reported \$650 million to develop 100 acres of land to serve as the team's practice and headquarters facility in the Valley. The facility, which is expected to be open by next season, is just one piece of the planned development; it's intended to be mixed-use, boasting residential, commercial, and retail spaces in the future.



Intuit Dome/Clippers Stadium.

Source: Phillips Steel.

<https://phillipssteel.com/wp-content/uploads/2023/04/Intuit1-scaled.jpg>

Additionally, the extensive sporting infrastructure in the region has positioned Los Angeles to host the 2026 FIFA World Cup, and the LA28 Olympic and Paralympic Games without the construction of additional stadiums, events that will bring a tremendous amount of tourism and spending to the region.

July and August 2028 mark the arrival of the 2028 Summer Olympics and Paralympic Games in Los Angeles where an estimated 15,000 athletes from across the globe are expected to compete. The Olympic and Paralympic Games will use existing world-class stadiums and sports venues across the Los Angeles region and represent economic opportunity for Los Angeles' tourism-related industries and businesses of all sizes who successfully engage in procurement opportunities.

New Housing

The City of Los Angeles is updating community plans, which could serve as a catalyst to investments in residential development, through new zoning rules, accelerated permit and approval times, and the expansion of the adaptive reuse ordinance. One such upcoming adaptive reuse project includes a recent proposal from Jamison Services to transform the 33-story tower at 1055 W. 7th Street, once the ARCO headquarters, into 691 apartments.

Film and Television Production

In our film and television production industry, Los Angeles County had, as of last year, 17 studio projects in various stages of development, encompassing 155 planned stages and approximately three million square

feet of space. Los Angeles currently is the world leader in terms of the amount of overall stage space available.

Hackman Capital continues to invest in infrastructure at the Radford Studio Center and TV City, Fox Corporation is planning to redevelop its historic Fox Studio Lot in Century City, and Warner Bros. has started work on redeveloping its historic ranch lot. All will update and add much needed soundstage space for the industry moving forward.

Bioscience

In addition to what is outlined above, additional investment is taking place in a number of areas. In the higher education space, the State of California is supporting regional innovation by spending \$200 million to help UCLA acquire the former Westside Pavilion shopping mall in West Los Angeles to house the UCLA Research Park, including the California Institute for Immunology and Immunotherapy (CIII) and UCLA's Center for Quantum Science and Engineering. The State also intends to invest another \$300 million to establish and fund the CIII.

Recommendations

- Engage in outreach efforts to connect diverse-owned businesses to upcoming procurement opportunities in both infrastructure projects and the 2028 Summer Olympics and Paralympics.
- Provide support services to small businesses to scale their operation to take advantage of procurement opportunities with public agencies who have complex procurement processes and lengthy repayment windows.
- Workforce development opportunities may exist upon completion of large-scale developments in the sports entertainment industry, connecting local residents to employment opportunities.
- Local hire requirements for large projects represent opportunities for engaging local residents and connecting them with opportunities in the construction trades.



Westside Pavilion – Future site of UCLA Research Park

Source: [www.msn.com. https://img-s-msn-com.akamaized.net/tenant/amp/entityid/AA1mqxD6.img?w=1170&h=779&m=4&q=79](https://img-s-msn-com.akamaized.net/tenant/amp/entityid/AA1mqxD6.img?w=1170&h=779&m=4&q=79).

2 DEMOGRAPHIC PORTRAIT

Key Findings for this Section

- The population of Los Angeles County in 2022 was 9.7 million, accounting for 25 percent of the population of the State of California.
- Just over 39 percent of the county population lives within the City of Los Angeles.
- Los Angeles County lost more than 435,000 (-4.3 percent) residents between 2020 and 2022.
- The City of Los Angeles has lost 230,000 residents since 2018, representing a 5.8 percent decrease or an annual average decline of -1.2 percent.
- In both the City of Los Angeles and Los Angeles County overall, about 70 percent of the resident population is of working age (15 to 65 years of age).
- As of 2022, there are 60,704 veterans living in the City of Los Angeles, and an additional 138,956 veterans reside in other parts of Los Angeles County.
- In the City of Los Angeles, 47.8 percent of residents reported to be of Hispanic.
- The City of Los Angeles alone accounts for 44 percent of the foreign-born population in the County with nearly 1.4 million foreign-born residents.
- Over half of the population in Los Angeles County (55 percent) and the City of Los Angeles (56 percent) speaks a language other than English at home.
- In the City of Los Angeles, 38 percent of the population 25 years and over have a high school diploma (or equivalent), or some college or certificate, but less than an Associate's degree.
- Residents with some college or an associate degree experienced the highest unemployment rate of 5.5 percent in the City (4.8 percent in the County).
- Workers in the city with a graduate or professional degree earn an annual wage premium of more than \$60,000 over those with less than a high school education (\$62,000 in the county).
- The City of Los Angeles contained 1.4 million households in 2022, representing approximately 42 percent of the total households in the county.
- The median home value in the city of Los Angeles was \$903,700 (\$805,600 in the county) in 2022, which was higher than the statewide median of \$715,900.
- Nearly 60 percent of residents in the City of Los Angeles are rent burdened and paid rent that was greater than 30 percent of their income.
- In the City of Los Angeles, about 43 percent of working residents earn more than \$65,000 per year.
- In the City of Los Angeles, 35 percent of households earn less than \$50,000 per year, and 23 percent earn over \$150,000 per year.
- In the City of Los Angeles, the share of households below the poverty line is 16.4 percent (14.1 percent in LA County).
- Single mothers with children under the age of 18 years were the largest segment of families living below the poverty line, with 36 percent in the city and 34 percent in the county.
- About 20 percent of residents are juveniles (<18 years) and 15 percent are seniors (65+ years) in both the city and the county.
- Have a higher rate of poverty in the City of Los Angeles (18.1 percent) compared to the county (15.0 percent).

Demographics play a key role in the growth and quality of the labor force and to a large extent determine the growth potential of the economy.

2.1 Overview

Los Angeles County stretches across a vast geographical area of 4,088 square miles, adjacent to Orange, San Bernardino, Kern, and Ventura counties in Southern California. The population of Los Angeles County in 2022

was 9.7 million, encompassing some 3.4 million households and accounting for 25 percent of the population of the State of California, making it the most populous county in the nation (**Exhibit 2-1**). The median age is 38.2 years.

Just over 39 percent of the county population lives in its largest city and county seat, the City of Los Angeles, with a population of 3.8 million across 1.4 million households in 2022. The median age, at 37.1 years, is slightly lower

Exhibit 2-1**Selected Demographic and Income Characteristics 2022**

	California	LA County	City of LA
Population	39,029,342	9,721,138	3,822,224
Median age	37.9	38.2	37.1
Households	13,550,586	3,415,726	1,439,805
Average household size	2.82	2.79	2.58
Median household income	\$91,551	\$82,516	\$76,135
HH below poverty level	12.1%	14.1%	16.4%
Per capita income	\$46,661	\$43,171	\$45,270
Individuals below poverty	12.2%	13.9%	16.8%
Median home value	\$715,900	\$805,600	\$903,700

Source: 2022 ACS 1-year estimates

than the county average, but was 2.1 years higher than the median age of 35.0 years in 2014.

Median household income (MHI) in Los Angeles County, estimated to be \$82,516, is approximately ten percent lower than the state median and \$26,770 more than the MHI of \$55,746 in 2014 (not adjusted for inflation). At \$43,171, per capita income in the county has nominally increased by 52% from \$28,373 in 2014 and is ten percent below the state average. The City of Los Angeles has a median household income of \$76,135 (up from \$50,544 in 2014) and a per capita income of \$45,270 (up from \$29,195 in 2014).

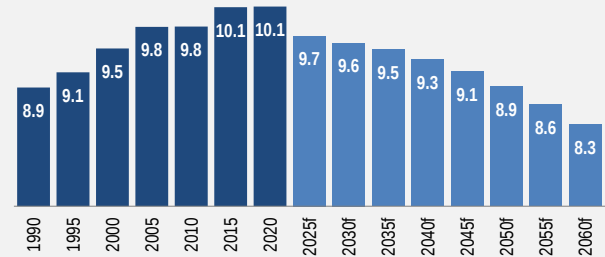
Approximately 14 percent of households in Los Angeles County and 16 percent in the City of Los Angeles lived under the poverty level in 2022, compared to 12 percent of households across the state. This compares to 17 percent of households in Los Angeles County and 20 percent in the City of Los Angeles that lived under the poverty level in 2014. ❖

2.2 Population

Population dynamics are important to resource allocation and future planning and development in an area. The size of a population, along with its growth and/or decline, will affect an area's standard of living, levels of consumption, environmental footprint, infrastructure needs and much more.

Population has been declining in both the county and the city. In January 2023, the population in Los Angeles County was 9.7 million, a decline of more than 435,000 (-4.3%) from the pre-pandemic population of 10.1 million in 2020. 2022 marked the fourth consecutive year of population decline. The county's share of the state population has decreased from 27.3 percent in 2006 to 24.9 percent in 2022. The California Department of Finance forecasts that the county's population will

continue to decrease, reaching 9.3 million by 2040 and 8.3 million by 2060 (**Exhibit 2-2**). This population decrease can be attributed to a range of factors, including a declining birth rate, rising living costs, and shifts in other economic, cultural, and social dynamics resulting in overall decreases in net immigration.

Exhibit 2-2**Population in Los Angeles County (millions)**

Source: California Department of Finance

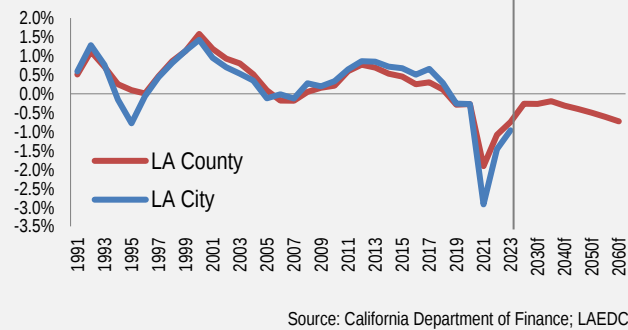
Population Growth

Population growth is determined by expected net migration and the birth and death rates of the current population. Knowing how a population is projected to grow can help to determine what an area will require in the future in terms of products and services, and the labor resources the region will provide to industry.

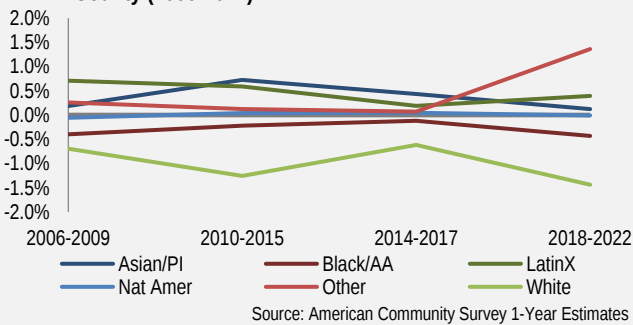
As of January 2023, the total population of Los Angeles County was 9,761,000, representing a 0.7 percent decrease from the previous year and marking the fourth consecutive year of population decline. While the county continues to be the most populous within the state, and nation, its share of the state population has decreased from 27.3 percent to 24.9 percent.

While the population growth in the region and state has generally slowed due to both pandemic impacts and more longstanding trends, Los Angeles County's decrease is somewhat more pronounced. The county's population decrease can be attributed to a range of factors including a decline in foreign immigration, a declining birth rate, and high living costs compared to other areas resulting in domestic out-migration.

Since 1990, the population in the county grew significantly; however, population peaked in 2018 with nearly 10.2 million residents. From 1990 to 2018, the population grew at an average annual growth rate of 0.5 percent per year. From 2019 through 2023, the population declined at an average annual rate of -0.9 percent. (**Exhibit 2-3**). The county's current annual growth rate from last year is approximately -0.7 percent.

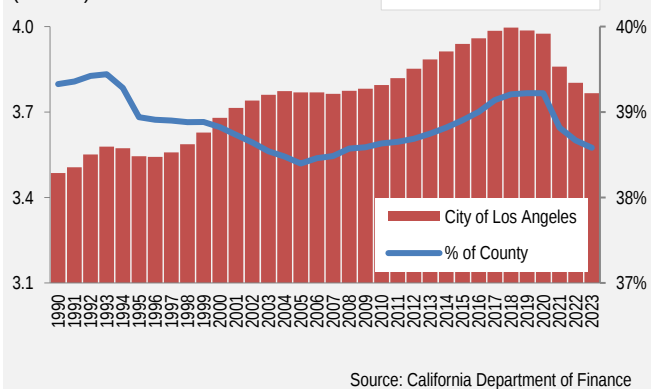
Exhibit 2-3**Population in LA County and LA City
Annual Growth Rates**

Additionally, there have been significant variations in population trends among different racial and ethnic groups (**Exhibit 2-4**). Over the period from 2006 to 2022, both the Black/African American and White populations experienced declines of over 10 percent, whereas the

Exhibit 2-4**Change in Share of Population by Race/Ethnicity
in LA County (2006-2022)**

Asian and Hispanic/Latino populations grew by approximately 7.0 percent and 2.6 percent, respectively.

The population in the City of Los Angeles has also declined in recent years after a prolonged period of growth that lasted from 1990 through 2018. Just under 511,000 residents were added, an increase of 14.7 percent between 1990 and 2018, an average annual growth rate of 0.5 percent (**Exhibit 2-5**). At its high point in 2018, the City of Los Angeles had 3,996,000 residents. Since 2018, however, the city lost 230,000 residents, representing a 5.8 percent decrease or an annual average decline of -1.2 percent. Similar to the county, the decrease in the city's population is attributable to multiple factors including the pandemic, a decline in foreign immigration, a declining birth rate, and increased out-migration.

Exhibit 2-5**Population in City of Los Angeles
(millions)**

As of January 1, 2023, the City of Los Angeles had 3.77 million residents, reflecting a decrease of -1.0 percent from the previous year. The city's residents accounted for 38.6 percent of the 9.76 million residents countywide.

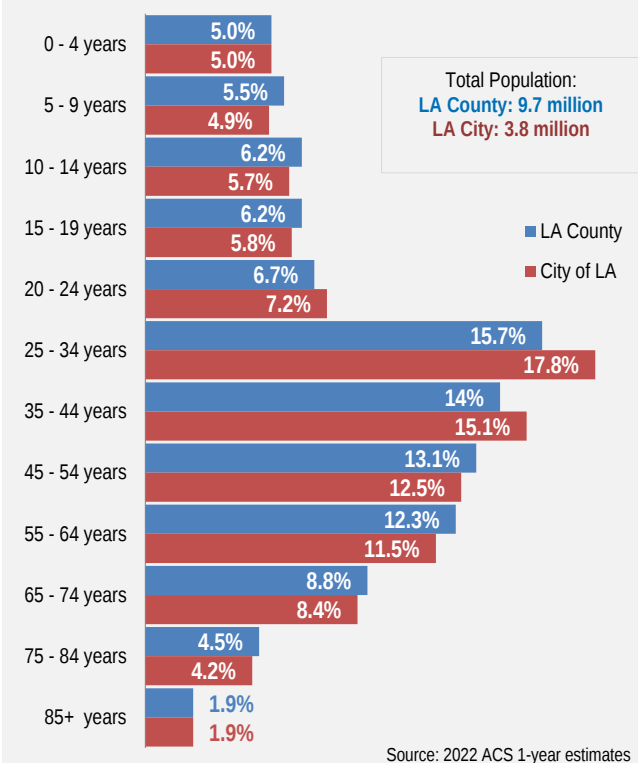
Age Distribution

The age distribution of the population offers insights into future labor force dynamics and evolving needs in areas such as housing, education, healthcare, and other social services.

Age distribution is one way to determine whether the population within an area is expected to grow, excluding all other factors. A large number of children in an area indicates an expected increase in population, while small numbers signify an expected decline. It is also one way of determining whether the population of an area is aging, which will affect the future needs of the area in terms of replacement workforce and provision of services.

The age distribution in the City and the County of Los Angeles are similar. In both the City of Los Angeles and Los Angeles County overall, about 70 percent of the resident population is of working age (from 15 to 65 years of age). Seniors (those aged 65 years and over) account for approximately 15 percent of the population (**Exhibit 2-6**).

The population in the City of Los Angeles and Los Angeles County as a whole is expected to continue to age as the share of residents aged 65 years and older increases by 2030. This has implications for the ability of the workforce to fill local jobs, especially those jobs requiring a higher level of manual labor.

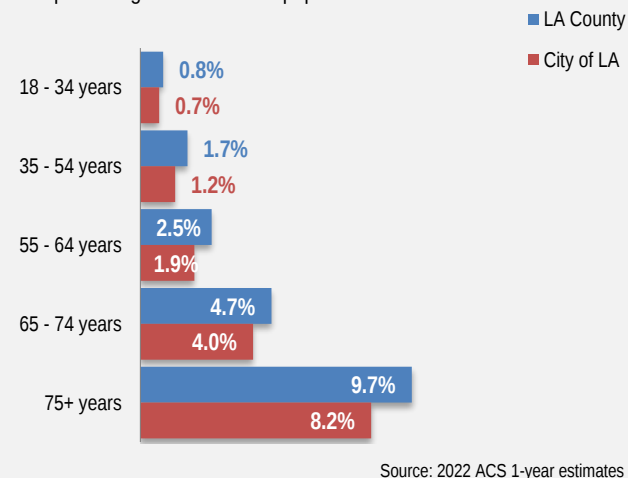
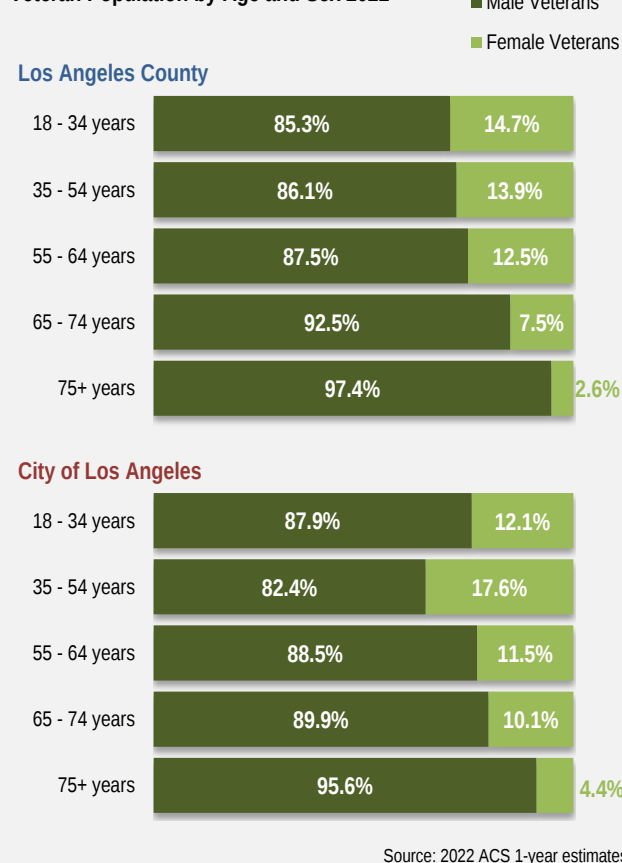
Exhibit 2-6**Age Distribution of Population 2022****Veteran Population**

Demographic characteristics for veterans differ by sex and by age. For example, female veterans tend to be younger, while male veterans tend to be older.

As of 2022, there are 60,704 veterans living in the City of Los Angeles, and an additional 138,956 veterans reside in other parts of Los Angeles County. This results in a total of 194,745 veterans living countywide.

Exhibit 2-7 shows the veteran population ages 18 years and older as a share of the population of the same age in Los Angeles County and the City of Los Angeles. Not surprisingly, veterans make up only a small portion of the population younger than 55; in the county, only 0.8 percent of the population aged 18 to 34 years (0.7 percent in the city) and 1.7 percent of the population aged 35 to 54 years (1.2 percent) are veterans. The biggest concentration of veterans is in the population aged 75 years and older, where 9.7 percent of these residents in the county and 8.2 percent in the city are veterans.

Exhibit 2-8 shows the gender distribution for the veteran population ages 18 years and older by age group in Los Angeles County and the City of Los Angeles in 2014.

Exhibit 2-7**Veteran Population by Age Group 2022**
As a percentage of total cohort population**Exhibit 2-8****Veteran Population by Age and Sex 2022**

Of all veterans living in Los Angeles County, 91 percent are male. The share of male veterans is similar within the boundaries of the City of Los Angeles with 90 percent. The share of male veterans significantly exceeds those of female veterans across all age groups. However, younger

age groups have a larger share of female veterans compared to older age groups as female participation in the armed forces has increased over time. ❖

2.4 Race, Ethnicity and Language Capability

Ethnicity and race are two distinct classifications. There are several characteristics that may be more likely to be common to a population within the same race and ethnicity, including language, educational attainment, unemployment, size of household, and other cultural, economic, and social characteristics. As such, we identify both classifications for the resident population of Los Angeles County and the City of Los Angeles.

Race is a social definition used in the U.S. as a means of self-identification. This social construct of race does not incorporate biology, anthropology, or genetics into its definition. There are seven racial categories used by the Census: White, Black or African-American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Two or More Races, and Some Other Race.

Ethnicity is a shared cultural identity related to origin and considers such things as heritage, lineage, nationality, and ancestral country of birth. Individuals who identify as being of Hispanic origin can self-identify as any race.

Here we incorporate both race and ethnicity together into a single chart by grouping all individuals indicating they are of Hispanic or Latino origin, regardless of their racial identification, and include that together with the racial composition of individuals that do not identify as of Hispanic or Latino origin.

The population in Los Angeles County in 2022 is both ethnically and racially diverse. The share of the residents who reported to be of Hispanic origin is 49.0 percent while 24.5 percent reported to be white (**Exhibit 2-9**). In the City of Los Angeles, 47.8 percent of residents reported to be of Hispanic origin and 28.0 percent reported to be white.

Exhibit 2-10 displays the race and ethnicity distribution within each age group in 2021 in Los Angeles County and the City of Los Angeles. These are quite similar, with a larger proportion of residents identifying as of Hispanic or Latino background in the younger cohorts.

Exhibit 2-9
Race and Ethnicity 2022

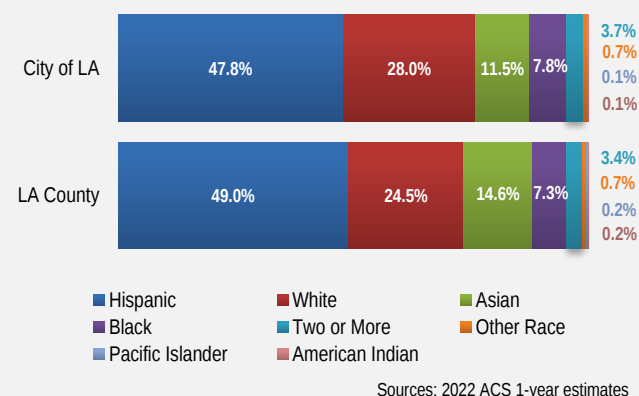
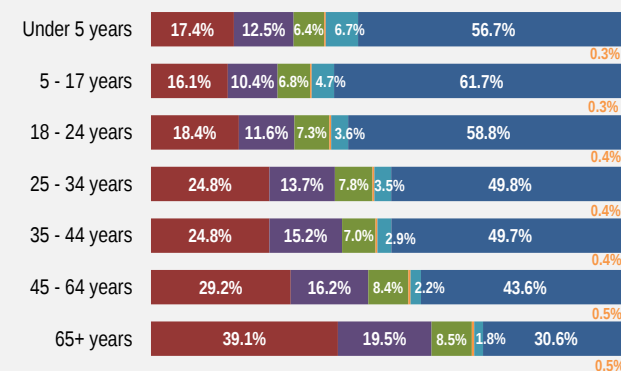
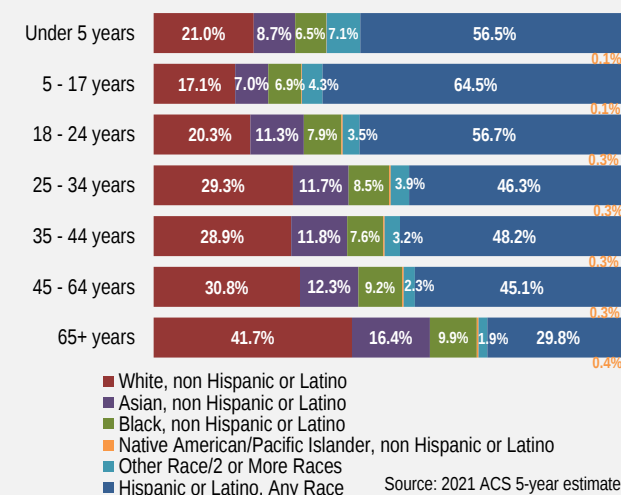


Exhibit 2-10
Age Distribution by Race/ Ethnicity
Los Angeles County 2021



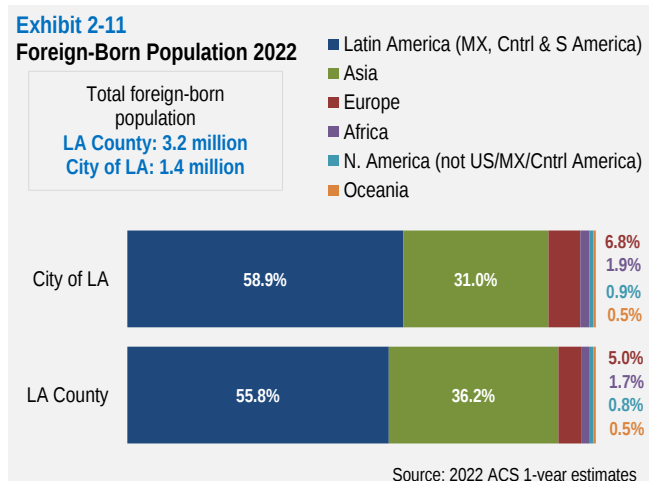
City of Los Angeles 2021



Foreign Born Population

Los Angeles County is home to just over 3.2 million immigrants from around the world, and hosts the largest communities of expatriates of several nations; the City of Los Angeles alone accounts for 44 percent of the foreign-born population in the County with nearly 1.4 million foreign-born residents.

Nearly 60 percent of the foreign-born population originates from Latin America, which includes Mexico, Central America (including El Salvador, Guatemala, Honduras, Nicaragua, Belize, Costa Rica, Panama, and the Dominican Republic) and all of South America (**Exhibit 2-11**).



Approximately one third of the foreign-born population comes from eastern and southeastern Asia (including the countries of China, Korea, Japan, Philippines, Vietnam and Cambodia). The remaining foreign-born population, roughly 10 percent, comes from the rest of the world, including Africa, Europe and Canada.

Language Ability

Language ability is an important aspect of employment and economic participation. Over half of the population in Los Angeles County (or 55 percent) and the City of Los Angeles (or 56 percent) speaks a language other than English at home, with Spanish being the most common language, spoken by 38 percent and 39 percent of the population in the county and city respectively (**Exhibit 2-12**). Just 45 percent of residents speak only English at home in Los Angeles County, while that share is only 44 in the City of Los Angeles.

English-speaking capability is highly-variable among different nationalities. **Exhibit 2-13** shows the

population of both Los Angeles County and the City of Los Angeles in homes where languages other than English are spoken, along with the share of those residents who speak English less than well.

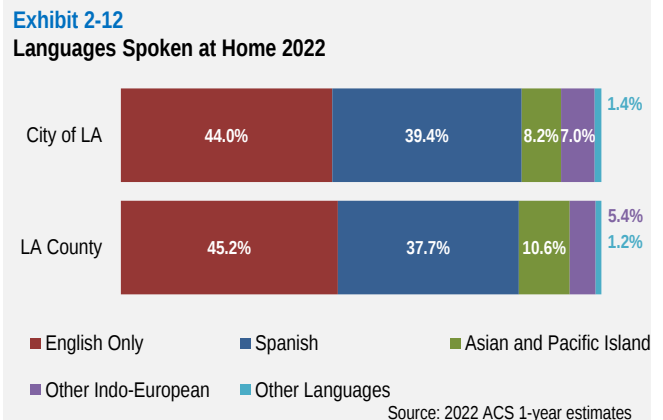


Exhibit 2-13
Languages Other than English Spoken at Home 2022

Language Spoken at Home	LA County		City of LA	
	Total Population (000)	Speak English Less Than Well (%)	Total Population (000)	Speak English Less Than Well (%)
Spanish	3,480.6	15.9%	1,431.4	18.4%
Other Indo-European	497.8	5.4%	254.2	7.0%
Asian and Pacific	975.1	10.6%	297.2	8.2%
All other non-English	110.2	1.2%	52.1	1.4%
LA County Total	5,063.6	23.5%	2,034.9	25.2%

Source: 2022 ACS 1-year estimates

Of the 5.1 million residents of Los Angeles County that speak languages other than English at home, approximately 24 percent speak English less than well, while 25 percent of the 2.0 million residents in the city who speak languages other than English speak English less than well. This implies that of all Los Angeles County residents, a little over 12 percent speak English less than well—slightly lower than the 13 percent share in the city.

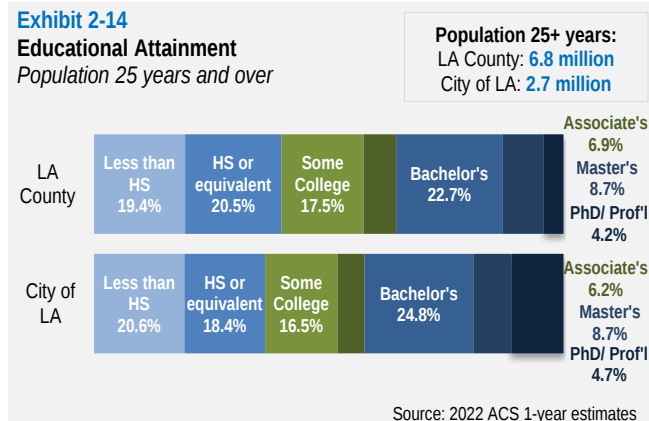


2.5 Educational Attainment and Economic Opportunity

Educational attainment is defined as the highest level of education that an individual has achieved. Knowing the educational attainment of the population within a specific area can provide insight into a variety of factors about the area. Areas with high rates of low educational attainment usually face challenges such as higher rates of unemployment and poverty and will therefore use higher levels of public services and resources.

Additionally, areas with high levels of educational attainment may be sought out by businesses during their site selection process if they require highly educated and high-skilled workers. Understanding the gap between workforce needs and resident capabilities can provide insight into the need for training programs and workforce development initiatives.

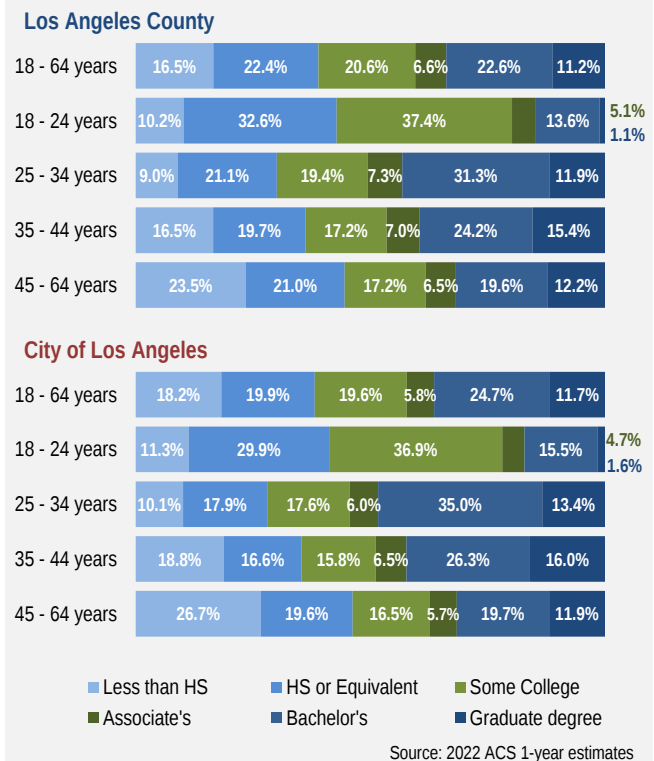
The population of residents aged 25 years and older in Los Angeles County numbered 6.8 million in 2022, and 2.7 million in the City of Los Angeles. Almost 20 percent of county residents in this age group have not earned a high school diploma (or equivalent) while almost 21 percent have graduated high school but have no other education (**Exhibit 2-14**). Nearly 36 percent of county residents have a bachelor's degree or higher. The distribution of educational attainment in the City of Los Angeles is quite similar.



The distribution of educational attainment across various age groups also provides valuable information about composition of each level of educational attainment in regard to age in Los Angeles County and the City of Los Angeles. **Exhibit 2-15** shows the distribution of educational attainment levels for the residents ages 18 and over of both geographies broken out into five age groups.

The cohort of residents aged 18 to 24 years are still highly involved in the educational system, with 37.4 percent of county residents in this age group having attained some college education. Completion of a bachelor's degree program was attained by 31.3 percent of those aged 25 to 34 years, while older age groups show lower levels of educational attainment. This implies that the resident population is attaining higher levels of education than in the past.

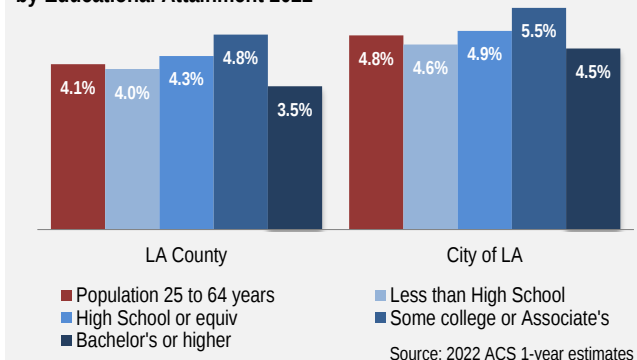
Exhibit 2-15
Educational Attainment by Age Group 2022



One might expect unemployment to be highly correlated with educational attainment, however that is not the case in Los Angeles County and the City of Los Angeles.

Overall, the unemployment rate for individuals aged 25 to 64 years was 4.1 percent in the county (4.8 in the city) in 2022. The rates of those with low levels of educational attainment are comparable to the overall rate, with those with a high school diploma or equivalent doing slightly better (**Exhibit 2-16**).

Exhibit 2-16
Civilian Unemployment Rate by Educational Attainment 2022

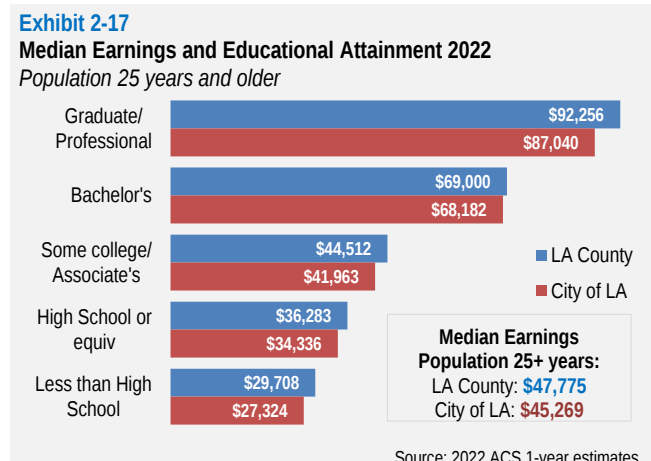




Residents with some college or an associate degree experienced a higher unemployment rate of 4.8 percent in the County (5.5 percent in the City). Those with a bachelor's degree or higher fared best with an unemployment rate of 3.5 percent in the County (4.5 percent in the City) in 2022.

That being said, higher levels of educational attainment are highly correlated with higher earnings.

Exhibit 2-17 shows that workers in the county aged 25 years and older with a graduate or professional degree earn an annual wage premium of more than \$62,000 over those with less than a high school education (almost \$60,000 in the city).

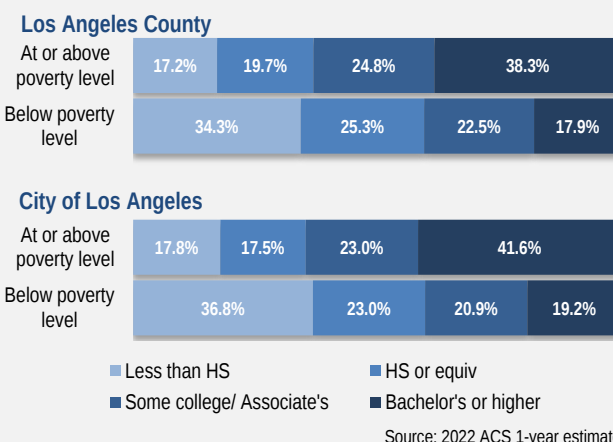


The rates of unemployment and lower annual median earnings combine to yield higher levels of poverty for those with lower levels of educational attainment (**Exhibit 2-18**).

Of residents of Los County aged 25 years and older whose income fell below the poverty level in the previous twelve months, 34.3 percent had less than a high school education. Another 25.3 percent were those with just a high school diploma or equivalent. Together, residents

with a high school diploma or less accounted for 59.6 percent of those whose income fell below the poverty threshold the prior year.

Exhibit 2-18
Poverty Level by Educational Attainment 2022
Population 25 years and older



By contrast, of those whose income was above the poverty line, only about one third had a high school diploma or less.

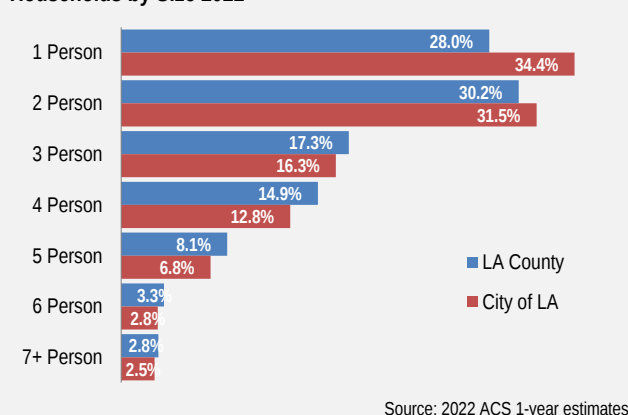
The distribution of educational attainment of those above and below the poverty level is similar in the City of Los Angeles to that in the county. ❖

2.6 Households and Housing

There were 3.4 million households in Los Angeles County in 2022, with an average household size of 2.8 people per household. The City of Los Angeles contained 1.4 million households in 2022, representing approximately 42 percent of the total households in the county. The average household size in the city in 2022 was 2.9 people per household.

The size of households can be an indicator of the standard of living within an area. Often, lower income areas will have a higher share of large sized households as people reside together to share fixed household expenses such as rent.

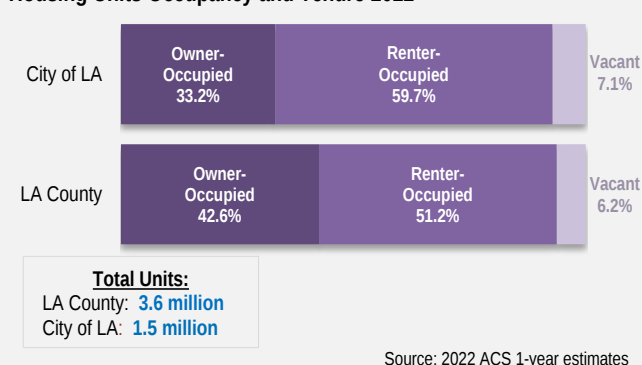
One- and two-person households account for 58 percent of all households in the county and 66 percent in the city (**Exhibit 2-19**). However, the region also has a significant number of larger sized households: 14 percent of all households in the county and 12 percent of households in the city have five or more people.

Exhibit 2-19**Households by Size 2022****Housing**

Housing represents the largest component of a household's budget, and, if owned, is usually the family's most valuable asset.

The tenure and occupancy status of homes, along with their values, provides information on their affordability. Often, higher levels of homeownership lead to neighborhood stability, since there is lower turnover of residents.

In 2022, there were 3.6 million housing units in Los Angeles County, 42 percent of which (1.5 million units) were located in the City of Los Angeles. The occupancy status and tenure of all housing units are shown in **Exhibit 2-20**.

Exhibit 2-20**Housing Units Occupancy and Tenure 2022**

Over half of the housing stock in the county is rental property. There is a lower rate of home ownership in the City of Los Angeles compared to the County as a whole, with only a third of all housing units owner-occupied in the city, compared to 43 percent across all of Los Angeles County. The remaining vacant units account for



approximately seven percent of all housing units in the city and six percent of all housing units countywide.

Median home values are used to compare the price of real estate across different areas and over periods of time. The median is deemed a reliable estimate as it is not affected by the presence of extremely high or low valued transactions, and is therefore used to compare real estate prices across different areas. The median home value in Los Angeles County was \$805,600 in 2022, which was lower than the \$903,700 median in the City of Los Angeles, yet higher than the statewide median of \$715,900.

The conventional housing affordability index, as reported by the California Association of Realtors, reveals that only 17 percent of households in Los Angeles County can afford a median-priced home in 2022 (**Exhibit 2-21**).

Exhibit 2-21**2022 Traditional Housing Affordability Index by Ethnicity**

	All	White	Asian	Hispanic/Latino	Black
Los Angeles	17	25	22	10	9
Orange	14	16	15	8	12
Riverside	28	31	36	24	31
San Bernardino	36	40	48	32	29
Ventura	20	24	31	11	N/A
CA single-family home	21	26	31	12	12
CA Condo/Townhome	30	35	41	20	18
United States	43	46	58	36	28

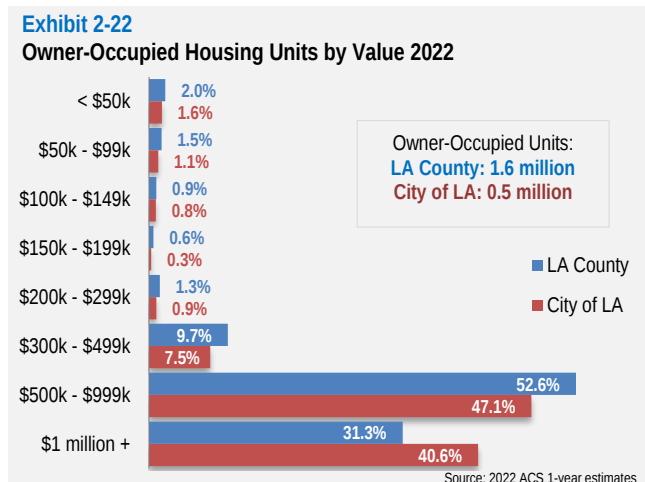
Source: California Association of Realtors (2023)

In Southern California, Los Angeles County ranks the second lowest in terms of housing affordability. Furthermore, there exists a notable disparity in housing affordability across various racial and ethnic groups. In general, Hispanic/Latino and Black households face substantially lower housing affordability when compared to White and Asian households. In Los Angeles, the index stands at 25 and 22 for White and Asian households. On

the other hand, the housing affordability index is 10 and 9 for Hispanic/Latino and Black households, respectively, meaning that only 9-10 percent of these families can afford to purchase a median-priced home.

Owner-Occupied Units

Approximately 1.6 million units in Los Angeles County and 0.5 million units in the City of Los Angeles are owner-occupied. The value of these homes varies from less than \$50,000 to millions of dollars (**Exhibit 2-22**).



Around half of the owner-occupied housing stock, or 53 percent of units and 47 percent of units in the county and city respectively, falls within the price range of \$500,000 to \$999,000. Another 31 percent in the county and 41 percent in the city are valued at \$1 million and above.

Consequently, only 16 percent of units in the county and 12 percent of units in the city are valued below \$500,000. Housing units valued below \$300,000 account for only seven percent of total housing stock in Los Angeles County, and only five percent in the City of Los Angeles.

Renter-Occupied Units

About 1.8 million housing units in Los Angeles County and 0.9 million housing units in the City of Los Angeles are occupied by renters (**Exhibit 2-23**). The median gross rent of occupied housing units paying rent in Los Angeles County and the City of Los Angeles in 2022 was \$1,805 per month and \$1,788 per month, respectively.

As shown in the following section, money spent on housing is typically the largest expenditure made in a household budget, on average comprising more than one-third of household expenditures. A common guideline is that housing account for only about 30 percent of the total

Exhibit 2-23
Median Gross Rent 2022

Occupied Units Paying Rent
LA County: 1.8 million
City of LA: 0.9 million



Source: 2022 ACS 1-year estimates

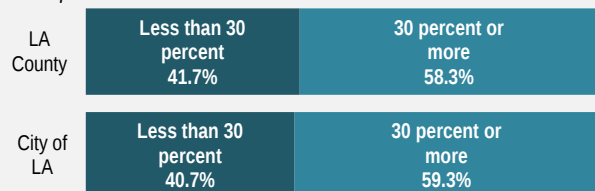
household budget to assure affordability, leaving the remaining 70 percent available for other personal and household expenses.

Residents in the county and city appear to have a difficult time adhering to this guideline. In both the city and the county, only slightly more than 40 percent of occupied units paying rent in 2022 paid rent that equaled less than 30 percent of their income, while roughly 60 percent paid a higher percentage of household income on rent (**Exhibit 2-24**).

Exhibit 2-24
Gross Rent as a Share of Household Income 2022

Occupied Units Paying Rent
LA County: 1.8 million
City of LA: 0.9 million

In the past 12 months

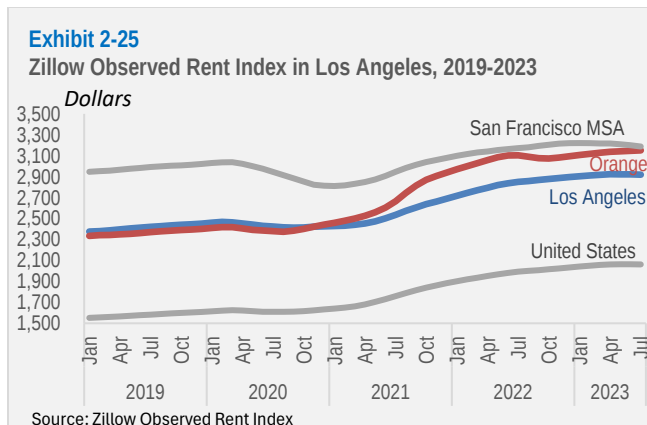


Source: 2022 ACS 1-year estimates

This can be interpreted as a high cost of living relative to other areas, or, alternatively, as a large portion of the resident population with lower annual earnings.

Rent prices also have a significant impact on residents of Los Angeles County, especially considering that more than 53 percent of the county's more than 3.6 million housing units were rentals in 2022. In the City of Los Angeles, this rate is even higher, at approximately 63 percent. High rent prices result in more than 55 percent of renter households being rent burdened, spending 30 percent or more of their household income on rent. In addition, close to one third of the renter households pay 50 percent or more of their income on rent.

In 2019, the rent price for Los Angeles County trended upwards until 2020. At that time there was a downturn during the early stages of the COVID-19 pandemic, driven by economic uncertainties and temporary renter protections (**Exhibit 2-25**).



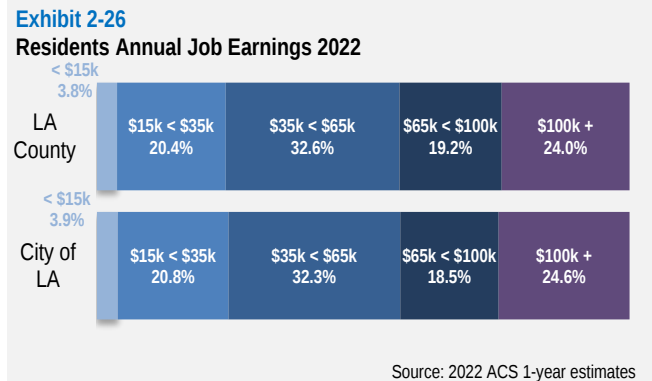
The trend began a rapid ascent around mid-2021, with a 3.5 percent annual change in rent prices from July 2021 to July 2022, indicating a surging demand for rentals in the county. Nevertheless, as of the beginning of 2023, the rate of increase has tapered off. The median rent price remained relatively steady between January and June 2023, with minor fluctuations. This slowdown in rent price growth may be attributed to factors such as a growing housing supply and ongoing affordability challenges in the region. ❖

2.7 Income and Poverty

For many, earnings from employment represent the most significant portion of all income. Job-related earnings provide insight into the population's standard of living. This is an indicator of the earning potential of the residents, as differentiated from household income which aggregates the overall income (including non-job-related incomes) for all members of the household. It can help identify areas that may need targeted services or programs.

Detailed (individual) information for job-related earnings is not available in order to protect confidentiality; however, aggregated data is available. **Exhibit 2-26** shows the job-related earnings for working residents in Los Angeles County and in the City of Los Angeles for 2022. Note that these are earnings from jobs regardless of where the jobs are located.

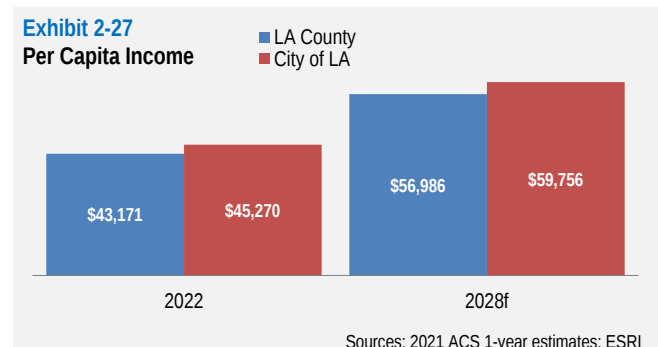
Approximately 43 percent of working residents in Los Angeles County earn more than \$65,000 per year. The majority of working residents earn between \$15,000 and \$65,000 annually. Residents earning between \$15,000 and \$35,000 and between \$35,000 and \$65,000 account for 20 percent and 33 percent respectively. Residents who earned less than \$15,000 per year represented close to four percent of the total.



In the City of Los Angeles, the numbers are similar. About 43 percent of working residents earn more than \$65,000 per year and residents who earned less than \$15,000 per year represented a little less than four percent of the total. As at the county level, the majority of working residents of the city earn between \$15,000 and \$65,000 annually. Working residents earning \$100,000 or more annually account for almost 25 percent of all employed residents in both geographies.

Per capita income is the aggregation of all sources of income within an area (including job earnings, transfer payments and other sources of income) divided by the total population, resulting in the average income per person.

Per capita income in the City of Los Angeles is estimated at \$45,270 in 2022, while countywide it is slightly lower at \$43,171 (**Exhibit 2-27**). The projected change from 2022 to 2028 is expected to be 32.2 percent, raising nominal per capita income to \$59,756 and \$56,986 respectively by 2028.



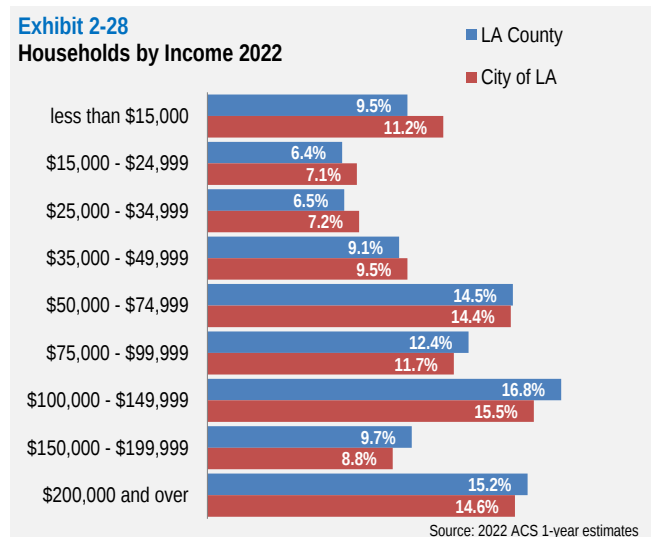
Median household income is the midpoint value of all household income levels within an area, dividing them into two equal groups. Where average income figures can be skewed by the presence of a few extremely high or low values, the median income figure is not, and therefore is viewed as more representative of an area's income. Median household income in Los Angeles County in 2022

was estimated to be \$82,516 while in the City of Los Angeles it was slightly lower with \$76,135.

Almost one third (32 percent) of households in Los Angeles County earn less than \$50,000 per year, and nearly 25 percent earn over \$150,000 per year (**Exhibit 2-28**). In the City of Los Angeles, 35 percent of households earn less than \$50,000 per year, and 23 percent earn over \$150,000 per year.

Household expenditures are related to household incomes, not only in magnitude but also in composition. Households with lower incomes tend to spend a larger percentage on necessities such as food and rent and have less disposable income for luxury items such as travel and leisure activities, especially relevant for regions with much higher average household incomes.

Exhibit 2-28
Households by Income 2022



In 2021-2022, household expenditures in the Los Angeles Metropolitan Statistical Area, which includes Los Angeles County, averaged \$77,024.

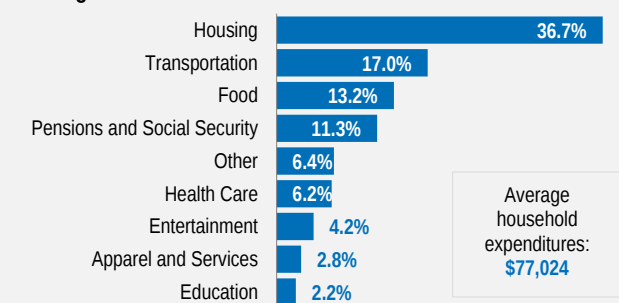
Exhibit 2-29 displays a breakdown of these expenditures by broad category. (This data is not available at the city level.)

As noted above, on average, nearly 37 percent of household expenditures were allocated to housing, with another 17.0 percent paid towards transportation and 13.1 percent for food. The category “Other” includes personal care products, insurance, apparel, and other services not previously listed.

Poverty Status

Poverty is a relative measure of income inequality. The poverty status of an individual, household or family is

Exhibit 2-29
Household Budget Expenditures
Los Angeles MSA 2021-22



Sources: BLS, 2021-22 CES; LAEDC

determined using a set of thresholds established by the Census Bureau, typically a level of income proportional to the area's median and incorporating the number of individuals in the unit being measured (i.e. household, family). The established thresholds do not vary geographically. They are revised annually to reflect changes in inflation.

Those who live below poverty level face additional challenges as they lack the resources necessary to maintain a certain quality of life; they do not have the same choices and options in regards to nutrition, health care, housing, education, safety, transportation, and such.

There are several ways to look at poverty, including poverty in households, individual poverty, and poverty in families.

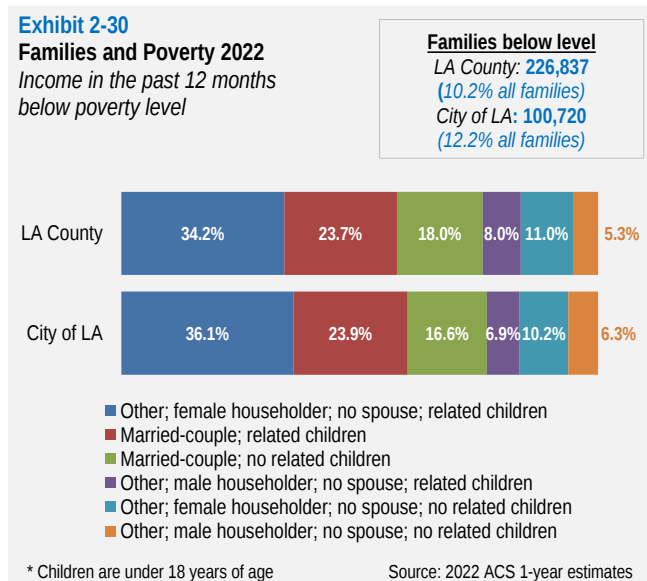
It was noted above that of the 3.4 million households in LA County, 1.4 million of which were located in the City of Los Angeles, the share of those households whose income fell below the poverty level within the prior twelve months were 14.1 percent and 16.4 percent respectively.

Families and Poverty

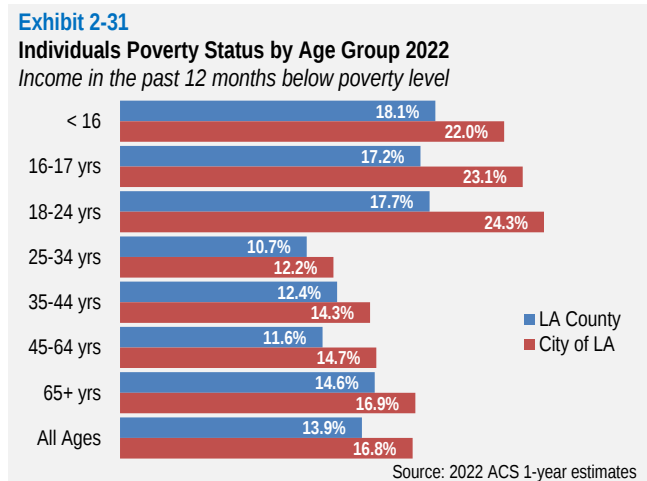
Poverty for families takes into account the number of people in a family unit and the total income that that unit earns. A family unit consists of two or more people living in the same housing unit that are related by birth, marriage, or adoption. This is distinct from households in that households include all persons living in a housing unit regardless of relatedness.

Of the 2.22 million families in Los Angeles County in 2022, approximately 226,800 have had their incomes fall below the poverty level in the 12 months prior; in the City of Los Angeles 100,700 of the almost 826,000 total families had their incomes fall below the poverty level within the prior year.

Exhibit 2-30 shows the distribution by family type of those whose income has fallen below the poverty level in Los Angeles County and the City of Los Angeles.



Of all families living below the poverty level, single mothers with children under the age of 18 years head the largest segment, with 36 percent in the city and 34 percent in the county as a whole. Families headed by a married couple account for 41 percent and 42 percent of



2.8 Population Aged 16 to 24 Years

As new entrants into the job market, the population aged 16 to 24 years may lack knowledge on what is required to be successful in their job search, they may lack workforce experience in general, and they may lack skills that are easily obtained through training that can increase employment opportunities.

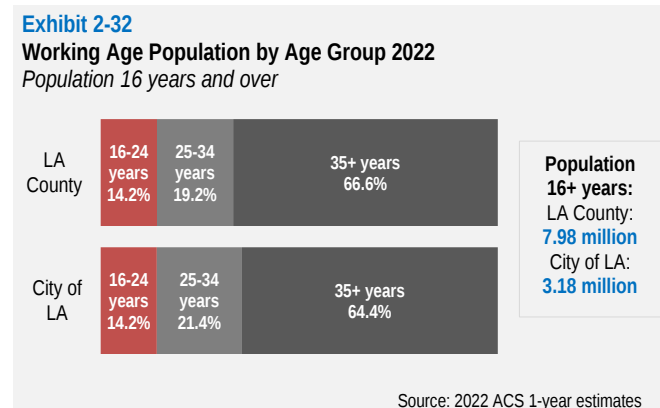
all families living under the poverty level in the city and county, respectively, the majority of whom have children under the age of 18 years. Single father families with related children under the age of 18 years account for eight percent of less of all families whose income has fallen below poverty level in the previous year.

Poverty of Individuals

If a family's total income is under the dollar value of the appropriate poverty threshold, then all individual members of that family are considered to be in poverty. If the total income of an individual or unrelated persons living in a household falls below the value of the threshold, all of those individuals are also considered to be in poverty. The total number of individuals living below the poverty level is the sum of people in families and the number of unrelated individuals with incomes in the prior year below the threshold. This is the basis of the individual poverty rate.

The individual poverty rate varies by age group (**Exhibit 2-31**). The individual poverty rate for all age groups is higher in the City of Los Angeles than in the county as a whole. In both geographies, the highest individual poverty rates are visible in the youngest age groups: under 16 years, 16 to 17 years, and 18 to 24 years. Each has a rate of at least 22 percent of its cohort. ❖

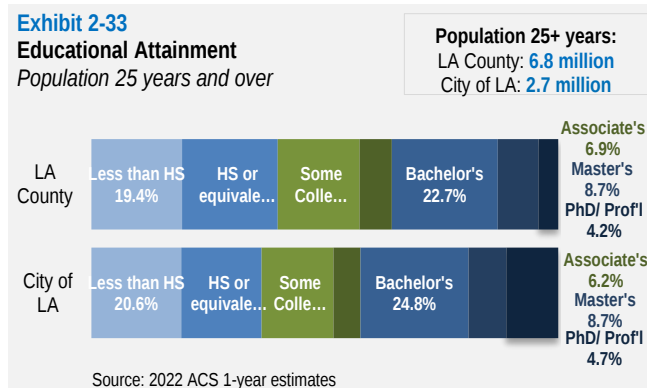
A significant portion of the working aged population in the City of Los Angeles and the County of Los Angeles as a whole are young working-aged individuals between the ages of 16 years to 24 years. They represent 14.2 percent of the total working aged population of 16 years and older in both the city and the county (**Exhibit 2-32**).



Educational Attainment and Enrollment

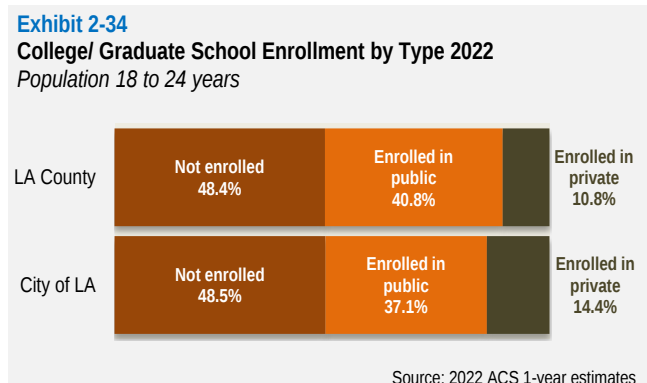
The educational attainment for the population ages 16 to 24 years are predominantly low levels as individuals are still in the process of completing their education, whether

that be secondary school or postsecondary education (**Exhibit 2-33**). Individuals aged 16 to 17 years are most likely still in the process of completing their high school education. The most predominant level of educational attainment in the 16 to 24 years of age group was some college or associate degree, with its share in the city and the county both at 42 percent.



Young adults ages 18 to 22 are typically in the process of obtaining their college degree, therefore, it is reasonable to assume that there would be a low representation of higher levels of educational attainment in the population for which it is being examined here (ages 18 to 24 years). Only 17.2 percent of this cohort in 2022 had the education level of a bachelor's degree or higher in the City of Los Angeles and 14.7 percent in Los Angeles County as a whole.

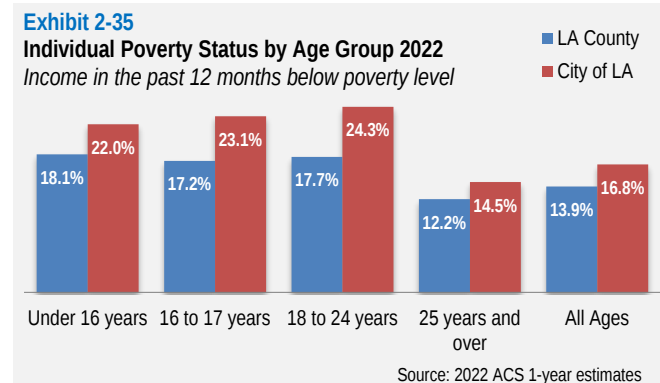
Exhibit 2-34 shows the percentage of the population aged 18 to 24 years that were enrolled in school at a college, university or graduate school in 2022 in the City of Los Angeles and the County as a whole.



Approximately half of this cohort is currently enrolled in school and in the process of obtaining a higher level of education in both geographies.

Poverty Status

As seen above, lower levels of educational attainment are associated with low earnings and increased rates of poverty. This applies to this younger cohort as well (**Exhibit 2-35**).



The share of individuals whose income has fallen below the poverty threshold in the previous twelve months is higher among children and young working age adults in both the City of Los Angeles and Los Angeles County as a whole. Individual poverty rates equal or exceed 22 percent in all three of the youngest age groups in the city and more than 17 percent of all individuals in these respective age groups have fallen below the poverty level in the county. The poverty rate in every age group is slightly higher in the City of Los Angeles compared to the rates countywide.

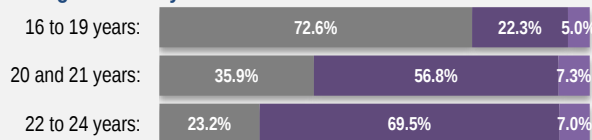
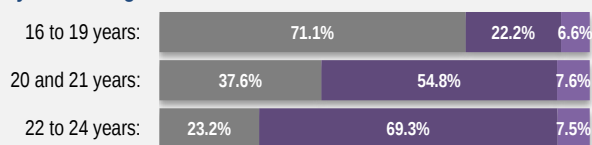
Poverty rates decline as the population gets older; more of these individuals have completed their education and have entered the workforce full-time.

Labor Force

Labor force participation for those aged 16 to 24 years varies greatly according to their age (**Exhibit 2-36**). Many younger individuals, ages 16 to 19 years, have not completed high school and thus they are classified as not in labor force since fewer are seeking employment opportunities. The population aged 22 to 24 years has the highest share of employed in this population subset (ages 16 to 24 years), as many of these individuals have completed high school and the first levels of their postsecondary education and have entered into the workforce.

The youngest of this population subset has the highest unemployment rate in both the city and the county, most likely attributable to the large portion of these individuals (about three fourths of the cohort) classified as not in labor force. Unemployment rates decline significantly in

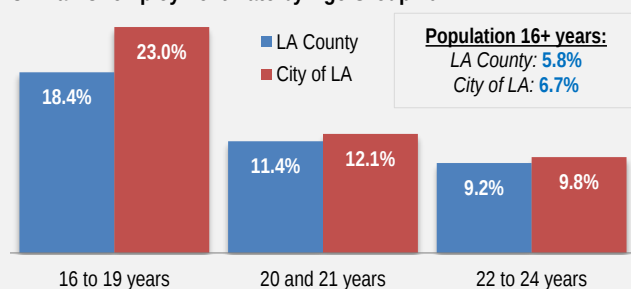
the next two groups, ages 20 to 21 years and ages 22 to 24 years, as more of these individuals who have completed their education are entering the workforce.

Exhibit 2-36**Labor Force Statistics by Age Group 2022****Los Angeles County****City of Los Angeles**

■ Not in Labor Force ■ Civilian Employed ■ Unemployed

Source: 2022 ACS 1-year estimates

The civilian unemployment rate is the ratio of individuals classified as unemployed to the civilian labor force. The civilian unemployment rate in 2022 by age group for this population subset (ages 16 to 24 years) is displayed in **Exhibit 2-37**. ❖

Exhibit 2-37**Civilian Unemployment Rate by Age Group 2022**

Source: 2022 ACS 1-year estimates



3 CHARACTERISTICS OF SELECT GROUPS

Disaggregating socioeconomic data for special groups helps to identify and further understand their unique characteristics and experiences. Data broken down and analyzed by race, ethnicity, gender, disability, income, veteran status, age, or other key demographic variables offers more precise information of a population's well-being and insight into underserved and underrepresented communities.

In this section we take a closer look at the following select groups:

- ▶ Women
- ▶ Hispanic / Latinx
- ▶ Asian / Pacific Islander
- ▶ Black/ African American
- ▶ American Indian / Alaska Native
- ▶ Individuals with Disabilities
- ▶ Youth (under 18 years) with Disability
- ▶ Older Individuals (55 years and over)
- ▶ Youth, Ages 16 to 24 Years
- ▶ Individuals with Limited English Proficiency
- ▶ Single Parent

Key Findings for this Section

Across the snapshots of ten select groups identified in this section, the top three key findings for each are presented.

Women:

- About 20% are juveniles (<18 years) and 15% are seniors (65+ years) in both the city and the county.
- Have a higher rate of poverty in the City of Los Angeles (18.1%) compared to the county (15.0%).
- More work in production, transportation and material moving occupations in LA City (18.3% of working women) compared to the county (7.2%).

Hispanic/Latinx

- Average household income is over 8% lower in the City of Los Angeles (\$80,693) compared to the county (\$87,445).
- Have a higher rate of poverty in the City of Los Angeles (20.4%) compared to the county (16.7%).
- More work in natural resources, construction, and maintenance occupations in LA City (20.0%) compared to the county (16.2%).

Asian / Pacific Islander

- There is a higher percentage of juvenile population (<18 years) in the county (16.6%) compared to LA City (13.3%).
- Have a higher rate of poverty in the City of Los Angeles (14.1%) compared to the county (11.0%).
- Average household income is more than 6% lower in the City of Los Angeles (\$118,400) compared to the county (\$125,955).

Black / African American

- Average household income is more than 6% lower in the City of Los Angeles (\$82,033) compared to the county (\$87,203).
- There is a higher percentage of juvenile population (<18 years) in the county (19.4%) compared to LA City (17.1%).
- Have a higher rate of poverty in Los Angeles City (24.2%) compared to the county (20.0%).

American Indian/ Alaskan Native

- More work in natural resources, construction and maintenance occupations in LA City (19.0%) compared to the county (15.1%).
- Average household income is nearly 6% lower in the City of Los Angeles (\$88,792) compared to the county (\$94,031).
- The share of population with limited English proficiency is higher in LA City (20.9%) compared to the county (15.6%).

Individuals with Disabilities

- Have a higher rate of poverty in the City of Los Angeles (24.5%) compared to the county (20.3%).
- Average household income is more than 7% lower in the City of Los Angeles (\$75,821) compared to the county (\$81,225).
- More identify as Other Race in the City of Los Angeles (20.3%) compared to the county (17.6%).

Youth (under 18 years) with Disability

- Average household income is nearly 9% lower in the City of Los Angeles (\$83,694) compared to the county (\$91,120).
- More work in sales and office occupations in the county (41.1%) compared to LA City (20.9%).
- More work in the service occupations in the City of Los Angeles (36.4%) compared to the county (22.2%).

Older Individuals (55+ years)

- Have a higher rate of poverty in the City of Los Angeles (15.4%) compared to the county (12.5%).
- More identify as Asian / Pacific Islander in the county (15.8%) compared to the City of Los Angeles (12.6%).
- More identify as White in the City of Los Angeles (27.6%) compared to the county (24.9%).

Youth Ages 16 to 24 Years

- Average household income is more than 9% lower in the City of Los Angeles (\$92,515) compared to the county (\$101,241).

- Have a higher rate of poverty in the City of Los Angeles (20.6%) compared to the county (16.6%).
- More work in management, business, science and arts occupations in LA City (22.5%) compared to the county (19.9%).

Individuals with Limited English Proficiency

- Average household income is more than 8% lower in the City of Los Angeles (\$65,595) compared to the county (\$71,068).
- More work in natural resources, construction and maintenance occupations in LA City (32.8%) compared to the county (27.2%).
- More identify as Hispanic / Latinx in the City of Los Angeles (79.2%) compared to the county (71.8%).

Single Parent

- Have a higher rate of poverty in the City of Los Angeles (35.4%) compared to the county (30.3%).
- More identify as Hispanic / Latinx in the City of Los Angeles (65.9%) compared to the county (63.0%).
- More work in transport, warehousing, and utilities industry in the county (6.5%) compared to the City of Los Angeles (4.9%)



3.1 Women

There are over 5 million women who reside in Los Angeles County, close to 2 million of them reside in the City of Los Angeles.

Exhibit 3-1 through **Exhibit 3-7** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and Los Angeles County as a whole for context.

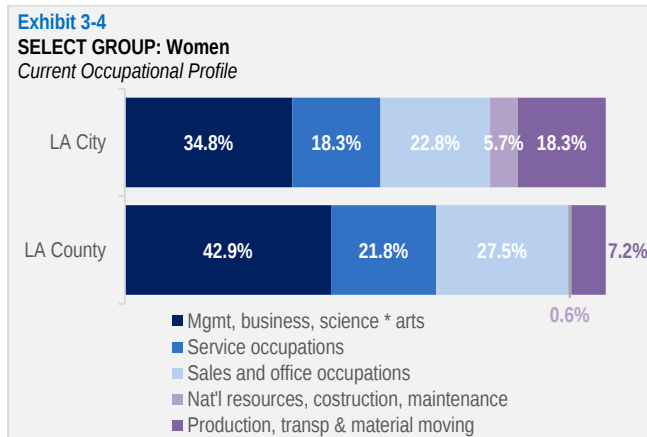
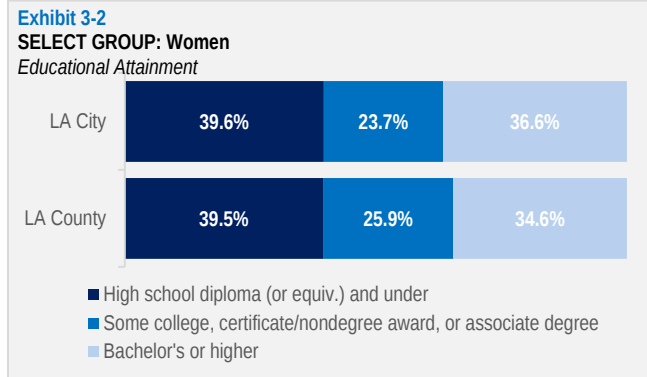


Exhibit 3-6: SELECT GROUP: Women
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.3%	0.3%
Construction	0.9%	1.1%
Manufacturing	5.7%	6.4%
Wholesale Trade	2.1%	2.5%
Retail Trade	10.5%	10.4%
Transport, Warehousing & Utilities	2.7%	3.5%
Information	5.3%	3.7%
Financial Activities	6.2%	6.6%
Professional Business Services	13.8%	12.0%
Education, Health care and Social Assistance	28.6%	32.2%
Leisure and Hospitality	12.6%	10.8%
Other Services (not gov't)	8.2%	6.5%
Government	3.0%	4.0%
Total, All Industries	1,118,500	2,253,600

Exhibit 3-1: SELECT GROUP: Women
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	1,955,430	5,055,907
English not Spoken at Home, English not spoken very well	14.8%	13.2%
Average Household Income	\$106,112	\$108,407
% at or below the Poverty Line	18.1%	15.0%
Labor Force	980,990	2,426,423
Labor force participation rate	60.8%	58.9%
Unemployment rate	7.9%	7.1%
Share of Workers in Target Industries	19.3%	18.3%
Share of Workers in Target Occupations	9.8%	10.8%

Source: US Census Bureau, ACS

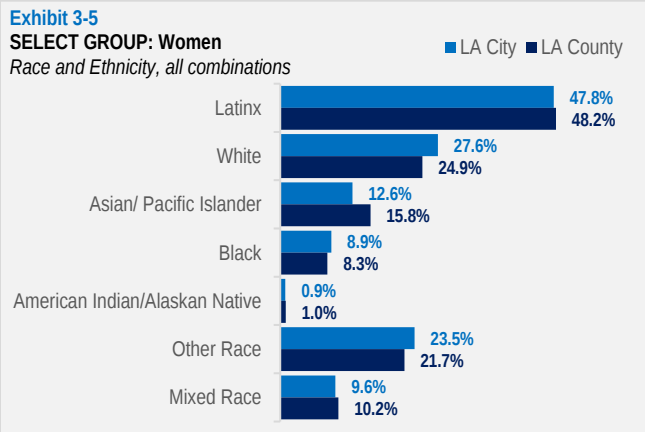
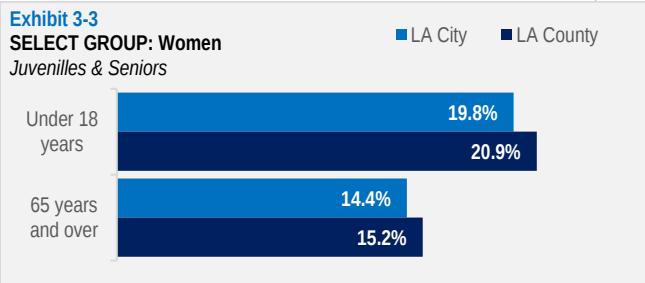


Exhibit 3-7: SELECT GROUP: Women
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	33.0%	32.0%
Some college, certificate/nondegree award, or associate degree (middle-skill)	50.4%	52.6%
Bachelor's degree or above (high skill)	71.8%	71.7%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	8.1%	7.8%
Some college, certificate/nondegree award, or associate degree (middle-skill)	6.4%	5.2%
Bachelor's degree or above (high skill)	5.2%	4.4%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	15.6 hours	15.5 hours
Average hours per week for Connected workers	29.0 hours	28.6 hours

3.2 Hispanic/ Latinx

There are over 4.8 million residents of Los Angeles County who reported their ethnicity as Hispanic/Latino (across all races), close to 1.9 million of them reside in the City of Los Angeles.

Exhibit 3-9 through **Exhibit 3-13** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and Los Angeles County as a whole for context.

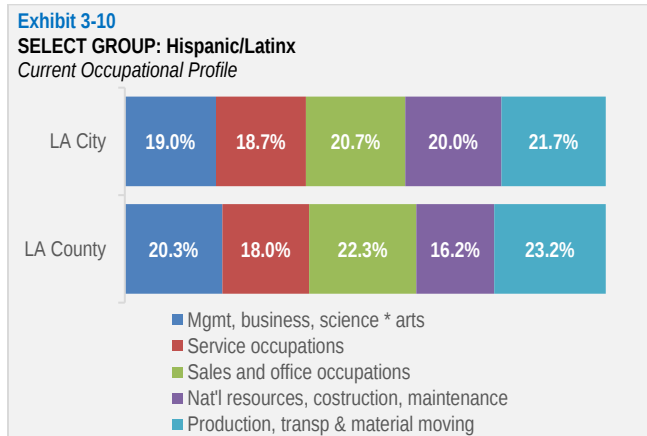
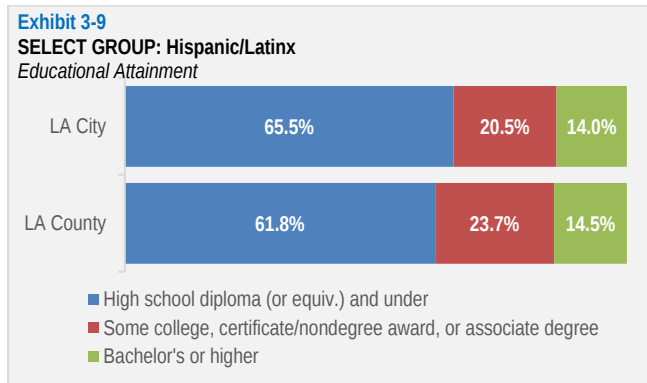


Exhibit 3-12: SELECT GROUP: Hispanic/ Latinx
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.7%	0.7%
Construction	10.2%	8.9%
Manufacturing	9.8%	10.9%
Wholesale Trade	2.9%	3.5%
Retail Trade	11.7%	11.8%
Transport, Warehousing & Utilities	5.8%	7.2%
Information	2.4%	2.0%
Financial Activities	4.0%	4.0%
Professional Business Services	12.1%	11.0%
Education, Health care and Social Assistance	16.1%	17.8%
Leisure and Hospitality	14.0%	12.5%
Other Services (not gov't)	8.1%	6.7%
Government	2.0%	2.8%
Total, All Industries	1,070,000	2,714,300



Exhibit 3-8: SELECT GROUP: Hispanic/ Latinx
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	1,885,630	4,878,619
English not Spoken at Home, English not spoken very well	22.1%	17.7%
Average Household Income	\$80,693	\$87,445
% at or below the Poverty Line	20.4%	16.7%
Labor Force	986,553	2,492,392
Labor force participation rate	68.0%	66.9%
Unemployment rate	7.3%	6.9%
Share of Workers in Target Industries	21.1%	20.1%
Share of Workers in Target Occupations	7.7%	8.6%

Source: US Census Bureau, ACS

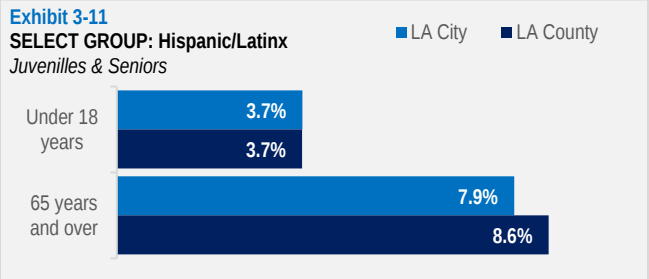


Exhibit 3-13: SELECT GROUP: Hispanic/ Latinx
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	56.3%	55.1%
Some college, certificate/nondegree award, or associate degree (middle-skill)	69.9%	69.9%
Bachelor's degree or above (high skill)	80.2%	80.5%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	11.8%	11.5%
Some college, certificate/nondegree award, or associate degree (middle-skill)	4.1%	3.8%
Bachelor's degree or above (high skill)	7.6%	6.8%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	17.7 hours	17.2 hours
Average hours per week for Connected workers	36.9 hours	37.7 hours

3.3 Asian/ Pacific Islander

There are over 1.5 million residents of Los Angeles County who reported their race as Asian/ Pacific Islander (across all ethnicities), close to 500 thousand of them reside in the City of Los Angeles.

Exhibit 3-14 through **Exhibit 3-19** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and Los Angeles County as a whole for context.

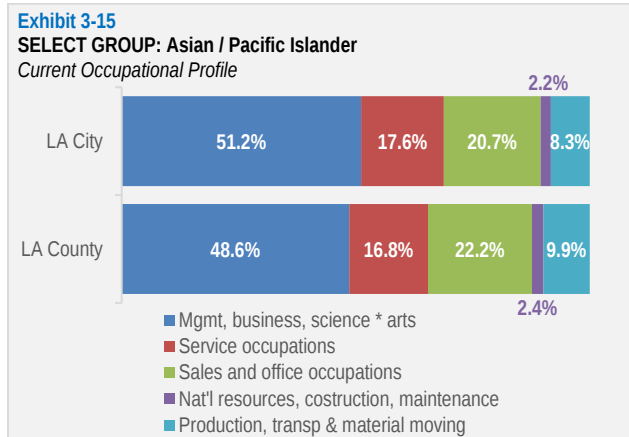
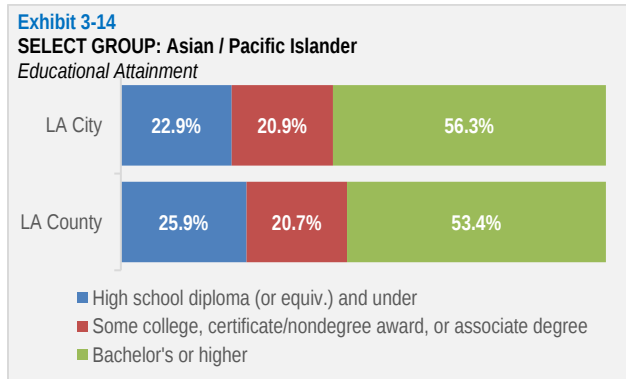


Exhibit 3-16: SELECT GROUP: Asian/ Pacific Islander
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.2%	0.2%
Construction	1.8%	2.3%
Manufacturing	6.9%	9.0%
Wholesale Trade	3.1%	4.3%
Retail Trade	9.2%	9.2%
Transport, Warehousing & Utilities	4.2%	5.7%
Information	4.4%	3.2%
Financial Activities	8.0%	7.6%
Professional Business Services	15.9%	13.7%
Education, Health care and Social Assistance	26.7%	25.1%
Leisure and Hospitality	11.2%	10.5%
Other Services (not gov't)	5.6%	5.5%
Government	2.8%	3.6%
Total, All Industries	295,800	914,000



Exhibit 3-17: SELECT GROUP: Asian/ Pacific Islander
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	462,808	1,502,944
English not Spoken at Home, English not spoken very well	14.6%	16.9%
Average Household Income	\$118,400	\$125,955
% at or below the Poverty Line	14.1%	11.0%
Labor Force	260,755	805,173
Labor force participation rate	63.9%	62.8%
Unemployment rate	5.9%	5.6%
Share of Workers in Target Industries	15.9%	16.0%
Share of Workers in Target Occupations	6.7%	7.6%

Source: US Census Bureau, ACS

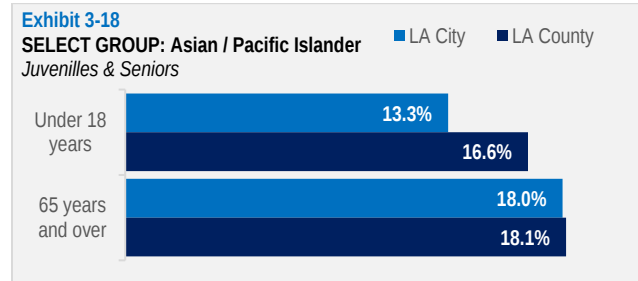


Exhibit 3-19: SELECT GROUP: Asian/ Pacific Islander
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	35.2%	36.8%
Some college, certificate/nondegree award, or associate degree (middle-skill)	55.5%	57.2%
Bachelor's degree or above (high skill)	72.8%	73.0%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	14.5%	13.4%
Some college, certificate/nondegree award, or associate degree (middle-skill)	8.6%	7.8%
Bachelor's degree or above (high skill)	6.2%	5.3%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	14.0	14.7
Average hours per week for Connected workers	37.5	37.2

3.4 Black/ African American

There are nearly 800 thousand residents in Los Angeles County, who reported their race as Black (across all ethnicities), over 330 thousand of them reside in the City of Los Angeles.

Exhibit 3-20 through **Exhibit 3-26** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

Exhibit 3-20

SELECT GROUP: African American / Black
Educational Attainment

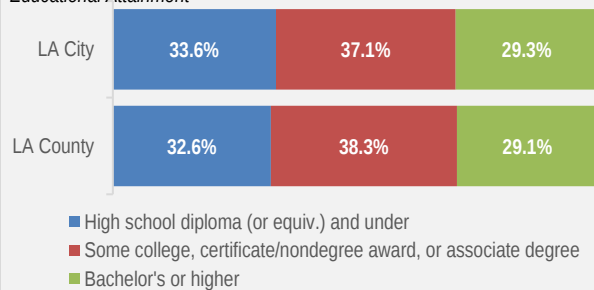


Exhibit 3-21

SELECT GROUP: African American / Black
Current Occupational Profile

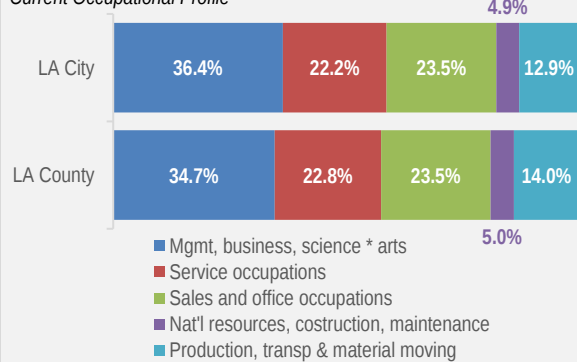


Exhibit 3-22: SELECT GROUP: Black/ African American
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.2%	0.3%
Construction	2.6%	2.7%
Manufacturing	3.3%	4.2%
Wholesale Trade	1.5%	1.5%
Retail Trade	9.5%	9.5%
Transport, Warehousing & Utilities	9.9%	10.6%
Information	5.4%	3.8%
Financial Activities	6.2%	5.8%
Professional Business Services	14.0%	12.9%
Education, Health care and Social Assistance	26.0%	27.9%
Leisure and Hospitality	10.8%	8.9%
Other Services (not gov't)	4.9%	4.7%
Government	5.7%	7.3%
Total, All Industries	199,700	452,300



Exhibit 3-23: SELECT GROUP: Black/ African American
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	336,456	795,213
English not Spoken at Home, English not spoken very well	0.7%	0.6%
Average Household Income	\$82,033	\$87,203
% at or below the Poverty Line	24.2%	20.0%
Labor Force	170,189	396,714
Labor force participation rate	59.5%	60.2%
Unemployment rate	11.5%	10.8%
Share of Workers in Target Industries	21.0%	19.5%
Share of Workers in Target Occupations	9.3%	9.8%

Source: US Census Bureau, ACS

Exhibit 3-24

SELECT GROUP: African American / Black

Juveniles & Seniors

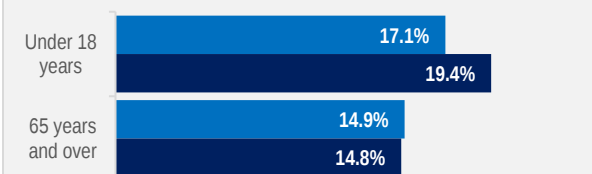


Exhibit 3-25: SELECT GROUP: Black/ African American
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	35.2%	36.8%
Some college, certificate/nondegree award, or associate degree (middle-skill)	55.5%	57.2%
Bachelor's degree or above (high skill)	72.8%	73.0%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	14.5%	13.4%
Some college, certificate/nondegree award, or associate degree (middle-skill)	8.6%	7.8%
Bachelor's degree or above (high skill)	6.2%	5.3%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	17.0	16.5
Average hours per week for Connected workers	37.4	37.6

3.4 American Indian/ Alaskan Native

There are nearly 100 thousand residents in Los Angeles County, who reported their race as American Indian/ Alaskan Native (across all ethnicities), more than 35 thousand of them reside in the City of Los Angeles.

Exhibit 3-26 through **Exhibit 3-31** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

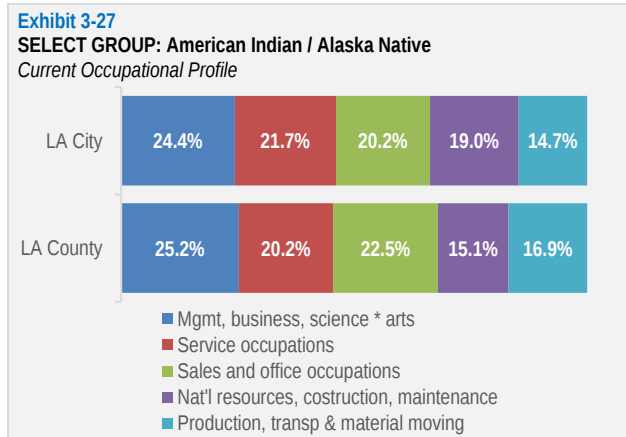
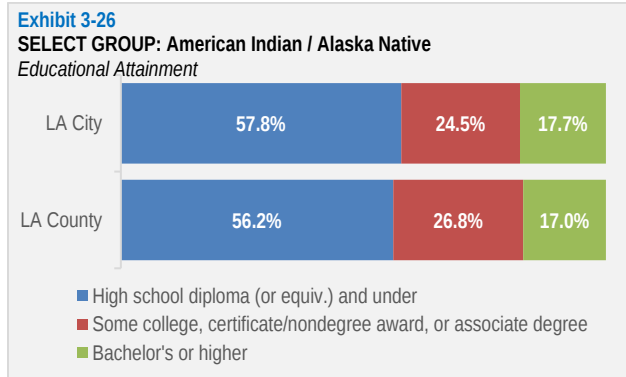


Exhibit 3-28: SELECT GROUP: American Indian/ Alaskan Native
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.5%	0.8%
Construction	11.0%	8.3%
Manufacturing	7.7%	9.3%
Wholesale Trade	2.4%	3.2%
Retail Trade	9.9%	11.2%
Transport, Warehousing & Utilities	4.7%	6.2%
Information	2.4%	2.4%
Financial Activities	4.1%	3.7%
Professional Business Services	12.4%	10.9%
Education, Health care and Social Assistance	19.0%	19.8%
Leisure and Hospitality	13.9%	13.6%
Other Services (not gov't)	8.2%	6.1%
Government	3.8%	4.5%
Total, All Industries	21,500	58,300



Exhibit 3-29: SELECT GROUP: American Indian/ Alaskan Native
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	35,459	99,324
English not Spoken at Home, English not spoken very well	20.9%	15.6%
Average Household Income	\$88,792	\$94,031
% at or below the Poverty Line	17.5%	15.9%
Labor Force	19,581	52,025
Labor force participation rate	66.3%	64.6%
Unemployment rate	9.5%	8.5%
Share of Workers in Target Industries	22.4%	20.5%
Share of Workers in Target Occupations	8.5%	8.6%

Source: US Census Bureau, ACS

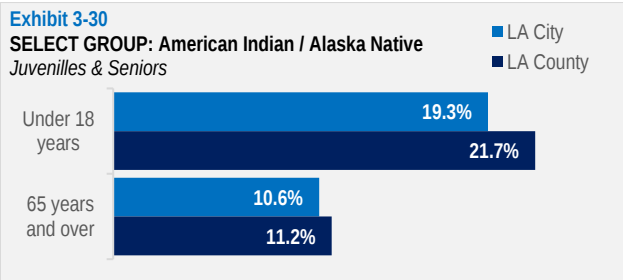


Exhibit 3-31: SELECT GROUP: American Indian/ Alaskan Native
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	52.3%	49.4%
Some college, certificate/nondegree award, or associate degree (middle-skill)	66.3%	67.3%
Bachelor's degree or above (high skill)	74.1%	75.4%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	6.9%	8.5%
Some college, certificate/nondegree award, or associate degree (middle-skill)	7.2%	2.1%
Bachelor's degree or above (high skill)	3.4%	2.7%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	17.2	15.9
Average hours per week for Connected workers		

3.5 Individuals with Disabilities

There are over 1 million residents in Los Angeles County, who reported that they had disabilities, nearly 400 thousand of them reside in the City of Los Angeles.

Exhibit 3-32 through **Exhibit 3-38** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

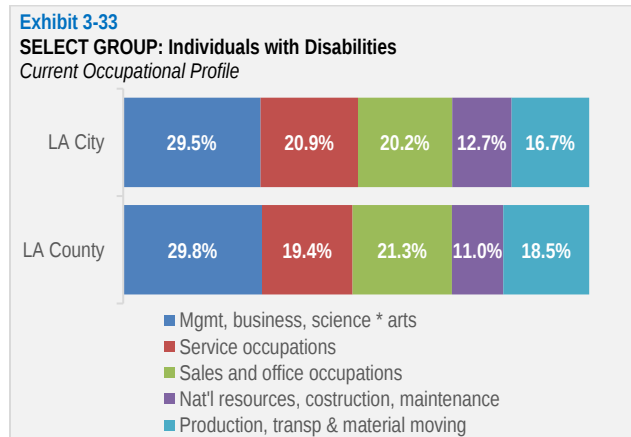
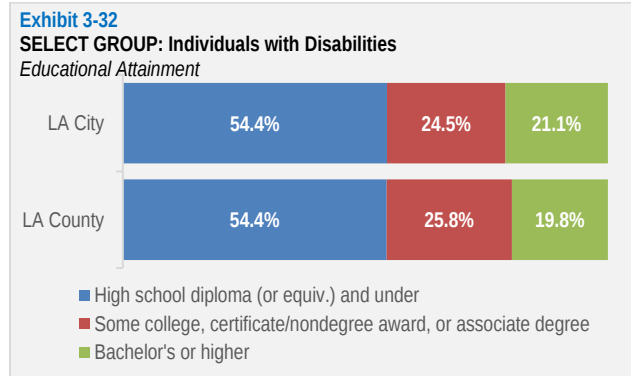


Exhibit 3-34: SELECT GROUP: Individuals with Disabilities
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.7%	0.7%
Construction	5.8%	5.6%
Manufacturing	6.7%	8.4%
Wholesale Trade	2.6%	2.8%
Retail Trade	10.0%	10.5%
Transport, Warehousing & Utilities	5.9%	6.6%
Information	4.3%	3.1%
Financial Activities	5.2%	5.2%
Professional Business Services	15.2%	13.4%
Education, Health care and Social Assistance	20.5%	22.0%
Leisure and Hospitality	12.0%	10.3%
Other Services (not gov't)	7.5%	7.0%
Government	3.5%	4.5%
Total, All Industries	145,300	345,800

Exhibit 3-35: SELECT GROUP: Individuals with Disabilities
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	397,141	1,004,632
English not Spoken at Home, English not spoken very well	23.9%	21.3%
Average Household Income	\$75,821	\$81,225
% at or below the Poverty Line	24.5%	20.3%
Labor Force	89,320	210,549
Labor force participation rate	46.1%	44.4%
Unemployment rate	15.7%	14.7%
Share of Workers in Target Industries	21.5%	20.1%
Share of Workers in Target Occupations	7.4%	8.1%

Source: US Census Bureau, ACS

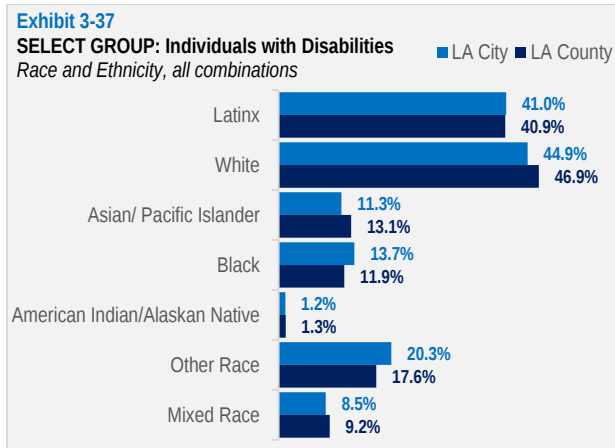


Exhibit 3-38: SELECT GROUP: Individuals with Disabilities
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	35.2%	36.8%
Some college, certificate/nondegree award, or associate degree (middle-skill)	55.5%	57.2%
Bachelor's degree or above (high skill)	72.8%	73.0%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	6.6%	6.3%
Some college, certificate/nondegree award, or associate degree (middle-skill)	4.6%	4.4%
Bachelor's degree or above (high skill)	4.3%	4.0%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	15.1	15.1
Average hours per week for Connected workers	37.7	37.4

3.6 Youth (<18 years) with Disability

There are nearly 75 thousand residents in Los Angeles County, who are under the age of 18 years with a disability, more than 27 thousand of them reside in the City of Los Angeles.

Exhibit 3-39 through **Exhibit 3-45** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

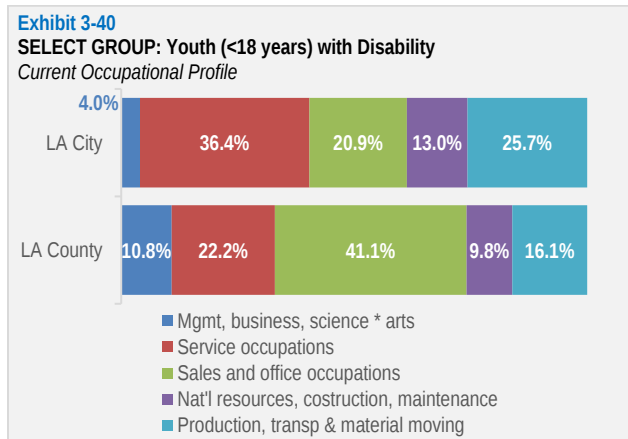
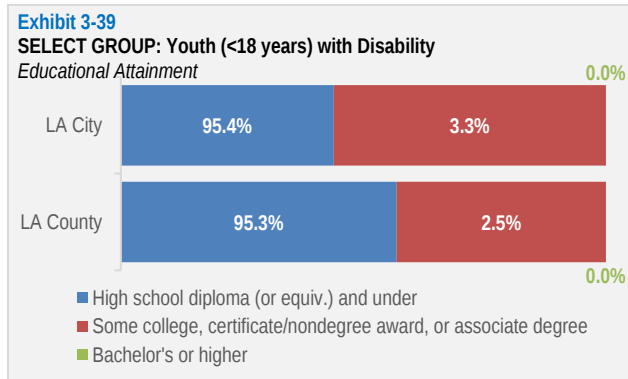


Exhibit 3-41: SELECT GROUP: Youth (<18 years) with Disability
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.0%	0.8%
Construction	3.2%	2.9%
Manufacturing	8.1%	3.3%
Wholesale Trade	0.0%	0.0%
Retail Trade	10.7%	18.0%
Transport, Warehousing & Utilities	6.7%	7.3%
Information	0.3%	2.1%
Financial Activities	0.0%	0.0%
Professional Business Services	7.4%	4.3%
Education, Health care and Social Assistance	25.2%	22.5%
Leisure and Hospitality	33.6%	35.7%
Other Services (not gov't)	4.9%	3.0%
Government	0.0%	0.0%
Total, All Industries	600	1,400

Exhibit 3-42: SELECT GROUP: Youth (<18 years) with Disability
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	27,114	74,296
English not Spoken at Home, English not spoken very well	5.0%	4.0%
Average Household Income	\$83,694	\$91,120
% at or below the Poverty Line	27.2%	22.5%
Labor Force	997	2,575
Labor force participation rate	13.6%	13.3%
Unemployment rate	41.0%	37.3%
Share of Workers in Target Industries	6.3%	9.9%
Share of Workers in Target Occupations	8.3%	10.3%

Source: US Census Bureau, ACS

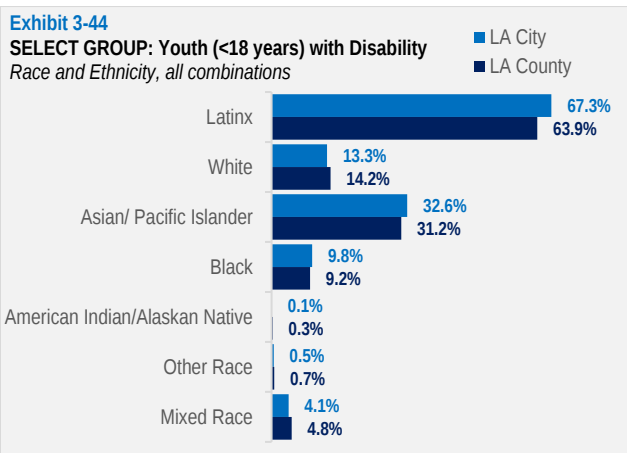
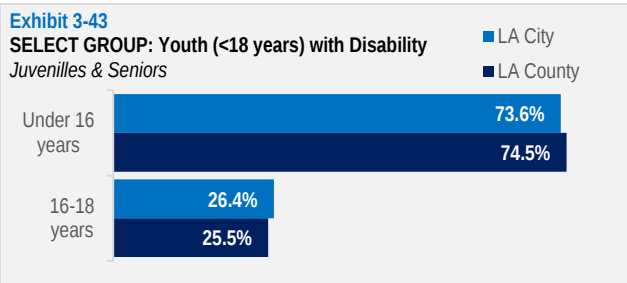


Exhibit 3-45: SELECT GROUP: Youth (<18 years) with Disability
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)		
Some college, certificate/nondegree award, or associate degree (middle-skill)		
Bachelor's degree or above (high skill)		
Disconnection rates		
High school diploma (or equiv.) and under (low skill)		
Some college, certificate/nondegree award, or associate degree (middle-skill)		
Bachelor's degree or above (high skill)		
Average hours worked by Connection status		
Average hours per week for Disconnected workers		
Average hours per week for Connected workers		

3.7 Older Individuals

There are over 2.5 million residents who are 55 years and older in Los Angeles County, over 950 thousand of these seniors reside in the City of Los Angeles.

Exhibit 3-46 through **Exhibit 3-52** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

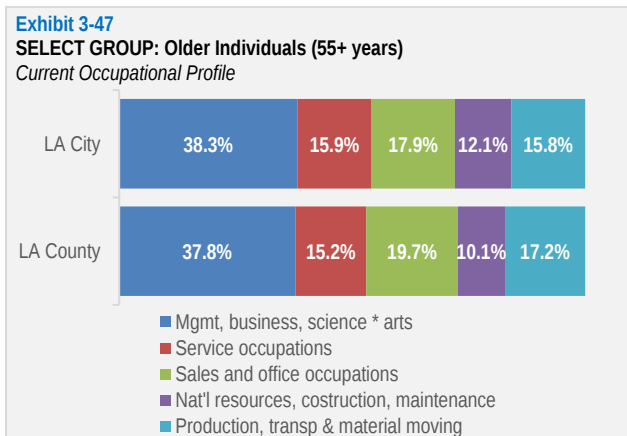
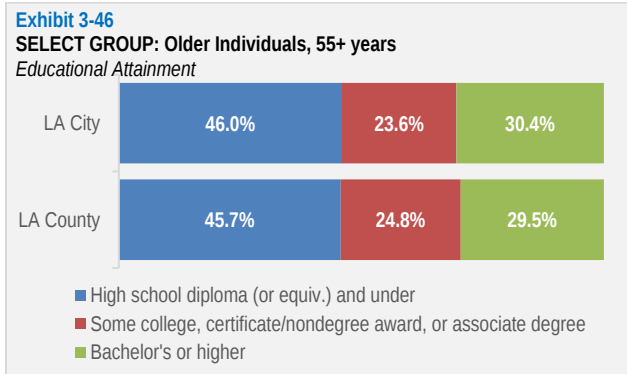


Exhibit 3-48: SELECT GROUP: Older Individuals, 55+ Years
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.5%	0.5%
Construction	5.8%	5.5%
Manufacturing	8.9%	11.1%
Wholesale Trade	3.1%	3.5%
Retail Trade	7.5%	7.6%
Transport, Warehousing & Utilities	5.6%	6.7%
Information	4.4%	3.2%
Financial Activities	6.9%	6.8%
Professional Business Services	15.0%	13.5%
Education, Health care and Social Assistance	22.8%	23.4%
Leisure and Hospitality	7.7%	6.9%
Other Services (not gov't)	8.1%	6.9%
Government	3.7%	4.4%
Total, All Industries	520,300	1,378,500

Exhibit 3-49: SELECT GROUP: Older Individuals, 55+ Years
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	953,424	2,589,642
English not Spoken at Home, English not spoken very well	24.7%	22.6%
Average Household Income	\$105,567	\$107,726
% at or below the Poverty Line	15.4%	12.5%
Labor Force	419,007	1,094,780
Labor force participation rate	43.9%	42.3%
Unemployment rate	6.5%	5.8%
Share of Workers in Target Industries	21.8%	20.1%
Share of Workers in Target Occupations	8.2%	8.5%

Source: US Census Bureau, ACS

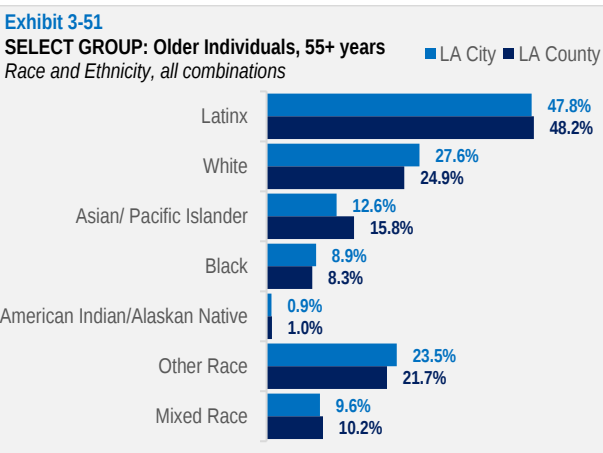
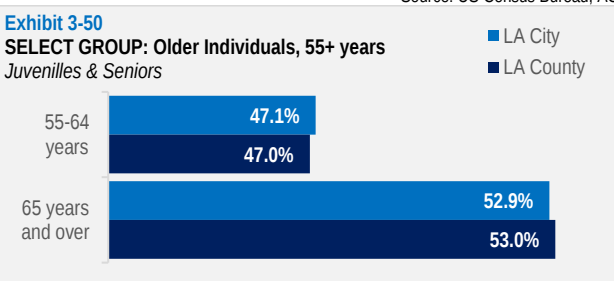


Exhibit 3-52: SELECT GROUP: Older Individuals, 55+ Years
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	34.5%	32.9%
Some college, certificate/nondegree award, or associate degree (middle-skill)	41.5%	41.4%
Bachelor's degree or above (high skill)	50.7%	49.2%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	6.1%	5.9%
Some college, certificate/nondegree award, or associate degree (middle-skill)	7.8%	6.2%
Bachelor's degree or above (high skill)	5.8%	5.0%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	19.2	17.9
Average hours per week for Connected workers	37.9	38.0

3.8 Youth, Ages 16 to 24 Years

There are over 1.1 million residents in Los Angeles County, who are youth, 18 to 24 years of age; more than 470 thousand of them reside in the City of Los Angeles.

Exhibit 3-53 through **Exhibit 3-59** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

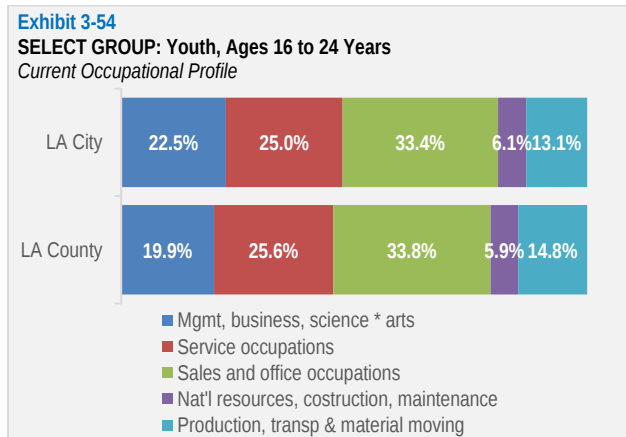
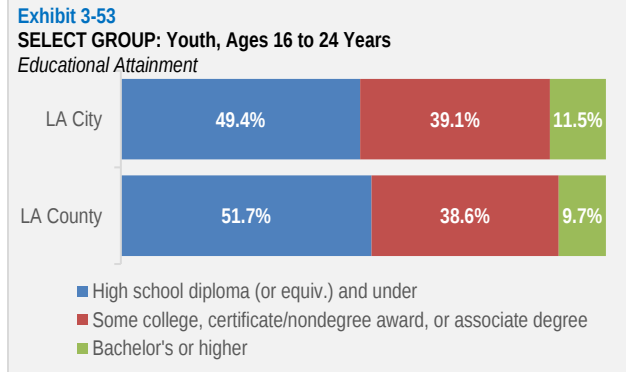


Exhibit 3-55: SELECT GROUP: Youth, Ages 16 to 24 Years
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.4%	0.5%
Construction	3.8%	3.6%
Manufacturing	4.1%	4.7%
Wholesale Trade	1.6%	1.9%
Retail Trade	19.5%	19.9%
Transport, Warehousing & Utilities	4.2%	5.0%
Information	3.4%	2.7%
Financial Activities	3.1%	2.8%
Professional Business Services	9.8%	8.6%
Education, Health care and Social Assistance	18.5%	18.2%
Leisure and Hospitality	26.0%	26.2%
Other Services (not gov't)	4.8%	4.5%
Government	1.0%	1.3%
Total, All Industries	283,900	685,300

Exhibit 3-56: SELECT GROUP: Youth, Ages 16 to 24 Years
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	471,060	1,178,964
English not Spoken at Home, English not spoken very well	3.5%	2.8%
Average Household Income	\$92,515	\$101,241
% at or below the Poverty Line	20.6%	16.6%
Labor Force	242,793	599,239
Labor force participation rate	51.5%	50.8%
Unemployment rate	14.2%	14.1%
Share of Workers in Target Industries	13.7%	13.0%
Share of Workers in Target Occupations	7.8%	8.1%

Source: US Census Bureau, ACS

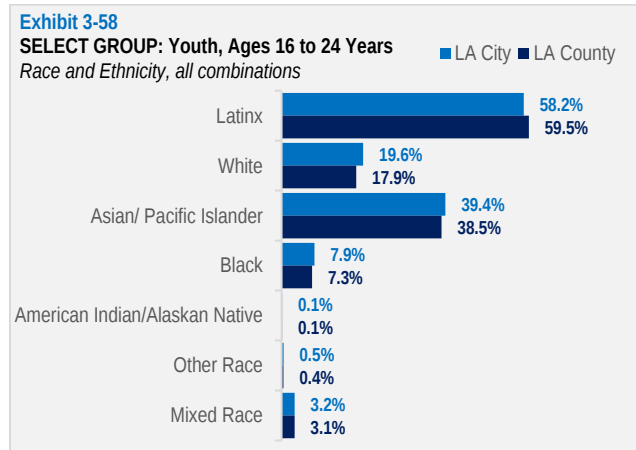
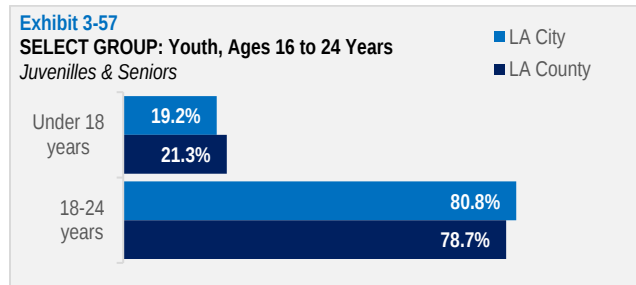


Exhibit 3-59: SELECT GROUP: Youth, Ages 16 to 24 Years
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	32.9%	32.3%
Some college, certificate/nondegree award, or associate degree (middle-skill)	48.5%	51.5%
Bachelor's degree or above (high skill)	70.1%	70.7%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	10.9%	11.0%
Some college, certificate/nondegree award, or associate degree (middle-skill)	3.6%	3.5%
Bachelor's degree or above (high skill)	7.0%	6.8%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	19.1	18.0
Average hours per week for Connected workers	32.7	32.8

3.9 Individuals with Limited English Proficiency

There are over 1.2 million residents in Los Angeles County, who reported limited English proficiency, over 525 thousand of them reside in the City of Los Angeles.

Exhibit 3-60 through **Exhibit 3-66** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

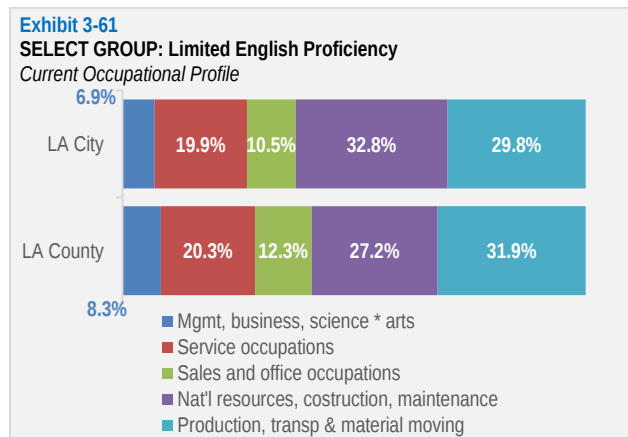
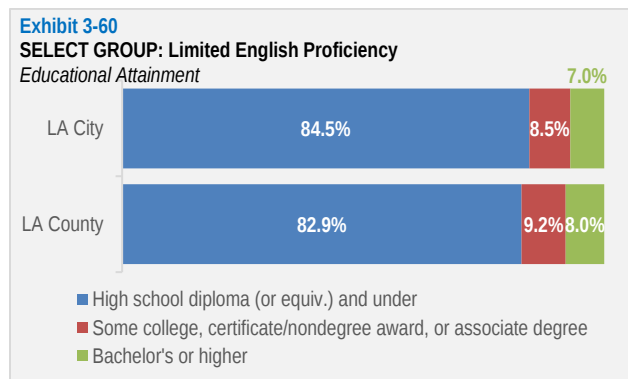


Exhibit 3-62: SELECT GROUP: Limited English Proficiency
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.9%	1.0%
Construction	14.1%	11.9%
Manufacturing	15.3%	17.0%
Wholesale Trade	3.8%	4.9%
Retail Trade	8.5%	8.8%
Transport, Warehousing & Utilities	5.1%	6.2%
Information	0.7%	0.6%
Financial Activities	1.8%	1.9%
Professional Business Services	12.8%	11.7%
Education, Health care and Social Assistance	8.9%	9.4%
Leisure and Hospitality	14.2%	13.9%
Other Services (not gov't)	12.4%	11.1%
Government	1.4%	1.6%
Total, All Industries	314,400	682,200

Exhibit 3-63: SELECT GROUP: Limited English Proficiency
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	526,223	1,203,521
English not Spoken at Home, English not spoken very well	0.0%	0.0%
Average Household Income	\$65,595	\$71,068
% at or below the Poverty Line	24.6%	21.4%
Labor Force	280,849	603,115
Labor force participation rate	54.7%	51.5%
Unemployment rate	5.9%	6.0%
Share of Workers in Target Industries	21.7%	20.1%
Share of Workers in Target Occupations	4.3%	5.2%

Source: US Census Bureau, ACS

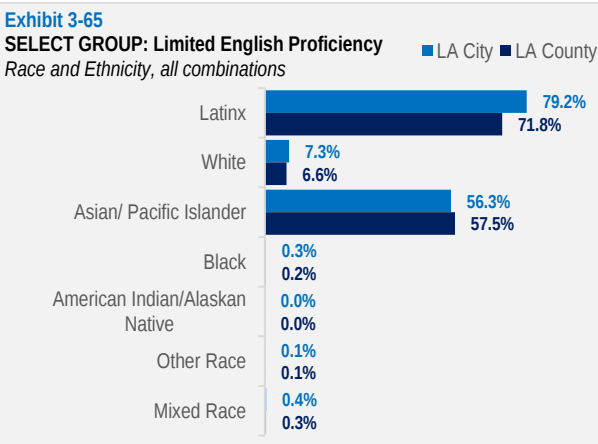
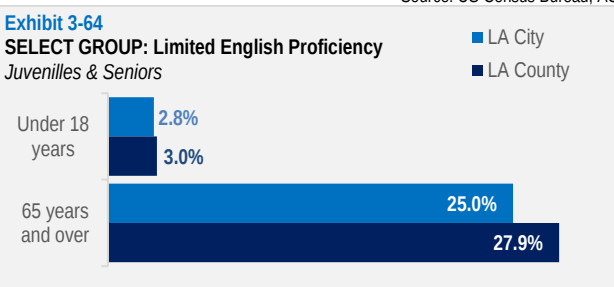


Exhibit 3-66: SELECT GROUP: Limited English Proficiency
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	51.2%	47.7%
Some college, certificate/nondegree award, or associate degree (middle-skill)	53.1%	52.7%
Bachelor's degree or above (high skill)	53.0%	50.1%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	5.7%	5.9%
Some college, certificate/nondegree award, or associate degree (middle-skill)	5.3%	5.0%
Bachelor's degree or above (high skill)	5.5%	5.3%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	15.6	15.8
Average hours per week for Connected workers	36.8	37.0

3.10 Single Parents

There are over 770 thousand single parents who reside in Los Angeles County, more than 300 thousand of them reside in the City of Los Angeles.

Exhibit 3-67 through **Exhibit 3-73** provide disaggregated socioeconomic data specific to this cohort in the City of Los Angeles and in Los Angeles County as a whole for context.

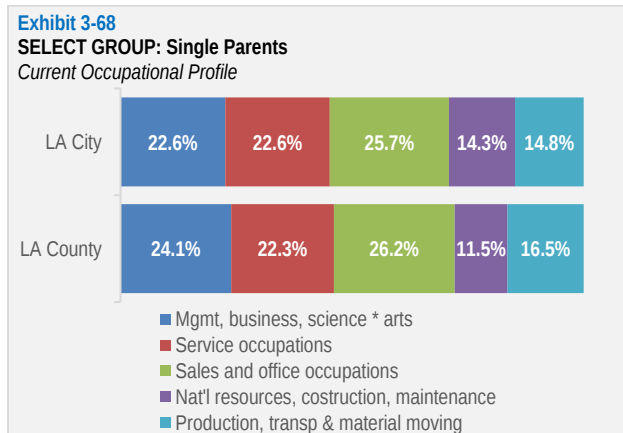
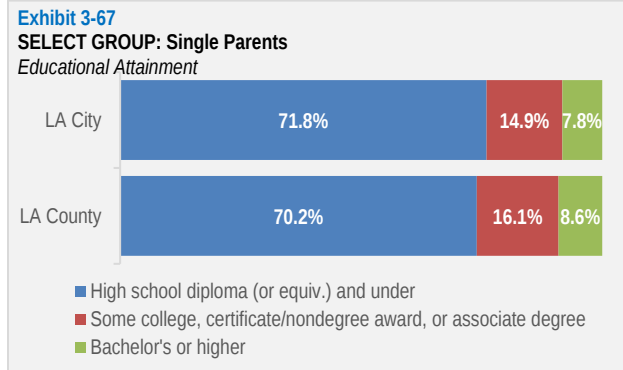


Exhibit 3-69: SELECT GROUP: Single Parents
Employment by Industry

	LA City	LA County
Natural Resources & Mining	0.5%	0.5%
Construction	5.3%	5.0%
Manufacturing	7.0%	7.8%
Wholesale Trade	2.5%	3.0%
Retail Trade	13.3%	12.4%
Transport, Warehousing & Utilities	4.9%	6.5%
Information	2.2%	2.0%
Financial Activities	4.4%	4.4%
Professional Business Services	12.2%	11.4%
Education, Health care and Social Assistance	21.0%	22.4%
Leisure and Hospitality	15.4%	14.0%
Other Services (not gov't)	8.5%	7.2%
Government	2.6%	3.3%
Total, All Industries	119,000	310,100

Exhibit 3-70: SELECT GROUP: Single Parents
Socioeconomic Characteristics

	LA City	LA County
Total population (women)	302,893	772,565
English not Spoken at Home, English not spoken very well	11.0%	9.3%
Average Household Income	\$78,282	\$81,754
% at or below the Poverty Line	35.4%	30.3%
Labor Force	109,107	284,561
Labor force participation rate	63.9%	64.8%
Unemployment rate	10.7%	9.3%
Share of Workers in Target Industries	18.8%	19.1%
Share of Workers in Target Occupations	8.3%	9.8%

Source: US Census Bureau, ACS

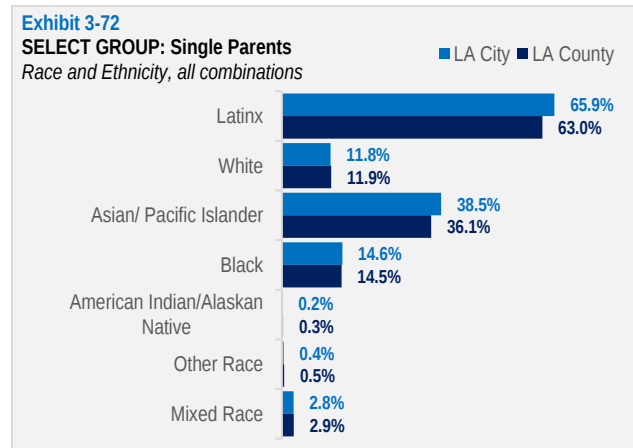
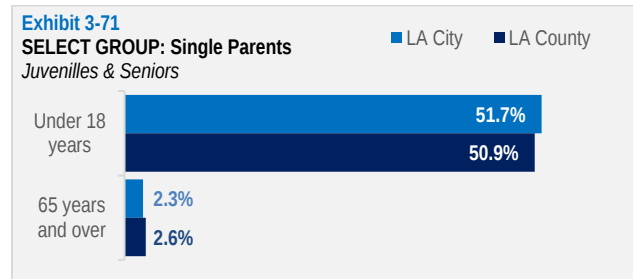


Exhibit 3-73: SELECT GROUP: Single Parents
Employment-to-Population Ratios and Disconnected Workers

	LA City	LA County
Employment-to-population ratio		
High school diploma (or equiv.) and under (low skill)	47.6%	47.4%
Some college, certificate/nondegree award, or associate degree (middle-skill)	66.4%	69.7%
Bachelor's degree or above (high skill)	80.8%	80.9%
Disconnection rates		
High school diploma (or equiv.) and under (low skill)	8.7%	8.3%
Some college, certificate/nondegree award, or associate degree (middle-skill)	8.3%	6.2%
Bachelor's degree or above (high skill)	6.0%	4.4%
Average hours worked by Connection status		
Average hours per week for Disconnected workers	17.6	17.3
Average hours per week for Connected workers	35.8	36.3

4 EMPLOYMENT, INDUSTRY AND JOBS

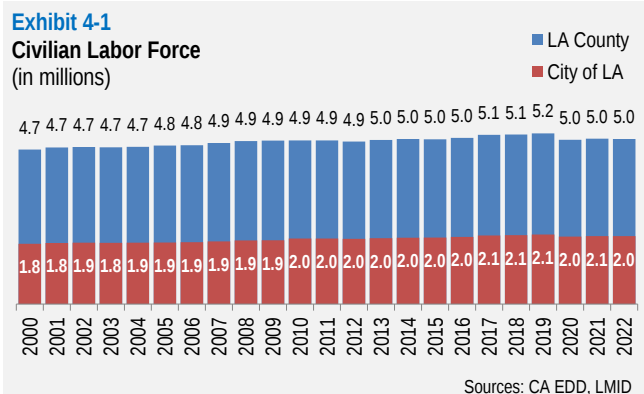
Labor market analysis provides an understanding of the resident population, its participation in the job market, and how well workers are matched to the jobs needed by firms in regional industries.

4.1 Labor Force

Employment and employment growth are fundamentally based on labor force growth, which is a consequence of both changes in population and in labor force participation rates. Population levels and changes over time were reviewed above; here, the focus is on the component of the population that is able, willing and looking for work.

The labor force is defined as the population of working-aged individuals (16 years and older) in an area who are currently employed or who are unemployed but still actively seeking work. Individuals not actively looking for work are excluded from the count, including students, retirees, stay-at-home parents and workers who have stopped seeking employment.

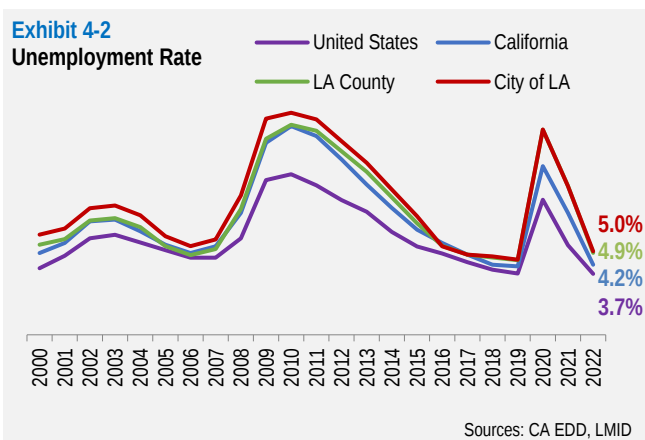
From 2007 through 2012, the labor force in Los Angeles County has hovered around 4.9 million, increasing to 5.0 million in 2013 through 2016. Subsequently, it experienced a gradual increase to 5.2 million before the onset of the COVID-19 pandemic, leading to a significant drop in the labor force to below 5.0 million from 2020 to 2022. The labor force in the City of Los Angeles followed a similar pattern, maintaining around 1.9 million from 2002 through 2009, increasing to 2.0 million from 2010 to 2016, reaching 2.1 million in 2019, and then declining to around 2 million from 2020 to 2022 (**Exhibit 4-1**).



The labor force participation rate is the ratio of the labor force (both those employed and those unemployed) to the total working-age population in a specified area. This is estimated to be 65.1 percent in Los Angeles County in 2022 (the most recent year that this data is available), compared to 66.5 percent in the City of Los Angeles.

Unemployment

The unemployment rate measures the number of individuals who are unemployed and actively seeking work as a share of the total labor force. The unemployment rate in Los Angeles County and the City has consistently exceeded state and national levels since 2000, with the City of Los Angeles generally experiencing a higher rate than the county overall (**Exhibit 4-2**).



During the Great Recession and the COVID-19 pandemic, both the county and the city saw more significant increases in unemployment than the national and state averages, reaching peaks of 13.3 percent in 2010 and 12.3 percent in 2020 in the city, and 12.6 percent in 2010 and 12.3 percent in 2020 in the county. Following the peak pandemic impact, it took nearly two years for unemployment rates to gradually approach their pre-pandemic levels. As of 2022, Los Angeles County and the City of Los Angeles reported unemployment rate of 4.9 percent and 5.0 percent, respectively. ❖

4.2 Current Employment by Industry

To investigate the potential for employment opportunities in the county, an understanding of existing employment is needed. Here, we consider employment opportunities provided by firms in the region.

In general, both Los Angeles County and the City of Los Angeles reflect the national pattern of being largely service-oriented, with services accounting for more than three-fourths (77%) of all nonfarm employment (**Exhibit 4-3**). Government employment (including local, state and federal government employment) accounts for 12.5 percent of nonfarm county employment and close to 14 percent of all city employment.

Among the service industries, educational and health services is the largest, accounting for over 19 percent of employment, followed by professional and business services, leisure and hospitality, and retail trade.

Los Angeles County

At a more disaggregated level, the largest private sector industry in terms of employment in Los Angeles County in 2022 was food services and drinking places, providing 378,440 jobs (**Exhibit 4-4**). This industry includes all food services, including full-service restaurants, fast food outlets, caterers, mobile food services and drinking establishments—and is consistently the largest single industry by employment in the county. Over three quarters (77 percent) of this industry's employment was in restaurants.

The second largest industry was professional and technical services, providing 308,801 jobs. This industry is large and diverse, and includes a variety of professions such as legal, accounting, architectural, engineering, computer design, advertising, environmental consulting, commercial photography, and more.

Other significant industries in the county include social assistance, administrative and support services (which

includes temporary employment), ambulatory health care services such as doctors' and dentists' offices, motion pictures and sound recording industries and hospitals, together providing more than 1,087,434 jobs.

Exhibit 4-3

Industrial Profile 2022

(% of Total Employment)

	LA County	City of LA
Total Nonfarm Payroll Employment	100.0%	100.0%
Good Producing Industries:	10.4%	8.6%
Natural Resources and Mining	0.0%	0.0%
Construction	3.3%	2.9%
Manufacturing – Durable Goods	4.2%	3.2%
Manufacturing – Nondurable Goods	2.9%	2.5%
Service Providing Industries	77.0%	77.8%
Wholesale Trade	4.5%	3.5%
Retail Trade	9.0%	7.6%
Transportation, Warehousing, Utilities	5.0%	5.2%
Information	5.2%	7.7%
Financial Activities	4.8%	5.2%
Professional and Business Services	14.7%	15.3%
Educational and Health Services	19.2%	18.5%
Leisure and Hospitality	11.3%	11.1%
Other Services	3.4%	3.6%
Government	12.5%	13.7%

Sources: California Employment Development Department (QCEW); Lightcast, LAEDC

Exhibit 4-4

Top 20 Private Sector Industries by Employment Los Angeles County 2022

NAICS	Industry	Employment	% of total
722	Food services and drinking places	378,440	9.7%
541	Professional and technical services	308,801	7.9%
624	Social assistance	302,214	7.7%
561	Administrative and support services	269,451	6.9%
621	Ambulatory health care services	248,190	6.3%
512	Motion picture and sound recording	149,501	3.8%
622	Hospitals	118,078	3.0%
611	Educational services	110,091	2.8%
424	Wholesale: Nondurable goods	97,157	2.5%
238	Specialty trade contractors	95,230	2.4%
445	Retail: Food and beverage stores	94,869	2.4%
423	Wholesale: Durable goods	94,153	2.4%
623	Nursing and residential care facilities	82,974	2.1%
531	Real estate	67,995	1.7%
551	Management of companies	61,278	1.6%
812	Personal and laundry services	57,930	1.5%
488	Support Activities for Transportation	56,495	1.4%
522	Credit intermediation	52,852	1.3%
336	Transportation Equipment Manufacturing	50,815	1.3%
711	Performing Arts and Spectator Sports	47,514	1.2%

Sources: California Employment Development Department (QCEW); LAEDC



City of Los Angeles

This distribution of jobs across industries is broadly similar at the city level.

The largest private sector industry in terms of employment in the City of Los Angeles in 2022 was professional and technical services, providing 226,630 jobs and food services and drinking places, providing 209,270 jobs, is the second largest industry was (**Exhibit 4-5**).

Other significant industries in the city include social assistance, administrative and support services (which includes temporary employment), ambulatory health care services such as doctors' and dentists' offices, private education services, motion picture and sound recording, hospitals, private education services, and establishments involved in the wholesale of nondurable goods (such as paper products, apparel, grocery items, and chemical and petroleum products), together providing just under 778,900 jobs.

A complete list of employment by industry for the county and the city is provided in Exhibits A-1 and A-2 in the appendix. ❖

4.3 Industry Competitiveness

While large employing industries are valuable in their ability to provide job opportunities for local residents, other industries, while still small in terms of employment, may be important for promoting economic growth. These industries are likely to be exposed to the larger global market, and if they are competitive with their counterparts elsewhere, they can gain market share by growing their companies and creating jobs.

Competitiveness in this sense is measured using relative employment shares. An industry with a presence in Los Angeles that is larger (as a percentage of total employment in the county) than its presence elsewhere would indicate that Los Angeles has a concentration of this industry and is evidence of the region having a competitive advantage.

For example, if 4 percent of employment in the county is in the motion picture industry, while across the United States only 1 percent is employed in that industry, then the location quotient for the motion picture industry in Los Angeles is 4. A location quotient of 1.2 or higher is considered a threshold for demonstrating competitiveness.

Exhibit 4-5

Top 20 Private Sector Industries by Employment City of Los Angeles 2022

NAICS	Industry	Employment	% of total
541	Professional and technical services	226,630	541
722	Food services and drinking places	209,270	722
624	Social assistance	174,465	624
561	Administrative and support services	143,054	561
621	Ambulatory health care services	141,845	621
512	Motion picture and sound recording	134,577	512
622	Hospitals	70,510	622
611	Educational services	64,205	611
424	Wholesale: Nondurable goods	50,249	424
238	Specialty trade contractors	49,811	238
531	Real estate	48,148	531
445	Retail: Food and beverage stores	47,331	445
623	Nursing and residential care facilities	46,346	623
488	Support Activities for Transportation	44,477	488
423	Wholesale: Durable goods	39,848	423
711	Performing Arts, Spectator Sports, and Related Industries	36,773	711
812	Personal and laundry services	36,513	812
551	Management of Companies and Enterprises	35,511	551
452	Retail: General merchandise stores	31,721	452
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	29,919	813

Sources: California Employment Development Department (QCEW); Lightcast, LAEDC

The industry with the highest location quotient in the City of Los Angeles in 2022 was motion picture and sound recording industries, with a location quotient of 10.6 compared to the national average (**Exhibit 4-6**). Apparel manufacturing ranks second with a location quotient of 8.1. These industries are undeniably those in which the city has a competitive advantage.

Competitive industries include manufacturing industries. Although manufacturing employment is on a sectoral decline across the nation, Los Angeles remains a relatively concentrated center of manufacturing across



many product lines at the county level, including chemical manufacturing, transportation equipment, metal products, textiles, furniture, computer and electronic products and other miscellaneous manufacturing. In the City of LA, leather and allied product manufacturing and petroleum, textile mills, and coal products manufacturing were also some of the most concentrated.

Exhibit 4-6
Top Competitive Industries 2022
(Location Quotients v. US)

NAICS	Industry	LA County	City of LA
512	Motion Picture and Sound Recording	11.4	10.6
315	Apparel Manufacturing	8.0	8.1
481	Air Transportation	2.1	3.9
711	Performing Arts, Spectator Sports, Related	3.2	3.8
516	Broadcasting and Content Providers	2.7	3.2
488	Support Activities for Transportation	2.4	2.9
316	Leather and Allied Product Manufacturing	1.9	2.5
624	Social Assistance	2.4	2.3
313	Textile Mills	1.3	2.1
525	Funds, Trusts, and Other Financial Vehicles	1.8	2.0
712	Museums, Historical Sites, Similar Institutions	1.1	1.9
531	Real Estate	1.3	1.6
424	Merchant Wholesalers, Nondurable Goods	1.5	1.6
458	Clothing, Accessories, Shoe, Jewelry Retailers	1.6	1.6
482	Rail Transportation	0.6	1.5
611	Educational Services	1.2	1.5
532	Rental and Leasing Services	1.2	1.4
812	Personal and Laundry Services	1.3	1.3
518	Data Processing, Hosting, Related Services	0.8	1.3
483	Water Transportation	1.3	1.2
492	Couriers and Messengers	1.4	1.2
533	Lessors of Nonfinancial Intangible Assets	0.9	1.2
541	Professional, Scientific, and Technical Services	1.0	1.2
523	Securities, Commodity Contracts, Othr Financial	0.8	1.2
903	Local Government	1.0	1.1
813	Religious, Grantmaking, Civic, Prof'l, Simlr Orgs	1.1	1.1
902	State Government	0.6	1.0
324	Petroleum and Coal Products Manufacturing	1.7	1.0
621	Ambulatory Health Care Services	1.0	1.0

Sources: California Employment Development Department; LAEDC

The City of Los Angeles exhibits competitive strength across most of the same industries at the county level, but there are some differences in concentrations. Industries in which the city is more competitive than the county are shown in *italics* in the exhibit. These include: motion picture and sound recording industries; apparel manufacturing; air transportation; performing arts, spectator sports, and related industries; broadcasting and content providers; support activities for transportation; and more.



The industries identified as competitive in the City of Los Angeles, with location quotients of 1.2 and higher, whose concentration has increased between 2002 and 2022 include: Motion Picture and Sound Recording Industries (up by 0.); Textile Mills (up by 0.); Rail Transportation (up by 0.); Couriers and Messengers (up by 0.); Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) (up by 0.); Professional, Scientific, and Technical Services (up by 0.); Securities, Commodity Contracts, and Other Financial Investments and Related Activities (up by 0.).

The City of Los Angeles is compared to the cities of San Francisco, Atlanta, and New York in **Exhibit 4-7**. While the City of Los Angeles may have higher location quotients in many of these industries, the change in their concentration over time has not been as strong as the other jurisdictions; out of the city's 24 competitive industries, the location quotient has fallen in 15 of these industries from 2002 through 2022.

A complete list of all industries, including the temporal and jurisdictional comparisons are provided in Exhibit A-795 and Exhibit A-796 in the appendix. ❖

Exhibit 4-7**Jurisdictional Comparison for City of LA's Competitive Industries**

Industry	LQ in 2022				LQ Change 2002 to 2022			
	City of LA	San Francisco	Atlanta	New York	City of LA	San Francisco	Atlanta	New York
Motion Picture and Sound Recording	10.6	1.0	3.7	4.1	0.2	0.2	-2.8	-1.0
Apparel Manufacturing	8.1	1.5	0.3	2.6	-0.8	1.9	0.0	1.7
Air Transportation	3.9	2.9	0.5	2.1	-1.0	0.0	3.5	-0.4
Performing Arts, Spectator Sports, and Related	3.8	2.4	1.7	2.9	-1.2	1.2	0.4	0.0
Broadcasting and Content Providers	3.2	5.4	2.9	4.7	-1.5	-2.4	0.7	-1.9
Support Activities for Transportation	2.9	1.1	2.1	0.8	-0.3	0.1	-0.6	0.4
Leather and Allied Product Manufacturing	2.5	0.6	0.2	0.3	-0.5	0.1	-0.1	0.6
Social Assistance	2.3	2.1	0.4	1.9	-1.6	-0.8	0.2	0.9
Textile Mills	2.1	0.0	0.3	0.2	0.3	0.0	0.6	0.5
Funds, Trusts, and Other Financial Vehicles	2.0	4.3	3.2	2.6	-1.1	-3.2	-2.1	1.0
Museums, Historical Sites, and Similar Institutions	1.9	3.5	1.5	2.7	-0.1	0.2	-0.6	0.6
Real Estate	1.6	1.5	2.0	2.3	-0.3	0.1	0.0	0.4
Merchant Wholesalers, Nondurable Goods	1.6	0.3	0.9	1.1	0.0	0.3	0.3	0.2
Clothing, Accessories, Shoe, Jewelry Retailers	1.6	1.2	0.9	1.7	-0.3	0.4	0.3	0.0
Rail Transportation	1.5	0.0	1.8	0.8	0.4	0.0	-1.8	-0.8
Educational Services	1.5	1.1	1.9	2.2	0.0	0.5	-0.7	0.1
Rental and Leasing Services	1.4	0.9	1.5	0.5	-0.1	0.3	-0.1	0.0
Personal and Laundry Services	1.3	1.1	0.9	1.3	-0.3	0.0	0.0	-0.1
Data Processing, Hosting, and Related Services	1.3	9.1	3.4	1.2	-0.6	-8.4	-0.9	-0.5
Water Transportation	1.2	0.9	0.1	0.9	-0.5	-0.1	0.0	0.5
Couriers and Messengers	1.2	1.1	1.4	0.8	0.1	0.2	1.5	0.5
Lessors of Nonfinancial Intangible Assets	1.2	2.6	1.1	3.1	0.6	-1.4	1.1	0.1
Professional, Scientific, and Technical Services	1.2	2.9	1.6	1.4	0.2	-0.8	0.2	0.1
Securities, Commodity Contracts, Other Financial	1.2	3.1	1.8	6.2	0.1	2.9	0.0	1.6

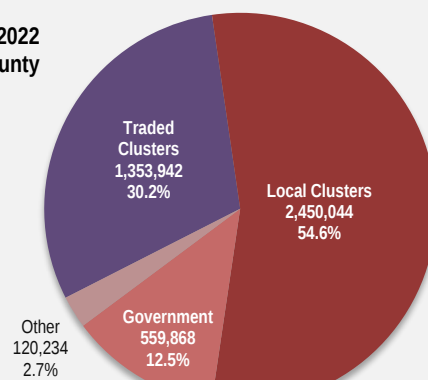
4.4 Industry Clusters

An alternate method of viewing the industrial makeup of the region is through industry clusters. Clusters are geographic concentrations of firms in similar industries that are more likely to compete and collaborate more efficiently, driving demand for their supplier industries and encouraging the growth of specialized labor and local infrastructure.

Industries are classified into two types of clusters using definitions developed by Professor Michael Porter of the Institute for Strategy and Competitiveness at Harvard Business School and now published by the Cluster Mapping project (CMP). These are: (1) *Local industry clusters*, which provide goods and services to the resident population, and have limited exposure to other markets; and (2) *Traded industry clusters*, which are comprised of industries that are more highly-concentrated in a few regions, and provide the potential for economic growth and wealth generation through exports to external markets.

Approximately 55 percent of all employment in Los Angeles County is in local industry clusters, such as health services, local commercial services and local hospitality establishments (**Exhibit 4-9**). Just over 30 percent is in

traded industry clusters, such as trade, entertainment, business services and fashion.

Exhibit 4-8**Employment in 2022
Los Angeles County**

Sources: CMP; Estimates by LAEDC

The largest traded industry cluster in Los Angeles County in 2022 was trade, employing approximately 276,800 workers, followed by business services, with close to 236,600 workers, and entertainment, with close to 196,600 employed (**Exhibit 4-9**). Overall, more than 1.3 million jobs were involved in traded industry clusters.

Of the fifteen largest traded industry clusters in the county, six have location quotients greater than one, reflecting the county's competitive strength in a wide variety of industries.

Exhibit 4-9
Largest Traded Industry Clusters in Los Angeles County in 2022 (By employment)

	Employment	LQ
Trade ¹	276,777	1.1
Business Services	236,550	0.8
Entertainment ²	196,594	8.3
Education and Knowledge Creation	94,003	1.1
Hospitality and Tourism	73,213	0.8
Marketing, Design and Publishing	70,376	1.6
Aerospace Vehicles and Defense	57,076	3.0
Financial Services	43,927	0.7
Information Technology / Analytical Instruments	34,748	0.7
Fashion ³	33,356	3.0
Food Processing and Manufacturing	31,346	0.8
All Other Traded Clusters	205,976	

Total Traded Cluster Employment **1,353,942** **1.0**

¹ Includes Transportation and Logistics, Distribution and Electronic Commerce and Water Transportation ² Includes Music and Sound Recording, Performing Arts and Video Production and Distribution ³ Includes Apparel, Footwear, Jewelry and Precious Metals, Leather and Related Products, and Textiles

Sources: CMP; CA EDD; BLS; Estimates by LAEDC

Local industry clusters provide just over 82 percent more jobs than traded industry clusters (**Exhibit 4-10**). The largest clusters in Los Angeles County are health services, with almost 473,600 jobs, local hospitality establishments with close to 409,100 jobs, and community and civic organizations, with close to 317,800 jobs. ❖

Exhibit 4-10
Largest Local Industry Clusters in Los Angeles County in 2022 (By employment)

	Employment
Health Services	473,581
Local Hospitality Establishments	409,066
Community and Civic Organizations	321,264
Local Commercial Services	317,765
Real Estate, Const. and Development	150,560
All Other Local Clusters	777,808

Total Local Cluster Employment **2,450,044**

Sources: CMP; CA EDD; BLS; Estimates by LAEDC

4.5 Regional Industry Employment Forecast

Employment opportunities for residents of Los Angeles County and in the City of Los Angeles will depend on the health of the regional economy. Here we present the

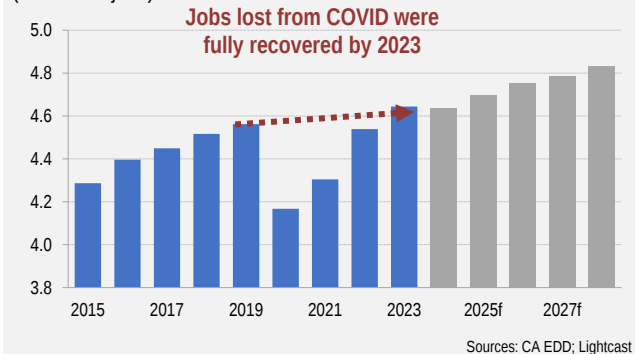
industry employment forecast for the City of Los Angeles and Los Angeles County as a whole.

Los Angeles County

Los Angeles County took three years to completely recover from the job losses caused by the COVID pandemic. In 2023, nonfarm employment saw an addition of 105,200 wage and salary jobs, bringing the total to over 4.64 million jobs. This represents a 2.3 percent increase from 2022 and nearly 82,000 more jobs compared to the pre-pandemic level in 2019.

During 2023, most of the major industry sectors in Los Angeles County experienced job growth, with the most significant gains in private education & health and leisure & hospitality, together accounting for over 90 percent of the total employment growth in 2023.

Looking forward, nonfarm employment in Los Angeles County is projected to increase by 360,200 jobs from 2022 to 2028 (**Exhibit 4-11**), with Health Services, Leisure and Hospitality, Education Services, and Professional & Business Services leading the job growth.

Exhibit 4-11
Nonfarm Employment in Los Angeles County (millions of jobs)


When compared to 2022 employment levels, Health Services is expected to see a substantial increase of 12.9 percent in jobs by 2028, followed by a 11.9 percent growth in Leisure & Hospitality. In contrast, manufacturing jobs are projected to decline by 11.7 percent due to ongoing technological advancements, capital and labor substitution, and productivity enhancements.

The expected employment growth in individual sectors at the county level is shown in **Exhibit 4-12**. Projected job creation will differ at the city level given the different mix of industries in the two regions.

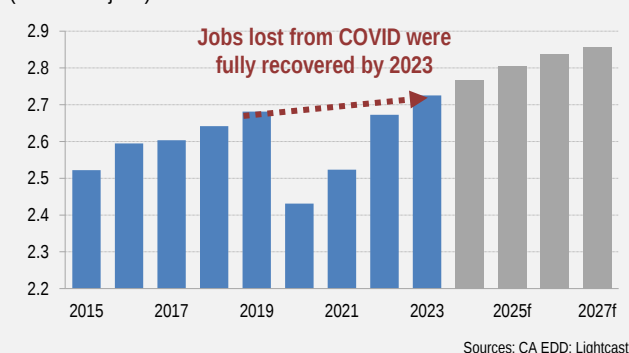
Exhibit 4-12**Industry Employment Growth 2022-2028
(Los Angeles County)**

	Annual Average % Growth	Δ Employment (000s)
Total Nonfarm Payroll Employment	1.3%	360.2
Good Producing Industries:	-0.9%	-23.8
Natural Resources and Mining	-2.3%	-0.2
Construction	1.0%	8.8
Manufacturing – Durable Goods	-1.4%	-15.6
Manufacturing – Nondurable Goods	-2.3%	-16.8
Service Providing Industries	1.7%	365.3
Wholesale Trade	-0.4%	-5.3
Retail Trade	0.6%	14.0
Transportation, Warehousing, Utilities	1.7%	22.5
Information	1.7%	24.1
Financial Activities	0.1%	0.7
Professional and Business Services	1.2%	49.5
Educational and Health Services	3.0%	166.9
Leisure and Hospitality	2.6%	83.8
Other Services	1.0%	9.0
Government	0.6%	20.1

Sources: California Employment Development Department; Lightcast; LAEDC

City of Los Angeles

Employment trends in the City of Los Angeles have followed a similar pattern to the county after the pandemic, with job losses fully recovered by 2023 (**Exhibit 4-13**). In 2023, nonfarm employment witnessed an addition of 52,700 wage and salary jobs, reaching a total of over 1.9 million jobs. This represents a 2.0 percent increase from 2022 and nearly 44,100 more jobs compared to the pre-pandemic level in 2019.

Exhibit 4-13**Nonfarm Employment in City of Los Angeles
(millions of jobs)**

The expected employment growth in individual sectors at the city level between 2022 and 2028 is shown in **Exhibit 4-14**. Nonfarm employment in the City of Los Angeles is projected to increase by 211,400 jobs during this period, with Health and Educational Services, Leisure and Hospitality, Professional & Business Services, and Information sectors driving the employment growth.

**Exhibit 4-14****Industry Employment Growth 2022-2028
(City of Los Angeles)**

	Annual Average % Growth	Δ Employment (000s)
Total Nonfarm Payroll Employment	1.3%	211.4
Good Producing Industries:	-0.8%	-10.2
Natural Resources and Mining	-3.6%	-0.1
Construction	0.9%	4.5
Manufacturing – Durable Goods	-1.3%	-6.5
Manufacturing – Nondurable Goods	-2.2%	-8.2
Service Providing Industries	1.6%	204.8
Wholesale Trade	-0.9%	-4.7
Retail Trade	0.7%	9.1
Transportation, Warehousing, Utilities	1.8%	15.5
Information	1.5%	19.9
Financial Activities	0.2%	2.1
Professional and Business Services	1.3%	34.2
Educational and Health Services	2.8%	88.4
Leisure and Hospitality	1.9%	35.8
Other Services	0.8%	4.5
Government	0.8%	17.0

Sources: California Employment Development Department; Lightcast; LAEDC

4.6 Job Creation Potential

Projected growth rates of industries and their current size together determine the potential for an industry's job creation. A small industry growing quickly may add jobs, but the absolute number of jobs added will be smaller than a large industry growing slowly.

Between 2022 and 2028, the economy is expected to add 360,200 new jobs in nonfarm industries across the county, and 211,400 new jobs in the City of Los Angeles.

Exhibit 4-15 presents the top 20 industries in Los Angeles County in terms of projected new job creation between 2022 and 2028.

The industry with the largest expected new job creation potential is social assistance, expected to add 72,900 jobs between 2022 and 2028 in the county and 29,300 jobs in the city. This is largely a result of the increased care required of the aging population. Other large segments include food services and drinking places, ambulatory health care services, and professional, scientific and technical services.

The industry with the second largest expected employment gains is food services and drinking places, projected to add 45,900 jobs between 2022 and 2028 in the county and 15,000 in the city. This is a very large industry that includes restaurants of all service types, including fast food, full service, catering and mobile food service, as well as bars and nightclubs.

Combined health care services provided by hospitals, ambulatory health care services, and nursing and residential care facilities are together projected to add 56,000 jobs from 2022 to 2028 in the county and 22,000 in the city. As noted above, these are expected to continue growing, but not at the rate expected for jobs in social assistance.

Fourth on the list is administrative and support services, which includes temporary employment.

Also on the list are Performing Arts, Spectator Sports, and Related Industries, local government, Nursing and Residential Care Facilities, Motion Picture and Sound Recording Industries, truck and air transportation, and Heavy and Civil Engineering Construction.

Taken together, these twenty industries are expected to add more than 307,000 new jobs during the period from 2022 to 2028 in Los Angeles County and more than 130,900 new jobs in the City of Los Angeles, with forecasted job loss in other industries, such as manufacturing and retail, pulling down the total projections.

A complete list of job creation in all industries in the county and the city is provided in Exhibit A-4 in the appendix. ❖

4.7 Identifying Target Industries

Economic development efforts are organized around several priorities. Among these are encouraging job growth in industries that are most competitive and that will generate high-paying jobs that will propel economic growth and wealth creation for all residents.

Exhibit 4-15

Projected New Job Creation 2022-2028

NAICS	Industry	LA City	LA County
624	Social Assistance	29,300	72,900
722	Food Services and Drinking Places	15,000	45,900
621	Ambulatory Health Care Services	14,000	34,100
541	Professional, Scientific, and Technical Services	11,300	21,200
903	Local Government	9,300	16,100
611	Educational Services	7,000	13,400
623	Nursing and Residential Care Facilities	6,400	14,000
902	State Government	6,100	9,100
812	Personal and Laundry Services	4,600	10,700
561	Administrative and Support Services	3,700	11,000
711	Performing Arts, Spectator Sports, and Related Industries	3,600	7,600
713	Amusement, Gambling, and Recreation Industries	3,500	6,400
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	2,900	4,500
721	Accommodation	2,400	7,900
531	Real Estate	2,300	3,800
481	Air Transportation	2,100	3,500
445	Food and Beverage Stores	2,000	6,100
336	Transportation Equipment Manufacturing	2,000	5,900
484	Truck Transportation	1,800	5,500
622	Hospitals	1,600	7,900
TOTAL JOB CREATION OF TOP 20 NONFARM INDUSTRIES		130,900	307,000

Source: CA EDD; Lightcast

Workforce development priorities are often in alignment with economic development goals and cognizant of the need to supply a workforce prepared for the jobs of the future but are also motivated by the immediate need to match those most in need with viable employment opportunities. To fulfill this mission, a broader view of the job market is needed. Augmenting those industries which may drive economic growth and prosperity, population-serving industries will provide the largest number of jobs in terms of job creation, since although they may grow slowly, they are large.

Our criteria for choosing target industries thus include (1) industry growth rate – those demonstrating high rates of growth are preferred to those growing slowly; (2) potential job creation – the numbers of jobs projected to be added is also an important metric; (3) industry competitiveness – in light of regional economic development goals, industries that are competitive against other regions are preferred; and (4) living wages – higher wages benefit workers and are preferred to industries that pay lower wages.

Using these sometimes overlapping, sometimes competing goals, the following industries are identified as targets for specific economic and workforce development interventions (in order of relevant NAICS):

- ▶ Construction Industries (NAICS 236, 237, 238)
- ▶ Transportation (NAICS 481-484, 488)
- ▶ Motion Picture and Sound Recording (NAICS 512)
- ▶ Health Care Services (NAICS 621, 622, 623)
- ▶ Social Assistance (NAICS 624)
- ▶ Performing Arts, Spectator Sports, and Related Industries (NAICS 711)
- ▶ Biomedical Manufacturing (NAICS 3254, 3391)

These industries are discussed individually below, including employment projections at the industry level and the types of occupations that they are most likely to employ.

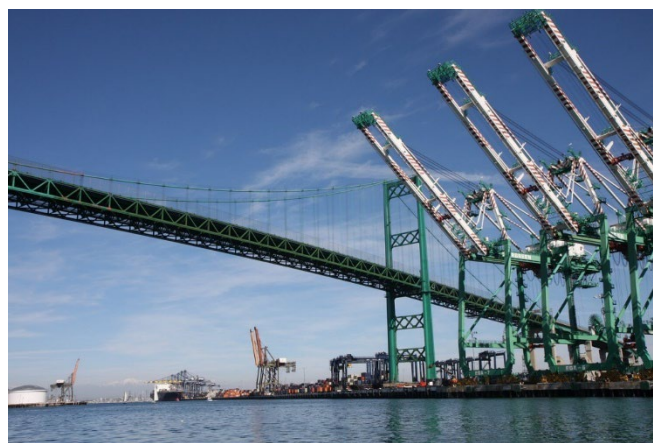


Exhibit 4-16

Target Industries Summary, Los Angeles County

Target Industry	Current Employment (2022)	Δ Employment (2022-2028)	% Green Occs.	% Living Wage Occs.	% Low -Skill Occs.	% Middle-Skill Occs.	Median Hourly Wage
Construction Industries	150,600	6,000	56.2%	90.0%	76.0%	7.5%	\$31.64
Transportation	126,900	10,800	39.5%	70.7%	61.5%	23.8%	\$32.11
Motion Picture and Sound Recording	149,500	(1,300)	17.7%	86.2%	24.3%	15.5%	\$42.13
Health Care Services	449,200	56,000	4.0%	64.5%	33.2%	28.1%	\$37.05
Social Assistance	302,200	72,900	3.1%	17.5%	82.2%	5.5%	\$19.03
Performing Arts, Spectator Sports, and Related Industries	47,500	7,600	16.6%	74.9%	46.0%	5.8%	\$36.35
Biomedical Manufacturing	17,300	800	54.0%	68.9%	61.1%	4.6%	\$32.44

Source: CA EDD; Lightcast; LAEDC



Construction Industries

The need for additional housing stock to meet pent-up demand continues to be one of the drivers in this sector. Moreover, the \$1.2 trillion Infrastructure Investment and Jobs Act (IIJA), translates into unprecedented levels of federal funding for practically all infrastructure projects. As many of the infrastructure projects currently planned to be funded through federal and state infrastructure dollars come online this year (2024), it will result in the employment of thousands of workers in highway, transit, infrastructure and other projects. Additionally, continuing incentives and mandates related to energy efficiency represent additional opportunities for workers.

Together, the sector is projected to add 6,000 jobs between 2022 and 2028 in Los Angeles County with just over 2,400 jobs added in the City of Los Angeles (**Exhibit 4-16**).

Exhibit 4-16

Construction Employment (thousands of jobs)

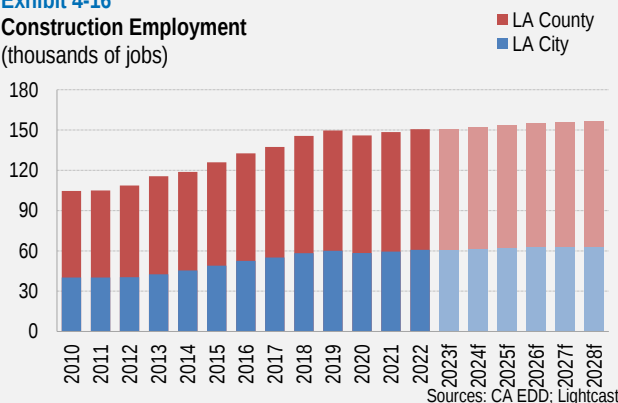


Exhibit 4-17 displays the top detailed occupations with the largest employment shares in the construction industry.

Exhibit 4-17

Top Occupations in Construction Industry (by % of Industry Employment)

SOC	Occupational Title
47-2031	Carpenters
47-2061	Construction Laborers
47-2111	Electricians
47-1011	First-Line Supervisors of Construction Trades/ Extraction Workers
47-2152	Plumbers, Pipefitters, and Steamfitters
43-9061	Office Clerks, General
11-9021	Construction Managers
47-2141	Painters, Construction and Maintenance
49-9021	Heating, Air Conditioning and Refrigeration Mechanics/ Installers
47-2081	Drywall and Ceiling Tile Installers

Sources: CA EDD; Lightcast

Construction is a high road industry, one that provides opportunity for equity, sustainability, and job quality. **Exhibit 4-18** identifies a selection of green occupations in the construction industry.

Exhibit 4-18

Green Occupations in Construction Industry (Sustainability Focused)

SOC	Occupational Title
47-2031	Carpenters
47-2061	Construction Laborers
47-2111	Electricians
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers
47-2152	Plumbers, Pipefitters, and Steamfitters
11-9021	Construction Managers
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Sources: CA EDD; ONET; Lightcast

Exhibit 4-19 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-19

Top Occupations in Construction Industry with Living Wages (by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers
47-2073	Operating Engineers and Other Construction Equipment Operators
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers
Middle-Skill	
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
53-3032	Heavy and Tractor-Trailer Truck Drivers
43-3031	Bookkeeping, Accounting, and Auditing Clerks
Above Middle Skill	
11-9199	Managers, All Other
11-9021	Construction Managers
11-1021	General and Operations Managers

Sources: CA EDD; Lightcast



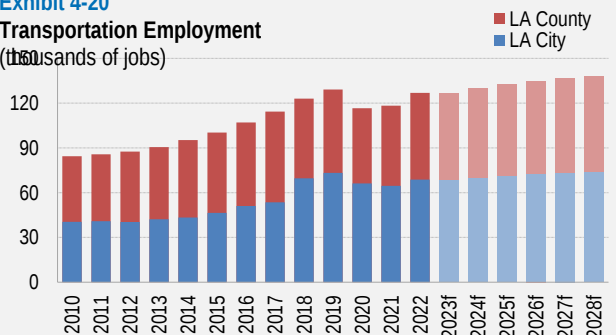
Transportation Industries

Transportation industries in Los Angeles County, include passenger rail and public transportation, to the Port of Los Angeles and Port of Long Beach and Los Angeles International Airport (LAX), in addition to other logistics operations; they all play a vital role in the regional economy. The competitive location, extensive infrastructure, and sophisticated logistics network have positioned Los Angeles as a key player in the global supply chain. Employment in the transportation sector in Los Angeles County is primarily concentrated in air transportation, ground transportation, marine cargo handling, and supporting activities.

In 2019, total employment in the transportation sector reached nearly 130,000 jobs in the county and 73,200 jobs in the city (**Exhibit 4-20**). Despite substantial disruptions caused by the COVID-19 pandemic, including economic downturns and supply chain challenges, over 98 percent of the lost jobs were recovered by 2022.

Exhibit 4-20

Transportation Employment (thousands of jobs)



Sources: CA EDD; Lightcast

Looking ahead, the growth of the transportation industries will be fueled by the continuous expansion of freight transportation and logistics, offering major employment opportunities for the local workforce. Projections indicate that by 2028, the transportation industries will support over 137,000 jobs in the county and 73,500 jobs in the city.

Exhibit 4-21 displays the top detailed occupations with the largest employment shares in the transportation industry.

Similar to construction, transportation is also considered a high road industry, one that provides opportunity for equity, sustainability, and job quality. **Exhibit 4-22** identifies a selection of green occupations in the transportation industry.

Exhibit 4-21

Top Occupations in Transportation Industry (by % of Industry Employment)

SOC	Occupational Title
53-3032	Heavy and Tractor-Trailer Truck Drivers
53-7062	Laborers and Freight, Stock, and Material Movers, Hand
53-2031	Flight Attendants
43-5011	Cargo and Freight Agents
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks
53-2011	Airline Pilots, Copilots, and Flight Engineers
53-7051	Industrial Truck and Tractor Operators
53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors
11-1021	General and Operations Managers
49-3011	Aircraft Mechanics and Service Technicians

Sources: CA EDD; Lightcast

Exhibit 4-22

Green Occupations in Transportation Industry (Sustainability Focused)

SOC	Occupational Title
53-3032	Heavy and Tractor-Trailer Truck Drivers
43-5011	Cargo and Freight Agents
53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors
11-1021	General and Operations Managers
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel
11-3071	Transportation, Storage, and Distribution Managers
53-7021	Crane and Tower Operators

Sources: CA EDD; ONET; Lightcast

Exhibit 4-23 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-23

Top Occupations in Transportation Industry with Living Wages (by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
53-2012	Commercial Pilots
11-3071	Transportation, Storage, and Distribution Managers
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers

Middle-Skill

53-5031	Ship Engineers
53-5021	Captains, Mates, and Pilots of Water Vessels
49-3011	Aircraft Mechanics and Service Technicians

Above Middle Skill

53-2011	Airline Pilots, Copilots, and Flight Engineers
11-1021	General and Operations Managers
13-2011	Accountants and Auditors

Sources: CA EDD; Lightcast

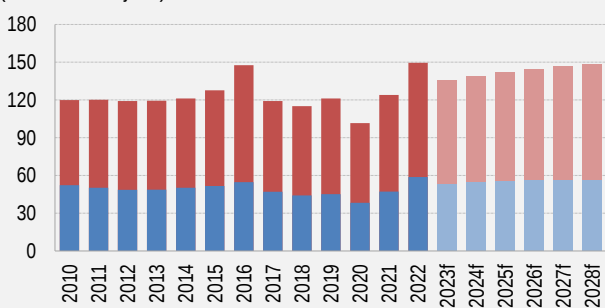
Motion Picture and Sound Recording Industries

As a hallmark of the region's distinctive entertainment sector, the Motion Picture and Sound Recording industry encompasses motion picture and video productions, distribution, and exhibition (including both pre- and post-production processes and services), sound recording, music publishing, and record production and distribution.

This industry not only exhibits diverse workforce requirements, but also has close connections with various sectors, including marketing, information technology, online publishing, and service delivery. The Motion Picture and Sound Recording industry experienced substantial growth from 2010 to 2019, boosted by incentives from the California Film and Television Tax Credit Program. Despite facing challenges during the COVID-19 pandemic, including significant setbacks in the entertainment and information sectors, the Motion Picture industry rebounded in 2021, with a notable growth in employment levels in 2022 (**Exhibit 4-24**).

Exhibit 4-24

Motion Picture and Sound Recording Employment (thousands of jobs)



Sources: CA EDD; Lightcast

However, the industry faced challenges again due to the dual Hollywood strikes in 2023. In 2022, total employment in this sector reached its peak since 2010, amounting to nearly 150,000 jobs in the county and 58,700 jobs in the city. In 2023, an estimated 10 percent decline in total employment occurred in both the county and city. Projections indicate a steady growth trajectory for the industry from 2024 to 2028, with total employment remaining below the 2022 peak but significantly surpassing the average pre-pandemic levels.

Exhibit 4-25 displays the top detailed occupations with the largest employment shares in the construction industry.

Exhibit 4-25

Top Occupations in Motion Picture and Sound Recording Industry (by % of Industry Employment)

SOC	Occupational Title
27-2012	Producers and Directors
27-1014	Special Effects Artists and Animators
27-2011	Actors
27-4032	Film and Video Editors
27-3099	Media and Communication Workers, All Other
27-3041	Editors
27-4012	Broadcast Technicians
43-5061	Production, Planning, and Expediting Clerks
27-4031	Camera Operators, Television, Video, and Film
11-1021	General and Operations Managers

Sources: CA EDD; Lightcast

Similar to construction and transportation, motion picture and sound recording can be considered a high road industry, one that provides opportunity for equity, sustainability, and job quality. **Exhibit 4-26** identifies a selection of green occupations in the motion picture and sound recording industry.

Exhibit 4-26

Green Occupations in Motion Picture and Sound Recording Industry (Sustainability Focused)

SOC	Occupational Title
27-1014	Special Effects Artists and Animators
27-1011	Art Directors
27-4015	Lighting Technicians
13-1199	Business Operations Specialists, All Other
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
39-3092	Costume Attendants
15-1299	Computer Occupations, All Other

Sources: CA EDD; ONET; Lightcast

Exhibit 4-27 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-27

Top Occupations in Motion Picture and Sound Recording Industry with Living Wages (by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
27-4015	Lighting Technicians
27-3099	Media and Communication Workers, All Other
43-6011	Executive Secretaries and Executive Administrative Assistants
Middle-Skill	
27-4012	Broadcast Technicians
39-5091	Makeup Artists, Theatrical and Performance
27-4011	Audio and Video Technicians

Above Middle Skill

11-3021	Computer and Information Systems Managers
11-3031	Financial Managers
11-9199	Managers, All Other

Sources: CA EDD; Lightcast

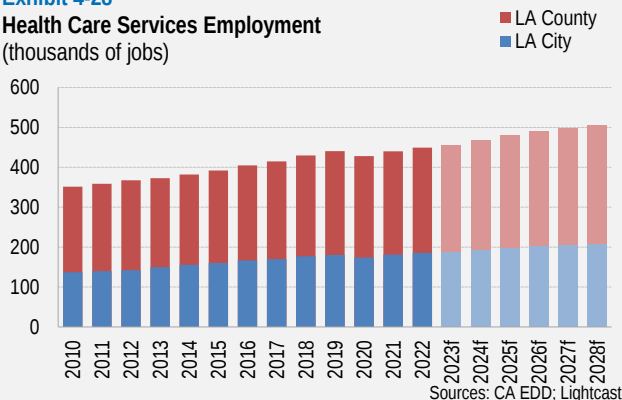
Health Care Services Industries

Healthcare services is a large and growing industry, which is composed of several inter-related and supporting industries, including hospitals, offices of physicians and healthcare practitioners, ambulatory healthcare services, medical and diagnostic laboratories, nursing and residential care facilities.

The sector as a whole has been growing steadily over the past two decades due to the aging population and increased access to health care related to the Affordable Care Act in starting in 2010, and, despite the COVID-19 pandemic impacting the industry in 2020 and 2021, the total employment in this sector surpassed its pre-pandemic level in 2022, with 449,200 jobs in the County and 185,400 jobs in the city (**Exhibit 4-28**). The industry is projected to continue to be a driver of economic activity going forward as the population continues to grow and age, and as medical advancements extend life expectancy.

Exhibit 4-28

Health Care Services Employment (thousands of jobs)



Offering diverse employment opportunities with varying skills and educational requirements, the sector provides accessible career pathways through stackable certificates. This sector is expected to add 56,000 jobs in Los Angeles County and 22,000 jobs in the City of Los Angeles between 2022 and 2028.

Exhibit 4-29 displays the top detailed occupations with the largest employment shares in the health care services industry.

The health care services industry is another high road industry, one that provides opportunity for equity, sustainability, and job quality. **Exhibit 4-30** identifies a selection of green occupations in the health care services industry.

Exhibit 4-31 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-29

Top Occupations in Health Care Services Industry (by % of Industry Employment)

SOC	Occupational Title
29-1141	Registered Nurses
31-1128	Home Health and Personal Care Aides
31-1131	Nursing Assistants
31-9092	Medical Assistants
43-6013	Medical Secretaries and Administrative Assistants
29-2061	Licensed Practical and Licensed Vocational Nurses
31-9091	Dental Assistants
11-9111	Medical and Health Services Managers
43-4171	Receptionists and Information Clerks
29-1292	Dental Hygienists

Sources: CA EDD; Lightcast

Exhibit 4-30

Green Occupations in Health Care Services Industry (Sustainability Focused)

SOC	Occupational Title
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
29-1051	Pharmacists
39-9032	Recreation Workers
29-2052	Pharmacy Technicians
31-1132	Orderlies
31-9094	Medical Transcriptionists
31-2011	Occupational Therapy Assistants

Sources: CA EDD; ONET; Lightcast

Exhibit 4-31

Top Occupations in Health Care Services Industry with Living Wages (by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
43-1011	First-Line Supervisors of Office and Administrative Support Workers
31-9093	Medical Equipment Preparers
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
Middle-Skill	
29-1292	Dental Hygienists
29-2032	Diagnostic Medical Sonographers
29-2034	Radiologic Technologists and Technicians

Above Middle Skill

29-1223	Psychiatrists
29-1211	Anesthesiologists
29-1242	Orthopedic Surgeons, Except Pediatric

Sources: CA EDD; Lightcast

Social Assistance Industries

The Social Assistance Industry has experienced significant growth over the last ten years, emerging as a prominent employment provider in Los Angeles. This industry comprises various sectors, including individual and family services (serving children, youth, the elderly, and individuals with disabilities), community food and housing, emergency and other relief services, vocational rehabilitation services, and childcare services. It offers employment opportunities across a wide spectrum of occupations and skill sets, ranging from administrative support workers and secretaries to licensed practical and licensed vocational nurses, teaching assistants, financial managers, and registered nurses.

In the past decade, total employment within the Social Assistance industries has surged from 217,100 jobs in the county and 87,900 in the city in 2013 to 302,200 jobs in the county and 123,700 in the city in 2022 (**Exhibit 4-32**). Projections indicate continued rapid growth between 2022 and 2028, with total employment expected to increase by approximately 24 percent in both the county and city, reaching 375,100 jobs and 152,900 jobs, respectively.

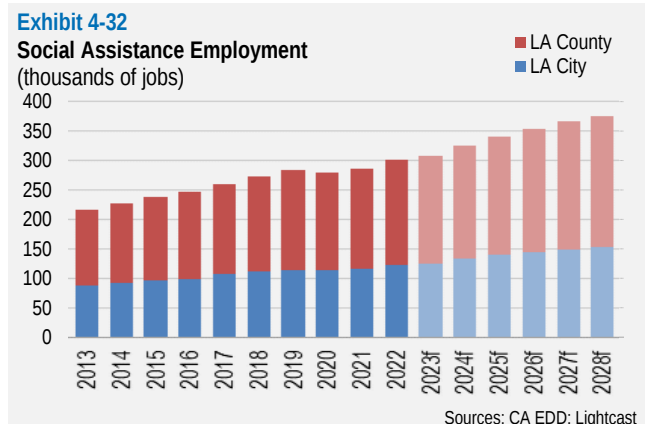


Exhibit 4-33 displays the top detailed occupations with the largest employment shares in the social assistance industry.

Exhibit 4-34 identifies a selection of green occupations in the social assistance industry.

Exhibit 4-35 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-33

Top Occupations in Social Assistance Industry
(by % of Industry Employment)

SOC	Occupational Title
31-1128	Home Health and Personal Care Aides
25-2011	Preschool Teachers, Except Special Education
21-1093	Social and Human Service Assistants
21-1021	Child, Family, and School Social Workers
11-9151	Social and Community Service Managers
39-9011	Childcare Workers
21-1013	Marriage and Family Therapists
25-9045	Teaching Assistants, Except Postsecondary
31-1131	Nursing Assistants
43-9061	Office Clerks, General

Sources: CA EDD; Lightcast

Exhibit 4-34

Green Occupations in Social Assistance Industry
(Sustainability Focused)

SOC	Occupational Title
31-1131	Nursing Assistants
11-9031	Education and Childcare Administrators, Preschool and Daycare
29-2061	Licensed Practical and Licensed Vocational Nurses
11-3031	Financial Managers
53-3053	Shuttle Drivers and Chauffeurs
35-2012	Cooks, Institution and Cafeteria
25-3021	Self-Enrichment Teachers

Sources: CA EDD; ONET; Lightcast

Exhibit 4-35

Top Occupations in Social Assistance Industry with Living Wages
(by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
43-1011	First-Line Supervisors of Office and Administrative Support Workers
43-5061	Production, Planning, and Expediting Clerks
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
Middle-Skill	
29-2061	Licensed Practical and Licensed Vocational Nurses
43-3031	Bookkeeping, Accounting, and Auditing Clerks
25-9045	Teaching Assistants, Except Postsecondary

Above Middle Skill

11-3031	Financial Managers
29-1141	Registered Nurses
11-9111	Medical and Health Services Managers

Sources: CA EDD; Lightcast

Performing Arts, Spectator Sports and Related Industries

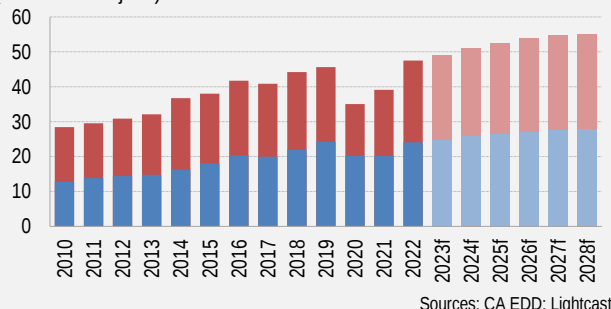
Known as a vibrant hub for artists, performers, and creators, Los Angeles County's unique strength in performing arts is demonstrated by its high concentration of employment in this industry compared to the national average level. Additionally, Los Angeles stands as one of the largest markets for collegiate and professional sports in the United States. The performing arts, spectator sports and related industries encompass various sectors, including performing arts companies, spectator sports, promoters of performing arts and sports, agents and managers for artists and athletes, and independent artists, writers, and performers.

Since 2010, the performing arts and sports industry in Los Angeles has experienced significant growth, with employment expanding by 60 percent in the county and 90 percent in the city, resulting in total employment figures of 45,600 jobs and 24,200 jobs, respectively (**Exhibit 4-36**). However, the COVID-19 pandemic substantially disrupted entertainment and sports industries, causing a 23 percent reduction in total employment in the county and a 17 percent reduction in the city in 2020.

Exhibit 4-36

Performing Arts, Spectator Sports, and Related Industries Employment

(thousands of jobs)



Despite these challenges, the industry made a full recovery from the pandemic's effects by 2022. Looking forward, the performing arts and sports industry is projected to have steady growth in the coming years, with an anticipated 15 percent increase in total employment between 2022 and 2028 in both the county and the city.

Exhibit 4-37 displays the top detailed occupations with the largest employment shares in the performing arts, spectator sports and related industries.

Exhibit 4-37

Top Occupations in Performing Arts, Spectator Sports and Related Industries

(by % of Industry Employment)

SOC	Occupational Title
13-1011	Agents and Business Managers of Artists, Performers, and Athletes
43-9061	Office Clerks, General
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
27-2012	Producers and Directors
11-1021	General and Operations Managers
27-3043	Writers and Authors
39-3031	Ushers, Lobby Attendants, and Ticket Takers
27-2042	Musicians and Singers
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators
43-3031	Bookkeeping, Accounting, and Auditing Clerks

Sources: CA EDD; Lightcast

Exhibit 4-38 identifies a selection of green occupations in the performing arts, spectator sports and related industries.

Exhibit 4-38

Green Occupations in Performing Arts, Spectator Sports and Related Industries

(Sustainability Focused)

SOC	Occupational Title
27-2012	Producers and Directors
27-3043	Writers and Authors
33-9032	Security Guards
27-2022	Coaches and Scouts
13-1121	Meeting, Convention, and Event Planners
41-2011	Cashiers
43-5061	Production, Planning, and Expediting Clerks

Sources: CA EDD; ONET; Lightcast

Exhibit 4-39 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-39

Top Occupations in Performing Arts, Spectator Sports and Related Industries with Living Wages

(by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
27-2021	Athletes and Sports Competitors
27-2042	Musicians and Singers
27-4015	Lighting Technicians
Middle-Skill	
27-4012	Broadcast Technicians
27-4011	Audio and Video Technicians
27-4014	Sound Engineering Technicians
Above Middle Skill	
11-1011	Chief Executives
23-1011	Lawyers
11-3021	Computer and Information Systems Managers

Sources: CA EDD; Lightcast

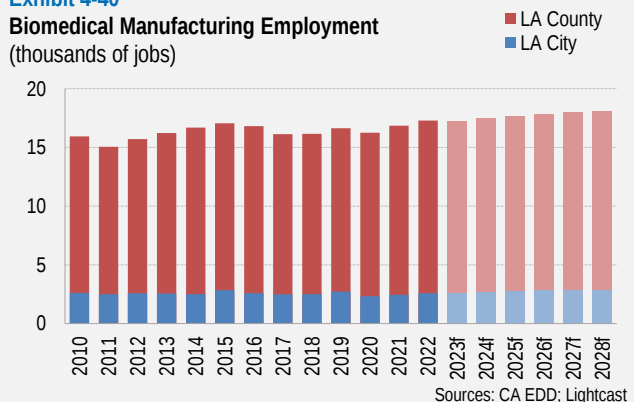
Biomedical Manufacturing Industries

Biomedical manufacturing is an important industry in California, and the industry has been building capacity in Los Angeles, offering promising employment prospects for individuals with diverse skill sets.

In 2022, the biomedical manufacturing industry supported approximately 17,300 jobs in the county and 2,600 jobs in the City of Los Angeles (**Exhibit 4-40**). Key segments within the biomedical manufacturing industry include biopharmaceutical products and surgical & dental instruments and supplies manufacturing, collectively accounting for nearly 90 percent of the industry's employment.

Exhibit 4-40

Biomedical Manufacturing Employment (thousands of jobs)



The industry's future growth will continue to be driven by the increasing demand for critical healthcare products, advancements in medical technology, and investments in research and innovation. This trend will provide the opportunity for the region to emerge as a hub for biomedical products manufacturing and supply. Projections indicate that total employment in this industry will surpass 18,000 jobs in the county and approach 2,900 jobs in the city by 2028.

Exhibit 4-41 displays the top detailed occupations with the largest employment shares in the health care services industry.

The health care services industry is another high road industry, one that provides opportunity for equity, sustainability, and job quality. **Exhibit 4-42** identifies a selection of green occupations in the health care services industry.

Exhibit 4-43 presents the top occupations in the industry with living wages across the skills spectrum.

Exhibit 4-41

Top Occupations in Biomedical Manufacturing Industry (by % of Industry Employment)

SOC	Occupational Title
51-9111	Packaging and Filling Machine Operators and Tenders
51-2098	Miscellaneous Assemblers and Fabricators
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers
51-9081	Dental Laboratory Technicians
51-1011	First-Line Supervisors of Production and Operating Workers
51-9011	Chemical Equipment Operators and Tenders
51-9199	Production Workers, All Other
51-9082	Medical Appliance Technicians
19-2031	Chemists
17-2112	Industrial Engineers

Sources: CA EDD; Lightcast

Exhibit 4-42

Green Occupations in Biomedical Manufacturing Industry (Sustainability Focused)

SOC	Occupational Title
51-9111	Packaging and Filling Machine Operators and Tenders
51-2098	Miscellaneous Assemblers and Fabricators
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers
51-1011	First-Line Supervisors of Production and Operating Workers
51-9011	Chemical Equipment Operators and Tenders
51-9199	Production Workers, All Other
51-9082	Medical Appliance Technicians

Sources: CA EDD; ONET; Lightcast

Exhibit 4-43

Top Occupations in Biomedical Manufacturing Industry with Living Wages (by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
11-3071	Transportation, Storage, and Distribution Managers
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers
43-6011	Executive Secretaries and Executive Administrative Assistants
Middle-Skill	
17-3026	Industrial Engineering Technologists and Technicians
17-3023	Electrical and Electronic Engineering Technologists and Technicians
15-1232	Computer User Support Specialists
Above Middle Skill	
11-1011	Chief Executives
23-1011	Lawyers
11-3021	Computer and Information Systems Managers

Sources: CA EDD; Lightcast

5 OCCUPATIONAL ANALYSIS

Understanding how industries are expected to grow or decline and estimating their job creation potential provides one aspect of the overall workforce needs. The more important aspect, however, is the composition of those expected jobs and their educational attainment and skills needs. In this section, we convert industry job creation projections into occupational projections.

5.1 Current Occupational Profile

Occupations are commonly classified using the Standard Occupational Classification (SOC) system, developed by the Bureau of Labor Statistics. This system classifies all workers into one of 867

detailed occupations with similar job duties, skills, education and training. These detailed occupations are not generally industry-specific but are common to many industries. For example, retail salespersons are employed in a full spectrum of industries.

Detailed occupations are aggregated into 23 major groups, which include broad descriptive categories such as production occupations, management occupations and business and financial operations occupations.

The occupational profile of Los Angeles County is shown in **Exhibit 5-1**. These are the occupations of the jobs that are located in Los Angeles County.

There is a diversity of occupations, as would be expected from such a large economy. The largest occupational group is office and administrative support, accounting for 12.1 percent of all jobs in the region. This is followed by food preparation and serving, accounting for just under 9 percent. These two occupational groups represent a variety of detailed occupations that are employed across many industries. Transportation and material moving occupations and healthcare support occupations are tied as the third largest occupational group, both accounting for 8.4 percent of all jobs.

Healthcare occupations, including both practitioners and support occupations combined, account for 13.9 percent of jobs in Los Angeles County.

Exhibit 5-1

Occupational Profile Los Angeles County 2023 (% of Employment)

SOC	Occupational Group	
11-0000	Management occupations	6.9%
13-0000	Business and financial operations	6.6%
15-0000	Computer and mathematical science	2.6%
17-0000	Architecture and engineering	1.4%
19-0000	Life, physical and social science	0.8%
21-0000	Community and social services	2.3%
23-0000	Legal occupations	1.1%
25-0000	Education, training and library	5.7%
27-0000	Arts, design, entertainment, sports, media	4.0%
29-0000	Healthcare practitioners and technical	5.5%
31-0000	Healthcare support	8.4%
33-0000	Protective services	2.7%
35-0000	Food preparation and serving	8.9%
37-0000	Building/grounds cleaning and maintenance	2.5%
39-0000	Personal care and service	2.1%
41-0000	Sales and related	8.1%
43-0000	Office and administrative support	12.1%
45-0000	Farming, fishing and forestry	0.1%
47-0000	Construction and extraction	2.6%
49-0000	Installation, maintenance and repair	2.7%
51-0000	Production	4.6%
53-0000	Transportation/material moving	8.4%
Total		100.0%

Sources: BLS: Occupational Employment and Wage Statistics Survey, May 2023

Blue-collar occupations, such as those in construction, protective services, maintenance production and transportation account for 23.6 percent of all jobs, a measure of how important these sectors are to the region's economy.

The occupational profile of the City of Los Angeles is shown in **Exhibit 5-2**. These are the occupations of the jobs that are located in the City of Los Angeles.

Similar to the county level, there is a diversity of occupations. The largest occupational group is office and administrative support, accounting for 12.7 percent of all jobs in the city. This is followed by transportation and material moving with 8.3 percent. These two occupational groups represent a variety of detailed occupations that are employed across many industries. The third largest occupational group, health care support occupations, accounted for 8.2 percent of all jobs.

Exhibit 5-2**Occupational Profile City of Los Angeles 2022
(% of Employment)**

SOC	Occupational Group	
11-0000	Management occupations	7.0%
13-0000	Business and financial operations	7.0%
15-0000	Computer and mathematical science	2.5%
17-0000	Architecture and engineering	1.2%
19-0000	Life, physical and social science	0.7%
21-0000	Community and social services	2.4%
23-0000	Legal occupations	1.5%
25-0000	Education, training and library	6.9%
27-0000	Arts, design, entertainment, sports, media	4.1%
29-0000	Healthcare practitioners and technical	5.6%
31-0000	Healthcare support	8.2%
33-0000	Protective services	2.9%
35-0000	Food preparation and serving	7.7%
37-0000	Building/grounds cleaning and maintenance	2.3%
39-0000	Personal care and service	2.3%
41-0000	Sales and related	7.6%
43-0000	Office and administrative support	12.7%
45-0000	Farming, fishing and forestry	0.1%
47-0000	Construction and extraction	2.5%
49-0000	Installation, maintenance and repair	2.7%
51-0000	Production	3.9%
53-0000	Transportation/material moving	8.3%
Total		100.0%

Sources: BLS: Occupational Employment and Wage Statistics Survey, May 2023

Total healthcare occupations, including both practitioners and support occupations combined, account for 13.8 percent of jobs in the City of Los Angeles.

Blue-collar occupations, such as those in construction, protective services, maintenance, production and transportation account for 22.7 percent of all jobs in the city. ❖

5.2 Projected Occupational Needs

The growth of industries in the region will precipitate the growth of particular occupations. The overall net growth of an occupation is a consequence of its contribution to industries that are growing and to industries that are declining. This may result in an occupation experiencing no or little growth as workers that had been employed in a failing industry shift to similar roles in industries that are growing, or as workers in certain occupations are replaced with improved technologies or processes.

In addition to the growth and decline of industries, workers within industries leave current positions, either through retirement or through promotion, or for other reasons, leaving positions open and in need of



replacement. Replacement rates depend on several factors. The age profile of the existing workforce can portend high replacement rates, such as occurs in many manufacturing industries as highly-skilled craftsmen are reaching retirement age and younger workers have not been trained or received apprenticeships to replace them. Occupations that enable current workers to gain valuable skills through on-the-job training will encourage them to move into higher-skilled occupations and leave jobs opening for those with less experience. Industries that are undergoing technological change may find that new processes require fewer workers, leaving fewer openings available as workers retire or leave for other positions.

The Census Bureau estimates replacement needs by industry and occupation through detailed surveys of employers and households. These take into account industry changes, the age of the current workforce within each industry and occupation, and the nature of the career path. These estimates are an important component of occupational job openings and workforce development needs, since the retirement and promotion of individuals leave openings for newer entrants and those moving up the career ladder to assume.

Projected new openings are calculated by applying the industry occupational composition to the detailed industry employment forecast, and occupational forecasts are aggregated across industries.

Projected job openings by major occupational group in Los Angeles County are presented in **Exhibit 5-3**, and in the City of Los Angeles in **Exhibit 5-4**.

The largest number of overall openings will occur in the largest occupational groups, such as office and administrative support occupations, food preparation and serving occupations, and healthcare occupations (practitioners, technicians and support). Other occupations that will provide large number of openings

Exhibit 5-3**Occupational Growth in Los Angeles County 2022-2028**

SOC	Occupational Group	New Jobs	Replacement	Total *
11-0000	Management occupations	56,600	168,700	225,500
13-0000	Business and financial	49,500	171,900	221,400
15-0000	Computer and mathematical	23,500	51,200	74,700
17-0000	Architecture and engineering	9,600	29,200	38,700
19-0000	Life, physical, social science	6,800	21,100	28,200
21-0000	Community and social services	12,000	22,300	34,300
23-0000	Legal occupations	50,000	178,700	229,100
25-0000	Education, training and library	26,600	120,100	146,900
27-0000	Arts, entertainment, sports	55,900	104,700	160,600
29-0000	Healthcare practitioners	127,800	450,700	578,700
31-0000	Healthcare support	24,600	116,900	141,500
33-0000	Protective services	97,700	580,100	678,000
35-0000	Food preparation and serving	21,000	111,900	133,000
37-0000	Building/grounds maintenance	24,900	131,800	157,100
39-0000	Personal care and service	46,300	341,800	388,200
41-0000	Sales and related	59,800	423,400	483,300
43-0000	Office and administrative	700	7,600	8,300
45-0000	Farming, fishing and forestry	19,900	71,700	91,900
47-0000	Construction and extraction	20,900	76,600	97,800
49-0000	Installation, maint / repair	15,500	153,400	169,600
51-0000	Production	64,000	347,100	411,100
53-0000	Transportation/material moving	56,600	168,700	225,500
Total*		840,700	3,726,300	4,567,000

* May not sum due to rounding
Source: Estimates by LAEDC

are personal care occupations, sales occupations, education and training occupations, and transportation and material moving occupations.

Please note that replacement estimates represent 7 years of annual job churn, they are the sum of annual replacements for each year from 2022 through 2028. Data do not sum to estimated industry job creation shown in Section 3 due to non-disclosed data and rounding across all detailed occupations.

Within each occupational group are 867 detailed occupations. Detailed occupations are differentiated according to jobs skills, abilities and work experience required. They are not generally industry specific but are common to several industries. For example, retail salespeople are employed in a full spectrum of industries.

Exhibit 5-5 presents the top 25 detailed occupations by projected job openings (new jobs and replacement jobs) between 2022 and 2028 in Los Angeles County and in the City of Los Angeles. These twenty-five occupations will account for just under 40 percent of all job openings in all occupations.

Exhibit 5-4**Occupational Growth in City of Los Angeles 2022-2028**

SOC	Occupational Group	New Jobs	Replacement	Total *
11-0000	Management occupations	16,200	64,500	80,700
13-0000	Business and financial	13,500	64,200	77,700
15-0000	Computer and mathematical	6,900	23,200	30,100
17-0000	Architecture and engineering	2,100	10,900	13,000
19-0000	Life, physical, social science	2,100	6,900	9,000
21-0000	Community and social services	9,900	22,200	32,100
23-0000	Legal occupations	6,000	14,100	20,000
25-0000	Education, training and library	17,600	63,000	80,600
27-0000	Arts, entertainment, sports	3,400	38,200	41,600
29-0000	Healthcare practitioners	16,600	51,800	68,400
31-0000	Healthcare support	47,800	79,600	127,400
33-0000	Protective services	8,100	26,400	34,500
35-0000	Food preparation and serving	25,800	71,300	97,100
37-0000	Building/grounds maintenance	5,300	21,100	26,400
39-0000	Personal care and service	9,500	21,500	31,000
41-0000	Sales and related	6,600	68,400	75,000
43-0000	Office and administrative	6,000	114,300	120,300
45-0000	Farming, fishing and forestry	0	1,500	1,500
47-0000	Construction and extraction	4,900	22,600	27,600
49-0000	Installation, maint / repair	6,600	24,300	30,900
51-0000	Production	-1,100	34,300	33,200
53-0000	Transportation/material moving	14,900	76,500	91,400
Total*		228,700	920,700	1,149,400

* May not sum due to rounding
Source: Estimates by LAEDC



The largest number of openings will be found in occupations related to the largest major occupational groups: home health and personal care aides and registered nurses, which are both in healthcare occupational groups (practitioners and support); fast food and counter workers and waiters and waitresses, which are in the food preparation and serving occupational group; and laborers and freight movers and stockers and order fillers, which are in the transportation and material moving occupational group.

Other occupations with large numbers of openings expected over through 2028 are postsecondary teachers, general operations managers, retail salespersons, cashiers, and security guards.

A complete list of all occupational projections for Los Angeles County is in Exhibit A-5 in the appendix.



Exhibit 5-5

Occupational Growth in Los Angeles City & County 2022-2028

SOC	Detailed Occupation	LA County	LA City
31-1128	Home Health and Personal Care Aides	443,400	98,700
35-3023	Fast Food and Counter Workers	212,000	24,700
29-1141	Registered Nurses	53,500	23,700
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	93,100	19,000
25-1099	Postsecondary Teachers	46,400	18,600
11-1021	General and Operations Managers	54,600	18,400
41-2031	Retail Salespersons	98,400	17,600
41-2011	Cashiers	140,300	17,300
33-9032	Security Guards	70,000	16,700
43-9061	Office Clerks, General	69,600	16,600
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	76,000	15,900
53-7065	Stockers and Order Fillers	93,700	15,400
35-3031	Waiters and Waitresses	105,300	13,400
13-2011	Accountants and Auditors	32,200	13,200
23-1011	Lawyers	16,400	12,600
43-4051	Customer Service Representatives	56,700	11,500
13-1199	Business Operations Specialists, All Other	33,900	10,900
35-2014	Cooks, Restaurant	59,300	10,900
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	41,900	10,600
25-2021	Elementary School Teachers, Except Special Education	22,800	10,400
43-3031	Bookkeeping, Accounting, and Auditing Clerks	42,900	10,400
53-3032	Heavy and Tractor-Trailer Truck Drivers	43,400	10,400
15-1252	Software Developers	23,700	9,700
25-9045	Teaching Assistants, Except Postsecondary	33,500	9,600
31-1131	Nursing Assistants	45,000	9,500
Total*		1,971,000	445,700

* May not sum due to rounding

Source: Estimates by LAEDC

Education and Skills Requirements

Careful examination of the detailed occupations that will provide the most job openings in the next five years as shown in Exhibit 4-4 reveal that many of these occupations require lower levels of education and training. The expected openings for these job market participants are especially important to understand given the capabilities of the local labor supply.

The education and work experience needed for an entry level position in each of the top twenty-five occupations is shown in **Exhibit 5-6**.

Entry level education requirements are as follows: 1= Doctorate or professional degree; 2=Master's degree; 3=Bachelor's degree; 4=Associate degree; 5=Post-

secondary non-degree award; 6=Some college, no degree; 7=High school diploma or equivalent; and 8=Less than high school. Short-term on-the-job training is training of less than one month. Moderate on-the-job training is training from 1 to 12 months.

Most occupations in the exhibit require a high school diploma or less and no work experience. The median wages shown for each occupation reflect the degree of preparation and skills levels needed, as most of them are below the average wage paid to workers in Los Angeles County.

Exhibit 5-6

Median Wage and Entry Level Requirements for Top 25 Detailed Occupations 2022-2028

SOC	Detailed Occupation	Median Annual Wage	Entry Level		OJT
			Educ	Work Exp	
31-1128	Home Health and Personal Care Aides	\$ 32,400	7	None	ST
35-3023	Fast Food and Counter Workers	34,400	8	None	ST
29-1141	Registered Nurses	129,800	3	None	None
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	36,000	8	None	ST
25-1099	Postsecondary Teachers	106,400	1	None	None
11-1021	General and Operations Managers	114,100	3	5+yr	None
41-2031	Retail Salespersons	34,800	8	None	ST
41-2011	Cashiers	33,600	8	None	ST
33-9032	Security Guards	35,700	7	None	ST
43-9061	Office Clerks, General	40,200	7	None	ST
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	36,400	8	None	ST
53-7065	Stockers and Order Fillers	35,900	7	None	ST
35-3031	Waiters and Waitresses	32,200	8	None	ST
13-2011	Accountants and Auditors	81,500	6	None	ST
23-1011	Lawyers	181,000	1	None	None
43-4051	Customer Service Representatives	42,600	7	None	ST
13-1199	Business Operations Specialists, All Other	72,600	3	None	None
35-2014	Cooks, Restaurant	37,800	8	<5 yrs	MT
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	48,600	7	None	ST
25-2021	Elementary School Teachers, Except Special Education	96,000	3	None	None
43-3031	Bookkeeping, Accounting, and Auditing Clerks	49,700	6	None	MT
53-3032	Heavy and Tractor-Trailer Truck Drivers	51,500	5	None	ST
15-1252	Software Developers	136,700	3	None	None
25-9045	Teaching Assistants, Except Postsecondary	39,600	6	None	None
31-1131	Nursing Assistants	38,800	5	None	None

ST=short term; MT=moderate-term

Source: Estimates by LAEDC

A complete list of all occupational projections for Los Angeles County and the City of Los Angeles, along with their entry level educational and work experience requirements are provided in Exhibit A-5 in the appendix.

The Talent Development System in Los Angeles

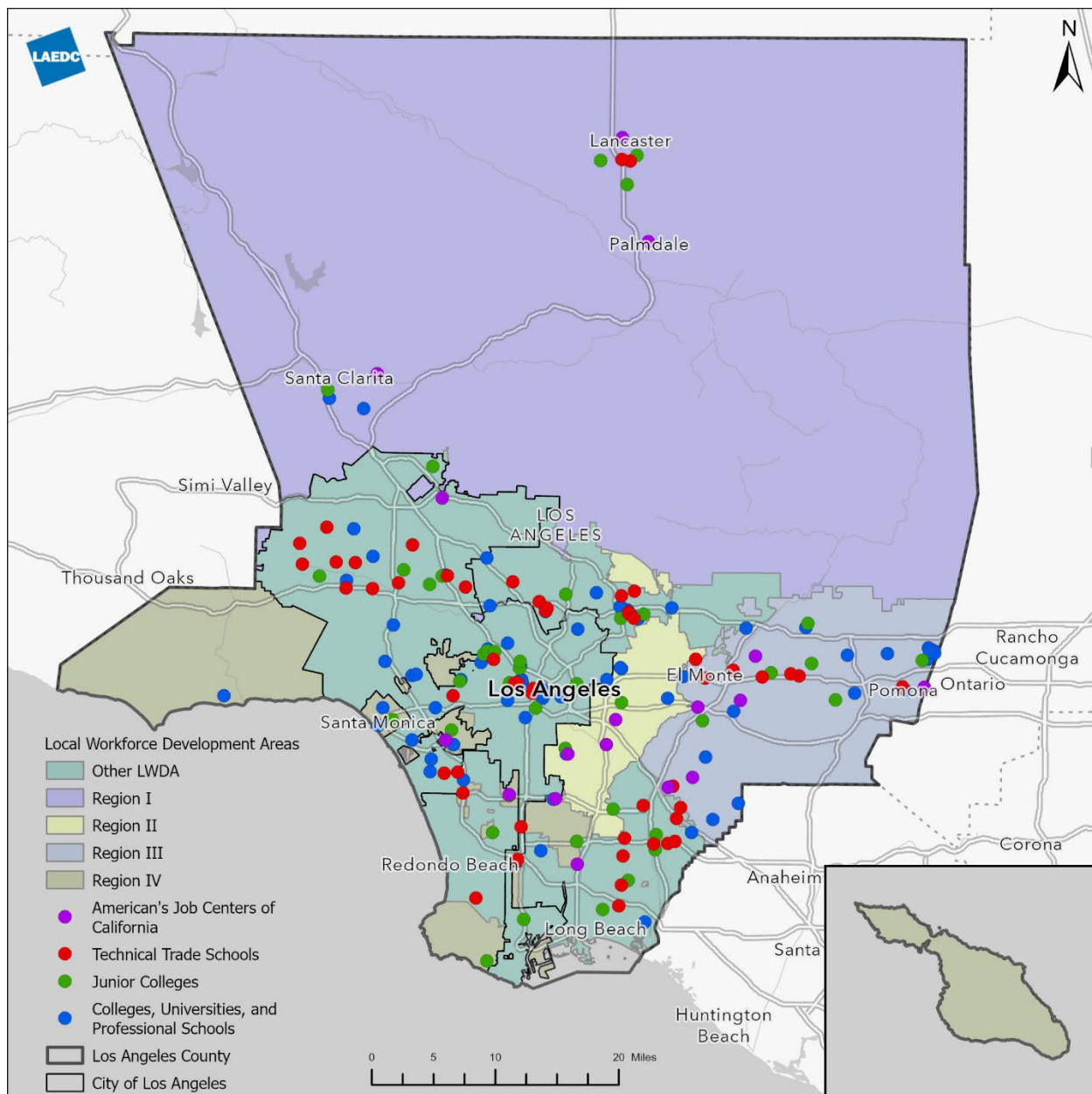
Education institutions, including adult schools, vocational schools, community colleges, and four-year colleges and universities, form the foundation of the talent development system. Their educational programs provide students with the knowledge and skills necessary for entry across all skill levels. Collaborations between educational institutions and employers are often established to offer training opportunities, internships, and experiential learning, ensuring that students gain practical skills and exposure to real-world settings.

In addition to these educational institutions, workforce development programs can bridge the gap between education and employment by offering specialized training, certification programs, and skill enhancement opportunities. They may focus on specific high-demand areas for particular industries such as healthcare, construction trades or advanced manufacturing. Programs and initiatives, partnerships with stakeholders and continuing education and professional development all fall under the umbrella of workforce development.

America's Job Center of California SM (AJCC) offers a variety of services to connect employers with job openings to qualified job seekers. AJCCs offer no cost training and employment support services, that range from resume assistance, interview preparation, to learning a new trade skill.

A map of educational institutions, including adult schools, vocational schools, community colleges, and four-year colleges and universities, in addition to the AJCCs across Los Angeles County is presented on the following page. ❖





5.3 Identifying Target Occupations

Economic development initiatives aim to stimulate growth in occupations that are highly competitive and offer substantial wages. By doing so, these efforts drive overall economic expansion and facilitate wealth creation across communities.

Aligned with this overarching goal, workforce development strategies are carefully designed to adapt to the evolving demands of various occupations. This includes equipping the workforce with the necessary skills for future job opportunities while simultaneously addressing the immediate employment needs of industries.

To effectively achieve these objectives, it is necessary to adopt a comprehensive perspective on the job market. This involves prioritizing occupations with the potential for significant job creation and competitive wages. This holistic approach ensures that economic development efforts are directed toward occupations offering both immediate employment prospects and long-term viability.

Our criteria for choosing target occupations thus include (1) occupations with living wages – higher wages benefit workers and are preferred to occupations that pay lower wages; and (2) occupational growth rate - the number of jobs projected to be added is also an important metric.

Considering the relationship between these occasionally intersecting and occasionally conflicting objectives, we have determined the following occupations as prime targets for specialized economic and workforce development initiatives, categorized according to educational requirements:

No Formal Credential Required (i.e., less than HS)

- ▶ Construction Laborers (SOC 47-2061)
- ▶ Industrial Truck and Tractor Operators (SOC 53-7051)
- ▶ Painters, Construction and Maintenance (SOC 47-2141)
- ▶ Bus Drivers, School (SOC 53-3051)
- ▶ Refuse and Recyclable Material Collectors (SOC 53-7081)
- ▶ Cement Masons and Concrete Finishers (SOC 47-2051)
- ▶ Drywall and Ceiling Tile Installers (SOC 47-2081)

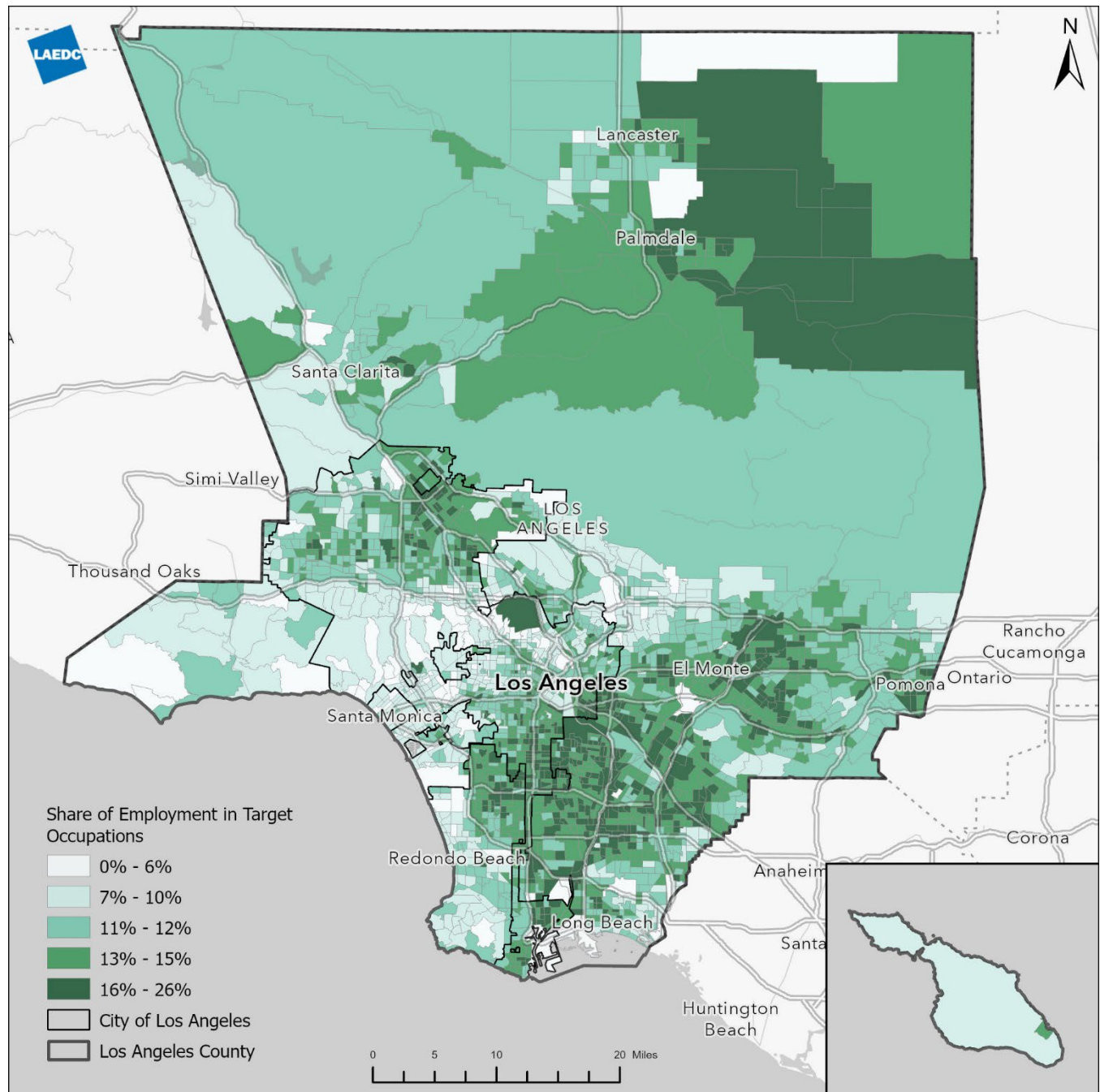
High School diploma (or equivalent)

- ▶ Customer Service Representatives (SOC 43-4051)
- ▶ Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (SOC 43-6014)
- ▶ Light Truck Drivers (SOC 53-3033)
- ▶ Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)
- ▶ Maintenance and Repair Workers, General (SOC 49-9071)
- ▶ Medical Secretaries and Administrative Assistants (SOC 43-6013)
- ▶ Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel (SOC 41-3091)
- ▶ Social and Human Service Assistants (SOC 21-1093)
- ▶ Production, Planning, and Expediting Clerks (SOC 43-5061)
- ▶ Police and Sheriff's Patrol Officers (SOC 33-3051)

Some college, certificate/nondegree award, or associate degree (middle-skill)

- ▶ Heavy and Tractor-Trailer Truck Drivers (SOC 53-3032)
- ▶ Bookkeeping, Accounting, and Auditing Clerks (SOC 43-3031)
- ▶ Licensed Vocational Nurses (SOC 29-2061)
- ▶ Preschool Teachers, Except Special Education (SOC 25-2011)
- ▶ Paralegals and Legal Assistants (SOC 23-2011)
- ▶ Hairdressers, Hairstylists, and Cosmetologists (SOC 39-5012)
- ▶ Automotive Service Technicians and Mechanics (SOC 49-3023)
- ▶ Computer User Support Specialists (SOC 15-1232)
- ▶ Massage Therapists (SOC 31-9011)



Concentration of Resident Employment in Target Occupations

5.4 Living Wage Jobs

Living wage jobs are those that provide workers with enough earnings to cover basic costs of living, essential needs such as housing, food, healthcare, transportation, and education. The concept of a living wage is rooted in the idea that work should not only provide income but also ensure a decent standard of living. Living wage jobs contribute to economic stability, social well-being, and overall community health.

Living wage jobs can help lift individuals and families out of poverty by ensuring that workers earn enough to cover their basic living expenses. This can lead to broader societal benefits, including improved health outcomes, better educational opportunities for children, and reduced reliance on social welfare programs. Living wage jobs can empower individuals to achieve financial stability and independence, breaking the cycle of poverty for future generations.

These jobs are also a way to address income inequality. As the income gap continues to widen, providing fair and adequate compensation for work helps create a more equitable distribution of resources and opportunities.

Living wage jobs can stimulate economic growth through increased consumption. When workers earn enough to cover their basic needs, they are better positioned to participate in the economy as consumers. Increased consumer spending stimulates economic growth and supports local businesses. And workers earning living wages are more likely to stay at their place of employment, these reduced turnover rates are beneficial to both the employer and workers, stable employment avoids the costs associated with training new workers and longer job tenure can foster a more skilled and experienced labor force.

Moreover, living wage jobs can contribute to the overall health of communities. When a significant portion of the population earns a living wage, there is a positive ripple effect on the community as a whole. This includes lower crime rates, increased access to healthcare, improved educational outcomes, and enhanced community engagement.

In 2023, there were over 1,104,000 (living wage jobs in the City of Los Angeles, accounting for close to 44 percent of the more than 2,525,200 living wage jobs in Los Angeles County. These are detailed occupations whose median hourly earnings exceed the MIT Living Wage Calculator, which identifies the living wage for a single

adult in Los Angeles County in 2023 to be \$21.22 an hour (For single adults with one child, it is \$43.81 an hour).

Closing the wage gap for all workers with earning below the living wage, bringing them up to \$21.22 per hour, represents additional labor income of \$6.3 trillion in the City of Los Angeles and additional labor income of \$9.4 trillion in the remainder of Los Angeles County. Living wage jobs are expected to grow to over 1,166,300 jobs in the city and 2,654,500 across Los Angeles County by the year 2028.

By prioritizing fair compensation for work, we can create an environment where individuals and families can thrive, fostering a more just and equitable world. As discussions around labor rights and economic justice continue, the emphasis on living wage jobs remains a key aspect of building a sustainable and inclusive future.

Living wage jobs are identified for Los Angeles County and the City of Los Angeles in the appendix.

Exhibit 5-7

Living Wage Occupations Employment
(thousands of jobs)

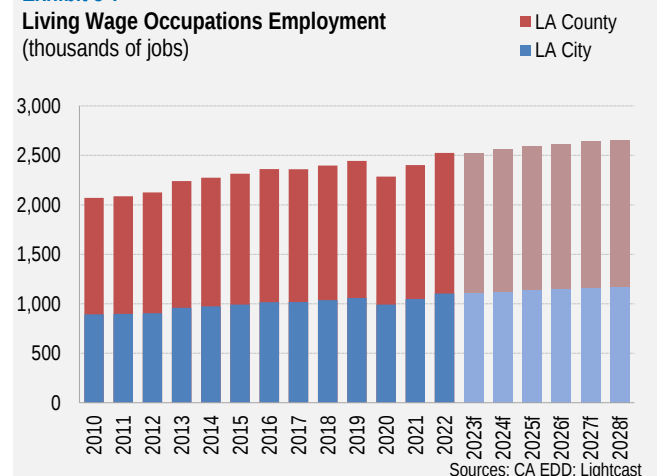
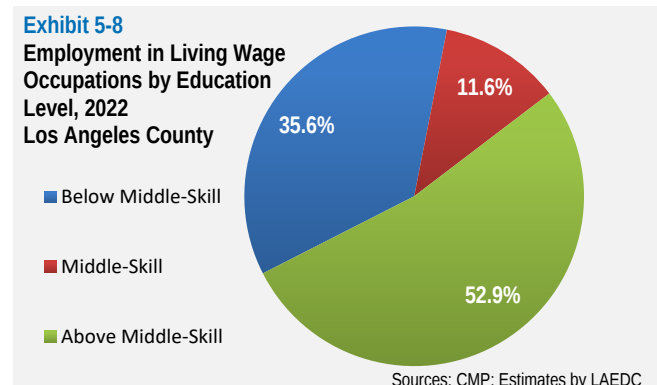


Exhibit 5-8

Employment in Living Wage Occupations by Education Level, 2022
Los Angeles County



5.5 Green Occupations

Green jobs exist across our economy, these roles include occupations with a focus on the environment, conservation, clean energy, climate change, and sustainability. As California strives to meet climate goals and promote environmentally friendly practices, green occupations play an outsized role in meeting the evolving needs of industries, promoting interdisciplinary skills, fostering innovation, building resilience, and addressing social and economic equity.

California continues its transition towards more sustainable practices, and there is a growing demand for skilled workers who can contribute to the development, implementation, and maintenance of environmentally friendly technologies and solutions to address the evolving needs of industries. Green jobs span various sectors, from renewable energy and energy efficiency to sustainable agriculture, green construction, and environmental research.

As climate change and environmental issues continue to impact various industries, a workforce equipped with green skills becomes a valuable asset. Individuals trained in green jobs can help businesses and communities adapt to changing environmental conditions, develop sustainable solutions and mitigate the impacts of climate-related challenges.

Green Occupation Examples

- Aerospace Engineers
- Agricultural Technicians
- Architects (not naval or landscape)
- Biomass Power Plant Managers
- Brownfield Redevelopment Specialists and Site Managers
- Chief Sustainability Officers
- Climate Change Analysts
- Compliance Managers
- Energy Auditors
- Environmental Engineers
- Environmental Science and Protection Technicians
- Fuel Cell Engineers
- Hazardous Materials Removal Workers
- Industrial Ecologists
- Recycling and Reclamation Workers
- Solar Photovoltaic Installers
- Sustainability Specialists
- Water Resource Specialists
- Wind Turbine Service Technicians

Many green occupations require a multidisciplinary skill set, combining technical expertise with an understanding of environmental principles and sustainable practices. This integration of skills not only increases employment opportunities for these individuals but also fosters a workforce capable of addressing complex, interdisciplinary challenges to successfully navigate the changing landscape of a sustainable economy. Workforce development programs can help individuals acquire the expertise needed to meet the demands of emerging green roles and technologies across existing and emerging occupations and industries.

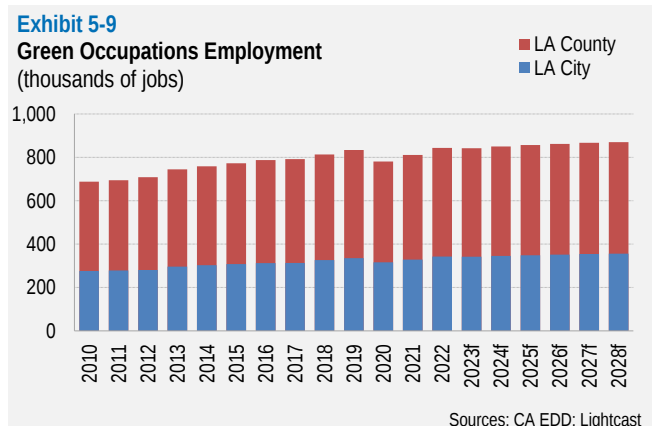
Green occupations can also play a role in fostering social and economic equity. By ensuring that a broad spectrum of the population has the skills to participate in the green economy, workforce development efforts can contribute to reducing inequality and creating inclusive economic growth. Workforce development programs that provide access to green job training opportunities can empower individuals from diverse backgrounds, including disadvantaged communities.

Green occupations exist across ten sectors, these sectors include: agriculture and forestry; energy efficiency and carbon capture; environment protection; Governmental and Regulatory Administration; green construction; manufacturing; recycling and waste reduction; renewable energy generation; research, design and consulting services; and transportation. They are grouped into three types: those that are considered new & emerging; those requiring enhanced green skills; and those related to research, design and consulting services.



Green Occupations in Los Angeles County

Employment in green occupations has grown at an annual rate of 1.76% since 2012 in Los Angeles County. Just under 843,300 workers were employed in green occupations in Los Angeles County in 2022; 342,300 of these workers (40.6 percent) were employed in the City of Los Angeles. The growth in green occupations is forecasted to continue at an upward trend, however, the annual growth rate will decrease to just over 0.5% between 2022-2028. This will increase the total jobs in green occupations in Los Angeles County to nearly 870,000 by 2028 (**Exhibit 5-9**).



Most of the green occupations (53.6%) are below middle-skill level for entry level employment, requiring a high school diploma or less (**Exhibit 5-10**). Over a third of the occupations (37.2%) require above middle-skill level for entry level employment. These occupations require a bachelor's degree or higher. Middle-skill level occupations, requiring greater than a high school diploma, but less than a bachelor's degree make up the smallest portion of green occupations (9.2%). The high number of green occupations requiring middle-skill or lower make these careers attainable to a variety of education levels.

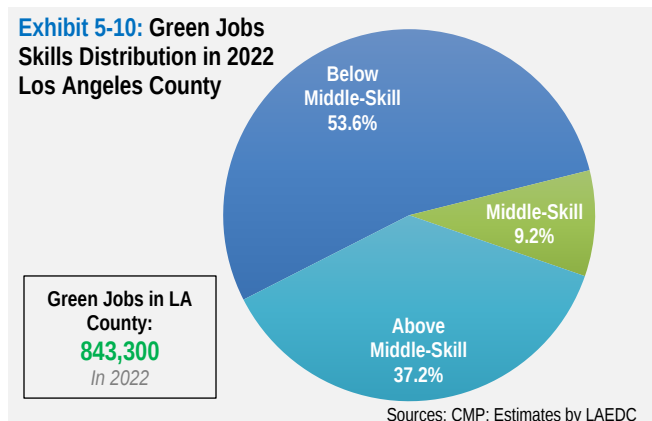


Exhibit 5-11 shows the top three green detailed occupations in Los Angeles County by skill level, these occupations are those with the largest number of jobs in that skills category with an annual wage that exceeds the MIT living wage threshold in Los Angeles County of \$22.12 per hour.

Exhibit 5-11

Top Green Occupations in Los Angeles County with Living Wages
(by median hourly wage in 2022)

SOC	Occupational Title
Below Middle-Skill	
51-8011	Nuclear Power Reactor Operators
51-8013	Power Plant Operators
49-9051	Electrical Power-Line Installers and Repairers
Middle-Skill	
19-4051	Nuclear Technicians
17-3026	Industrial Engineering Technologists and Technicians
17-3025	Environmental Engineering Technologists and Technicians
Above Middle Skill	
11-1011	Chief Executives
11-9041	Architectural and Engineering Managers
11-9121	Natural Sciences Managers

Sources: CA EDD; ONET; Lightcast; LAEDC

Transportation and Material Moving Occupations is the major occupation group with the highest number of green occupations in Los Angeles County. The most common green occupations in this major group are Laborers and Freight, Stock, and Material Movers, Hand followed by Heavy and Tractor-Trailer Truck Drivers. Management Occupations are the second most common green occupations in Los Angeles County. The most common green occupation in this major group is General and Operations Managers. The major occupation group with the third most green occupations in Los Angeles County are Office and Administrative Support Occupations. This major group includes Customer Service Representatives as well as Shipping, Receiving, and Inventory Clerks as the top green occupations.

Other major occupation groups with green occupations in Los Angeles County include: Business and Financial Operations Occupations; Architecture and Engineering Occupations; Life, Physical, and Social Science Occupations; Legal Occupations; Education Instruction and Library Occupations; Arts, Design, Entertainment, Sports, and Media Occupations; Protective Service Occupations; Sales and Related Occupations; Farming, Fishing, and Forestry Occupations; Construction and Extraction Occupations; Installation, Maintenance, and Repair Occupations; and Production Occupations.

Exhibit 5-12 identifies the top green occupations in Los Angeles County with the largest employment share of total green occupation employment in 2022.

Exhibit 5-12

Top Green Occupations in Los Angeles County, 2022 (by % of Total County Green Occupations)

SOC	Occupational Title	% of Green Occupations
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	10.69%
11-1021	General and Operations Managers	8.19%
43-4051	Customer Service Representatives	6.57%
53-3032	Heavy and Tractor-Trailer Truck Drivers	5.16%
13-1199	Business Operations Specialists, All Other	5.12%
49-9071	Maintenance and Repair Workers, General	3.82%
43-5071	Shipping, Receiving, and Inventory Clerks	2.98%
11-9199	Managers, All Other	2.87%
43-5061	Production, Planning, and Expediting Clerks	2.35%
47-2031	Carpenters	2.13%

Sources: CA EDD; Lightcast

Exhibit 5-13 identifies the top green occupations in the City of Los Angeles with the largest employment share of total green occupation employment in 2022.

Exhibit 5-13

Top Green Occupations in the City of Los Angeles, 2022 (by % of Total City Green Occupations)

SOC	Occupational Title	% of Green Occupations
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	14.71%
11-1021	General and Operations Managers	11.55%
43-4051	Customer Service Representatives	9.38%
13-1199	Business Operations Specialists, All Other	7.46%
53-3032	Heavy and Tractor-Trailer Truck Drivers	6.69%
49-9071	Maintenance and Repair Workers, General	5.82%
11-9199	Managers, All Other	4.12%
43-5071	Shipping, Receiving, and Inventory Clerks	3.87%
43-5061	Production, Planning, and Expediting Clerks	3.11%
47-2031	Carpenters	3.02%

Sources: CA EDD; ONET; Lightcast; LAEDC

Green occupations are instrumental in achieving our climate objectives and creating a resilient and forward-thinking labor market. Prioritizing green jobs contributes to the overall societal shift towards sustainability and responsible resource management. As industries and their needs continue to evolve, the incorporation of green skills and occupations ensures that they are well-equipped to navigate future challenges and opportunities associated with the transition to a more sustainable and inclusive economy.



Recommendations

- In addition to LWOs, an earned income tax credit program may be an alternate way to increase family/household disposable income, as they are exempt from payroll taxes and are not generally used when determining eligibility for many government assistance programs.
- Workforce development programs can help individuals acquire the expertise needed to meet the demands of emerging green roles and technologies across existing and emerging occupations and industries.
- Workforce development programs that provide access to green job training opportunities can empower individuals from diverse backgrounds, including disadvantaged communities.

6 KEY FINDINGS AND RECOMMENDATIONS

The discussion has focused on Los Angeles County and the City of Los Angeles. Workforce development planning is intended to be a regional effort, in recognition of the integration of cities and counties into functioning, inter-related economic regions.

In this section, we present the key findings of this report along with a series of recommendations to contribute to economic growth and subsequent employment opportunities.

6.1 Key Findings

As described earlier, we used multiple criteria for choosing target industries. These criteria include (1) potential job creation – the numbers of jobs projected to be added; (2) the industry growth rate – industries demonstrating high rates of growth are preferred to those growing slowly; (3) industry competitiveness – in light of regional economic development goals, industries that are competitive against other regions are preferred; and (4) living wages – higher wages benefit workers and are preferred to industries that pay lower wages

High Job Creation Potential

Large industries, such as those that are population-serving industries, in general are those that generate the largest number of jobs in absolute terms—even though they may be quite slow growing. The largest industries in California are those that are expected to add the highest absolute number of jobs, including:

- Social assistance;
- Food services and drinking places;
- Ambulatory health care services; and
- Administrative and support services.

Industries with Highest Growth Rate

The labor market analysis identified those industries that are projected to have the fastest growth rate, regardless of size, including:

- Construction Industries (NAICS 236, 237, 238);
- Transportation (NAICS 481-484, 488);
- Motion Picture and Sound Recording (NAICS 512);

- Health Care Services (NAICS 621, 622, 623);
- Social Assistance (NAICS 624);
- Performing Arts, Spectator Sports, and Related Industries (NAICS 711); and
- Biomedical Manufacturing (NAICS 3254, 3391).

Industry Competitiveness

Overall, more than 1.3 million jobs were involved in traded industry clusters. Of the fifteen largest traded industry clusters in Los Angeles County, six have location quotients greater than one, reflecting the county's competitive strength in a wide variety of industries. The largest clusters in Los Angeles County as of 2022 are the following:

- Trade;
- Business services; and
- Entertainment.

Local industry clusters provide just over 82 percent more jobs than traded industry clusters. The largest clusters in Los Angeles County comprise:

- Health services;
- Local hospitality establishments; and
- Community and civic organizations.

Living Wage Jobs

Living wage jobs are those that provide workers with enough earnings to cover basic costs of living, essential needs such as housing, food, healthcare, transportation, and education. In 2023, there were over 1,104,000 (living wage jobs in the City of Los Angeles, accounting for close to 44 percent of the more than 2,525,200 living wage jobs in Los Angeles County. Closing the wage gap for all workers with earning below the living wage, bringing them up to \$21.22 per hour, represents additional labor income of \$6.3 trillion in the City of Los Angeles and additional labor income of \$9.4 trillion in the remainder of Los Angeles County. Living wage jobs are expected to grow to over 1,166,300 jobs in the city and 2,654,500 across Los Angeles County by the year 2028.

Green Occupations

As climate change and environmental issues continue to impact various industries, a workforce equipped with green skills becomes a valuable asset. Individuals trained in green jobs can help businesses and communities adapt

to changing environmental conditions, develop sustainable solutions, and mitigate the impacts of climate-related challenges. Just under 843,300 workers were employed in green occupations in Los Angeles County in 2022; 342,300 of these workers (40.6 percent) were employed in the City of Los Angeles. ❖

6.2 Recommendations

In light of the key findings listed above, we make a number of specific recommendations on how to take advantage of potential openings in the region to grow target industries and expand workforce opportunities.

- Encouraging and supporting small business and entrepreneurship creates a strong foundation for a resilient and diverse economic landscape.
- Conduct additional research diving deeper into quantifying truly small and micro businesses in the City of Los Angeles to understand the landscape specific to the city and its role in inclusive, equitable growth and economic mobility.
- Develop programs and initiatives to increase capital investment and catalyze innovation and entrepreneurship. Through increased capital investment and innovation, though, the Los Angeles region could spur economic growth even with a declining population. Programs and initiatives can be developed to address barriers to investment, support small business, and catalyze entrepreneurship and innovation.
- There are opportunities to employ innovative approaches to develop new housing at scale. These opportunities range from regulations encouraging faster accessory dwelling unit (ADU) development to financing more adaptive reuse, particularly in underused downtown areas. They also include reducing potential barriers to increased housing development, such as the setting of impact fees; based on a 2015 survey, the average impact fee on a single-family home in California is more than four times that in other states.
- Engage in outreach efforts to connect diverse-owned businesses to upcoming procurement opportunities in both infrastructure projects and the 2028 Summer Olympics and Paralympics.
- Provide support services to small businesses to scale their operation to take advantage of procurement opportunities with public agencies who have complex procurement processes and lengthy repayment windows.
- Workforce development opportunities may exist upon completion of large-scale developments in the sports entertainment industry, connecting local residents to employment opportunities.
- Local hire requirements for large projects represent opportunities for engaging local residents and connecting them with opportunities in the construction trades.
- In addition to LWOs, an earned income tax credit program may be another way to increase family/household disposable income as they are exempt from payroll taxes and are not generally used when determining eligibility for many government assistance programs.
- Workforce development programs can help individuals acquire the expertise needed to meet the demands of emerging green roles and technologies across existing and emerging occupations and industries.
- Workforce development programs that provide access to green job training opportunities can empower individuals from diverse backgrounds, including disadvantaged communities.
- The education landscape in Los Angeles is vast, consisting of public and private institutions charged with educating our workforce. While this report identified the multifaceted role that education plays in fostering a robust and thriving local economy, the complexity of the systems and the many workforce development efforts underway here in Los Angeles precludes a thorough analysis from being included under this current scope of work. Additional research on educational and career pathways, K-16 collaboratives, and more provide an opportunity for additional research. ❖

APPENDIX

Abbreviated Appendix included below. A more extensive Data Appendix including expanded tables and related GIS mapping is presented as a separate document.

Exhibit A-1

Private Sector Industry Employment Los Angeles County 2014

NAICS	Industry	Employment	% of total
211	Oil and gas extraction	2,227	0.1%
212	Mining, except oil and gas	357	0.0%
213	Support activities for mining	2,058	0.1%
221	Utilities	12,019	0.3%
236	Construction of buildings	28,802	0.8%
237	Heavy and civil engineering construction	13,237	0.4%
238	Specialty trade contractors	76,684	2.1%
311	Food manufacturing	38,463	1.1%
312	Beverage and tobacco prod manufacturing	5,336	0.1%
313	Textile mills	6,400	0.2%
314	Textile product mills	4,354	0.1%
315	Apparel manufacturing	43,831	1.2%
316	Leather and allied product manufacturing	1,908	0.1%
321	Wood product manufacturing	2,907	0.1%
322	Paper manufacturing	6,718	0.2%
323	Printing and related support activities	14,743	0.4%
324	Petroleum and coal prods manufacturing	4,726	0.1%
325	Chemical manufacturing	20,229	0.6%
326	Plastics and rubber prods manufacturing	13,413	0.4%
327	Nonmetallic mineral prod manufacturing	5,460	0.2%
331	Primary metal manufacturing	6,827	0.2%
332	Fabricated metal product manufacturing	43,719	1.2%
333	Machinery manufacturing	15,198	0.4%
334	Computer / electronic prod manufacturing	38,453	1.1%
335	Electrical equipment and appliance mfg.	9,206	0.3%
336	Transportation equipment manufacturing	46,116	1.3%
337	Furniture and related prod manufacturing	14,123	0.4%
339	Miscellaneous manufacturing	19,061	0.5%
423	Merchant wholesalers, durable goods	100,258	2.8%
424	Merchant wholesalers, nondurable goods	99,759	2.8%
425	Electronic markets and agents	20,341	0.6%
441	Motor vehicle and parts dealers	43,992	1.2%
442	Furniture and home furnishings stores	13,292	0.4%
443	Electronics and appliance stores	16,953	0.5%
444	Building material and garden supply stores	23,973	0.7%
445	Food and beverage stores	91,697	2.5%
446	Health and personal care stores	30,061	0.8%
447	Gasoline stations	11,418	0.3%
448	Clothing and clothing accessories stores	52,875	1.5%
451	Sporting, hobby, book / music stores	15,980	0.4%
452	General merchandise stores	72,968	2.0%
453	Miscellaneous store retailers	26,332	0.7%
454	Nonstore retailers	11,054	0.3%
481	Air transportation	19,772	0.5%
482	Rail transportation	20	0.0%
483	Water transportation	3,482	0.1%

Exhibit A-1 (cont'd)

NAICS	Industry	Employment	% of total
484	Truck transportation	27,826	0.8%
485	Transit and ground passenger transport	12,815	0.4%
486	Pipeline transportation	595	0.0%
487	Scenic and sightseeing transportation	727	0.0%
488	Support activities for transportation	44,104	1.2%
491	Postal service	165	0.0%
492	Couriers and messengers	19,087	0.5%
493	Warehousing and storage	14,891	0.4%
511	Publishing industries, except internet	14,206	0.4%
512	Motion picture and sound recording	121,758	3.4%
515	Broadcasting, except internet	20,051	0.6%
517	Telecommunications	24,918	0.7%
518	Data processing, hosting, related services	5,581	0.2%
519	Other information services	10,583	0.3%
521	Monetary authorities - central bank	223	0.0%
522	Credit intermediation and related activities	63,657	1.8%
523	Securities, commodities, investments	23,976	0.7%
524	Insurance carriers and related activities	43,697	1.2%
525	Funds, trusts, and other financial vehicles	417	0.0%
531	Real estate	56,076	1.5%
532	Rental and leasing services	19,055	0.5%
533	Lessors of nonfinancial intangible assets	746	0.0%
541	Professional and technical services	275,655	7.6%
551	Management of companies / enterprises	58,826	1.6%
561	Administrative and support services	255,251	7.0%
562	Waste mgmt and remediation services	9,841	0.3%
611	Educational services	104,705	2.9%
621	Ambulatory health care services	194,045	5.4%
622	Hospitals	110,731	3.1%
623	Nursing and residential care facilities	77,322	2.1%
624	Social assistance	228,018	6.3%
711	Performing arts and spectator sports	36,676	1.0%
712	Museums, historical sites, zoos, and parks	4,830	0.1%
713	Amusements, gambling, and recreation	37,934	1.0%
721	Accommodation	44,421	1.2%
722	Food services and drinking places	340,493	9.4%
811	Repair and maintenance	37,508	1.0%
812	Personal and laundry services	52,168	1.4%
813	Membership associations and orgs	42,442	1.2%

Sources: California Employment Development Department; LAEDC

Exhibit A-2**Private Sector Industry Employment
City of Los Angeles 2014**

NAICS	Industry	Employment	% of total
211	Oil and gas extraction	509	0.0%
212	Mining, except oil and gas	100	0.0%
213	Support activities for mining	400	0.0%
221	Utilities	1,401	0.1%
236	Construction of buildings	10,219	0.8%
237	Heavy and civil engineering construction	3,367	0.3%
238	Specialty trade contractors	24,886	1.9%
311	Food manufacturing	9,474	0.7%
312	Beverage and tobacco prod manufacturing	2,260	0.2%
313	Textile mills	2,561	0.2%
314	Textile product mills	1,271	0.1%
315	Apparel manufacturing	18,420	1.4%
316	Leather and allied product manufacturing	404	0.0%
321	Wood product manufacturing	714	0.1%
322	Paper manufacturing	553	0.0%
323	Printing and related support activities	4,411	0.3%
324	Petroleum and coal prods manufacturing	1,387	0.1%
325	Chemical manufacturing	8,512	0.7%
326	Plastics and rubber prods manufacturing	2,485	0.2%
327	Nonmetallic mineral prod manufacturing	1,768	0.1%
331	Primary metal manufacturing	602	0.0%
332	Fabricated metal product manufacturing	10,552	0.8%
333	Machinery manufacturing	2,358	0.2%
334	Computer / electronic prod manufacturing	10,967	0.8%
335	Electrical equipment and appliance mfg.	1,782	0.1%
336	Transportation equipment manufacturing	5,023	0.4%
337	Furniture and related prod manufacturing	3,716	0.3%
339	Miscellaneous manufacturing	6,384	0.5%
423	Merchant wholesalers, durable goods	24,923	1.9%
424	Merchant wholesalers, nondurable goods	37,372	2.9%
425	Electronic markets and agents	7,368	0.6%
441	Motor vehicle and parts dealers	11,696	0.9%
442	Furniture and home furnishings stores	4,624	0.4%
443	Electronics and appliance stores	5,702	0.4%
444	Building material and garden supply stores	8,786	0.7%
445	Food and beverage stores	32,977	2.5%
446	Health and personal care stores	10,879	0.8%
447	Gasoline stations	4,133	0.3%
448	Clothing and clothing accessories stores	18,649	1.4%
451	Sporting, hobby, book / music stores	4,631	0.4%
452	General merchandise stores	20,948	1.6%
453	Miscellaneous store retailers	11,669	0.9%
454	Nonstore retailers	3,778	0.3%
481	Air transportation	16,861	1.3%
482	Rail transportation	-	-
483	Water transportation	959	0.1%

Exhibit A-2 (cont'd)

NAICS	Industry	Employment	% of total
484	Truck transportation	4,956	0.4%
485	Transit and ground passenger transport	4,721	0.4%
486	Pipeline transportation	189	0.0%
487	Scenic and sightseeing transportation	300	0.0%
488	Support activities for transportation	13,402	1.0%
491	Postal service	68	0.0%
492	Couriers and messengers	9,512	0.7%
493	Warehousing and storage	1,324	0.1%
511	Publishing industries, except internet	6,438	0.5%
512	Motion picture and sound recording	29,571	2.3%
515	Broadcasting, except internet	14,309	1.1%
517	Telecommunications	8,254	0.6%
518	Data processing, hosting, related services	1,305	0.1%
519	Other information services	3,272	0.3%
521	Monetary authorities - central bank	223	0.0%
522	Credit intermediation and related activities	23,736	1.8%
523	Securities, commodities, investments	13,405	1.0%
524	Insurance carriers and related activities	20,590	1.6%
525	Funds, trusts, and other financial vehicles	43	0.0%
531	Real estate	24,888	1.9%
532	Rental and leasing services	8,458	0.7%
533	Lessors of nonfinancial intangible assets	269	0.0%
541	Professional and technical services	118,458	9.1%
551	Management of companies / enterprises	19,251	1.5%
561	Administrative and support services	91,301	7.1%
562	Waste mgmt and remediation services	1,879	0.1%
611	Educational services	39,503	3.1%
621	Ambulatory health care services	70,807	5.5%
622	Hospitals	33,624	2.6%
623	Nursing and residential care facilities	29,635	2.3%
624	Social assistance	96,838	7.5%
711	Performing arts and spectator sports	16,840	1.3%
712	Museums, historical sites, zoos, and parks	3,588	0.3%
713	Amusements, gambling, and recreation	9,451	0.7%
721	Accommodation	17,682	1.4%
722	Food services and drinking places	128,493	9.9%
811	Repair and maintenance	12,392	1.0%
812	Personal and laundry services	21,414	1.7%
813	Membership associations and orgs	20,176	1.6%

Sources: California Employment Development Department; LAEDC

Exhibit A-3**Competitiveness of Private Sector Industries 2014
(Location Quotients v. US)**

NAICS	Industry	LA County	LA City
211	Oil and gas extraction	0.4	-
212	Mining, except oil and gas	0.1	-
213	Support activities for mining	0.2	-
221	Utilities	0.7	0.2
236	Construction of buildings	0.7	0.7
237	Heavy and civil engineering construction	0.5	0.3
238	Specialty trade contractors	0.7	0.6
311	Food manufacturing	0.9	0.5
312	Beverage and tobacco prod manufacturing	0.8	0.9
313	Textile mills	1.8	1.9
314	Textile product mills	1.3	1.0
315	Apparel manufacturing	10.3	11.4
316	Leather and allied product manufacturing	2.2	1.2
321	Wood product manufacturing	0.3	0.2
322	Paper manufacturing	0.6	0.1
323	Printing and related support activities	1.1	0.8
324	Petroleum and coal prods manufacturing	1.4	1.1
325	Chemical manufacturing	0.8	0.9
326	Plastics and rubber prods manufacturing	0.7	0.3
327	Nonmetallic mineral prod manufacturing	0.5	0.4
331	Primary metal manufacturing	0.6	0.1
332	Fabricated metal product manufacturing	1.0	0.6
333	Machinery manufacturing	0.4	0.2
334	Computer / electronic prod manufacturing	1.2	0.9
335	Electrical equipment and appliance mfg.	0.8	0.4
336	Transportation equipment manufacturing	1.0	0.3
337	Furniture and related prod manufacturing	1.3	0.9
339	Miscellaneous manufacturing	1.1	0.9
423	Merchant wholesalers, durable goods	1.1	0.7
424	Merchant wholesalers, nondurable goods	1.6	1.6
425	Electronic markets and agents	0.7	0.7
441	Motor vehicle and parts dealers	0.8	0.5
442	Furniture and home furnishings stores	1.0	0.9
443	Electronics and appliance stores	1.1	1.0
444	Building material and garden supply stores	0.6	0.6
445	Food and beverage stores	1.0	0.9
446	Health and personal care stores	1.0	0.9
447	Gasoline stations	0.4	0.4
448	Clothing and clothing accessories stores	1.3	1.2
451	Sporting, hobby, book / music stores	0.9	0.6
452	General merchandise stores	0.8	0.6
453	Miscellaneous store retailers	1.1	1.2
454	Nonstore retailers	0.7	0.7
481	Air transportation	1.5	3.3
482	Rail transportation	0.9	-
483	Water transportation	1.7	1.2

Exhibit A-3 (cont'd)

NAICS	Industry	LA County	LA City
484	Truck transportation	0.6	0.3
485	Transit and ground passenger transport	0.9	0.9
486	Pipeline transportation	0.4	0.3
487	Scenic and sightseeing transportation	0.8	-
488	Support activities for transportation	2.3	1.9
491	Postal service	1.0	1.0
492	Couriers and messengers	1.1	1.5
493	Warehousing and storage	0.7	0.2
511	Publishing industries, except internet	0.6	0.8
512	Motion picture and sound recording	10.4	6.6
515	Broadcasting, except internet	2.3	4.4
517	Telecommunications	1.0	0.8
518	Data processing, hosting, related services	0.7	0.4
519	Other information services	1.6	1.3
521	Monetary authorities - central bank	0.4	1.0
522	Credit intermediation and related activities	0.8	0.8
523	Securities, commodities, investments	0.9	1.3
524	Insurance carriers and related activities	0.7	0.8
525	Funds, trusts, and other financial vehicles	2.4	0.6
531	Real estate	1.2	1.4
532	Rental and leasing services	1.2	1.4
533	Lessors of nonfinancial intangible assets	1.0	1.0
541	Professional and technical services	1.1	1.2
551	Management of companies / enterprises	0.9	0.8
561	Administrative and support services	1.0	1.0
562	Waste mgmt and remediation services	0.8	0.4
611	Educational services	1.3	1.3
621	Ambulatory health care services	1.0	0.9
622	Hospitals	0.8	0.6
623	Nursing and residential care facilities	0.8	0.8
624	Social assistance	2.3	2.5
711	Performing arts and spectator sports	2.7	3.3
712	Museums, historical sites, zoos, and parks	1.1	2.1
713	Amusements, gambling, and recreation	0.8	0.5
721	Accommodation	0.8	0.8
722	Food services and drinking places	1.1	1.0
811	Repair and maintenance	1.0	0.9
812	Personal and laundry services	1.3	1.3
813	Membership associations and orgs	1.0	1.3

Sources: California Employment Development Department; estimates by LAEDC

Exhibit A-4**Projected New Job Creation 2015-2020**

NAICS	Industry	Annual Average Percent Change	Number of New Jobs in LA County	Number of New Jobs in LA City
211	Oil and gas extraction	(0.2)	78	18
212	Mining, except oil and gas	(0.2)	12	3
213	Support activities for mining	(0.2)	72	14
221	Utilities	0.1	(153)	(18)
236	Construction of buildings	3.6	4,557	1,617
237	Heavy and civil engineering construction	2.7	2,449	622
238	Specialty trade contractors	3.7	13,648	4,424
311	Food manufacturing	0.1	393	97
312	Beverage and tobacco prod manufacturing	(0.6)	(54)	(23)
313	Textile mills	(1.9)	(361)	(144)
314	Textile product mills	(1.8)	(77)	(23)
315	Apparel manufacturing	0.4	348	146
316	Leather and allied product manufacturing	(0.5)	226	48
321	Wood product manufacturing	1.4	322	79
322	Paper manufacturing	(0.8)	19	2
323	Printing and related support activities	0.1	575	172
324	Petroleum and coal prods manufacturing	0.0	(13)	(4)
325	Chemical manufacturing	0.6	593	249
326	Plastics and rubber prods manufacturing	0.2	339	63
327	Nonmetallic mineral prod manufacturing	0.7	485	157
331	Primary metal manufacturing	0.2	192	17
332	Fabricated metal product manufacturing	(0.2)	152	37
333	Machinery manufacturing	(0.5)	(58)	(9)
334	Computer / electronic prod manufacturing	(0.0)	830	237
335	Electrical equipment and appliance mfg.	(0.6)	(312)	(60)
336	Transportation equipment manufacturing	0.0	608	66
337	Furniture and related prod manufacturing	1.8	1,238	326
339	Miscellaneous manufacturing	0.0	(226)	(76)
423	Merchant wholesalers, durable goods	1.0	2,892	718
424	Merchant wholesalers, nondurable goods	1.4	5,495	2,058
425	Electronic markets and agents	2.6	2,694	976
441	Motor vehicle and parts dealers	1.1	1,565	416
442	Furniture and home furnishings stores	(0.9)	(949)	(330)
443	Electronics and appliance stores	(0.5)	(829)	(279)
444	Building material and garden supply stores	0.4	398	146
445	Food and beverage stores	0.9	3,978	1,431
446	Health and personal care stores	0.5	789	285
447	Gasoline stations	0.9	384	139
448	Clothing and clothing accessories stores	(0.2)	(1,297)	(457)
451	Sporting, hobby, book / music stores	0.7	(306)	(89)
452	General merchandise stores	1.3	4,344	1,247
453	Miscellaneous store retailers	(0.2)	(630)	(280)
454	Nonstore retailers	2.8	1,936	660
481	Air transportation	0.8	575	490
482	Rail transportation	0.8	2	-
483	Water transportation	0.8	101	28

Exhibit A-4 (Cont'd)

NAICS	Industry	Annual Average Percent Change	Number of New Jobs in LA County	Number of New Jobs in LA City
484	Truck transportation	0.8	810	144
485	Transit and ground passenger transport	0.8	373	137
486	Pipeline transportation	0.8	17	5
487	Scenic and sightseeing transportation	0.8	21	9
488	Support activities for transportation	0.8	1,282	389
491	Postal service	0.1	(2)	(1)
492	Couriers and messengers	0.8	557	276
493	Warehousing and storage	0.8	433	38
511	Publishing industries, except internet	(0.7)	(787)	(357)
512	Motion picture and sound recording	0.7	5,634	1,374
515	Broadcasting, except internet	0.6	(35)	(25)
517	Telecommunications	(1.0)	(908)	(301)
518	Data processing, hosting, related services	2.3	635	148
519	Other information services	5.1	3,921	1,212
521	Monetary authorities - central bank	1.4	8	21
522	Credit intermediation and related activities	1.4	5,954	2,220
523	Securities, commodities, investments	1.4	2,249	1,254
524	Insurance carriers and related activities	1.4	4,088	1,926
525	Funds, trusts, and other financial vehicles	1.4	29	4
531	Real estate	1.6	4,435	1,969
532	Rental and leasing services	1.6	1,508	669
533	Lessors of nonfinancial intangible assets	1.6	59	21
541	Professional and technical services	2.2	33,303	14,307
551	Management of companies / enterprises	1.5	3,991	1,306
561	Administrative and support services	3.7	57,556	20,645
562	Waste mgmt and remediation services	3.7	2,225	425
611	Educational services	1.2	4,863	1,834
621	Ambulatory health care services	2.9	29,194	10,649
622	Hospitals	2.9	16,652	5,057
623	Nursing and residential care facilities	2.9	11,625	4,457
624	Social assistance	2.9	34,298	14,565
711	Performing arts and spectator sports	1.5	1,975	906
712	Museums, historical sites, zoos, and parks	1.5	260	193
713	Amusements, gambling, and recreation	1.5	2,039	508
721	Accommodation	2.5	5,157	2,050
722	Food services and drinking places	2.5	39,506	14,900
811	Repair and maintenance	1.5	3,087	1,019
812	Personal and laundry services	2.4	5,614	2,304
813	Membership associations and orgs	1.4	2,886	1,366

Source: Estimates by LAEDC

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Work Exp	Entry Level	Median Annual Wage
						On-the-Job Training to Attain Competency	
53-5021	Captains, Mates, and Pilots of Water Vessels	192	560	8	None	ST OJT	\$50,159
47-2132	Insulation Workers, Mechanical	11	40	8	None	ST OJT	\$49,887
51-8093	Petroleum Pump System Operators, Refinery Operators, and	135	240	8	None	MT OJT	\$48,684
47-2072	Pile Driver Operators	14	40	8	None	MT OJT	\$44,973
49-9096	Riggers	82	170	8	None	LT OJT	\$41,623
47-5012	Rotary Drill Operators, Oil and Gas	6	10	8	None	MT OJT	\$38,976
53-4031	Railroad Conductors and Yardmasters	5	10	8	None	ST OJT	\$36,018
47-5022	Excavating and Loading Machine and Dragline Operators,	38	80	8	None	MT OJT	\$34,710
53-4011	Locomotive Engineers	5	10	8	None	ST OJT	\$34,583
53-5022	Motorboat Operators	9	20	8	None	ST OJT	\$34,137
53-4041	Subway and Streetcar Operators	11	30	8	None	ST OJT	\$33,967
53-4022	Railroad Brake, Signal, and Switch Operators and Locomotive	6	10	8	None	ST OJT	\$33,209
41-3031	Securities, Commodities, and Financial Services Sales Agents	977	3310	8	None	ST OJT	\$33,140
53-2031	Flight Attendants	1293	4690	8	None	ST OJT	\$32,949
51-4061	Model Makers, Metal and Plastic	5	10	8	None	ST OJT	\$32,825
51-4111	Tool and Die Makers	69	100	8	None	MT OJT	\$32,441
41-3021	Insurance Sales Agents	824	2210	8	None	ST OJT	\$31,797
41-3091	Sales Representatives of Services, Except Advertising,	2664	6410	8	None	ST OJT	\$31,250
47-2171	Reinforcing Iron and Rebar Workers	33	90	8	None	MT OJT	\$30,987
41-3011	Advertising Sales Agents	431	940	8	None	ST OJT	\$30,867
47-2043	Floor Sanders and Finishers	4	10	8	None	MT OJT	\$30,049
47-5013	Service Unit Operators, Oil and Gas	21	40	8	None	MT OJT	\$29,969
47-2181	Roofers	209	640	8	None	MT OJT	\$29,020
37-3013	Tree Trimmers and Pruners	134	160	8	None	ST OJT	\$28,817
39-4011	Embalmers	28	30	8	None	ST OJT	\$28,677
47-2151	Pipelayers	28	80	8	None	ST OJT	\$28,524
47-5023	Earth Drillers, Except Oil and Gas	31	60	8	None	MT OJT	\$27,634
47-2081	Drywall and Ceiling Tile Installers	272	720	8	None	MT OJT	\$27,434
45-4021	Fallers	5	0	8	None	ST OJT	\$26,978
47-2051	Cement Masons and Concrete Finishers	292	740	8	None	MT OJT	\$26,959
53-5011	Sailors and Marine Oilers	140	380	8	None	ST OJT	\$26,908
47-2044	Tile and Stone Setters	112	380	8	None	LT OJT	\$26,872
47-2161	Plasterers and Stucco Masons	88	240	8	None	LT OJT	\$26,777
43-2021	Telephone Operators	11	20	8	None	ST OJT	\$26,522
53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers	2	10	8	None	ST OJT	\$26,140
47-2131	Insulation Workers, Floor, Ceiling, and Wall	18	50	8	None	ST OJT	\$25,699
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and	262	500	8	None	ST OJT	\$25,328
41-3041	Travel Agents	212	360	8	None	MT OJT	\$25,120
37-1011	First-Line Supervisors of Housekeeping and Janitorial	436	960	8	None	ST OJT	\$24,901
47-3012	Helpers--Carpenters	57	110	8	None	ST OJT	\$24,365
53-3051	Bus Drivers, School	547	840	8	None	ST OJT	\$23,757
45-4022	Logging Equipment Operators	5	10	8	None	ST OJT	\$23,635
47-2082	Tapers	39	90	8	None	MT OJT	\$23,535
51-4121	Welders, Cutters, Solderers, and Brazers	654	1170	8	None	MT OJT	\$23,371
43-6014	Secretaries and Administrative Assistants, Except Legal,	5310	10610	8	None	ST OJT	\$23,367
47-2142	Paperhangers	9	40	8	None	ST OJT	\$23,238
47-2141	Painters, Construction and Maintenance	512	1550	8	None	MT OJT	\$23,208
39-1014	First-Line Supervisors of Entertainment and Recreation	288	820	8	None	ST OJT	\$23,027
41-1011	First-Line Supervisors of Retail Sales Workers	2550	5320	8	None	ST OJT	\$22,910

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
37-2019	Building Cleaning Workers, All Other	102	170	8	None	ST OJT	\$22,884
53-2022	Airfield Operations Specialists	120	530	8	None	ST OJT	\$22,881
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	38	130	8	None	MT OJT	\$22,649
47-2231	Solar Photovoltaic Installers	71	200	8	None	ST OJT	\$22,184
37-3019	Grounds Maintenance Workers, All Other	168	270	8	None	ST OJT	\$22,102
47-2061	Construction Laborers	1593	4370	8	None	ST OJT	\$21,609
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile	57	100	8	None	ST OJT	\$21,565
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	71	240	8	None	MT OJT	\$21,406
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	57	80	8	None	ST OJT	\$21,302
49-9099	Installation, Maintenance, and Repair Workers, All Other	566	1280	8	None	MT OJT	\$21,107
31-9091	Dental Assistants	2066	3010	8	None	ST OJT	\$21,050
47-2041	Carpet Installers	50	110	8	None	ST OJT	\$20,520
47-3016	Helpers--Roofers	24	50	8	None	ST OJT	\$20,251
47-3019	Helpers, Construction Trades, All Other	88	170	8	None	ST OJT	\$20,198
39-3021	Motion Picture Projectionists	20	20	8	None	ST OJT	\$20,175
47-3014	Helpers--Painters, Paperhangers, Plasterers, and Stucco	36	70	8	None	ST OJT	\$19,893
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	118	120	8	None	ST OJT	\$19,780
49-9095	Manufactured Building and Mobile Home Installers	7	20	8	None	LT OJT	\$19,667
51-7011	Cabinetmakers and Bench Carpenters	193	210	8	None	MT OJT	\$19,437
53-4099	Rail Transportation Workers, All Other	41	70	8	None	ST OJT	\$19,157
45-3031	Fishing and Hunting Workers	10	10	8	None	ST OJT	\$19,009
35-2019	Cooks, All Other	45	100	8	None	ST OJT	\$18,898
53-3099	Motor Vehicle Operators, All Other	143	270	8	None	ST OJT	\$18,378
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators,	57	100	8	None	MT OJT	\$18,312
51-9194	Etchers and Engravers	30	30	8	None	ST OJT	\$17,942
37-2012	Maids and Housekeeping Cleaners	3238	4450	8	None	None	\$17,650
37-2011	Janitors and Cleaners, Except Maids and Housekeeping	9157	15870	8	None	ST OJT	\$17,515
39-2021	Animal Caretakers	1472	2760	8	None	ST OJT	\$17,513
41-9041	Telemarketers	232	330	8	None	ST OJT	\$17,269
51-4071	Foundry Mold and Coremakers	17	0	8	None	ST OJT	\$17,252
49-9098	Helpers--Installation, Maintenance, and Repair Workers	224	510	8	None	MT OJT	\$17,152
39-3099	Entertainment Attendants and Related Workers, All Other	43	40	8	None	ST OJT	\$17,061
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	20	40	8	None	ST OJT	\$17,051
35-2021	Food Preparation Workers	5802	7000	8	None	ST OJT	\$16,787
35-3041	Food Servers, Nonrestaurant	1348	2240	8	None	ST OJT	\$16,639
35-9021	Dishwashers	2985	3720	8	None	ST OJT	\$16,601
35-3023	Fast Food and Counter Workers	26727	24720	8	None	ST OJT	\$16,522
53-3054	Taxi Drivers	24	110	8	None	ST OJT	\$16,510
53-3011	Ambulance Drivers and Attendants, Except Emergency	23	40	8	None	ST OJT	\$16,277
35-9099	Food Preparation and Serving Related Workers, All Other	1233	1450	8	None	ST OJT	\$15,908
35-3011	Bartenders	3007	4800	8	<5 years	MT OJT	\$15,698
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and	67	50	8	None	None	\$15,624
35-3031	Waiters and Waitresses	13214	13410	8	None	MT OJT	\$15,463
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	3557	2960	8	None	ST OJT	\$15,379
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	3918	4800	8	None	ST OJT	\$15,367
43-2099	Communications Equipment Operators, All Other	3	0	7	None	ST OJT	-
39-4012	Crematory Operators	0	0	7	None	ST OJT	-
49-9064	Watch and Clock Repairers	0	0	7	None	ST OJT	-
51-7032	Patternmakers, Wood	0	0	7	None	ST OJT	-
45-4029	Logging Workers, All Other	0	0	7	None	MT OJT	-

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Work Exp	Entry Level	Median Annual Wage
						On-the-Job Training to Attain Competency	
51-2061	Timing Device Assemblers and Adjusters	0	0	7	None	MT OJT	-
51-8011	Nuclear Power Reactor Operators	2	0	7	None	LT OJT	-
29-1022	Oral and Maxillofacial Surgeons	0	10	7	None	ST OJT	\$146,425
53-2011	Airline Pilots, Copilots, and Flight Engineers	731	2800	7	None	MT OJT	\$113,914
29-1081	Podiatrists	6	60	7	None	ST OJT	\$78,702
11-9199	Managers, All Other	1783	5810	7	None	LT OJT	\$73,452
11-3121	Human Resources Managers	458	1440	7	≥5 years	None	\$68,068
41-9012	Models	36	50	7	None	MT OJT	\$64,380
53-2021	Air Traffic Controllers	65	210	7	None	MT OJT	\$62,910
47-4021	Elevator and Escalator Installers and Repairers	46	140	7	None	APP	\$62,091
11-9111	Medical and Health Services Managers	1062	4720	7	<5 years	None	\$61,740
33-3052	Transit and Railroad Police	8	30	7	≥5 years	MT OJT	\$59,752
33-3021	Detectives and Criminal Investigators	191	690	7	<5 years	MT OJT	\$57,449
27-3043	Writers and Authors	554	1450	7	None	MT OJT	\$55,458
11-9161	Emergency Management Directors	9	40	7	None	LT OJT	\$55,005
51-8013	Power Plant Operators	43	120	7	None	LT OJT	\$52,509
11-3051	Industrial Production Managers	381	940	7	≥5 years	None	\$52,105
49-9092	Commercial Divers	7	20	7	None	MT OJT	\$50,943
49-9051	Electrical Power-Line Installers and Repairers	132	480	7	None	MT OJT	\$50,086
51-8092	Gas Plant Operators	26	60	7	None	MT OJT	\$50,070
11-9071	Gambling Managers	14	50	7	<5 years	None	\$49,919
27-2042	Musicians and Singers	254	700	7	None	LT OJT	\$49,473
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation,	42	110	7	None	LT OJT	\$49,360
51-8012	Power Distributors and Dispatchers	20	50	7	None	MT OJT	\$49,327
27-4012	Broadcast Technicians	669	1450	7	None	LT OJT	\$49,057
41-9031	Sales Engineers	156	270	7	None	MT OJT	\$48,949
11-9039	Education Administrators, All Other	162	770	7	<5 years	None	\$48,699
19-4051	Nuclear Technicians	7	10	7	None	ST OJT	\$45,941
13-2053	Insurance Underwriters	102	230	7	None	MT OJT	\$45,491
27-2041	Music Directors and Composers	131	440	7	None	LT OJT	\$45,259
41-4011	Sales Representatives, Wholesale and Manufacturing,	502	960	7	None	MT OJT	\$44,711
33-2021	Fire Inspectors and Investigators	20	70	7	None	ST OJT	\$44,614
49-2091	Avionics Technicians	94	310	7	None	MT OJT	\$42,135
51-8091	Chemical Plant and System Operators	7	10	7	None	MT OJT	\$41,736
29-1126	Respiratory Therapists	226	1160	7	None	LT OJT	\$41,188
47-4011	Construction and Building Inspectors	307	680	7	≥5 years	MT OJT	\$40,984
29-1011	Chiropractors	29	290	7	None	None	\$40,795
33-3011	Bailiffs	54	100	7	None	None	\$40,544
27-4015	Lighting Technicians	196	420	7	None	MT OJT	\$40,324
21-1023	Mental Health and Substance Abuse Social Workers	376	1490	7	None	ST OJT	\$40,176
29-2091	Orthotists and Prosthetists	12	50	7	None	MT OJT	\$40,118
47-1011	First-Line Supervisors of Construction Trades and Extraction	1002	2900	7	≥5 years	None	\$40,084
33-2011	Firefighters	477	1750	7	None	ST OJT	\$39,619
41-1012	First-Line Supervisors of Non-Retail Sales Workers	450	1120	7	None	ST OJT	\$39,595
27-3099	Media and Communication Workers, All Other	624	1480	7	None	None	\$39,297
29-1129	Therapists, All Other	16	100	7	None	ST OJT	\$39,251
27-1022	Fashion Designers	343	950	7	<5 years	None	\$39,145
47-2011	Boilermakers	11	30	7	None	APP	\$39,060

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
47-2073	Operating Engineers and Other Construction Equipment	463	1310	7	None	MT OJT	\$38,638
51-8031	Water and Wastewater Treatment Plant and System	171	430	7	None	MT OJT	\$38,579
47-5032	Explosives Workers, Ordnance Handling Experts, and	10	20	7	<5 years	None	\$38,445
11-9171	Funeral Home Managers	14	40	7	None	LT OJT	\$38,362
21-1022	Healthcare Social Workers	446	1580	7	None	ST OJT	\$37,508
51-9162	Computer Numerically Controlled Tool Programmers	73	140	7	None	ST OJT	\$37,385
43-5031	Public Safety Telecommunicators	181	510	7	None	ST OJT	\$37,271
27-4031	Camera Operators, Television, Video, and Film	349	840	7	≥5 years	LT OJT	\$37,218
49-3011	Aircraft Mechanics and Service Technicians	376	1770	7	None	MT OJT	\$37,166
49-9012	Control and Valve Installers and Repairers, Except	71	200	7	None	APP	\$37,085
47-2211	Sheet Metal Workers	182	400	7	None	APP	\$36,792
47-2021	Brickmasons and Blockmasons	38	120	7	None	APP	\$35,446
33-3012	Correctional Officers and Jailers	361	1130	7	<5 years	MT OJT	\$35,428
27-3031	Public Relations Specialists	708	2570	7	None	MT OJT	\$35,011
47-2111	Electricians	1186	3040	7	None	APP	\$34,704
43-5051	Postal Service Clerks	130	320	7	None	ST OJT	\$33,016
43-6011	Executive Secretaries and Executive Administrative Assistants	1558	2740	7	None	ST OJT	\$32,866
35-1011	Chefs and Head Cooks	621	1350	7	None	ST OJT	\$32,823
49-2021	Radio, Cellular, and Tower Equipment Installers and	29	50	7	None	MT OJT	\$32,743
19-3091	Anthropologists and Archeologists	30	90	7	None	MT OJT	\$32,322
49-2094	Electrical and Electronics Repairers, Commercial and	81	190	7	None	LT OJT	\$32,183
43-1011	First-Line Supervisors of Office and Administrative Support	4049	9360	7	None	LT OJT	\$31,957
49-9052	Telecommunications Line Installers and Repairers	241	380	7	None	MT OJT	\$31,821
47-2071	Paving, Surfacing, and Tamping Equipment Operators	38	110	7	None	MT OJT	\$31,811
27-4021	Photographers	151	430	7	None	LT OJT	\$31,798
43-5041	Meter Readers, Utilities	16	40	7	None	ST OJT	\$31,625
41-9021	Real Estate Brokers	355	1300	7	None	ST OJT	\$31,525
49-9069	Precision Instrument and Equipment Repairers, All Other	52	120	7	None	ST OJT	\$31,343
11-9179	Personal Service Managers, All Other	40	170	7	None	LT OJT	\$31,290
51-1011	First-Line Supervisors of Production and Operating Workers	1178	2340	7	None	MT OJT	\$31,164
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	406	1260	7	None	ST OJT	\$31,152
27-4099	Media and Communication Equipment Workers, All Other	208	470	7	None	LT OJT	\$31,150
11-9051	Food Service Managers	1078	2270	7	≥5 years	MT OJT	\$30,938
47-4061	Rail-Track Laying and Maintenance Equipment Operators	12	40	7	None	MT OJT	\$30,895
49-9081	Wind Turbine Service Technicians	11	40	7	None	MT OJT	\$30,791
31-2012	Occupational Therapy Aides	14	30	7	None	MT OJT	\$30,710
11-9141	Property, Real Estate, and Community Association Managers	1023	4040	7	<5 years	None	\$30,710
39-3092	Costume Attendants	336	270	7	None	ST OJT	\$30,544
51-6092	Fabric and Apparel Patternmakers	57	30	7	None	MT OJT	\$30,464
33-9021	Private Detectives and Investigators	120	340	7	None	MT OJT	\$30,421
43-5052	Postal Service Mail Carriers	598	1630	7	None	MT OJT	\$30,362
49-9043	Maintenance Workers, Machinery	67	160	7	None	LT OJT	\$30,350
49-3092	Recreational Vehicle Service Technicians	31	110	7	None	LT OJT	\$30,348
33-9011	Animal Control Workers	35	110	7	None	MT OJT	\$30,066
49-9041	Industrial Machinery Mechanics	467	1290	7	None	ST OJT	\$29,849
41-4012	Sales Representatives, Wholesale and Manufacturing, Except	3726	7220	7	None	MT OJT	\$29,655
49-9091	Coin, Vending, and Amusement Machine Servicers and	61	130	7	None	MT OJT	\$29,435
13-1121	Meeting, Convention, and Event Planners	413	1130	7	None	None	\$29,417
17-3011	Architectural and Civil Drafters	250	680	7	None	MT OJT	\$29,386
47-2022	Stonemasons	23	60	7	None	APP	\$29,327

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
51-8021	Stationary Engineers and Boiler Operators	187	460	7	None	MT OJT	\$29,309
43-4061	Eligibility Interviewers, Government Programs	1070	3180	7	None	MT OJT	\$29,225
49-9044	Millwrights	29	70	7	None	ST OJT	\$29,063
49-3051	Motorboat Mechanics and Service Technicians	54	200	7	None	LT OJT	\$29,042
43-9081	Proofreaders and Copy Markers	18	30	7	None	ST OJT	\$28,577
47-2031	Carpenters	1504	4190	7	None	APP	\$28,499
47-2221	Structural Iron and Steel Workers	147	390	7	None	APP	\$28,486
33-1091	First-Line Supervisors of Security Workers	203	600	7	None	MT OJT	\$28,473
43-9031	Desktop Publishers	11	20	7	None	MT OJT	\$28,385
51-4192	Layout Workers, Metal and Plastic	24	50	7	None	MT OJT	\$28,333
47-2152	Plumbers, Pipefitters, and Steamfitters	669	1660	7	None	APP	\$28,312
49-3021	Automotive Body and Related Repairers	352	1290	7	None	MT OJT	\$28,139
49-3052	Motorcycle Mechanics	31	130	7	None	MT OJT	\$28,090
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and	605	1620	7	None	LT OJT	\$28,049
49-3023	Automotive Service Technicians and Mechanics	1120	3260	7	None	ST OJT	\$28,034
49-9062	Medical Equipment Repairers	134	370	7	None	MT OJT	\$28,033
49-2098	Security and Fire Alarm Systems Installers	258	590	7	None	LT OJT	\$28,026
47-2121	Glaziers	125	310	7	None	APP	\$27,986
43-4031	Court, Municipal, and License Clerks	239	670	7	None	ST OJT	\$27,571
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems	95	140	7	None	MT OJT	\$27,187
51-9081	Dental Laboratory Technicians	74	70	7	<5 years	None	\$26,874
19-4061	Social Science Research Assistants	155	390	7	None	ST OJT	\$26,832
43-3051	Payroll and Timekeeping Clerks	638	1240	7	None	MT OJT	\$26,672
33-3041	Parking Enforcement Workers	40	100	7	<5 years	None	\$26,655
49-3041	Farm Equipment Mechanics and Service Technicians	28	60	7	None	MT OJT	\$26,333
49-3043	Rail Car Repairers	36	80	7	None	ST OJT	\$26,034
41-9099	Sales and Related Workers, All Other	1168	1810	7	<5 years	None	\$25,349
47-4051	Highway Maintenance Workers	177	580	7	None	MT OJT	\$25,031
49-2092	Electric Motor, Power Tool, and Related Repairers	18	40	7	None	LT OJT	\$24,963
43-5061	Production, Planning, and Expediting Clerks	1979	4000	7	None	ST OJT	\$24,826
53-3032	Heavy and Tractor-Trailer Truck Drivers	4903	10390	7	None	ST OJT	\$24,764
39-9031	Exercise Trainers and Group Fitness Instructors	2093	4140	7	None	MT OJT	\$24,615
43-9022	Word Processors and Typists	579	550	7	<5 years	None	\$24,456
43-4011	Brokerage Clerks	134	270	7	None	MT OJT	\$24,264
43-3099	Financial Clerks, All Other	253	590	7	None	ST OJT	\$24,174
43-4199	Information and Record Clerks, All Other	602	1400	7	None	ST OJT	\$24,075
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and	31	30	7	None	LT OJT	\$24,064
39-1022	First-Line Supervisors of Personal Service Workers	299	930	7	None	MT OJT	\$23,971
43-9041	Insurance Claims and Policy Processing Clerks	361	690	7	None	MT OJT	\$23,964
43-3031	Bookkeeping, Accounting, and Auditing Clerks	5404	10420	7	None	ST OJT	\$23,904
47-4041	Hazardous Materials Removal Workers	186	500	7	None	MT OJT	\$23,900
43-6012	Legal Secretaries and Administrative Assistants	1269	3120	7	None	MT OJT	\$23,850
43-5053	Postal Service Mail Sorters, Processors, and Processing	383	830	7	None	MT OJT	\$23,747
43-5011	Cargo and Freight Agents	714	1520	7	None	ST OJT	\$23,621
33-9093	Transportation Security Screeners	271	770	7	None	ST OJT	\$23,547
45-2011	Agricultural Inspectors	97	150	7	None	ST OJT	\$23,499
43-4131	Loan Interviewers and Clerks	435	1110	7	None	ST OJT	\$23,492
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry	66	110	7	None	ST OJT	\$23,471
51-2041	Structural Metal Fabricators and Fitters	55	80	7	None	MT OJT	\$23,430
49-2093	Electrical and Electronics Installers and Repairers,	10	30	7	None	LT OJT	\$23,414

Education: 1=Doctoral or professional degree; 2=Master's degree; 3=Bachelor's degree; 4=Associate's degree; 5=Postsecondary non-degree award; 6=Some college, no degree; 7=High school diploma or equivalent; 8=Less than high school; **On-the-Job Training:** I/R=Internship/Residency; APP=Apprenticeship; LT OJT=Long-term on-the-job training (more than one year); MT OJT=Moderate-term on-the-job training (1-12 months); ST OJT=Short-term on-the-job training (1 month or less)

Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
43-4161	Human Resources Assistants, Except Payroll and	392	760	7	None	ST OJT	\$23,402
51-9071	Jewelers and Precious Stone and Metal Workers	157	250	7	<5 years	None	\$23,330
51-4034	Lathe and Turning Machine Tool Setters, Operators, and	106	90	7	None	MT OJT	\$23,252
49-3022	Automotive Glass Installers and Repairers	24	110	7	None	LT OJT	\$23,138
43-3061	Procurement Clerks	163	330	7	None	ST OJT	\$23,130
51-2031	Engine and Other Machine Assemblers	57	60	7	None	MT OJT	\$23,091
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and	104	110	7	None	MT OJT	\$23,043
27-2099	Entertainers and Performers, Sports and Related Workers, All	146	300	7	None	LT OJT	\$23,003
43-3011	Bill and Account Collectors	575	1160	7	None	None	\$22,987
49-3053	Outdoor Power Equipment and Other Small Engine	61	160	7	None	MT OJT	\$22,807
33-9091	Crossing Guards and Flaggers	495	560	7	None	ST OJT	\$22,765
49-9071	Maintenance and Repair Workers, General	3140	9390	7	None	ST OJT	\$22,724
51-4035	Milling and Planing Machine Setters, Operators, and Tenders,	66	60	7	None	MT OJT	\$22,698
47-4098	Miscellaneous Construction and Related Workers	48	120	7	None	MT OJT	\$22,677
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still	95	190	7	None	MT OJT	\$22,658
51-9082	Medical Appliance Technicians	76	90	7	<5 years	None	\$22,601
39-4031	Morticians, Undertakers, and Funeral Arrangers	76	100	7	None	ST OJT	\$22,571
43-4121	Library Assistants, Clerical	338	460	7	None	MT OJT	\$22,563
31-9099	Healthcare Support Workers, All Other	593	1130	7	None	ST OJT	\$22,555
51-6091	Extruding and Forming Machine Setters, Operators, and	9	20	7	None	LT OJT	\$22,547
43-4111	Interviewers, Except Eligibility and Loan	672	1210	7	None	ST OJT	\$22,507
43-3021	Billing and Posting Clerks	1494	3380	7	<5 years	None	\$22,505
51-9161	Computer Numerically Controlled Tool Operators	381	560	7	None	MT OJT	\$22,495
43-4041	Credit Authorizers, Checkers, and Clerks	38	100	7	None	ST OJT	\$22,409
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators,	58	80	7	None	ST OJT	\$22,353
51-5111	Prepress Technicians and Workers	62	60	7	None	MT OJT	\$22,304
49-9063	Musical Instrument Repairers and Tuners	12	30	7	None	ST OJT	\$22,255
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	213	430	7	None	MT OJT	\$22,203
43-6013	Medical Secretaries and Administrative Assistants	3026	6970	7	None	ST OJT	\$22,092
43-5032	Dispatchers, Except Police, Fire, and Ambulance	609	1460	7	None	ST OJT	\$22,073
31-1133	Psychiatric Aides	68	170	7	None	None	\$22,064
49-9031	Home Appliance Repairers	62	160	7	None	LT OJT	\$21,881
49-9094	Locksmiths and Safe Repairers	52	100	7	None	MT OJT	\$21,875
49-2097	Audiovisual Equipment Installers and Repairers	42	80	7	None	LT OJT	\$21,873
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	1562	2110	7	None	MT OJT	\$21,794
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	94	160	7	None	ST OJT	\$21,782
43-4141	New Accounts Clerks	27	60	7	None	ST OJT	\$21,728
51-9197	Tire Builders	16	10	7	None	MT OJT	\$21,707
51-9011	Chemical Equipment Operators and Tenders	139	260	7	None	ST OJT	\$21,470
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and	224	300	7	None	MT OJT	\$21,446
51-9191	Adhesive Bonding Machine Operators and Tenders	14	30	7	None	ST OJT	\$21,336
51-9196	Paper Goods Machine Setters, Operators, and Tenders	115	140	7	<5 years	MT OJT	\$21,301
51-9151	Photographic Process Workers and Processing Machine	43	70	7	None	MT OJT	\$21,202
51-9124	Coating, Painting, and Spraying Machine Setters, Operators,	332	760	7	None	LT OJT	\$21,195
51-7021	Furniture Finishers	46	50	7	None	MT OJT	\$21,174
51-2051	Fiberglass Laminators and Fabricators	23	50	7	None	MT OJT	\$21,149
37-2021	Pest Control Workers	256	280	7	<5 years	None	\$21,007
51-4191	Heat Treating Equipment Setters, Operators, and Tenders,	26	40	7	None	MT OJT	\$20,859
51-4032	Drilling and Boring Machine Tool Setters, Operators, and	45	50	7	None	MT OJT	\$20,710
43-9199	Office and Administrative Support Workers, All Other	1013	2280	7	None	MT OJT	\$20,648

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Work Exp	Entry Level	Median Annual Wage
						On-the-Job Training to Attain Competency	
35-2013	Cooks, Private Household	4	10	7	None	ST OJT	\$20,600
51-6052	Tailors, Dressmakers, and Custom Sewers	70	110	7	None	LT OJT	\$20,587
47-2053	Terrazzo Workers and Finishers	5	10	7	None	APP	\$20,516
43-4051	Customer Service Representatives	7294	11500	7	None	MT OJT	\$20,469
35-1012	First-Line Supervisors of Food Preparation and Serving	6001	9200	7	None	ST OJT	\$20,223
51-6093	Upholsterers	97	210	7	None	MT OJT	\$20,193
43-4071	File Clerks	464	830	7	None	MT OJT	\$20,146
43-4021	Correspondence Clerks	16	30	7	None	MT OJT	\$19,942
51-9193	Cooling and Freezing Equipment Operators and Tenders	11	20	7	None	ST OJT	\$19,741
51-4051	Metal-Refining Furnace Operators and Tenders	28	30	7	None	MT OJT	\$19,700
47-4031	Fence Erectors	62	140	7	None	MT OJT	\$19,528
53-3033	Light Truck Drivers	3737	7630	7	None	ST OJT	\$19,435
47-3013	Helpers--Electricians	77	140	7	None	ST OJT	\$19,406
39-9041	Residential Advisors	429	840	7	None	MT OJT	\$19,397
43-9061	Office Clerks, General	8687	16640	7	None	MT OJT	\$19,347
39-1013	First-Line Supervisors of Gambling Services Workers	56	200	7	None	MT OJT	\$19,223
51-5113	Print Binding and Finishing Workers	36	50	7	None	MT OJT	\$19,189
51-4072	Molding, Coremaking, and Casting Machine Setters,	232	410	7	None	MT OJT	\$19,181
51-5112	Printing Press Operators	374	500	7	None	ST OJT	\$18,992
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	21	30	7	None	MT OJT	\$18,909
51-4193	Plating Machine Setters, Operators, and Tenders, Metal and	153	170	7	None	MT OJT	\$18,768
31-9092	Medical Assistants	3772	8120	7	None	ST OJT	\$18,765
43-4151	Order Clerks	582	750	7	None	ST OJT	\$18,763
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal	112	190	7	None	MT OJT	\$18,701
51-9041	Extruding, Forming, Pressing, and Compacting Machine	104	180	7	None	MT OJT	\$18,700
51-4021	Extruding and Drawing Machine Setters, Operators, and	105	150	7	None	MT OJT	\$18,562
39-4021	Funeral Attendants	100	110	7	None	ST OJT	\$18,560
43-3071	Tellers	562	860	7	None	MT OJT	\$18,548
51-4199	Metal Workers and Plastic Workers, All Other	72	100	7	None	MT OJT	\$18,489
43-9051	Mail Clerks and Mail Machine Operators, Except Postal	129	250	7	None	ST OJT	\$18,385
35-2012	Cooks, Institution and Cafeteria	1104	2420	7	None	ST OJT	\$18,372
43-5071	Shipping, Receiving, and Inventory Clerks	2362	3820	7	None	ST OJT	\$18,365
43-9021	Data Entry Keyers	552	780	7	None	ST OJT	\$18,333
43-9071	Office Machine Operators, Except Computer	86	140	7	None	MT OJT	\$18,284
43-4181	Reservation and Transportation Ticket Agents and Travel	834	2940	7	None	MT OJT	\$18,233
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	117	180	7	None	MT OJT	\$18,229
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool	292	320	7	None	MT OJT	\$18,209
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	723	1160	7	None	ST OJT	\$18,196
35-2014	Cooks, Restaurant	6568	10900	7	≥5 years	None	\$18,195
37-3011	Landscaping and Groundskeeping Workers	2230	3630	7	<5 years	None	\$18,186
39-5012	Hairdressers, Hairstylists, and Cosmetologists	1123	2770	7	None	ST OJT	\$18,162
51-2028	Electrical, Electronic, and Electromechanical Assemblers,	721	790	7	None	LT OJT	\$18,120
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine	29	70	7	None	MT OJT	\$18,087
51-2098	Miscellaneous Assemblers and Fabricators	2461	3050	7	None	MT OJT	\$18,061
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective	985	1020	7	None	MT OJT	\$17,999
51-3021	Butchers and Meat Cutters	671	1210	7	None	MT OJT	\$17,991
43-4171	Receptionists and Information Clerks	3003	6120	7	None	ST OJT	\$17,920
51-7099	Woodworkers, All Other	23	30	7	None	MT OJT	\$17,918
51-9111	Packaging and Filling Machine Operators and Tenders	1112	2270	7	None	MT OJT	\$17,917
51-9022	Grinding and Polishing Workers, Hand	83	90	7	None	MT OJT	\$17,888

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
51-7042	Woodworking Machine Setters, Operators, and Tenders,	72	110	7	None	MT OJT	\$17,881
43-5021	Couriers and Messengers	247	460	7	None	ST OJT	\$17,878
53-3031	Driver/Sales Workers	1486	3140	7	None	MT OJT	\$17,857
53-3053	Shuttle Drivers and Chauffeurs	797	1680	7	<5 years	MT OJT	\$17,829
51-4194	Tool Grinders, Filers, and Sharpeners	19	30	7	None	MT OJT	\$17,749
51-3011	Bakers	1190	1840	7	None	MT OJT	\$17,745
39-2011	Animal Trainers	88	190	7	None	MT OJT	\$17,708
51-9199	Production Workers, All Other	1358	2050	7	None	MT OJT	\$17,668
39-3091	Amusement and Recreation Attendants	2733	2790	7	None	ST OJT	\$17,656
43-5111	Weighers, Measurers, Checkers, and Samplers,	209	340	7	None	ST OJT	\$17,607
41-2021	Counter and Rental Clerks	2350	5390	7	None	ST OJT	\$17,590
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	239	380	7	<5 years	None	\$17,544
51-3093	Food Cooking Machine Operators and Tenders	19	50	7	None	MT OJT	\$17,480
49-3093	Tire Repairers and Changers	197	370	7	None	MT OJT	\$17,354
51-9198	Helpers--Production Workers	734	710	7	None	MT OJT	\$17,316
51-4052	Pourers and Casters, Metal	7	0	7	None	ST OJT	\$17,296
43-4081	Hotel, Motel, and Resort Desk Clerks	971	1340	7	None	ST OJT	\$17,294
39-9099	Personal Care and Service Workers, All Other	358	680	7	None	ST OJT	\$17,283
39-3031	Ushers, Lobby Attendants, and Ticket Takers	1513	1600	7	None	ST OJT	\$17,254
51-6021	Pressers, Textile, Garment, and Related Materials	268	400	7	None	ST OJT	\$17,182
43-3041	Gambling Cage Workers	47	150	7	None	ST OJT	\$17,176
33-9032	Security Guards	8271	16710	7	None	MT OJT	\$17,140
45-2021	Animal Breeders	4	10	7	None	ST OJT	\$17,123
51-3099	Food Processing Workers, All Other	281	610	7	None	MT OJT	\$17,108
33-9094	School Bus Monitors	65	100	7	None	MT OJT	\$17,086
41-2022	Parts Salespersons	729	1250	7	<5 years	None	\$17,058
51-3092	Food Batchmakers	582	1050	7	None	MT OJT	\$17,023
33-9031	Gambling Surveillance Officers and Gambling Investigators	57	150	7	<5 years	MT OJT	\$16,989
33-9099	Protective Service Workers, All Other	2981	2580	7	<5 years	MT OJT	\$16,978
51-9141	Semiconductor Processing Technicians	33	40	7	<5 years	MT OJT	\$16,911
51-2021	Coil Winders, Tapers, and Finishers	18	20	7	None	MT OJT	\$16,852
35-2011	Cooks, Fast Food	6083	6380	7	None	ST OJT	\$16,780
49-3091	Bicycle Repairers	63	90	7	None	LT OJT	\$16,766
35-2015	Cooks, Short Order	1169	1650	7	<5 years	None	\$16,724
41-2031	Retail Salespersons	12215	17570	7	<5 years	None	\$16,713
39-9032	Recreation Workers	2697	3650	7	None	MT OJT	\$16,568
51-3023	Slaughterers and Meat Packers	96	140	7	None	LT OJT	\$16,507
51-6061	Textile Bleaching and Dyeing Machine Operators and Tenders	53	0	7	None	LT OJT	\$16,476
51-6011	Laundry and Dry-Cleaning Workers	596	1120	7	None	ST OJT	\$16,455
51-6041	Shoe and Leather Workers and Repairers	28	40	7	None	MT OJT	\$16,454
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	55	50	7	None	LT OJT	\$16,390
51-6042	Shoe Machine Operators and Tenders	7	0	7	None	LT OJT	\$16,239
51-6031	Sewing Machine Operators	811	550	7	None	ST OJT	\$16,222
47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	56	110	7	None	ST OJT	\$16,200
39-3019	Gambling Service Workers, All Other	99	210	7	None	MT OJT	\$16,087
39-9011	Childcare Workers	1517	1280	7	None	ST OJT	\$16,025
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and	29	10	7	None	LT OJT	\$15,925
51-9031	Cutters and Trimmers, Hand	21	10	7	None	LT OJT	\$15,878
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	433	540	7	None	ST OJT	\$15,851
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	287	530	7	None	MT OJT	\$15,802

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Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Work Exp	Entry Level	Median Annual Wage
						On-the-Job Training to Attain Competency	
45-4011	Forest and Conservation Workers	83	110	7	None	MT OJT	\$15,756
31-1128	Home Health and Personal Care Aides	48999	98660	7	None	LT OJT	\$15,571
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters,	22	30	7	None	LT OJT	\$15,416
51-6099	Textile, Apparel, and Furnishings Workers, All Other	129	120	7	None	MT OJT	\$15,379
39-3012	Gambling and Sports Book Writers and Runners	61	130	7	<5 years	None	\$15,083
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	13	20	7	None	LT OJT	\$15,000
51-6051	Sewers, Hand	17	20	7	None	LT OJT	\$14,945
39-3011	Gambling Dealers	466	1120	7	<5 years	None	\$14,724
41-2012	Gambling Change Persons and Booth Cashiers	90	150	7	None	ST OJT	\$14,708
31-9094	Medical Transcriptionists	314	390	7	None	ST OJT	\$14,310
15-1231	Computer Network Support Specialists	204	730	6	None	MT OJT	\$35,722
47-5041	Continuous Mining Machine Operators	8	10	6	None	None	\$25,617
27-2031	Dancers	250	500	6	None	None	\$22,599
27-2023	Umpires, Referees, and Other Sports Officials	179	230	6	None	None	\$16,955
47-5044	Loading and Moving Machine Operators, Underground Mining	0	0	5	None	MT OJT	-
49-9045	Refractory Materials Repairers, Except Brickmasons	0	0	5	None	MT OJT	-
33-3031	Fish and Game Wardens	2	0	5	<5 years	MT OJT	-
33-1012	First-Line Supervisors of Police and Detectives	204	860	5	None	None	\$80,278
33-1021	First-Line Supervisors of Firefighting and Prevention Workers	100	460	5	None	None	\$73,517
53-2012	Commercial Pilots	206	770	5	None	ST OJT	\$66,618
29-9092	Genetic Counselors	3	20	5	None	None	\$55,997
13-1011	Agents and Business Managers of Artists, Performers, and	623	2120	5	None	MT OJT	\$51,415
33-3051	Police and Sheriff's Patrol Officers	1721	6040	5	None	LT OJT	\$50,944
33-1011	First-Line Supervisors of Correctional Officers	20	80	5	None	None	\$50,753
29-1122	Occupational Therapists	251	1150	5	None	ST OJT	\$49,638
33-2022	Forest Fire Inspectors and Prevention Specialists	8	30	5	None	None	\$40,610
29-9021	Health Information Technologists and Medical Registrars	57	270	5	None	None	\$40,494
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	859	2700	5	None	ST OJT	\$38,400
33-1099	First-Line Supervisors of Protective Service Workers, All Other	67	200	5	None	None	\$32,857
29-1125	Recreational Therapists	25	100	5	None	ST OJT	\$32,163
21-1021	Child, Family, and School Social Workers	1496	5400	5	None	ST OJT	\$31,736
29-9099	Healthcare Practitioners and Technical Workers, All Other	79	350	5	None	None	\$31,540
49-2022	Telecommunications Equipment Installers and Repairers,	294	360	5	None	None	\$31,225
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	230	640	5	None	LT OJT	\$30,653
29-2092	Hearing Aid Specialists	22	80	5	None	ST OJT	\$30,172
29-2072	Medical Records Specialists	431	1710	5	None	None	\$28,240
47-5051	Rock Splitters, Quarry	11	20	5	None	LT OJT	\$28,164
47-5071	Roustabouts, Oil and Gas	13	30	5	None	LT OJT	\$28,161
53-1041	Aircraft Cargo Handling Supervisors	37	130	5	None	ST OJT	\$27,543
53-3052	Bus Drivers, Transit and Intercity	756	1230	5	None	ST OJT	\$25,723
31-9093	Medical Equipment Preparers	278	510	5	None	None	\$25,640
47-5081	Helpers--Extraction Workers	18	30	5	None	LT OJT	\$25,187
51-4041	Machinists	760	1230	5	None	None	\$23,113
29-9093	Surgical Assistants	16	70	5	None	None	\$22,961
49-2011	Computer, Automated Teller, and Office Machine Repairers	187	280	5	None	None	\$22,945
47-5099	Extraction Workers, All Other	7	10	5	None	LT OJT	\$21,052
49-9061	Camera and Photographic Equipment Repairers	3	10	5	<5 years	None	\$20,364
39-6012	Concierges	205	350	5	None	None	\$18,873
39-7018	Tour and Travel Guides	367	580	5	None	None	\$17,872
39-5093	Shampooers	17	40	5	None	None	\$17,871

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Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
39-6011	Baggage Porters and Bellhops	201	370	5	None	None	\$17,526
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators	39	70	5	None	ST OJT	\$17,312
39-5094	Skincare Specialists	519	1070	5	None	None	\$17,207
39-5011	Barbers	43	140	5	None	ST OJT	\$16,733
39-5092	Manicurists and Pedicurists	1397	3440	5	None	None	\$16,313
27-2011	Actors	1174	1960	5	None	None	\$15,957
29-1243	Pediatric Surgeons	0	0	4	None	None	-
47-5049	Underground Mining Machine Operators, All Other	0	0	4	None	None	-
47-5043	Roof Bolters, Mining	0	0	4	None	MT OJT	-
11-9041	Architectural and Engineering Managers	428	1230	4	<5 years	None	\$81,650
19-3041	Sociologists	10	30	4	None	None	\$71,383
17-2151	Mining and Geological Engineers, Including Mining Safety	3	10	4	None	None	\$69,954
19-3011	Economists	23	110	4	None	MT OJT	\$68,221
29-1124	Radiation Therapists	10	60	4	None	ST OJT	\$62,323
17-2071	Electrical Engineers	297	950	4	None	None	\$61,702
17-2111	Health and Safety Engineers, Except Mining Safety Engineers	25	90	4	None	None	\$61,216
17-2121	Marine Engineers and Naval Architects	2	10	4	None	None	\$60,400
17-2072	Electronics Engineers, Except Computer	173	480	4	None	None	\$60,120
17-2171	Petroleum Engineers	16	60	4	None	None	\$60,068
17-2161	Nuclear Engineers	10	40	4	None	None	\$59,467
19-3033	Clinical and Counseling Psychologists	125	750	4	None	None	\$58,698
19-3032	Industrial-Organizational Psychologists	9	40	4	None	MT OJT	\$57,255
19-2043	Hydrologists	13	40	4	None	MT OJT	\$53,178
17-2199	Engineers, All Other	336	1060	4	None	None	\$50,702
29-2032	Diagnostic Medical Sonographers	115	590	4	None	None	\$50,371
17-2141	Mechanical Engineers	312	1020	4	None	None	\$50,000
19-3051	Urban and Regional Planners	124	410	4	None	None	\$49,904
29-1123	Physical Therapists	292	1820	4	None	ST OJT	\$49,292
17-2112	Industrial Engineers	344	1100	4	None	None	\$48,890
17-2131	Materials Engineers	42	110	4	None	None	\$48,746
19-3034	School Psychologists	163	710	4	None	None	\$48,638
39-5091	Makeup Artists, Theatrical and Performance	183	200	4	None	LT OJT	\$47,644
17-2081	Environmental Engineers	121	430	4	None	None	\$41,655
25-4022	Librarians and Media Collections Specialists	246	730	4	None	None	\$38,452
13-2099	Financial Specialists, All Other	273	1090	4	None	None	\$36,735
19-3022	Survey Researchers	18	60	4	None	MT OJT	\$35,795
29-1291	Acupuncturists	29	140	4	None	None	\$32,674
29-2055	Surgical Technologists	181	810	4	None	None	\$32,121
15-1232	Computer User Support Specialists	1048	3650	4	None	None	\$31,830
29-2061	Licensed Practical and Licensed Vocational Nurses	1854	6370	4	<5 years	None	\$30,843
29-9091	Athletic Trainers	33	170	4	None	None	\$30,363
51-8099	Plant and System Operators, All Other	23	50	4	None	MT OJT	\$28,938
43-9111	Statistical Assistants	9	20	4	None	ST OJT	\$27,170
29-2053	Psychiatric Technicians	239	880	4	None	None	\$24,601
49-9011	Mechanical Door Repairers	24	90	4	None	MT OJT	\$24,404
29-2056	Veterinary Technologists and Technicians	231	860	4	None	None	\$23,446
29-2099	Health Technologists and Technicians, All Other	451	1950	4	None	MT OJT	\$23,048
29-2052	Pharmacy Technicians	995	2160	4	None	None	\$22,959
29-2057	Ophthalmic Medical Technicians	94	240	4	None	None	\$22,802
29-2081	Opticians, Dispensing	179	510	4	None	None	\$22,418

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
31-9097	Phlebotomists	459	880	4	None	None	\$21,670
51-9123	Painting, Coating, and Decorating Workers	32	70	4	None	LT OJT	\$20,316
21-1019	Counselors, All Other	656	1810	4	None	None	\$18,678
29-2051	Dietetic Technicians	124	290	4	None	None	\$18,358
31-9095	Pharmacy Aides	559	540	4	None	None	\$18,324
15-2099	Mathematical Science Occupations, All Other	0	0	3	None	None	-
17-2021	Agricultural Engineers	0	0	3	None	None	-
29-1024	Prosthodontists	0	0	3	None	None	-
29-1211	Anesthesiologists	42	350	3	None	I/R	\$159,976
29-1249	Surgeons, All Other	14	150	3	None	None	\$107,669
11-1011	Chief Executives	571	1700	3	≥5 years	None	\$107,411
29-1029	Dentists, All Other Specialists	2	20	3	None	None	\$101,096
29-1023	Orthodontists	3	30	3	None	None	\$94,338
11-3021	Computer and Information Systems Managers	1144	4400	3	≥5 years	None	\$82,997
15-1221	Computer and Information Research Scientists	39	160	3	≥5 years	None	\$81,993
11-3031	Financial Managers	1832	7510	3	≥5 years	None	\$78,044
11-9121	Natural Sciences Managers	114	350	3	≥5 years	None	\$77,414
11-2021	Marketing Managers	1123	3290	3	≥5 years	None	\$71,431
29-1051	Pharmacists	367	1990	3	None	MT OJT	\$69,279
27-3011	Broadcast Announcers and Radio Disc Jockeys	246	440	3	None	None	\$67,775
29-1021	Dentists, General	162	1150	3	None	None	\$67,646
11-3061	Purchasing Managers	149	400	3	≥5 years	None	\$67,216
29-1071	Physician Assistants	246	1530	3	None	ST OJT	\$66,981
15-1252	Software Developers	2086	9740	3	None	I/R	\$65,727
17-2011	Aerospace Engineers	204	670	3	None	None	\$65,697
11-2032	Public Relations Managers	153	640	3	≥5 years	None	\$65,600
15-2021	Mathematicians	3	10	3	None	None	\$64,947
27-1011	Art Directors	599	1550	3	None	I/R	\$64,116
11-2011	Advertising and Promotions Managers	121	350	3	<5 years	None	\$64,056
11-3111	Compensation and Benefits Managers	29	110	3	≥5 years	None	\$63,835
11-9032	Education Administrators, Kindergarten through Secondary	413	1850	3	<5 years	None	\$62,901
27-1014	Special Effects Artists and Animators	1134	2370	3	None	I/R	\$62,816
15-1212	Information Security Analysts	170	810	3	None	None	\$61,952
29-1041	Optometrists	68	590	3	<5 years	ST OJT	\$60,848
11-3131	Training and Development Managers	116	370	3	None	MT OJT	\$60,076
11-2022	Sales Managers	1809	4990	3	<5 years	None	\$59,589
15-2011	Actuaries	14	80	3	None	None	\$58,473
15-1241	Computer Network Architects	169	680	3	None	None	\$58,440
17-2061	Computer Hardware Engineers	102	340	3	None	None	\$55,368
11-2033	Fundraising Managers	66	340	3	<5 years	None	\$55,265
11-1021	General and Operations Managers	5855	18370	3	<5 years	None	\$54,857
15-2041	Statisticians	37	190	3	None	None	\$54,494
19-3039	Psychologists, All Other	19	90	3	None	MT OJT	\$54,447
15-1211	Computer Systems Analysts	622	2460	3	<5 years	None	\$54,005
11-9033	Education Administrators, Postsecondary	564	2670	3	≥5 years	None	\$52,469
27-1019	Artists and Related Workers, All Other	51	120	3	None	I/R	\$52,108
27-2012	Producers and Directors	2873	7280	3	<5 years	None	\$52,055
11-3012	Administrative Services Managers	786	2610	3	≥5 years	None	\$51,887
15-1253	Software Quality Assurance Analysts and Testers	286	1140	3	None	I/R	\$51,458
19-2099	Physical Scientists, All Other	27	100	3	None	None	\$51,144

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
15-2051	Data Scientists	328	1590	3	None	None	\$50,338
29-1127	Speech-Language Pathologists	258	1360	3	None	None	\$50,302
13-2054	Financial Risk Specialists	74	290	3	None	MT OJT	\$50,191
27-3041	Editors	874	1670	3	None	None	\$50,037
17-2041	Chemical Engineers	9	40	3	None	None	\$49,993
15-1242	Database Administrators	111	490	3	None	LT OJT	\$49,851
19-1021	Biochemists and Biophysicists	40	100	3	None	None	\$49,791
17-2051	Civil Engineers	475	1760	3	None	None	\$49,533
11-3013	Facilities Managers	330	1110	3	≥5 years	None	\$49,326
13-1075	Labor Relations Specialists	211	630	3	None	None	\$49,256
11-3071	Transportation, Storage, and Distribution Managers	670	1880	3	≥5 years	None	\$48,438
19-4092	Forensic Science Technicians	111	260	3	None	MT OJT	\$48,307
13-2031	Budget Analysts	98	360	3	None	MT OJT	\$48,191
17-1012	Landscape Architects	31	100	3	None	None	\$47,953
15-1244	Network and Computer Systems Administrators	371	1530	3	None	None	\$47,703
19-1029	Biological Scientists, All Other	123	370	3	None	None	\$47,674
13-2052	Personal Financial Advisors	585	2930	3	None	MT OJT	\$47,664
17-1021	Cartographers and Photogrammetrists	13	60	3	None	None	\$47,508
13-1082	Project Management Specialists	1665	5520	3	<5 years	None	\$47,467
13-2051	Financial and Investment Analysts	465	1850	3	None	MT OJT	\$47,254
17-2031	Bioengineers and Biomedical Engineers	30	90	3	None	None	\$47,217
17-1022	Surveyors	43	200	3	None	None	\$47,209
29-1299	Healthcare Diagnosing or Treating Practitioners, All Other	6	40	3	None	None	\$47,199
27-3042	Technical Writers	81	240	3	None	None	\$47,176
19-2041	Environmental Scientists and Specialists, Including Health	124	410	3	None	None	\$46,676
25-9021	Farm and Home Management Educators	6	20	3	None	I/R	\$46,312
15-1299	Computer Occupations, All Other	1015	3770	3	None	None	\$46,310
15-1254	Web Developers	138	610	3	None	None	\$46,178
19-1022	Microbiologists	29	80	3	None	None	\$45,972
11-9131	Postmasters and Mail Superintendents	6	20	3	≥5 years	None	\$44,899
17-1011	Architects, Except Landscape and Naval	309	1660	3	None	None	\$44,707
27-3092	Court Reporters and Simultaneous Captioners	48	140	3	None	None	\$44,666
13-2081	Tax Examiners and Collectors, and Revenue Agents	89	320	3	None	None	\$44,474
19-5011	Occupational Health and Safety Specialists	300	710	3	None	None	\$43,597
19-2042	Geoscientists, Except Hydrologists and Geographers	40	130	3	None	None	\$41,387
13-2061	Financial Examiners	93	380	3	None	None	\$41,018
13-2028	Property Appraisers and Assessors	139	480	3	None	MT OJT	\$40,857
27-1027	Set and Exhibit Designers	146	400	3	None	None	\$40,646
13-1111	Management Analysts	2004	6300	3	None	None	\$40,533
15-2031	Operations Research Analysts	128	570	3	None	None	\$40,320
19-1012	Food Scientists and Technologists	36	110	3	None	None	\$39,862
13-1031	Claims Adjusters, Examiners, and Investigators	302	700	3	None	None	\$39,647
13-2011	Accountants and Auditors	3513	13180	3	None	None	\$39,200
29-1128	Exercise Physiologists	4	20	3	None	None	\$39,067
27-1021	Commercial and Industrial Designers	122	340	3	None	I/R	\$39,035
31-2021	Physical Therapist Assistants	383	720	3	None	None	\$38,755
13-1081	Logisticians	562	1610	3	None	None	\$38,426
19-4044	Hydrologic Technicians	4	10	3	None	ST OJT	\$38,348
19-1023	Zoologists and Wildlife Biologists	17	70	3	None	None	\$38,154
17-3022	Civil Engineering Technologists and Technicians	103	250	3	None	None	\$38,114

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
13-1041	Compliance Officers	976	3030	3	None	None	\$38,078
17-3031	Surveying and Mapping Technicians	70	180	3	None	None	\$38,066
19-1013	Soil and Plant Scientists	12	50	3	None	None	\$37,810
31-2011	Occupational Therapy Assistants	199	370	3	None	ST OJT	\$37,770
15-1255	Web and Digital Interface Designers	340	1250	3	<5 years	None	\$37,236
13-2041	Credit Analysts	137	380	3	None	MT OJT	\$37,067
19-2031	Chemists	155	410	3	None	None	\$36,817
17-3026	Industrial Engineering Technologists and Technicians	56	100	3	None	None	\$36,767
11-9151	Social and Community Service Managers	742	2830	3	<5 years	None	\$36,726
25-4012	Curators	46	170	3	<5 years	None	\$36,696
13-1051	Cost Estimators	475	1190	3	None	None	\$36,555
17-3025	Environmental Engineering Technologists and Technicians	29	70	3	None	None	\$36,525
13-1071	Human Resources Specialists	1874	5390	3	<5 years	None	\$36,335
13-1141	Compensation, Benefits, and Job Analysis Specialists	195	680	3	None	LT OJT	\$36,253
13-1028	Buyers and Purchasing Agents	1152	2280	3	None	MT OJT	\$35,890
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	171	520	3	None	I/R	\$35,796
25-9031	Instructional Coordinators	310	1190	3	None	I/R	\$35,593
27-4032	Film and Video Editors	694	1670	3	<5 years	None	\$35,142
19-2032	Materials Scientists	7	20	3	None	None	\$35,051
27-2032	Choreographers	101	230	3	≥5 years	None	\$34,896
13-1199	Business Operations Specialists, All Other	3819	10940	3	None	None	\$34,889
17-3013	Mechanical Drafters	66	130	3	None	None	\$34,880
29-1031	Dietitians and Nutritionists	225	1030	3	<5 years	None	\$34,805
27-4011	Audio and Video Technicians	342	840	3	<5 years	None	\$34,704
27-1024	Graphic Designers	961	2730	3	None	I/R	\$34,679
13-1161	Market Research Analysts and Marketing Specialists	2777	8170	3	None	None	\$33,948
17-3027	Mechanical Engineering Technologists and Technicians	79	140	3	None	None	\$33,800
13-1151	Training and Development Specialists	746	2210	3	None	None	\$33,330
13-1032	Insurance Appraisers, Auto Damage	6	20	3	None	None	\$33,057
17-3012	Electrical and Electronics Drafters	38	80	3	None	None	\$32,902
17-3023	Electrical and Electronic Engineering Technologists and	249	420	3	None	None	\$32,808
27-4014	Sound Engineering Technicians	279	670	3	None	None	\$32,279
11-9072	Entertainment and Recreation Managers, Except Gambling	217	620	3	None	None	\$31,487
13-1131	Fundraisers	190	930	3	None	None	\$31,468
17-3029	Engineering Technologists and Technicians, Except Drafters,	186	360	3	None	None	\$30,840
27-3023	News Analysts, Reporters, and Journalists	231	520	3	None	None	\$30,790
19-1031	Conservation Scientists	18	80	3	None	None	\$30,655
27-3091	Interpreters and Translators	133	380	3	None	None	\$30,464
13-2072	Loan Officers	539	1650	3	None	None	\$30,365
17-3024	Electro-Mechanical and Mechatronics Technologists and	28	50	3	None	None	\$30,263
41-9022	Real Estate Sales Agents	343	1310	3	None	MT OJT	\$29,953
11-9081	Lodging Managers	119	280	3	≥5 years	None	\$29,677
29-2043	Paramedics	45	320	3	None	None	\$29,392
13-2071	Credit Counselors	45	200	3	<5 years	None	\$29,098
31-9011	Massage Therapists	610	1500	3	None	None	\$28,930
19-4043	Geological Technicians, Except Hydrologic Technicians	4	10	3	None	None	\$28,555
11-1031	Legislators	39	160	3	<5 years	None	\$28,055
53-1047	First-Line Supervisors of Transportation and Material Moving	1880	4300	3	None	None	\$27,463
29-2018	Clinical Laboratory Technologists and Technicians	513	1940	3	None	None	\$27,024
25-9099	Educational Instruction and Library Workers, All Other	896	3010	3	<5 years	I/R	\$26,129

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SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
19-4042	Environmental Science and Protection Technicians, Including	124	290	3	None	None	\$25,457
27-1012	Craft Artists	41	130	3	None	I/R	\$24,771
17-3019	Drafters, All Other	55	110	3	None	None	\$24,771
13-2082	Tax Preparers	450	1510	3	None	None	\$24,582
19-4099	Life, Physical, and Social Science Technicians, All Other	302	570	3	<5 years	None	\$24,175
19-4031	Chemical Technicians	187	280	3	None	None	\$23,302
19-4013	Food Science Technicians	78	140	3	None	None	\$23,264
25-4031	Library Technicians	433	610	3	None	I/R	\$21,405
51-9083	Ophthalmic Laboratory Technicians	97	140	3	<5 years	MT OJT	\$21,041
31-1132	Orderlies	229	370	3	None	ST OJT	\$20,766
27-2091	Disc Jockeys, Except Radio	34	150	3	None	MT OJT	\$20,402
11-9013	Farmers, Ranchers, and Other Agricultural Managers	71	130	3	<5 years	None	\$19,430
25-9045	Teaching Assistants, Except Postsecondary	3995	9610	3	None	I/R	\$19,024
43-2011	Switchboard Operators, Including Answering Service	171	310	3	None	MT OJT	\$18,714
41-9011	Demonstrators and Product Promoters	280	380	3	None	MT OJT	\$18,626
25-9044	Teaching Assistants, Postsecondary	592	1820	3	None	I/R	\$18,373
27-1023	Floral Designers	116	260	3	None	I/R	\$18,358
25-3041	Tutors	2948	5710	3	None	None	\$17,581
45-2099	Agricultural Workers, All Other	49	70	3	None	MT OJT	\$17,485
45-2041	Graders and Sorters, Agricultural Products	37	60	3	None	None	\$16,793
31-2022	Physical Therapist Aides	273	360	3	None	None	\$16,595
41-2011	Cashiers	18483	17300	3	None	None	\$16,137
45-2091	Agricultural Equipment Operators	49	80	3	None	None	\$15,863
13-1074	Farm Labor Contractors	0	0	3	None	None	\$0
27-2021	Athletes and Sports Competitors	21	60	2	≥5 years	None	\$170,747
29-1241	Ophthalmologists, Except Pediatric	11	100	2	None	None	\$95,765
29-2036	Medical Dosimetrists	2	10	2	None	None	\$84,147
19-1099	Life Scientists, All Other	22	100	2	None	I/R	\$78,827
19-3094	Political Scientists	4	20	2	None	I/R	\$76,438
19-2012	Physicists	14	60	2	None	None	\$68,111
15-1243	Database Architects	48	200	2	None	None	\$66,295
29-2033	Nuclear Medicine Technologists	16	80	2	None	None	\$62,537
11-9021	Construction Managers	502	1680	2	≥5 years	None	\$55,240
29-1292	Dental Hygienists	462	1440	2	None	None	\$51,116
29-2035	Magnetic Resonance Imaging Technologists	37	170	2	None	None	\$50,777
15-1251	Computer Programmers	155	480	2	None	None	\$50,089
25-2022	Middle School Teachers, Except Special and	703	3080	2	<5 years	None	\$46,577
19-1041	Epidemiologists	14	90	2	None	None	\$46,300
19-2021	Atmospheric and Space Scientists	17	60	2	None	None	\$45,034
19-3099	Social Scientists and Related Workers, All Other	37	140	2	None	None	\$43,687
29-2034	Radiologic Technologists and Technicians	267	1330	2	None	None	\$42,134
25-2052	Special Education Teachers, Kindergarten and Elementary	317	1310	2	None	None	\$41,475
25-2057	Special Education Teachers, Middle School	103	430	2	None	None	\$41,299
25-3099	Teachers and Instructors, All Other	510	1290	2	None	None	\$38,305
19-1032	Foresters	13	40	2	None	None	\$37,617
19-3093	Historians	3	10	2	None	I/R	\$37,223
27-1025	Interior Designers	266	790	2	None	None	\$36,289
19-3092	Geographers	3	10	2	None	None	\$34,453
27-1029	Designers, All Other	108	300	2	None	None	\$33,052
11-9031	Education and Childcare Administrators, Preschool and	146	510	2	≥5 years	None	\$29,743

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Work Exp	Entry Level	Median Annual Wage
						On-the-Job Training to Attain Competency	
25-4013	Museum Technicians and Conservators	38	140	2	None	None	\$28,617
19-4021	Biological Technicians	117	240	2	None	None	\$28,493
27-2022	Coaches and Scouts	826	2440	2	≥5 years	None	\$23,752
19-4071	Forest and Conservation Technicians	58	120	2	None	None	\$21,559
19-4012	Agricultural Technicians	33	60	2	None	None	\$20,634
27-1026	Merchandise Displayers and Window Trimmers	648	1120	2	None	None	\$19,080
31-1131	Nursing Assistants	5134	9450	2	None	I/R	\$18,660
29-2042	Emergency Medical Technicians	282	1210	2	None	None	\$16,959
19-2011	Astronomers	0	10	2	None	None	\$0
29-1213	Dermatologists	5	40	1	None	None	\$200,508
29-1224	Radiologists	8	80	1	None	I/R	\$179,748
29-1223	Psychiatrists	46	460	1	None	I/R	\$164,091
29-1212	Cardiologists	18	150	1	None	None	\$154,755
29-1242	Orthopedic Surgeons, Except Pediatric	31	270	1	None	None	\$143,676
29-1217	Neurologists	25	200	1	None	I/R	\$138,806
29-1151	Nurse Anesthetists	18	140	1	None	None	\$136,183
29-1214	Emergency Medicine Physicians	21	210	1	None	None	\$127,298
29-1218	Obstetricians and Gynecologists	19	170	1	None	I/R	\$126,664
29-1229	Physicians, All Other	101	1000	1	None	I/R	\$120,044
29-1215	Family Medicine Physicians	63	620	1	None	None	\$105,607
29-1222	Physicians, Pathologists	14	130	1	None	I/R	\$104,897
29-1221	Pediatricians, General	31	280	1	None	I/R	\$87,841
23-1011	Lawyers	1249	12600	1	None	None	\$87,007
29-1216	General Internal Medicine Physicians	45	420	1	None	I/R	\$84,591
29-1161	Nurse Midwives	10	60	1	None	I/R	\$84,387
29-1171	Nurse Practitioners	268	2130	1	None	None	\$74,246
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	22	150	1	None	None	\$62,532
29-1141	Registered Nurses	5041	23740	1	None	None	\$62,411
29-1131	Veterinarians	70	680	1	None	None	\$61,934
23-1023	Judges, Magistrate Judges, and Magistrates	18	120	1	None	None	\$60,200
23-1022	Arbitrators, Mediators, and Conciliators	17	140	1	None	None	\$58,339
25-2012	Kindergarten Teachers, Except Special Education	194	540	1	None	None	\$52,170
19-1042	Medical Scientists, Except Epidemiologists	208	1000	1	None	I/R	\$51,401
25-1099	Postsecondary Teachers	4849	18550	1	None	None	\$51,158
19-1011	Animal Scientists	4	10	1	None	None	\$50,794
21-1092	Probation Officers and Correctional Treatment Specialists	358	1240	1	None	None	\$47,680
25-2058	Special Education Teachers, Secondary School	164	700	1	None	None	\$47,083
25-2021	Elementary School Teachers, Except Special Education	2435	10440	1	<5 years	None	\$46,145
25-2032	Career/Technical Education Teachers, Secondary School	31	160	1	None	None	\$46,056
29-1181	Audiologists	25	120	1	None	I/R	\$42,899
25-3011	Adult Basic Education, Adult Secondary Education, and	92	200	1	None	None	\$41,635
17-3021	Aerospace Engineering and Operations Technologists and	53	100	1	None	None	\$40,208
25-2031	Secondary School Teachers, Except Special and	1412	6730	1	None	None	\$39,470
25-2051	Special Education Teachers, Preschool	24	110	1	None	None	\$39,093
23-1012	Judicial Law Clerks	55	230	1	None	None	\$37,844
25-2059	Special Education Teachers, All Other	200	860	1	None	None	\$35,956
23-2011	Paralegals and Legal Assistants	1418	5530	1	None	None	\$35,356
29-2031	Cardiovascular Technologists and Technicians	96	380	1	None	None	\$32,322
21-1091	Health Education Specialists	187	540	1	None	None	\$32,011
21-2011	Clergy	132	480	1	None	None	\$31,987

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Sources: Estimates by LAEDC; Education and skills requirements from BLS

Exhibit A-5

Projected Occupational Openings 2022-2028 with Job Requirements

SOC Code	Occupational Title	LA County	LA City	Education	Entry Level		Median Annual Wage
					Work Exp	On-the-Job Training to Attain Competency	
23-2093	Title Examiners, Abstractors, and Searchers	121	430	1	None	None	\$31,930
21-2021	Directors, Religious Activities and Education	135	420	1	None	None	\$31,367
21-1012	Educational, Guidance, and Career Counselors and Advisors	789	3340	1	None	None	\$30,804
23-2099	Legal Support Workers, All Other	296	830	1	None	None	\$30,737
25-4011	Archivists	65	140	1	None	None	\$30,568
19-5012	Occupational Health and Safety Technicians	41	90	1	None	None	\$30,419
21-1029	Social Workers, All Other	132	480	1	None	None	\$29,668
21-1013	Marriage and Family Therapists	674	2580	1	<5 years	ST OJT	\$25,151
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health	1021	3640	1	≥5 years	ST OJT	\$24,457
25-3021	Self-Enrichment Teachers	1313	4180	1	None	None	\$23,669
25-3031	Substitute Teachers, Short-Term	2131	5050	1	None	None	\$23,148
17-3028	Calibration Technologists and Technicians	18	40	1	None	None	\$23,091
21-1094	Community Health Workers	317	940	1	None	None	\$22,939
21-2099	Religious Workers, All Other	36	90	1	None	None	\$22,510
21-1093	Social and Human Service Assistants	2031	5940	1	None	None	\$22,386
21-1099	Community and Social Service Specialists, All Other	427	1270	1	None	None	\$21,499
25-2011	Preschool Teachers, Except Special Education	1569	3820	1	None	None	\$18,369
21-1015	Rehabilitation Counselors	247	870	1	<5 years	MT OJT	\$17,116
25-2023	Career/Technical Education Teachers, Middle School	0	10	1	None	None	\$0
51-4062	Patternmakers, Metal and Plastic	9	0	8	None	ST OJT	-
45-4023	Log Graders and Scalars	3	0	8	None	ST OJT	-
47-5011	Derrick Operators, Oil and Gas	3	0	8	None	ST OJT	-
49-9097	Signal and Track Switch Repairers	0	0	8	None	ST OJT	-
51-7031	Model Makers, Wood	0	0	8	None	ST OJT	-
53-5031	Ship Engineers	67	180	-	-	-	\$57,446
53-6041	Traffic Technicians	12	30	-	-	-	\$32,129
53-7041	Hoist and Winch Operators	5	10	-	-	-	\$30,145
53-6051	Transportation Inspectors	71	240	-	-	-	\$29,698
53-7081	Refuse and Recyclable Material Collectors	411	800	-	-	-	\$27,614
53-7071	Gas Compressor and Gas Pumping Station Operators	4	10	-	-	-	\$26,947
53-7121	Tank Car, Truck, and Ship Loaders	29	70	-	-	-	\$26,933
53-7021	Crane and Tower Operators	287	760	-	-	-	\$26,542
53-6011	Bridge and Lock Tenders	4	10	-	-	-	\$25,491
53-7072	Pump Operators, Except Wellhead Pumpers	12	30	-	-	-	\$25,238
53-6099	Transportation Workers, All Other	42	130	-	-	-	\$21,087
53-7051	Industrial Truck and Tractor Operators	1631	3770	-	-	-	\$20,570
53-7063	Machine Feeders and Offbearers	168	190	-	-	-	\$18,542
53-6061	Passenger Attendants	141	310	-	-	-	\$18,280
53-6032	Aircraft Service Attendants	212	590	-	-	-	\$18,045
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	11561	19040	-	-	-	\$17,296
53-7065	Stockers and Order Fillers	11569	15440	-	-	-	\$17,271
53-7011	Conveyor Operators and Tenders	47	100	-	-	-	\$17,213
53-6021	Parking Attendants	1080	1940	-	-	-	\$17,069
53-6031	Automotive and Watercraft Service Attendants	313	480	-	-	-	\$17,064
53-7064	Packers and Packagers, Hand	2901	3670	-	-	-	\$16,492
53-7061	Cleaners of Vehicles and Equipment	1594	3140	-	-	-	\$16,172
53-7199	Material Moving Workers, All Other	293	640	-	-	-	\$16,129
53-7073	Wellhead Pumpers	3	0	-	-	-	-
53-7031	Dredge Operators	2	0	-	-	-	-

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