

**LOS ANGELES BASIN
REGIONAL PLANNING UNIT (RPU):**

- *City of Los Angeles*
- *County of Los Angeles*
- *Foothill Workforce Development Board*
- *Pacific Gateway (City of Long Beach)*
- *Southeast Los Angeles County (SELACO)*
- *South Bay Workforce Development Board*
- *Verdugo Workforce Development Board*

2017-2020

WORKFORCE INNOVATION AND OPPORTUNITY ACT (WIOA)

REGIONAL PLAN

LOS ANGELES BASIN REGIONAL PLANNING UNIT REGIONAL WORKFORCE DEVELOPMENT PLAN 2017 - 2020

If the Los Angeles Basin Regional Planning Unit (RPU) were a state, it would be the 10th largest in the nation. With nearly 10.1 million residents, more than a fourth of California's population, the RPU is home to seven distinct local Workforce Development Boards (WDBs), each of which administers programs within a defined sub-region of Los Angeles County. While coordination across these sub-regions and among partners would seem challenging, the local boards have a long history of success in collaborating on a wide array of projects and priorities. However, this collaboration has not previously been defined by the standards expressed within the Workforce Innovation and Opportunity Act (WIOA). The statute's requirements for regional planning have required local boards and system stakeholders to begin to rethink collaboration. Given WIOA's definition of regional coordination and the State Workforce Plan's vision for the alignment of economic development, education and the workforce system, the RPU's local WDBs have identified opportunities for strengthening coordination. The result of that process makes up the key content and objectives of this Regional Workforce Development Plan (the "Plan").

Approach

In early 2016, the seven local WDBs determined that support was needed for both the planning process and development of the Plan. On behalf of the region, the City of Los Angeles procured two independent consultants, John Chamberlin and David Shinder, for this purpose. A third consultant, Ruben Gonzales, was engaged to examine strategies for better serving disconnected youth. The consultants and the local boards worked closely together to identify, gather, review, and analyze information and input. This approach included:

Review of Reports, Analyses and Other Documentation: Voluminous work describing the regional economy and the local workforce system was collected and carefully reviewed to identify successful sector strategies and other promising initiatives.

One-on-One Discussions with Key Stakeholders: The regional planning guidance identified a number of strategic regional planning partners. Meetings were held with individuals representing these agencies and programs.

Participation in Group Activities and Discussions: The consultants participated in numerous group activities and discussions co-organized by the local WDBs and the community colleges.

Regional Stakeholder Forums: The local WDBs designed and hosted a series of stakeholder forums on issues posed by the regional planning guidance. The rationale for holding the forums was that a significant amount of input could be gathered at once, and that, by cross convening stakeholders, dialog would be richer, more revealing and more conducive to achieving workforce system alignment.

This approach proved effective in terms of identifying key challenges and opportunities in the region and in gathering information that has been useful in developing the Plan.

Pillars of the Los Angeles Basin Regional Workforce Development Plan

These four pillars are the foundation on which the Plan is built:

1. It is Demand-Driven, reflecting the needs of priority sectors;
2. It ensures Inclusiveness and Accessibility, enabling all individuals to train for and obtain a quality job;
3. It seeks Alignment across disciplines, including workforce services, education and economic development;

4. It uses Regional Career Pathway Programs as a central strategy to build a skilled and competitive workforce.

One final defining element of the Plan is its continuity. The submission of this Plan for State approval does not signal the end of the planning process. The Plan will function as a guide to on-going efforts to collaborate more effectively throughout the region.

A. The Region and Workforce System Stakeholders

The Los Angeles Basin RPU is comprised of Los Angeles County in its entirety. There are no plans to petition for RPU modification.

I. The Los Angeles Basin RPU

The Region: Los Angeles County is home to more than 244,000 businesses. The County stretches across a geographic area of 4,088 square miles adjacent to Orange, San Bernardino, Kern, and Ventura counties in Southern California. In addition to being the most populous county in the nation, Los Angeles County is also one of the most geographically diverse, with beaches, national forests, the Santa Monica Mountains, Catalina Island, and the Mojave Desert. The region boasts 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 many bedroom communities in between, the County has a diverse population with a wide range of skills, along with a diverse industry base. Although home to 88 incorporated cities, much of the region is comprised of unincorporated communities.

Composition of the RPU: The seven local WDBs located within the boundaries of Los Angeles County comprise the RPU. These include the City of Los Angeles WDB, which covers a single municipality; five consortia WDBs¹: Foothill WDB, representing 6 cities; Pacific Gateway Workforce Investment Network, representing 2 cities, South Bay WIB, representing 11 cities; Southeast Los Angeles County (SELACO) WDB, representing 7 cities, and Verdugo WDB, representing 3 cities; and one balance of county WDB, Los Angeles County which administers workforce programs on behalf of 58 cities and all unincorporated County areas.

II. System Stakeholders, Role in Planning and Input Provided

Key workforce stakeholders in the region include local WDBs, workforce development service providers, education, economic development, public agencies, organized labor, community and non-profit organizations and, most importantly, businesses. An overview of partners that contributed to the regional planning process follows.

System Stakeholders

Workforce Development Boards: The seven local WDBs within the RPU have formed and collaborate through the Los Angeles Basin WDB Partnership. All seven local boards have all been actively involved in regional planning by reviewing State guidance, providing copious resource documents and reference materials, organizing regional forums, and meeting regularly as a group and individually to share insights, make decisions and set goals for regional

¹ Foothill WDB represents the cities of Arcadia, Duarte, Monrovia, Pasadena, South Pasadena and Sierra Madre; Pacific Gateway Workforce Investment Network represents the cities of Long Beach and Signal Hill; South Bay WIB represents the cities of Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Manhattan Beach, Redondo Beach, and Torrance; Southeast Los Angeles County (SELACO) WDB represents the cities of Artesia, Bellflower, Cerritos, Downey, Hawaiian Gardens, Lakewood and Norwalk; and Verdugo WDB represents the cities of Burbank, Glendale and La Cañada/Flintridge.

coordination. During the implementation phase of the project, each WDB participated in its own planning session with the consultants. These meetings provided the opportunity for Executive Directors and WDB leadership teams to describe their priorities and share their unique perspective on regional collaboration and planning. Because all seven WDBs have been deeply involved over the last several years in developing and implementing sector strategies, a significant portion of on-going discussion has centered on ways to maintain momentum with these strategies and to accelerate engagement with business and industry at the regional level. Throughout the planning process, the WDBs have worked diligently to make certain that the full range of organizations with a stake in workforce development have had opportunities to provide input. The WDBs have also used the regional planning process, including stakeholder input, to support development of the Local Workforce Plans which are attached to and are incorporated into this Regional Plan.

On behalf of all seven WDBs, the City of Los Angeles Workforce Development Board has been managing the regional planning project.

Workforce Development Delivery System Providers: The Los Angeles Basin has the largest and most diverse network of workforce service providers in California. While five of the local boards operate some programs in house, all seven WDBs contract some portion of their operations, which may include one-stop services, youth programs, rapid response, workshops and more. Providers include community-based organizations (“CBO’s”), private businesses, labor organizations, education agencies and local government. This segment of the stakeholder community participated actively in planning sessions. Among the many such agencies taking part were Archdiocesan Youth Employment Services, Community Career Development, Goodwill, Housing Authority of the City of Los Angeles, ResCare, Managed Career Solutions and the Southeast Area Social Services Funding Authority (“SASSFA”).

Education and Training Institutions and Providers: Given the role that education stakeholders will continue to play in developing and delivering regional sector pathway programs, it seems fitting that hundreds of education partners were anxious to have their voices heard throughout the process leading to the development of this plan. The availability of resources, the effects of changing workplace requirements on program content and challenges associated with curriculum approval were topics addressed by many. The consultants had the opportunity to meet individually with administrators from the Los Angeles Unified School District and various colleges. During the forums, there was enthusiastic participation by representatives from the K-12 system, adult schools (including leadership of local AEBG consortia), community colleges, 4-year institutions, Job Corps, private postsecondary schools and community-based providers. Among their colleagues from education, the community colleges stood out in terms of active participation in the planning forums. With a presence at most of the sessions, the system was represented by administrators, faculty and staff from Antelope Valley College, Cerritos College, College of the Canyons, East Los Angeles College, El Camino College, Glendale College, Los Angeles City College, Los Angeles Valley College, Los Angeles Trade Tech, Mt. SAC, Los Angeles City College, and Rio Hondo College.

Economic Development and Business-Serving Organizations: The planning process included the opportunity to dialog one-on-one with senior executives from both the Los Angeles Economic Development Corporation (“LAEDC”) and the Los Angeles Area Chamber of Commerce. Both organizations have strong ties to the workforce development community and to initiatives targeting high-growth and priority industries in the region. As the WDBs and stakeholders strive to make training and workforce programs more demand-driven, all realize that working more closely with economic development and business associations will become increasingly important. Other economic development and business assistance organizations contributing to the planning process included City of Gardena Economic Development, City of Palmdale Economic Development, Greater Antelope Valley Economic Alliance, Inglewood/Airport Chamber of Commerce, SBDC, and the San Gabriel Valley Economic Partnership, among others.

Public Agencies and Government Officials: State, County and municipal agencies operating many of the public programs that are essential partners in the region’s workforce development system were generous contributors to the planning process. Discussions took place with leadership and staff from the California Employment Training Panel

(ETP), City of Los Angeles Department of Aging, Los Angeles County Department of Social Services, Los Angeles County Probation Department, State Employment Development Department, State Department of Rehabilitation and other agencies. Legislative staff representing City, County, State and Federal Elected Officials participated in the regional planning forums, as did mayors and council members from Arcadia, Inglewood, Lawndale, La Mirada, Sierra Madre and Whittier.

Organized Labor: As the workforce system looks to identify opportunities to better prepare workers for well-paid employment opportunities, relationships with labor unions will be critical. Many unions within the region operate registered apprenticeship programs which produce industry-recognized credentials. In addition, union employment offers the advantage of wages and benefits negotiated under a collective bargaining agreement. The consultants had the pleasure of meeting individually with Maria Elena Durazo, former head of Los Angeles County Federation of Labor, AFL-CIO and current General Vice President for Immigration, Civil Rights and Diversity with UNITE HERE, who described advantages she sees resulting from the workforce system's collaborating more extensively with organized labor to meet regional training needs. Also participating in planning discussions were representatives of DC 36 Painters and Allied Trades, Industrial Heat and Frost Insulators Local 5 JATC, IBEW Local 11, IATSE Local 38, LA/OC Building Trades Council, Operating Engineers Local 501 and UNITE HERE's Taft-Hartley training arm, the Hospitality Training Academy.

Community and Non-Profit Organizations: The participation of CBOs in the regional workforce planning process was crucial to gathering information about the resource needs of historically underserved communities, at-risk target populations and those with needs for intensive pre-employment interventions, including English language and basic skills training. Many CBOs contributed their time, sharing information on the evolving workforce needs of the region from a community perspective. Organizations providing input on the plan include, but are not limited to Communitas, Brotherhood Crusade, Friends Outside, Los Angeles LGBT Center, Minority AIDS Projects, Safe Place for Youth, The Rightway Foundation, Salvation Army HAVEN, SER, and United American Indian Involvement, Inc.

Businesses: Among the most important resources in the planning process were companies of various types and sizes doing business throughout the region. The workforce stakeholders, including the seven local boards, work very closely with business on a day-to-day basis and shared business feedback. Businesses that participated directly in the planning discussions included: Allison Tutoring, Allstate Insurance, Arbor Travel, Amada Miyachi America, Central Copy, Eido, Embassy Suites, Farmer John, Hormel Foods, Genesis Corporation, Glen West Management, Little Brothers Bakery, Mana Nursery, Magellan Advisors, Microsoft, Motion Picture Industry Pension and Health, PacFed Benefits Administration, Yusen Logistics, World Financial Group, and Virco, Inc.

Gathering Stakeholder Input: As indicated, individual meetings and conversations were held with a number of partners. However, the primary means of gathering input was through regional stakeholder forums. Over a six-week period in November and December 2016, a total of nineteen forums were conducted, with more than five hundred stakeholders (representing a wide cross-section of partners from business, education, economic development, organized labor, community-based agencies and the workforce system) participating and sharing their knowledge, experiences and opinions. Each forum addressed one or more critical elements covered by the Plan.

The forums generally lasted two hours and provided participating stakeholders with a brief overview of the regional planning process and background on the session's topic. The consultants acted as facilitators and posed three to five broad questions to the participants, facilitating discussions to inform regional planning efforts. The WDBs hosted the forums which are outlined in Attachment II, a, and which addressed the following five topics:

Sectors and Career Pathways: Participants were introduced to the concept of career pathways as a combination of education, training and other employment-supporting services. Questions posed to individuals attending the forums included:

- What are the "hard-to-fill" jobs and occupations in demand sectors?
- Where are the skill gaps?

- What career pathways exist to help workers enter and succeed in these jobs and occupations?
- What can we do as a community to improve career pathway opportunities?

Pathways to the Middle Class: The facilitators started off these sessions by introducing stakeholders to a key objective of the State Plan - enabling upward mobility for all Californians, including populations with barriers to employment. The emphasis that the State Plan places on job quality was also discussed. Those attending the forums provided responses to these questions:

- What is a “mid-level” or “middle class” job in our community?
- Which “mid-level” jobs are hard to fill due to local skills shortages?
- What skills and prior experience do these jobs require?
- What is the career pathway to land and succeed in these jobs?
- What can we do as a community to see that local people who have major barriers to employment can get on and succeed in these career pathways?

Aligning and Leveraging Workforce and Education Resources: The focus of these forums was on the full range of workforce and training resources, with training being defined in the broadest terms to cover foundational skills, academic skills, vocational skills and work readiness and work maturity skills. Participants shared their thoughts on:

- What education, training and workforce resources does our community currently have?
- Do these resources provide trainees the skills needed for in-demand jobs in key sectors?
- How can we improve the ways in which these educational and workforce resources are used to help all jobseekers (including youth and those with barriers to employment) succeed in the identified, highest priority career pathways?
- How can we ensure that youth and job seekers with serious barriers to employment have access to and succeed on these career pathways?

Industry-Valued Credentials: Building upon the proposition that only industry can determine what credentials it values, stakeholders responded to the following questions:

- What credentials are currently available that fit the critical career pathways?
 - Do these credentials meet business/industry expectations? How could they be improved?
 - Are methods to get these credentials reasonably accessible to potential members of our workforce with significant barriers to employment? English Language Learners? People with minimum wage jobs? Others?
- How can we improve access to credentials along career pathways?

System Accessibility: For context, sessions on this topic opened with a discussion of populations likely to face one or more employment barriers and the services they most often need to prepare for work. Stakeholders were asked how we could work together to build a more accessible, inclusive and responsive workforce system:

- Are basic skills training and other pre-vocational services available in sufficient quantity to meet the demands for these services?
- How can workforce and education services be made more accessible to all job seekers?
- What groups are most at risk of being left behind?
- For foreign born individuals and English Language Learners, what workforce and education services are available to address workforce challenges?
- What role do community-based organizations play in providing accessibility?

The forums became a focal point of the regional planning process and a milestone in developing broader and more inclusive regional partnerships. They yielded substantive input both from individuals and organizations that are integral to the daily operations of the region’s workforce system and from those who have little familiarity with it. While commentary expectedly varied from session to session, common themes emerged across the region. Several of these are summarized below.

Stakeholder Input, Commentary and Recommendations: Over the course of individual meetings and the nineteen forums, commentary was robust. Some contributors championed the demand side, focusing on how best to address business challenges, while other focused on ways in which to address the needs of workers. Still other input focused more on the workforce system itself and how to best position local boards to function regionally and collaborate more effectively with system partners. Fourteen major themes encapsulate comments and recommendations received during the regional planning process:

1. Think like a system. “Regional” requires not merely coordinating across geographic boundaries, but working across funding boundaries/siloes, ensuring that we coordinate across “disciplines.”
2. Own the “LA Reality:” The complexity of the nation’s most populous workforce region makes achieving full regional coordination a daunting objective. Diversity is a hallmark of the region, creating niche interests among businesses and within communities
3. Engage Industry Regionally and as a Workforce System: The workforce system needs on-going input from industry on hiring, training and skill needs. This should be coordinated on behalf all workforce partners in the region to inform the content and structure of regional sector pathway programs.
4. Utilize Community On-Ramps: To promote opportunity and accessibility for all, the workforce system should expand its already considerable use of community-based resources (organizations, programs, locations) as on-ramps to training and services.
5. Understand and Work Together to Help Grow the Economy: Good workforce strategies demand a good understanding of the economy. Good workforce system results require a growing economy. Can resources be marshalled throughout the region to better understand and to help grow the ever changing Los Angeles Basin economy?
6. Prepare People for Jobs: The role of the workforce system must transcend job matching and concentrate more on preparing a skilled workforce.
7. Expand the Definition of Foundational Skills: Literacy and numeracy skills are required for workplace success. The definition of foundational skills should be expanded to include digital literacy/technology skills and customer service skills.
8. Teach Essential Workplace Skills: Businesses continue to emphasize the need for candidates to demonstrate work readiness and work maturity skills. These skills should be validated for all candidates prior to job referrals.
9. Emphasize English Language Skills: Strong English skills are required for many entry-level jobs and become even more important for workers to “move up the ladder” into middle skill jobs.
10. Communicate, Message and Broadcast: Communicate as a system, ensuring information is effectively shared across workforce system stakeholders. To gain market recognition, adopt common messaging strategies directed towards businesses and job seekers/workers. Broadcast the value of the system.
11. Emphasize the Use of Internships, Job Shadowing, Work Experience, Apprenticeships, and Other Work-Based Learning: The opportunity to learn about work and learn skills in the workplace is crucial to initial and long-term success on the job. These services should become a bigger part of the region’s approach to training workers.
12. Invest in Incumbent Worker Training: Businesses value and desire this service as much (or more) than training and referral of new workers. Can a regional protocol be developed for training/“up-skilling” currently employed individuals?
13. Recognize and Address the “Gig” Economy: There is wide recognition of the gig economy and its importance for many workers, particularly younger workers. What role should our system play in helping gig workers to manage this approach to employment? Entrepreneurial skills training, particularly for youth and young adults, should be expanded.
14. Expand Effective Strategies for Disconnected Youth: There are a number of outstanding, holistic programs in the region which help youth and young adults complete school and train for employment. These programs are achieving impressive results and need to be strengthened and expanded.

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| B. | Analysis of Key Economic Conditions, In-Demand Sectors and the Workforce |
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The Los Angeles regional economy is, in a word, incomparable. If Los Angeles County were a nation, its economy would be the 19th largest in the world. Among the County's labor market strengths is its population, both in terms of size and diversity. The population is young and able to provide a large pool of candidates to business both now and in the future. The region's economy is also diverse, boasting sizable industry presence spanning sectors such as aerospace manufacturing, entertainment, fashion, biomedical services, consumer products, tourism and others. The region, however, faces challenges. Recovery from the recession has been slower than hoped for and the jobs being created are disproportionately in lower wage positions.

The information that follows provides a context for the regional workforce strategies envisioned by this Plan. The state and local analyses from which the following data is drawn have been invaluable in the planning process, as has been information provided by stakeholders during the planning process.

Primary Economic Analysis Resources: In 2016, the City of Los Angeles and Los Angeles County WDBs jointly commissioned economic and labor market analysis for the purpose of workforce development planning in the region and to support the development of this Plan. The following analyses by LAEDC provide the foundation for the region's assessment of labor market conditions. The first item is a comprehensive data analysis of, as its title suggests, people, industry and jobs. The text within this section is largely excerpted from LAEDC's report. The "data supplement" provides additional information on target populations and jobs.

- *Los Angeles: People, Industry and Jobs 2015 - 2020, May 2016*, LAEDC Institute for Applied Economics (Attachment I, a)
- *Data Supplement - Los Angeles: People, Industry and Jobs 2015 - 2020, December 2016*, LAEDC Institute for Applied Economics (Attachment I, b)

Other Economic Analysis Resources: The Los Angeles Basin Regional Plan also makes use of data summaries and analyses prepared by our partners at the California Employment Development Department's (EDD) Labor Market Information Division (LMID). In particular, the RPU Summary has been useful with regard labor force data. The Economic Analysis Profile has served as a reference point against which to compare local analysis.

- *Regional Planning Unit Summary: Los Angeles Basin*, California Employment Development Department, Labor Market Information Division (EDD LMID), September 1, 2016 – Revised (Attachment I, c)
- *Regional Economic Analysis Profile, Los Angeles County*, EDD LMID, April 2015 (Attachment I, d)

Labor Market Intelligence from Local WDBs and System Stakeholders: As described in the introduction to this Plan, discussions with business, economic development, education and other system stakeholders have been essential to formulating opinions about and strategies for the Los Angeles Basin's workforce system. Stakeholder input has provided a real world context for the wide range of economic and labor market data and analysis.

I. The Regional Economy

LAEDC's May 2016 report for the regional workforce system examines the labor market from the vantage point of leading industries. The following, extracted from the report, provides insight on regional economic conditions.

Current Employment by Industry: Los Angeles County is largely service-oriented, with services accounting for about three-fourths of all non-farm employment. Government employment (including local, state and federal government employment) accounts for 13 percent of non-farm employment. Among the service industries, educational and health services is the largest, accounting for over 17 percent of employment, followed by retail trade, professional and business services and leisure and hospitality.

At a more disaggregated level, the largest private sector industry in terms of employment in Los Angeles County in 2013 was food services and drinking places, providing 340,490 jobs. This industry includes all food services, including full-service restaurants, fast food outlets, caterers, mobile food services and drinking establishments. Close to 93 percent of this industry's employment was in restaurants.

The second largest industry was professional and technical services, providing 275,660 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, veterinary services and more.

Other significant industries in the county include administrative and support services (which includes temporary employment), social assistance, ambulatory health care services (such as doctors' and dentists' offices), motion pictures and sound recording industries and hospitals, together providing more than 900,000 very different types of jobs.

Industry Competitiveness: While large industries are valuable in their ability to provide job opportunities for local residents, other industries, while small in terms of net employment, may be important to promote 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 the Los Angeles region that is larger (as a percentage of total employment in the county) than its presence elsewhere would indicate that the region 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.

The industry with the highest location quotient in Los Angeles County in 2014 was motion picture and sound recording industries, with a location quotient of 10.4, compared to the national average. Apparel manufacturing is a close second with a location quotient of 10.3.

Other highly competitive industries include manufacturing. Although manufacturing employment is in decline across the nation, Los Angeles remains a manufacturing center across many product lines, including leather products, textiles, petroleum and coal products, furniture, computer and electronic products and other miscellaneous manufacturing.

Regional Industry Employment Forecast: Employment opportunities for residents of Los Angeles County will depend on the health of the regional economy. Recovery from the Great Recession has been disappointing. Instead of robust job growth after the devastating decline of 2009 and 2010, anemic employment growth began in 2011 with a year-over-year gain of 0.6 percent. Employment growth has continued its recovery through 2015, but remains modest. Recovery of all jobs lost during the recession did not occur until 2015, however this does not take into account the job growth needed to accommodate population and labor force growth.

Many industry sectors follow this general contour of moderate post-recession recovery. Recovery strength, in many cases, is determined by the magnitude of the industry's decline during the recession. For example, construction employment fell steeply in 2008, 2009 and 2010. Its recovery in the near term is expected to be much stronger than the average, as it recovers from these deep losses.

Job Creation Potential: Projected growth rates of industries and their current size together determine job creation potential. 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 2015 and 2020, the economy is expected to add 346,000 new jobs in non-farm industries across the county.

- The administrative and support services industry is expected to add 57,560 jobs between 2015 and 2020. This is largely a result of the increase in temporary employment services, which accounts for 40 percent of the industry. Other large segments include security services and janitorial/landscape services.
- Food services and drinking places are projected to add 39,510 jobs between 2015 and 2020. This is a very large industry that includes restaurants of all 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, nursing and residential care facilities and social assistance are together projected to add 91,770 jobs from 2015 to 2020. More than one third of the additional jobs are in social assistance.
- Fourth on the list is professional and technical services, a large and diverse industry with relatively high growth potential.
- Also on the list are specialty trade contractors, credit intermediation, motion pictures and sound recording, personal and laundry services and wholesalers.

Taken together, the aforementioned industries are expected to add more than 320,000 new jobs in Los Angeles County between 2015 to 2020.

Target Sectors for Workforce Development: Economic development efforts are organized around several priorities. Among these priorities 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 in alignment with economic development goals but are also motivated by the need to match those most in need with immediate employment opportunities. LAEDC's criteria for choosing target industries for the region includes: 1) industry growth rate; 2) potential job creation; 3) industry competitiveness; and 4) higher prevailing wages.

Using these sometimes overlapping, sometimes competing goals, LAEDC identified the following industries as targets for specific economic and workforce development interventions:

- Construction industries (NAICS codes 236, 237, 238);
- Selected manufacturing (fashion, aerospace, analytical instruments, pharmaceuticals, medical devices—NAICS 313, 314, 315, 316, 325, 334, 336,339);
- Trade and logistics (NAICS 42x, 48x, 49x);
- Entertainment and Infotech (NAICS 511, 512, 515,518, 519);
- Health services (NAICS 621, 622, 623); and,
- Leisure and hospitality (NAICS 721, 722).

These are similar to the industries that have been jointly targeted by the seven WDBs in Los Angeles County: advanced manufacturing (including "Biotech"); construction; information and communications technology (including entertainment and music recording); healthcare; hospitality and tourism; and transportation and logistics. Target industry descriptions follow:

Advanced Manufacturing: Employment in manufacturing as a whole has been declining over the past two decades, but is expected to show some improvement from current levels. A distinction must be made between durable goods and nondurable goods manufacturing. Overall, durable goods manufacturing will experience anemic job growth due to the continued use of technology and advanced machinery to replace labor. Nondurable goods manufacturing will continue to be challenged by low-cost competition from lower income countries. Nevertheless, several manufacturing industries continue to be promising targets for employment growth based on upon their linkage to important industry clusters. These clusters include Fashion, Aerospace, Information Technology and Analytical instruments and

Biomedical Devices. Fabricated metals manufacturing is also a component industry of these important clusters and is an important regional industry. Many jobs are highly-skilled and highly-compensated and many include positions that require workers with community college degrees or advanced technical training. In addition, the expected retirement of aging skilled craftsmen presents an opportunity for apprenticeships, new entrants, and those moving up the career ladder.

Construction: As the housing market recovers, construction industries are expected to make a robust recovery. Housing starts are showing signs of life after a dismal few years. In addition, many public infrastructure projects are expected to begin, employing thousands of workers in highway, mass transit and other large construction projects. Finally, energy efficiency and the greening of existing buildings has the potential to drive employment. Together, the sector is projected to add more than 20,000 jobs between 2015 and 2020 in Los Angeles County.

Information and Communications Technology (including entertainment): As the region's signature industry cluster, the entertainment industry continues to generate employment opportunities for a range of occupations. This industry includes not only motion picture and television production, but also sound recording industries, pre- and post-production work, performing arts and independent artists and performers, and has a variety of workforce needs in its direct supply chain as well. This industry has connections across a spectrum of others, including marketing, publishing, information technology, software publishers (including video gaming) and online publishing and services. Together, these form a critical mass of creative industries and workers, which become a magnet for firms engaged in supporting and encouraging these activities. This is evidenced by these industries' high location quotients. The broader industry sector known as Information (NAICS 51) includes not only motion picture production, but also broadcasting, publishing and new media industries. This sector will grow at an average annual rate of 0.8 percent per year, almost the same rate as the overall non-farm economy. The motion picture industry has recovered since the recession, assisted by incentives received through the California Film and Television Tax Credit Program. Traditional publishing industries will continue to decline as internet publishing and broadcasting will continue to grow, bringing new employment opportunities. Overall, the information sector is forecast to add 8,460 new jobs between 2015 and 2020 in Los Angeles County.

Healthcare: This is a large and growing industry sector that includes ambulatory health care services, such as doctors' offices, dentistry practices, medical laboratories and home health care services; hospitals; nursing and residential care facilities; and social assistance. These are large industries with high growth potential given the ongoing demographic shift and the advancement of medical technology and coverage. The industry employs workers with a variety of skills and educational requirements, with career pathways that are achievable through stackable certificates. This sector is expected to add almost 92,000 new jobs from 2015 to 2020 in Los Angeles County.

Hospitality and Tourism: One of the region's major industry clusters, hospitality and tourism will continue to provide employment opportunities for a wide range of job entrants and incumbent workers. Food services is a large industry with a wide range of establishments serving food and beverages, including full-service restaurants, limited-service eating places, food service contractors (such as caterers), mobile food services, and drinking places. This sector is projected to add more than 49,000 new jobs from 2015 to 2020 in Los Angeles County.

Transportation and Logistics: The region has a significant competitive advantage in transportation and logistics due to import and export activity. However, the warehousing industry has become increasingly efficient and centralized and requires extremely large parcels of land, which are not available in Los Angeles County—expansion is moving to the Inland Empire. Transportation will continue to grow as the region's ports handle increasing trade volumes and as goods are delivered to inland warehouses. Wholesale activities are included in the trade cluster, and although traditional wholesale activities will grow slowly, transactions conducted online will grow robustly. The sector will add approximately 15,250 jobs from 2015 to 2020. Many of these jobs can be filled by workers with lower levels of education and limited work experience.

II. Skill Requirements for a Diverse Region

The in-depth stakeholder engagement process, which was central to the region’s planning efforts, included both business representatives and individuals from organizations that serve businesses. These stakeholders pinpointed several key skill areas that companies require of their employees and job candidates. These include:

Foundational skills: Basic literacy and numeracy skills are required in virtually every type of work. Education partners equate the typical minimum requirements of businesses for language and math skills at the 8th grade proficiency level.

Core competency skills: Over and over again, businesses and those who provide training for their workers expressed that digital literacy is now a core competency. While the ways that technology manifests within a company and in relation to specific jobs are countless, a baseline understanding of computer/microprocessor operations is now essential for virtually all work. Many businesses expressed similar thoughts about “customer service” skills, recognizing that strong customer relations, be they external or internal, affect productivity and profitability.

Essential work readiness and work maturity skills: Punctuality, team work, customer responsiveness, critical thinking, and accepting supervision are among a long list of workplace behaviors, attitudes and knowledge that businesses require. Many businesses, for which specific licensure/certification is not a prerequisite, indicate that these skills alone can qualify a job applicant.

Job specific vocational skills: Representatives from each target industry described specific vocational skills needed for entry and mid-level workers. Industry engagement will continue to focus on translating skill requirements into training for each target sector. In most cases, this will involve updates to the technical content of curricula, especially as workplace skills are altered by technology and automation. In other cases, as technology and market place conditions create new job classifications or completely new skill requirements for existing classifications, new curricula will need to be developed. Occupational analyses for each of the region’s six priority sectors are provided in LAEDC’s December 2016 Data Supplement.

Regional Plan goals and action steps are further described in Section L of this Plan.

III. The Regional Workforce

As illustrated by the data below, the Los Angeles Basin’s workforce is incredibly diverse and massive.

Labor Force Data: The following labor market profile information, providing employment and unemployment data, is excerpted from EDD LMID’s September 2016 LMID Summary² for the for the Los Angeles Basin RPU³:

| | May 2016 | May 2015 | Change | Percent |
|-------------------|-----------|-----------|----------|---------|
| Labor Market | 4,990,800 | 5,028,100 | -37,300 | -0.7% |
| Employed | 4,777,200 | 4,684,200 | 93,000 | 2.0% |
| Unemployed | 213,600 | 343,900 | -130,300 | -37.9% |
| Unemployment Rate | 4.3% | 6.8% | -2.6% | - |

The LMID Summary also expresses labor force participation in the following terms:

| Labor Force Participation | Population | Percentage |
|---------------------------|------------|------------|
|---------------------------|------------|------------|

² For all tables under the “Labor Force Data” sub-heading, the source is U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

³ Note: LMID advises that numbers may total and may vary from table to table due to rounding and other factors.

| | | |
|-----------------------------|------------------|---------------|
| Employed or in Armed Forces | 4,552,326 | 57.5% |
| Unemployed | 564,669 | 7.1% |
| Not in labor force | 2,796,585 | 35.3% |
| Total | 7,913,580 | 100.0% |

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 are 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 2015.

The labor force participation rate is the ratio of the labor force (both those employed and those unemployed) to the total working-age population. This is estimated at 64.3 percent in Los Angeles County in 2014 (the most recent year that this data is available). Labor force participation for those aged 16 to 24 years varies greatly according to age. Many individuals under 19 are in high school and thus are classified as not in labor force. The population aged 22 to 24 years has the highest share of those employed in this population subset because many of these individuals have completed high school and the first levels of their postsecondary education and have entered the workforce.

Participation rates of older workers (aged 55 and over), while lower than average, have been rising since 1980. This is expected to continue as “baby boomers” remain in the labor force rather than retiring.

Population Overview: The population of Los Angeles County in 2014 was 10.0 million in 3.3 million households, accounting for more than 25 percent of the population of the State of California and making it the most populous county in the nation. The median age is 35.8 years. Just over 39 percent of the County population lives in its largest city and the county seat, the City of Los Angeles, with a population of 3.9 million in 1.3 million households in 2014. The median age in the City of Los Angeles, at 35.0 years, is slightly lower than the County average.

Median household income in Los Angeles County, estimated to be \$55,746, is approximately ten percent lower than the State median. At \$28,373, per capita income in the County is seven percent below the State average. Approximately 17 percent of households in Los Angeles County were under the poverty level in 2014, compared to 15 percent of households across the State.

Population Growth: In January 2015, the population in Los Angeles County was 10.14 million, an increase of more than 300,000 from the population in 2010. The California Department of Finance forecasts that the County's population will continue to increase, reaching 10.44 million by 2020 and 10.70 million by 2025. Population growth is determined by expected net migration and the birth and death rates of the current population.

Since 1970, the population in the County has increased by nearly 44 percent, an average annual growth rate of 1.0 percent per year. In only four of the last 45 years has the population declined from one year to the next. Those years were 1972, 1995, 2006 and 2007.

Age Distribution: 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. About 70 percent of the resident population of Los Angeles County is of working age (between 15 and 65 years of age). Seniors (those over 64 years of age) account for approximately 12 percent of the population. The population in the County as a whole is expected to age somewhat as the share of residents aged 65 years and older increases to 13.8 percent by 2020. This has implications for the ability of the workforce to fill local jobs, especially those jobs requiring a high level of manual labor.

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. There are 288,590 veterans living in the County. Overall, the share of the population who are veterans has been declining. Of the population aged 75 years and older, 14.5 percent are veterans, whereas of the population aged 18 to 34 years, only 1.1 percent are veterans. Of all veterans living in the County, 94 percent are male. 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.

Foreign Born Population: Los Angeles County is home to just over 3.5 million immigrants from around the world. More than half 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. 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, about 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 57 percent) speaks a language other than English at home, with Spanish being the most common language, spoken by 40 percent. English-speaking capability is highly-variable among different nationalities. Of the 5.3 million County residents that speak languages other than English at home, approximately 27 percent speak English less than well. This implies that of all Los Angeles County residents, a little over 15 percent speak English less than well.

Data on Other Target Populations: LAEDC's December 2016 Data Supplement provides data for several important segments of the labor force. Among these are:

| <i>Population Group</i> | <i>Share of County Population</i> | <i>Labor Force Participation Rate</i> | <i>Unemployment Rate</i> |
|--|-----------------------------------|---------------------------------------|--------------------------|
| Persons with Disabilities | 4.8% | 39.8% | 14.7% |
| Older Individuals | 11.6% | 64.7% | 5.4% |
| Individuals with Limited English Proficiency | 24.6% | 54.5% | 6.4% |
| Single Parents | 3.0% | 18.3% | 6.5% |

Educational and Skill Levels: Educational attainment is the highest level of education that an individual has achieved. Areas with higher rates of low educational attainment face challenges such as higher rates of unemployment and poverty and higher usage of public services and resources. The population of residents aged 25 years and older in Los Angeles County numbered 6.8 million in 2014. Almost 25 percent in this age group have not earned a high school diploma (or equivalent) while 20 percent have graduated high school but have no other education. Approximately 30 percent of county residents have a bachelor's degree or higher.

Unemployment is highly correlated with educational attainment. Overall, the unemployment rate for individuals aged 25 to 64 years was 7.3 percent in the County and 7.7 percent in the City of Los Angeles in 2014. Residents with a Bachelor's degree or higher had an unemployment rate of 5.0 percent in the County in 2014, roughly half the rate experienced by those at the opposite end of the spectrum—those with less than a high school diploma had an unemployment rate of 9.4 percent. Higher levels of educational attainment are also highly correlated with higher earnings. Workers with a graduate or professional degree earn an annual wage premium of almost \$53,000 over those with less than a high school diploma. Together, residents with a high school diploma or less accounted for 61.5 percent of those whose income fell below the poverty threshold.

IV. Workforce Development Activities within the Region

Overall, the training assets of the region are abundant and, in the aggregate, are effective at meeting the demands of industry for a variety of skill sets. Discussions with stakeholders, however, have identified a number of ways in which the system, including training providers and the career centers, can improve overall effectiveness:

- Ensure candidates are ready for work, bringing the vocational skills and foundational skills required for jobs;
- Be responsive not only to the hiring needs of business, but their overall skills need and prepare workers to “move-up” to mid-level jobs;
- Shorten the turn-around time from when business “sounds the alarm” to the start date of training in new and updated courses;
- Develop consistency of content from one training institution to another to promote confidence that credentials resulting from training reflect the skills needed by business; and,
- Develop more on-ramps for individuals with barriers to employment to enter training that enables subsequent transition to career pathway programs - eventually leading to middle-skill and other more highly compensated employment.

Goals addressing these issues are summarized in Section L of the Plan.

Scope and Capacity of Regional Workforce Development and Training Activities: The seven local WDB’s within the region all operate high-functioning workforce development systems that comply with and fulfill the objectives of WIOA. These systems include a regional network of American Job Centers of California (AJCCs) and youth/young adult programs, some of which are linked directly to AJCCs. The region’s workforce system provides access to occupational, foundational, employment readiness and remedial skills training offered by a wide variety of providers, including the following.

Community Colleges: There are 20 community colleges located within the County, nine of which are part of the Los Angeles Community College District along with 11 others, which are part of smaller districts and are commonly referred to as the “ring colleges.” Coordination between the local WDBs and the community colleges is facilitated and made more effective by the Los Angeles/Orange County Regional Consortium (LAOCRC), which represents community college’s career and technical education faculty, staff and programs in the region. LAOCRC supports regional economic growth by facilitating development and expansion of college training and educational programs to meet the needs of regional businesses and industries. Working with the Consortium are the region’s Deputy Sector Navigators (DSNs), which serve as liaisons between local colleges and business. Within the region, DSNs represent the following sectors/areas of focus: Advanced Manufacturing; Advanced Trade and Renewables; Health; Energy Construction and Utilities; Global Trade & Logistics; ICT/Digital Media; Retail, Hospitality, Tourism; and Small Business. The efforts of the DSNs, combined with those of deans and faculty, have resulted in the continual updating of courses. Community colleges also provide foundational skills training in language and mathematics.

Adult Education: Adult education programs tied to local school systems provide training in a number of areas, both academic and vocational. For students with barriers to employment, learning deficits and lack of a high school diploma, adult schools throughout the region are a critical resource. Adult Basic Education (ABE), which promotes development of literacy and numeracy skills required in the workplace, Vocational English-as-a-Second Language (“VESL”) and high school completion and equivalency programs are offered by the system. In addition, various adult schools offer career training, much of which is closely aligned to target industries and demand jobs, including welding, construction skills, entry-level healthcare occupations, warehousing, food service and culinary occupations.

Private Vocational Training: According to the State Bureau for Private Postsecondary Education, there are approximately 600 approved private training institutions in Los Angeles County. While some institutions in this category have come under scrutiny within the last several years around fee structures and student outcomes, several private postsecondary schools in the Los Angeles region have proven track records in training job seekers for in-demand entry-level jobs, such as truck driver, medical assistant and technicians for various industries. These schools

continue to occupy an important niche within the training community since, based on their small size and flexible structures, they are often able to train students quickly and place completers into jobs with local businesses.

Others: Other providers comprise an important portion of the training community. These include

- 4-Year Institutions: The RPU is home to the University of California, Los Angeles, along with five campuses of the California State University system: Dominguez Hills, Long Beach, Los Angeles, Northridge and Cal Poly Pomona. In addition, numerous private universities (such as USC, Loyola Marymount and Pepperdine) are located in the region. While these institutions are well known for awarding baccalaureate and advanced degrees, many of which are required for employment in the region's key sectors, increasingly their "extended education" divisions are providing training and producing certificates that respond to industry demands for particular skills.
- Out of Area Institutions/Online Learning – More and more on-line training content has become available, which is being used by workforce agencies, community training providers and others are resources to deliver training for both specific vocational skills and basic/remedial skills.
- Organized Labor: Unions representing the skilled trades offer a number of pre-apprenticeship and apprenticeship programs that can lead to employment with good wages and benefits.
- Job Corps: Funded by the U.S. Department of Labor (DOL), Job Corps provides education and training programs that helps young people (16 – 24) prepare for a career, earn a high school diploma or GED, and find a training-related job. The County is home to two Job Corps centers: Los Angeles and Long Beach. Those enrolled in Los Angeles can earn certificates by completing programs in Building Construction Technology; Certified Nurse Assistant; Clinical Medical Assistant; Licensed Practical/Vocational Nurse; Office Administration. Through an articulation agreement with L.A. Trade Tech, Job Corps participants can also study Advanced Manufacturing; Automotive and Machine Repair; Construction; Finance & Business; Health Care; Hospitality; and Information Technology. At the Long Beach Center students can study Automotive Service/Repair; Cement Masonry; Certified Nursing Assistant; Clinical Medical Assistant; Facilities Maintenance; Glazing; Medical Office Support; Painting; and Pharmacy Technician.
- Operators of Specialized Grant Programs: Throughout the Los Angeles Basin, a number of specialized grant programs are available that provide training for in-demand occupations. YouthBuild provides academic and construction skills training under funding provided by the U.S. DOL. Another major source of funding for specialized training in the region is ETP, which is used extensively to provide upskills training for incumbent workers.
- Constituent-Focused Training: Programs offered by organizations serving specialized target groups (including WIOA Section 168 programs serving Native Americans) offer a wide array of vocational programs and services for jobs ranging from solar panel installation to truck driving, welding and more.
- Community-Based Organizations: An extensive number of CBOs provide training and services to support employment. Many such organizations provide foundational training which emphasizes work readiness, along with information on the behaviors, attitudes and work maturity expected by business.
- Private Industry: Business itself is a major trainer of workers, mostly using its own resources. Increasingly, workforce development, education and economic development are developing new partnerships with private businesses to make training more responsive to the specialized skill needs of industries and companies. Initiatives include providing financial support for work-based learning and designing customized training programs on behalf of specific businesses.

Addressing the Needs of Limited English Proficient Individuals

As described in LAEDC's analysis, there are 5.3 million residents of Los Angeles County that speak languages other than English at home, and of these, approximately 27 percent speak English less than well. With nearly 1.5 million individuals needing some training to strengthen English proficiency, the workforce system must work closely with education and community partners to devise effective strategies to recruit and serve this important segment of the

region's workforce. Based on input received during the planning process, the key issues to be addressed in developing such strategies include:

Recruitment: In the Los Angeles region, it is possible to work without being fluent in English. Given significant immigration over the last several decades, whole communities do business in Spanish, Chinese, Korean and other languages and in certain workplaces (factories, hotels, warehouses) day-to-day operations are conducted in a language other than English. While economists and other stakeholders all agree that increased English proficiency results in greater employment opportunities and earning potential, it is often difficult to configure ESL and VESL opportunities around work and family obligations.

Resources: Among adult education, the community colleges, private institutions and community-based training providers there is a significant amount of resources available for English language instruction, but, as reported by LAUSD representatives, these resources can be dwarfed by need. There are waiting lists for ESL programs in some communities. A first step in developing a better understanding of the full range of resources available, and the extent for which resource gaps exist, would be an asset mapping process that could be led by the AEBG consortia. Subsequently, the WDB Partnership would lead a discussion among stakeholders on strategies to expand and improve ESL and VESL training.

Access: As part of the asset mapping process described above, the partners will also assess where services are delivered, along with schedules and times. Traditional school locations and hours are not always convenient or accessible for English language learners who are most in needs of services. Community locations and even online instruction have proven effective for some learners. UNITE HERE, the hospitality union which supports more than 20,000 workers in the County, has implemented a number of very effective ESL and VESL programs at workplaces.

Training Methods: The scope of need suggests that new approaches to teaching English may prove beneficial for many, including those whose current work situations require improved English. As discussed in more detail within Section E of this plan, because traditional ESL instructional models are lengthy, more and more frequently, employment-focused language instruction focuses on speaking and communicating at work rather than upon traditional grammar. A variety of instructional methodologies for teaching English should be available to address the needs of a large and diverse pool of learners.

In response to these issues, the WDB Partnership will engage education and business partners in further planning to expand and improve English language skills acquisition in the region.

| |
|------------------------------------|
| C. Regional Sector Pathways |
|------------------------------------|

As is the case with many of the most effective strategies used by the workforce system, the development of career pathway programs began organically, as a way of responding to the unique needs of specific businesses to train both new and incumbent workers. California's State Plan raises the bar, envisioning career pathways as a central methodology for building strong regional economies.

The WDBs of the Los Angeles Basin RPU have developed some of the best "sector strategies" in California. These include not only the development of demand-driven and industry responsive training programs, but many unique approaches to working with the business community and with specific companies to better understand and respond to their needs. While many of these efforts have involved more than one local board and have included the community colleges or other system partners, some have not. Instead, programs have been developed using a variety of approaches and methods. Recently, though funding provided under the State Slingshot initiative, the region's local WDBs have implemented an approach to developing a career pathway program for the healthcare sector. It began with intensive engagement of industry partners, a review of labor market data, and collaboration with education and training providers. This approach, which appears to have all of the right ingredients for designing regional sector pathway programs, is described in more detail under "Healthcare" below.

I. Determining Need for Regional Sector Pathway Programs

The WDBs will continue to regionally convene industry leaders from its target sectors. The goal of regional engagement of sector leaders is to gather intelligence to improve and expand existing career pathways and to develop new regional sector pathway programs. Specifically, industry leaders would be asked to:

- Describe the skills needed by the current workforce and new hires;
- Describe skills gaps they encounter in the applicant pool;
- Forecast future training and hiring needs;
- Review existing training and credentials;
- Indicate whether training programs are currently available to address skills needed;
- Indicate, for existing training, whether associated credentials (degrees, certificates, licenses) are recognized and valued by the industry;
- Recommend content revisions for existing training to meet industry requirements; and,
- Recommend content for new training.

Information obtained will be used by the workforce system (including WDBs and education partners) to update program content and to develop new courses and programs. To ensure that regional sector pathway programs remain relevant, engagement with industry leaders will need to take place annually or more frequently.

II. How Existing Programs Work to Meet Industry Needs

The various career pathway programs described below, have all been developed to respond to unmet need. The impetus for their development did not necessarily reflect a particular deficiency in one or more programs. Rather, they zero in on skills in ways that correspond to particular needs of one or more companies.

III. Promising Practices within the Region

A number of career pathway programs have been implemented and others are being developed across the region. While not all of these programs have been replicated across the region, they have the potential to be. Determining the scalability of these programs and developing a plan to that end is a Plan goal. A small, representative sample of existing regional career pathways programs follows:

The SELACO WDB's Career Pathways Trust Fund Grant was designed to create exposure and awareness of career options and workplace environments, knowledge of skills for in-demand occupations within manufacturing and engineering as well as training requirements. The grant effectively connects students to the manufacturing workplace for potential work-based learning experiences. The process of engagement allows all students an opportunity to explore possible careers and make educated decisions regarding secondary academic and elective course enrollment, postsecondary plans and eventually careers.

Advanced Manufacturing: Dynamic, demand-driven skills training for the manufacturing sector has been developed under the leadership of three local WDBs and their partners: the City of Los Angeles, Los Angeles County and SELACO WDBs.

AFAB Antelope Valley Northrop/Partnership: To help meet the demand for hundreds of trained workers in the Antelope Valley, a partnership was developed among Northrop Grumman, Antelope Valley College, the City of

Palmdale, the Los Angeles County WDB, and Goodwill, which operates the local AJCC. This customized manufacturing training program is offered on the campus of Antelope Valley College with a curriculum developed by Northrop Grumman. Students participate in 16 weeks of intensive training, which culminates in a guaranteed round of job interviews from which Northrop Grumman has first pick of graduates. Employees fabricate and assemble large aircraft.

BioTech Bridge Training Program: This six-week training program at LA Valley College is supported in part with funds provided by the City of Los Angeles. Bio-manufacturing is a rapidly growing subsector of the bioscience industry, which is currently seeking skilled workers with training in aseptic processes and current good manufacturing practices (cGMP).

AMP SoCal – Managed Career Pipeline Program: Representing the southern 10 counties of California, the Advanced Manufacturing Partnership for Southern California’s goal is to provide aerospace and defense manufacturers and their supply chain with the tools, talent, and capacity to master the future. The training project operated by SELACO WDB and Cerritos College identifies firms that have been adversely affected by reduced federal contracting and seeks to improve their competitiveness by providing skills training for incumbent workers and for new hires in entry level positions. aerospace and defense manufacturers and their supply chain with the tools, talent, and capacity to master the future. Out of several AMP SoCal projects, SELACO WDB, Cerritos College, Weber Metals, LACOE, SASSFA and Homeboy Industries developed a career pipeline of workers to fill apprenticeships and other job vacancies. The first step was to identify the technician training needs of firms that have been adversely affected by reduced Defense Department procurement and contracting to improve their WIOA-eligible candidates for entry-level technician positions or to train incumbent workers in need of upgraded skills. Once trained and hired Weber Metals will host an Apprenticeship program for Maintenance Mechanics. Maintenance is one of the most desired positions needing to be filled across the manufacturing spectrum.

The Career Pathways Trust Fund Grant was designed to create exposure and awareness of career options and workplace environments, knowledge of skills for in-demand occupations within manufacturing and engineering as well as training requirements. The grant effectively connects students to the manufacturing workplace for potential work-based learning experiences. The process of engagement allows all students an opportunity to explore possible careers and make educated decisions regarding secondary academic and elective course enrollment, postsecondary plans and, eventually, careers.

Construction: Examples of current and planned pathway programs in this sector come from Los Angeles County and PGWIN.

Construction Pre-Apprenticeship Training: After the City of Long Beach entered into Project Labor Agreements for nearly \$500 million in new public projects, contractors communicated the need for additional workers with very specific skill sets. Working with the LA/OC Building Trades Council and Long Beach City College, PGWIN developed a program based on the nationally recognized Multi-Craft Curriculum (MC3), which is endorsed by unions representing nineteen of the skilled trades. This construction pre-apprenticeship training is a six-week (140 hours) program that prepares participants for employment in the trades. Some of the hands-on skills taught include cabinet making, cement masonry, green technologies, H.V.A.C., plumbing, surveying and weatherization. Those completing the program receive three certificates: Building Trades Multi-Craft Curriculum (MC3), 10-hour OSHA Certification and CPR/First Aid Training Certification. This program has significant potential to be scaled up across the region to address major public building and infrastructure projects.

Metro WIN-LA Program: The goal of the developing Workforce Initiative Now Program (WIN-LA) is to create a pathway for local residents who want to work in construction, professional services, transit operations and maintenance, as well as other related jobs and careers. Los Angeles County has been working with Metro in the

design of the program. Metro's model looks to leverage the regional workforce system and partnerships with education (community colleges and adult schools) to create training and career pathways into its job opportunities. The AJCC system would serve as the gateway into these programs, identifying the labor pool.

Information and Communications Technology: With its proximity to major studios and the surrounding network of information technology companies, Verdugo WDB has been leading efforts in this area. The initiative described will result in the development of one or more pathway training programs.

Verdugo Creative Technologies Program: Organized by VWDB in 2014 under the California Career Pathways Trust, the *Verdugo Creative Technologies Consortium (VCTC)* focuses on career pathway development in Digital Media for local high school and community college students. In early 2017, VWDB will work with the VCTC partners to expand an already impressive list of VCTC Digital Media (Information and Entertainment) industry partners, which include Warner Bros Entertainment, Inc., Nickelodeon, Cartoon Network Studios, Bento Box, Keycode Media, mOcean, The Motion Picture Editors Guild, The Art Director's Guild, The Animation Guild, Inclusion Films Workshop, Harvey Grimes Talent Agency, Authentic Films and Spot on Media, Inc. Work in progress includes: 1) a survey of industry recruiters and artist development professionals to assess skills, growth occupations, hard-to-fill positions, updated requirements for tools and technology(ies), and future hiring needs; 2) development and implementation of production classes taught by industry professionals for educators, and secondary and post-secondary students as on-ramps to Digital Media; 3) identification, recruitment, and engagement of additional major industry participants for inclusion on VWDB-facilitated skills panels to validate today's requirements for skills and competencies in high demand occupational fields; and, 4) industry outreach to develop new opportunities for student and educator participation in professional events.

Healthcare: The following examples include a unique work-based program designed by PGWIN and a regional sector pathway program (being led by SELACO WDB) that is currently under development.

Customized Training – Patient Care Assistant: When Memorial Care in Long Beach was looking to address a need for a specific set of skills, its leadership turned to PGWIN for assistance. Long Beach Memorial Hospital was looking to employ new workers as Patient Care Assistants, which requires skills just under the CNA level, but with specialized knowledge of hospital operations and care protocols. Together, they designed a 6-week training customized program where hospital staff serves as instructors. Upon completion, trainees earn \$16.00 per hour and are deployed to positions within the hospital and at associated clinics and medical facilities.

Care Coordination Career Pathway: Using funding from the SlingShot initiative, the WDBs of the Los Angeles Basin, along with the Ventura WDB, formed the LA Regional Healthcare Collaborative to address the need for a skilled care coordination workforce among hospitals and clinics. Industry leaders identified care coordination as an emerging need in the healthcare industry. The process of developing a strategy to address the need has involved nearly two years of meetings among leaders in the region's healthcare industry, along with representatives from education, economic development and the workforce system. Surveys and other forms of intelligence gathering have also been part of the process. The results of these efforts have been the identification of three tiers of skills required for different settings in healthcare. At the highest level, care coordination is delivered in hospitals and similar settings by degreed professionals, who receive adding training and certification in care coordination. At the entry-level are low-skilled workers with an interest in care coordination that participate in upskills training to become part of the pipeline of future care coordinators. At this stage of development, the initiative is preparing to develop career pathways for job advancement. Regional implementation is scheduled for Summer 2017.

IV. Support for Existing and Planned Sector Pathway Programs

The Care Coordination Career Pathway project described above is an outstanding example of work being done to develop pathway programs and strategies at a regional level. However, excellent work is still occurring at the local level as Sector Partnership committees continue to meet and as industry liaisons, sector intermediaries and business

services representatives remain engaged with business and with system partners, including economic development and education. While regional industry engagement, such as that described under item I, above, will certainly be instrumental in providing information that will lead to the development sector pathways, so too will information obtained by local WDBs. The South Bay WIB holds regular meetings of sector partnerships groups in healthcare and manufacturing. The LA County WDB has organized a taskforce devoted to addressing skill gaps at a wide range of healthcare facilities, from hospitals to clinics. Verdugo WDB leads an ICT committee comprised of business, labor and education leaders to identify and respond to emerging needs in the entertainment and technology sectors. Within the Los Angeles Basin RPU, WDBs will continue to identify and devise responses to sector needs that can be scaled up throughout the region.

D. Industry-Valued Credentials

As part of the regional planning process for the Los Angeles Basin, the consultants worked with stakeholders to identify where credentials are being offered, what types of credentials are awarded (e.g. degrees, certificates, licenses), what are the perceived value of the credentials by all parties (e.g. those awarding them, those receiving them and industry), and what role businesses have had in determining their value, either as they were being developed or afterward. As a resource and as a reference point for this process, the consultants utilized the California Workforce Development Board's Credentialing Framework.

Early on in the process of looking at credentials, it became clear that businesses, workers, schools, the workforce system and others had widely varying definitions of credentials and the role that industry should play in determining their value. While credentials have certainly been on everyone's radar for a long time, what has been missing appears to include:

- A common understanding of credentialing (the State Board's Framework document helps with that)
- When industry input should be obtained
- How industry should be engaged to review credentials
- In a region where there are nearly a quarter of a million businesses, what constitutes "industry value?" If five businesses agree that a machining certificate has value, does that mean a sixth one will?

It was, therefore, determined that credentials should be a primary topic of the planning forums held with stakeholders.

I. Putting Credentials into Context

Four forums, hosted by the City of Los Angeles, Foothill, Los Angeles County and Verdugo WDBs were conducted to address the issues of what credentials exist and how industry has been engaged to determine their value.

Initiating the Credential Discussion with Industry and Stakeholders

The stakeholder planning sessions on this topic had a good mix of participation from education, business, economic development, workforce and other stakeholders. The first part of the discussion split into two main areas: 1) what process is used to ensure industry value as courses are being developed; and 2) for courses already on the shelf, what processes exist for industry to review content so that it can determine the value of a credential for those who complete given courses or a program of study. Responses to these questions were varied. It is clear that the community colleges use a business advisory process to inform the development of curricula, as do other education agencies. But it was also clear that processes vary significantly from place to place and from course to course

The second part of the discussion moved to the value that businesses place on specific credentials. From forum to forum, the responses were fairly consistent and indicated that:

- Credentials are essential for some jobs. In some cases, industry not only values and recognizes credentials, it absolutely requires them. Barbers must be licensed. Truck drivers must be licensed. RNs must have an Associate's Degree or higher and pass the State registry exam. In fact, business leaders and others identified many occupations (including many "professional" jobs) that require a specific degree, license or certification.
- Credentials are optional in many cases: For other jobs, many indicated that certificates may be required, but they were not universally valued due to inconsistency in performance among workers who held them. Stakeholders commented that inconsistent course content, instructor knowledge and other factors deflate the value of certificates for some businesses. Many agreed that a certificate does not universally equate to skills and competency and that many skilled and competent workers and job candidates do not have certificates.

More Intensive Industry-Led Planning on Post-Secondary Credentials

The foregoing observations have made clear the need for the regional partners (particularly workforce, education and economic development) to implement a structured process for engagement with business on credentialing, which will also serve as a means to discuss key content issues for regional sector pathway programs. The local WDBs will:

- Convene an industry steering committee for each of the region's six target sectors to discuss work-related credentials. The committees will include a diverse cross section of businesses in terms of company size, location in the region and niche within the industry. Committees may meet on multiple occasions.
- The committees will:
 - Review and recommend metrics for determining the value of credentials.
 - Review existing credentials awarded in the region that pertain to their sector and determine their value
 - Identify credentials that would be desirable for the industry
 - Develop a process for re-confirming the value of credentials overtime
 - Provide recommendations on course content for regional sector pathway programs and other training that will produce the credentials.
- Following completion of the foregoing task, the WDB Partnership will publish a regional protocol for determining industry value and recognized credentials.

Goals on credentialing are summarized in Section L of this Plan. Updates to the Regional Plan will include information on industry-valued credentials that result from this engagement process.

II. Existing Industry-Valued and Recognized Postsecondary Credentials and Maintaining their Relevance for Businesses in Key Sectors

While it is likely that credentials resulting from the career pathway programs described in Section B of this plan have all been subject to industry review and are valued by business, no credential is being put forward as "industry-valued" at this time. This will occur once the industry review process described above is completed.

III. Determining the Value of Credentials to Industry

As indicated, a clear and reasonably uniform process is needed to identify that postsecondary credentials are industry-valued and recognized. The protocol above will provide this framework.

IV. Principal Providers of Credentials within the Region

Section B, Item IV of this Regional Plan provides a description of the principal providers of training and education programs throughout the Los Angeles Basin RPU. Given the focus of the Regional Plan on middle-skill jobs (and entry-level employment with a path to middle-skill jobs), the community colleges and adult schools will likely be the providers of training for most credentials. Again, this cannot be definitively stated until the industry engagement on valued credentials is completed.

V. Identifying, Recording and Tracking Credential Attainment within the Region

Because the goal of producing the region's share of the State target of a million industry-recognized credentials over the next ten years applies to the entire system (community, colleges, adults schools, 4-year institutions, registered apprenticeships, Job Corps, etc.) and not just the WDBs, the stakeholders will form a workgroup to address the apportionment of goals among local areas and, within each area, the various partners. The WDB Partnership will convene system stakeholders in discussions around both goals for credentials and the development of a process to track their attainment.

Given the population of the region relative to the state as a whole, it is anticipated that the RPU would be responsible for 25 percent of the state goal or 250,000 credentials over the coming decade. As the regional stakeholders develop a plan to track credentials, discussion with the State will be necessary regarding annual goals, as it will likely take 2 to 3 years to be fully ramped up.

E. Workforce System Accessibility and Inclusiveness

Several of responses that follow do double duty by addressing two distinct, but related matters. Some of the information provided describes the ways in which the planning process itself was inclusive and ensured that the interests of those with barriers to employment were addressed. Other portions of the narrative, however, deal with the ways in which the system is accessible to at-risk and historically disadvantaged groups and, in some cases, how this access can be improved.

I. Inclusiveness in the Planning Process

As described within the introduction and in Section A, working under an extremely aggressive schedule, the partners attempted to create a process through which as many perspectives, experiences and opinions as possible could be heard. With this objective in mind, the regional planning forums were conceived. Thousands of individuals representing key stakeholders and communities were invited and, ultimately, more than five hundred participated. For each of the nineteen forums, which took place in nearly every corner of the RPU, the hosting WDB was responsible for invitations, all of which were made through electronic media, including email and online registration systems, such as Eventbrite. Results of the outreach exceeded expectations, particularly given the short turn-around times between the invitation and events. Those participating included individuals representing agencies and programs that serve immigrants and English language learners, disconnected youth, including foster youth, Native Americans, persons with disabilities, returning offenders and others with barriers to employment. Attachment II, b to the Regional Plan includes a list of those invited and Attachment II, c lists all who attended the forums.

II. Participation of AEBG Consortia and Nexus with Consortia Planning

There are thirteen AEBG consortia, representing 55 distinct education agencies, linked to the Los Angeles Basin RPU. The consortia aligned to the region are: Antelope Valley Regional Adult Education Consortium, Citrus College Adult Education Consortium, Glendale Community College District Regional Consortium, Long Beach Adult Education, Los Angeles Regional Adult Education Consortium, Mt. San Antonio Regional Consortium for Adult Education, Pasadena Area Consortium, Partnership for Adult Academic and Career Education, Rio Hondo Region Adult Education Consortium, Santa Monica Regional Consortium for Adult Education, Santa Clarita Valley Adult Education Consortium, South Bay Adult Education Consortium (El Camino), and Tri City Adult Education Consortium.

Participation of AEBG Leadership and Representatives: Leadership from five of the AEBG consortia participated in one or more of the regional planning forums. Other consortia were also amply represented in the planning process, as administrators and staff from their constituent institutions participated in the regional forums. The consultants met individually with the Executive Director of Los Angeles Regional Adult Education Consortium. Again, because time

was a consideration, this consortium was selected because of the vast numbers of adults served by LAUSD, the nine campuses of the Los Angeles Community College District and the three other unified school districts that make up the consortium. Input from AEBG representatives, both in the individual meeting and expressed during the forums, was extremely valuable, especially with regard to the capacity of the adult education system to provide vital training for English language learners and job seekers needing basic skills remediation or support to earn a high school diploma or equivalency. Participation of consortia representatives also shed light on the substantial capacity of some adult education programs to provide skills training for high-demand sectors including construction, healthcare, hospitality, ICT and manufacturing.

Review of Consortia Plans: Among the thirteen consortia, planning documents are voluminous. The consultants have reviewed some of the consortia plans (which include AB 86 Plans, Consortium 3-Year Plans and Annual Plans) and have identified significant alignment with the regional workforce system in terms of priorities, such as focus on those who have not earned a high school diploma, the need for resources and effective strategies for ESL, VESL and basic skills instruction. As described in Section J, Exhibit 2 of this Regional Plan includes a list of links to the web page where the plans for all thirteen consortia can be found.

III. Need for and Availability of Basic Skills Education

With regard to the need for basic skills education, we know through engagement with businesses and organizations that assist them in recruiting and training employees that strong literacy and numeracy skills remain important, if not essential, prerequisites for most jobs. Because basic skills education is delivered by adult education programs, community colleges, private institutions, community organizations, Job Corps and other providers and institutions, it is not possible to estimate the number of individuals receiving these services. Further complicating any attempt to get at this number is the inevitability that many individuals participating in basic skills training are doing so within the context of a larger program and, would, therefore, not be easily identifiable as basic skills participants.

The foregoing obstacles notwithstanding, there is much that we know about need, both through data analysis and through intelligence from the field. The region's demographics and languages spoken are described in Section B. That portion of the plan also provides information and analysis about both educational attainment and language capability, suggesting that there is a significant and even overwhelming need for basic skills education within the RPU. Of note, are the following facts:

- Of the 5.3 million residents of Los Angeles County that speak languages other than English at home, approximately 27 percent speak English less than well.
- The population of residents aged 25 years and older in Los Angeles County numbered 6.8 million in 2014, and almost 25 percent of county residents in this age group have not earned a high school diploma (or equivalent).
- Overall, the unemployment rate for individuals aged 25 to 64 years was 7.3 percent in the county in 2014. However, rates of those with low levels of educational attainment are higher. Residents with a Bachelor's degree or higher had an unemployment rate of 5.0 percent in the County in 2014, roughly half the rate experienced by those at the opposite end of the education spectrum

As learned through discussion with stakeholders and review of AEBG plans and other resources, a variety of approaches are being taken to address the issue. Among the most basic areas of focus is getting more information into the community about the availability of programs. According to many stakeholders, immigrants and others with little connection to the education system have little awareness and understanding of education and training resources for adults. A more challenging issue with regard to meeting need is resources. There is simply insufficient funding to meet the demand for basic skills training, including training for those who are English language learners.

The workforce system, adult education, community colleges and others will continue to strategize around this major issue to develop a system-wide action plan that harnesses resources from various sources.

IV. Contextualizing Basic Skills into Regional Sector Pathway Strategies

According to regional education partners, there is a wide variety of methods for integrating basic education and language development skills into vocational instruction. Following are some options.

Integrating Basic Skills in Career Pathway Programs: The K-12 system, adult education, the community colleges and private training institutions all use contextualized learning, which can be simply thought of as relating subject matter content to real world applications. Although the methodology is widely known, is it not always widely applied. It is generally more convenient (due to resources, teacher preferences, student expectations and other factors) to first teach basic skills and, after students gain proficiency, provide vocational instruction. The workforce system's focus on regional sector pathway programs provides the opportunity to build basic skills and language development education right into programs. This, however, will require agreement from all participating in the development of sector pathways, including education, workforce and industry partners. In addition to affecting curriculum design, integrating basic skills into pathway programs impacts how skills are taught and how skill acquisition and proficiency are assessed. Making basic skills an integral part of training for demand occupations will enable a much broader group of candidates to prepare for well paid jobs. It will require that partners think creatively and be open to new instruction design and methods, but it can be accomplished.

Strategies to Address Limited English Proficiency: English language instruction can also be contextualized and integrated in career pathway programs. Recognizing that traditional ESL instructional models are lengthy, workforce development professionals often seek other interventions in order to help move limited English proficient customers more rapidly into employment. One approach to doing so is to adopt instructional content that focuses more on function (speaking) than form (grammar) and which ties into training for a specific sector (VESL). As with integration of basic skills, developing regional career pathways that integrate English skills training will require agreement among all stakeholders.

Again, the partners will continue to strategize on these issues to develop an appropriate system-wide action plan linked to the RPU's goals for regional career pathways.

V. Streamlining Access to Foundational Skills

During regional planning sessions with stakeholders, two of the core topics were system accessibility and training/education resources. Information provided by individuals representing workforce development and education did not reveal that there are systemic bottlenecks or obstacles in moving job seekers into basic skills training. In fact, more than any other subject matter, basic skills remediation is accessible outside of traditional, semester-based schedules through adult schools, charter schools and community-based programs. The partners will continue to gather information from the field about the need to streamline processes for those seeking basic skills and will identify improvement strategies where needed.

VI. Ensuring System Accessibility for People with Disabilities

For the workforce system and all partners, ensuring access for persons with disabilities has been and remains a top priority. In addition to making sure that no physical barriers exist, ensuring programmatic accessibility requires that those providing services have the knowledge and resources to design and implement inclusive processes and services.

Ensuring Physical Accessibility to Services: All partners providing training and workforce services (local WDBs, the community colleges, AEBG institutions, etc.) are subject to federal requirements under the American's with Disabilities Act (ADA) and provisions of the California Civil code ensuring access for persons with disabilities. All surveyed reported no compliance issues with physical accessibility. Each of the seven local boards is required by

WIOA to form a “disability accessibility” workgroup or committee. These workgroups will share concerns, “best practices” and solutions across the RPU.

Access to Training and Regional Sector Pathway Programs: Regional sector pathway programs are, by definition, services and programs that identify and implement strategies corresponding to the needs of individuals. To ensure that job seekers and workers with disabilities are able to participate in career pathway programs, staff operating those programs may benefit by receiving support from stakeholders with experience in working with the disability community. Programs administered by the City of Los Angeles, SELACO and Verdugo WDBs have Disability Resource Coordinators (DRCs), who organize training and education for staff and facilitate collaboration with public and private resources. DRCs develop strategies to improve outcomes for people with disabilities. As sector pathway programs are developed, a review of accessibility will be conducted. Where potential barriers exist, the system will look to DRCs and colleagues at the State Department of Rehabilitation for resources and guidance.

VII. Promoting Regional Sector Pathway Participation among CalWORKS Participants

Discussion with a Regional Administrator and several staff of the Los Angeles County Department of Public Social Services (DPSS) revealed that the department’s goals for developing more middle class job opportunities are well aligned with the Plan’s objectives to identify, develop and promote regional sector pathway programs targeted to priority sectors. TANF and WIOA programs have a long and successful history of collaboration within the Los Angeles Basin RPU. A large, successful countywide “earn and learn” program for youth is funded by TANF; DPSS utilizes the I-TRAIN system to manage its training inventory; the South Bay WIB manages the TANF-funded Temporary Subsidized Employment (TSE) program for the County; and the two systems have worked together to support staffing for new and expanding businesses. As the development of regional pathway programs continues, DPSS will be engaged as an advisor to help determine the talent resources that its customers can provide to meet industry demand.

VIII. Regional Collaboration to Ensure Support for System Customers

Support services are typically organized at the local level since the specific services that individuals with barriers need are generally delivered locally (e.g. local transit systems linking to regional ones; childcare; work-related clothing and tools; health services; legal assistance). Accessing low and no-cost services on behalf of job seekers generally relies on developing relationships with neighborhood and community providers that have funding to provide these services. There may, however, be services that could be purchased regionally at discounted rates where agreements can be reached on behalf of the system. The regional partners will conduct an assessment of where there may be gaps in support for individuals being served through workforce, education or other employment readiness programs. Based on this assessment, the partners will examine opportunities to bridge the gap through regional efforts.

IX. Incorporating Community-Based Organizations into the Network of Regional Workforce System Providers

Community-based nonprofit organizations are critical to the delivery of workforce services in the Los Angeles RPU. In the City of Los Angeles, all but two of its seventeen America's Job Centers of California are operated by CBOs. The SELACO WDB supports a network of Community Based Organizations and education partners who meet monthly to share various resources available to support job seekers from various target groups. This is known as the Community Collaborative Network (CCN). At Men’s Central Jail in Downtown Los Angeles, the South Bay WDB is currently working with Friends Outside in Los Angeles, New Opportunities Charter School, and Five Keys Charter School to deliver AJCC services pre-release and to provide transition coordinators to facilitate post-release services including hard referrals to their local AJCC for continued employment assistance. These are three of many possible examples illustrating how CBO’s collaborate with County WDBs to both deliver and enhance workforce services.

CBO representatives have communicated the value that their organizations can bring to the workforce development system by serving as both a touchstone and as navigators for individuals with barriers. No matter the intervention provided - be it sector pathway training, job placement assistance, or support services – individuals with little to no connection to the labor market will not just need intensive job preparation services, but also intensive, on-going encouragement and guidance. Community agencies are well situated to provide the latter, as they are viewed with trust in the community.

The RPU partners will work together to even more effectively leverage the unique position and talents of community agencies to support regional workforce goals.

X. Creating Pathways to the Middle Class

Discussions among stakeholders leading to the development of this Plan centered frequently on the development of strategies to help all job seekers and workers chart a course to the middle class. Regional sector pathways are crucial to this strategy. But, for these programs to support moving unemployed or underemployed individuals to a middle class career, they must offer strong career exploration, a long-range career plan, and information about on-ramps for building advanced skills that will translate into greater earning power. The goal of the system is not to retain individuals in any particular program or activity, but to ensure that they are able to access additional training and resources as they need them. The RPU partners and system stakeholders will examine opportunities to develop one or more protocols to guide practitioners in helping workers to progress upward along their chosen career path.

XI. Improving Strategies for Disconnected Youth

While not a requirement for the Regional Plan, the planning process for the Los Angeles Basin included engagement with stakeholders from programs and organizations that serve youth and young adults. This process gave special attention to issues affecting disconnected youth within the region and, as a result of these discussions, the consultants identified a number of challenges to serving this population.

Research shows that nearly 20 percent of youth in the Los Angeles Basin, ages 16 to 24, are disconnected from education and employment. This equates to approximately 200,000 young people within the County that are not in school, are not working, and are not preparing to enter into the workforce. This group also includes youth who are homeless, in foster care, or are involved in the justice system.

According to stakeholders, opportunities exist to improve outcomes for disconnected youth and young adults and to increase the rate at which young people achieve success in meeting educational, employment, housing stability, health and well-being and other key lifelong developmental goals. Taking advantage of these opportunities will require the region to more closely examine barriers to providing needed interventions and services. Key issues identified by stakeholders include:

- The need for government, communities, education, the workforce system and others to coalesce in their commitment to support disconnected youth;
- Increased capacity is necessary, including additional resources to address the multiple barriers that face many disconnected youth;
- Data collection needs to be integrated across systems;
- Measures of success must to be redefined, as do contracting systems that drive services and outcomes for disconnected youth; and,
- There are systemic barriers for these youth. Services strategies much address these obstacles.

Further review of opportunities to improve services and outcomes for disconnected youth is among the goals set forth in this Plan. Attachment II, d includes a list of Challenges and Recommendations for Disconnected Youth.

F. Regional Focus on Job Quality

The State Plan and regional planning guidance make clear the intentions of California’s legislature that limited public resources must be used strategically to support programs that result in good wages, enabling self-sufficiency and a pathway to the middle class. As part of continued planning efforts, the Los Angeles RPU will develop a “quality job” definition that takes into consideration the career plan of an individual and is not arbitrarily based on a particular wage standard or fixed set of circumstances. The development of this definition will rely substantially on input from economic development and social services partners and the data they present to demonstrate the true likelihood that a given career pathway can lead to economic self-reliance.

I. Employment and Earnings Potential Associated with Target Sectors and Regional Sector Pathways

As stated, subsequent to reviewing the State planning guidance outlining Regional Plan requirements, the LA Basin WDBs requested additional data analysis from LAEDC, including information on earnings related the target industry and typical placement occupations for those completing training. LAEDC’s analysis indicates for top occupations both “education” and “on-the-job training” (OJT) associated with the job. Summarized below, as examples, are likely placement occupations for participants completing regional sector pathway programs, both existing and planned. Jobs listed as entry-level would, generally, require a high-school diploma, along with additional short-term education or OJT. Middle-skill jobs are those that, generally, require more than high school but less than a 4-year degree.

| Advanced Manufacturing | | | | | |
|---|----------|-----------|--|----------|-----------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Team Assemblers | 11.54/hr | 24,010/yr | Inspectors, Testers, Sorters, Samplers, and Weighers | 17.06/hr | 35,490/yr |
| Packaging and Filling Machine Operators and Tenders | 11.55/hr | 24,020/yr | Machinists | 16.62/hr | 34,570/yr |
| Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | 13.01/hr | 27,070/yr | Maintenance and Repair Workers, General | 19.82/hr | 41,230/yr |

| Construction | | | | | |
|--|-------|--------|---|-------|--------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Welders, Cutters, Solderers, and Brazers | 17.47 | 36,340 | Carpenters | 23.80 | 49,510 |
| Helpers--Electricians | 15.80 | 32,870 | Electricians | 30.07 | 62,540 |
| Helpers--Installation, Maintenance, and Repair Workers | 13.85 | 28,810 | Plumbers, Pipefitters, and Steamfitters | 24.74 | 51,460 |

| Information and Communications Technology | | | | | |
|--|-------|--------|--------------------------------------|-------|--------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Office Clerks, General | 14.83 | 30,840 | Computer User Support Specialists | 26.55 | 55,230 |
| Electrical and Electronic Equipment Assemblers | 14.81 | 30,810 | Web Developers | 31.16 | 64,820 |
| Team Assemblers | 11.54 | 24,010 | Computer Network Support Specialists | 34.26 | 71,260 |

| Healthcare | | | | | |
|---------------------|-------|--------|--|-------|--------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Personal Care Aides | 9.99 | 20,790 | Licensed Practical and Licensed Vocational Nurses | 23.73 | 49,360 |
| Nursing Assistants | 13.88 | 28,870 | Medical and Clinical Laboratory Technicians | 19.90 | 41,400 |
| Home Health Aides | 11.32 | 23,540 | Medical Records and Health Information Technicians | 20.47 | 42,580 |

| Hospitality and Tourism | | | | | |
|--|-------|--------|--------------------------------|-------|--------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Hotel, Motel, and Resort Desk Clerks | 11.43 | 23,780 | Food Service Managers | 20.62 | 42,890 |
| Gaming Dealers | 11.97 | 24,890 | Maintenance and Repair Workers | 19.82 | 41,230 |
| Food Cooking Machine Operators and Tenders | 10.05 | 20,910 | Lodging Managers | 24.59 | 51,140 |

| Transportation and Logistics | | | | | |
|---|-------|--------|---|-------|--------|
| Entry-Level Jobs | | | Middle-Skill Jobs | | |
| Shipping, Receiving, and Traffic Clerks | 13.73 | 28,570 | Heavy and Tractor-Trailer Truck Drivers | 19.21 | 39,960 |
| Transportation Attendants | 12.46 | 25,920 | Bus and Truck Mechanics and Diesel Engine Specialists | 26.45 | 55,020 |
| Packaging and Filling Machine Operators and Tenders | 11.55 | 24,020 | Production, Planning, and Expediting Clerks | 21.35 | 44,410 |

LAEDC's Data Supplement is included as Attachment I, b to this plan.

II. Regional Wages

EDD LMID's September 2016 Labor Market Data Summary does not provide median wage data for the RPU, but does indicate that the "median household income" is \$55,870.

Median household income could include more than one wage earner. In addition, the number of individuals within a household affects whether the wage/income is sufficient to be considered a sustainable or middle income wage. Assuming that a household had one wage earner, his/her median annual earnings would be \$55,870, which is roughly \$26.86 per hour. If there were two wage earners, the median annual earnings for one individual would be \$27,935 or, roughly, \$13.43 per hour.

Based on the information provided under item 1, above, it is clear that many entry-level jobs are below the annual household earnings, even if these were presumed to be based on two wage earners. As discussed below, a regional protocol for career planning will take in account factors necessary to achieve family sustaining wages and career ladders to get there.

III. Emphasis on Quality Jobs

As a system, we do not believe that "any job is a good job." Some entry-level jobs, however, can be a stepping stone to a better job and to enjoying a middle class lifestyle. With the high cost of living within the Los Angeles region, workforce stakeholders are acutely aware of the perils of working at minimum wages and, generally, make every attempt to place job seekers in the best paying jobs available. Placing a system-wide emphasis on quality jobs will consist of a two part process. The first will be developing a framework for a quality jobs focus, and the second will be implementing strategies for securing quality jobs.

Developing a Framework for a Quality Jobs Focus: Stakeholders engaged in the planning process offered a number of suggestions that helped frame the issue of "quality jobs". As a baseline, there was broad agreement that jobs into which partners place participants should pay a self-sufficiency wage, even for first time workers. Generally, the job characteristics that stakeholders believe speak to "quality" are: good wages (family supporting), benefits; flexibility, stability, advancement potential, and fulfillment/likeability. Acknowledging that job quality is not a fixed concept, there was significant agreement that entry-level jobs demonstrate quality when there are discernable next steps for training and skills acquisition that enable workers to move up and earn better wages.

Strategies for Securing Quality Jobs: Developing relationships with businesses that offer good wages and benefits is a priority for the workforce system. However, this priority is tempered by the reality that small businesses, which

are often least able to offer high wages and good benefits, employ most of the workers in the region. To maximize the system's ability to place job seekers into well-paid jobs with other quality characteristics, the partners will:

- Identify companies offering the most competitive wage and benefit packages;
- Train workers to the specifications of entry- and middle-skill positions with desirable companies;
- Build relationships with organized labor representing workers in well paid positions;
- Outreach to desirable companies, promoting the benefits of hiring from the workforce system; and,
- Offer to implement strategic initiatives for businesses, including work-based learning, which offers reimbursement for the extraordinary costs of training, and programs such as ETP, which provide funding for training of both incumbent workers and new hires.

IV. Incumbent Worker and Career Pathway Strategies

The workforce system in the Los Angeles region has vast experience providing training to employed individuals. The majority of incumbent worker programs have been made possible through California ETP funding. As far back as 1984, workforce development programs in the region used ETP to develop training programs for companies seeking to improve the skills of their existing workforce, to respond to changing labor market dynamics, to adapt to new technology and to simply be more competitive. The region has benefitted immeasurably from these efforts, not only based on the workers receiving skill upgrades, but because of the goodwill that these programs have engendered among businesses. In courting businesses as potential workforce customers, the ability to provide training for the current workforce and new employees increases the likelihood the companies will see value in the system's services. WIOA's acknowledgement of the value that incumbent worker training brings the overall workforce system is a significant move forward in terms of the ability of the system to meet the demands of priority sectors.

Current Initiatives: The Los Angeles Basin RPU has yet to make major strides as a system in providing up-skill training for the existing workforce. Businesses are much more likely to provide advanced skills training using internal resources or contract support than they are to turn to the workforce system for support. According to stakeholders, there are some areas where the system is doing well. These continue to include ETP programs run by local WDBs, such as SELACO (which has two decades of experience running some of the highest performance ETP programs in the State) and the community colleges, whose contract education programs design and implement myriad customized training programs for the incumbent workforce. Under WIOA, there has been reluctance at the local and regional level to embrace large scale use of program funds for incumbent worker training, as local boards were awaiting further guidance from the State and federal government. In the waning days of WIA, taking advantage of a federal waiver, many of the boards in the region developed incumbent worker training programs as a lay off aversion strategy. And, as business circumstances dictate, local boards and their providers continue to develop training projects of this nature. What has not yet taken root, are strategic initiatives to use incumbent worker training as a vehicle to move system candidates upward in their career path. This is the next stage of development for incumbent worker training - as an upward mobility strategy, which is a critical Plan goal.

G. Recording and Tracking Training-Related Employment

Within federally-funded workforce development programs, identifying, recording, tracking and reporting of training-related placements has long been a practice at the local level no matter the requirements of U.S. DOL performance measures or statewide reporting systems. Determining whether jobs secured by participants are within the field for which they trained, provides workforce administrators and staff critical information in several areas, including the value of training provided, true labor market demand and the effectiveness of career exploration/preparedness participants received prior to training. It also speaks to return on investment, indicating the relative worth of a particular program in terms of producing job ready candidates. As part of the RPU stakeholder's commitment to a demand-driven training system, the local WDBs will lead a process to examine how training-related employment can be determined for individuals trained by all education and workforce partners, including those not funded by WIOA.

Tracking Training-Related Placement under WIOA: The local boards with the LA Basin RPU currently track and record training-related placements in CalJOBS. When an individual enters employment at exit or follow-up, WDBs and their agents are able document employment within the Entered Employment Form. As job information is recorded, the system will confirm if the job is considered “Training Related Employment.” This information is based on Occupation Codes. If the Activity Code 300 (ITA) was entered, the Occupation Code in that activity should be the same Occupation Code entered in the Employment Form

Working with Stakeholders to Track Training-Related Placement throughout the Region: The State Plan requires regional partners to determine the extent to which individuals receiving sector-focused and demand-driven training are actually securing jobs in fields and sectors directly related to their programs of study. As stated, this is currently identified and tracked for those in WIOA funded training. As an goal of this plan, the Los Angeles Basin WDBs, in cooperation with the LAOCRC, will convene representatives from training and education providers across the region (including 4-year institutions, community colleges, adult education, private vocational, institutions and others) to discuss options for establishing the basis for determining training-relatedness and methods for tracking and recording training activities and placement outcomes. The CalJOBS system holds promise for scalability and application to this issue and will likely serve as a jumping off point for dialog among the partners.

H. Adherence to Federal Requirements for Regional Planning

The RPU’s Regional Workforce Plan addresses WIOA’s regional coordination requirements by adopting the goals for “regionalism” expressed by California’s Strategic Workforce Development Plan. Moreover, it embraces the spirit of regional coordination, by focusing on a relatively small number of “big” goals and strategies, acknowledging that, within a place as complex and diverse as the Los Angeles Basin, details will evolve as dialogue, debate and compromise continue. While WIOA “a-h” requirements allow for adoption of regional strategies by way of cooperative agreements, the Plan partners and stakeholders made clear during the planning process, that more work is required prior to translating concurrence into such agreements.

Through the following approaches, the Regional Plan complies with WIOA statutory provisions at section 106(c):

Development of a Regional Plan: This Plan fulfills the objectives for each item that follows and by incorporating, as part of the Regional Plan, the Local Plans prepared by the seven local WDBs.

Regional Service Strategies: The Plan speaks to current and planned regional strategies for oversight, operations and service delivery. Examples include outreach to and communication with priority sectors; engagement of sector leaders on skill requirements and credentialing, including disconnected youth; messaging to target populations; response to events of worker dislocation; processes for vetting training providers; and removing barriers for at-risk populations, among many others.

Development and Implementation of Sector Initiatives: The LA region has a long and successful history of working collaboratively to address the needs of demand sectors. Within the last decade, the sectoral focus of local WDBs has intensified, with boards targeting those industries more prevalent within their communities. This Plan envisions increased regional collaboration around sector engagement on industrywide trends, skill needs and gaps that will transform broad sector focus into specific sector strategies that include the design, development and implementation of structured, demand-driven regional sector pathway programs.

Collection and Analysis of Regional Labor Market Data: The regional workforce system and, in particular, local and regional economic development agencies and workforce practitioners, regularly collect a significant amount of intelligence from business and industry. Working with EDD, the system will examine the potential benefits of sharing this information with LMID to promote analysis regarding key sectors.

Administrative Collaboration: The seven local WDBs acknowledge that there are functions where collaboration may benefit two or more boards. As the regional planning process continues, opportunities for sharing resources for various administrative functions will be considered. One current example is possible joint procurement of One-Stop Operators (“OSOs”) by several local WDBs in the RPU.

Collaboration on Supportive Services: There are opportunities for the region to jointly procure support services from local providers in ways that maximize efficiency and minimize costs. The WDB Partnership, in collaboration with regional stakeholders, will further assess these opportunities.

Coordination with Regional Economic Development: As pointed out throughout this plan, the seven local WDBs already work very closely with their economic development partners throughout the County. One of the Plan’s key goals is to work with economic developers to engage businesses, to continually update targeted priority sectors and the most important career pathways within those sectors, and to improve training.

Agreement on Performance Measures: The local boards have completed joint negotiations with the State on performance measures.

In addition, as expressed by the array of topics covered throughout its narrative, the Regional Plan meets all State Plan requirements pertaining to regional partnerships and development of regional sector pathways.

| |
|-------------------------------|
| I. Regional Agreements |
|-------------------------------|

The approval of this Plan by the seven WDBs represents agreement among them on regional collaboration within the RPU. No separate Memorandum of Understanding (MOU) or Cooperative Service Agreement has been developed solely for this purpose. However, there are written agreements among the boards on services to specific target groups and concerning unique initiatives. These include:

- An Operational Agreement among all seven boards establishing the County of Los Angeles Youth at Work Partnership, the purpose of which is to implement collaborative efforts to service AB 12 Foster Youth through communication, sharing of information on best practices, and utilization of available employment and training resources throughout the region.
- An MOU among the local boards and the State Employment Development Department establishing the Veterans’ Employment and Training Services (VETS) Committee, which, again, seeks to share information and best practices, and to marshal resources to ensure quality services to veterans.
- A Letter of Agreement pertaining to an action plan for the SlingShot initiative. This letter, signed by local WDBs and the Ventura County WDB, sets the stage for the region’s current SlingShot project - which creates a model for developing regional sector pathway programs.

Also, as described throughout the Plan, to promote efficiency and improve the delivery of services, the local WDBs have a long history of sharing resources and working in collaboration on numerous projects. Examples of such collaborative efforts for which agreements are in place include:

- The County of Los Angeles has entered into agreements with each of the other WDBs under which TANF funds are distributed for the operation of a summer youth employment program;
- On behalf of the County Department of Social Services, the South Bay WIB administers a TANF-funded Temporary Subsidized Employment Program entering into agreements with WDBs and AJCCs across the County for the operation of the program;
- Both the City of Los Angeles and Los Angeles County WDBs contract with other WDBs for AJCC operations or the for the delivery of specific services; and,

- WDBs within the region contract with the South Bay WIB for the I-TRAIN system, through which the eligibility of training providers and programs is vetted, and, once placed on the Eligible Training Provider List, monitored for on-going compliance and performance.

| |
|--------------------------------------|
| J. Related Plans and Analyses |
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The following items are included as exhibits to the Los Angeles Basin Regional Plan:

Community College Strong Workforce Program Plan for the Los Angeles Region: The Plan, completed in January 2017 is included as [Exhibit 1](#).

Adult Education Block Grant Consortium: The Plans for the 13 AEBG consortia in the RPU are too voluminous to attach to the plan. However, included as [Exhibit 2](#), is a list of links to the web page where AB 86 Plans, Consortium 3-Year Plans and Annual Plans can be located.

| |
|-----------------------|
| K. Attachments |
|-----------------------|

In addition to the aforementioned reports from education partners, the following materials are included as attachments to supplement information provided within the narrative.

I. Principal Resources for Economic Analysis

- Los Angeles: People, Industry and Jobs 2015 - 2020, May 2016*, LAEDC Institute for Applied Economics
- Data Supplement - *Los Angeles: People, Industry and Jobs 2015 - 2020, December 2016*, LAEDC Institute for Applied Economics
- Regional Planning Unit Summary: Los Angeles Basin*, California Employment Development Department, Labor Market Information Division (EDD LMID), September 1, 2016 – Revised
- Regional Economic Analysis Profile, Los Angeles County, EDD LMID, April 2015

II. Workforce System Stakeholder Forums and Engagement Process

- List of Forums – Dates, Topics, Locations
- List of Individuals/Organizations Invited to Forums
- List of Individuals/Organizations that Attended Forums
- Summary of Youth Stakeholder Engagement: Challenges and Recommendations for Disconnected Youth

| |
|---|
| L. Regional Collaboration: Goals and Associated Action Steps |
|---|

Throughout the foregoing narrative, numerous strategies, approaches and processes are described as “aspirational” or are represented as planned or “in progress.” On behalf of the myriad regional stakeholders that have contributed to the Plan by providing recommendations and sharing both resources and insights, the seven LWDBs comprising the Los Angeles Basin RPU have established the following 2017–2020 goals for the regional workforce system.

Goals presented fall into two categories: technical goals and strategic goals. Technical goals relate to the technical requirements of regional coordination, while strategic goals help chart a course for improving the overall effectiveness of the system within the region.

I. Technical Goals

- TG-1: Further review and evaluate stakeholder recommendations for improving training effectiveness and develop a plan to address recommendations, as appropriate.

- TG-2: Working with education partners, develop a plan of action to enhance the system-wide delivery of basic skills and English language skills at levels reflecting need across the region.
- TG-3: Engage industry leaders in each priority sector to: identify skill needs; review training content; determine the value of credentials; and recommend programs to address skill needs.
- TG-4: Adopt a regional definition of “industry-valued” to support credential efforts.
- TG-5: Adopt a definition/guidelines for “quality job.”
- TG-6: Adopt a slate of agreed upon regional sector pathway programs and regularly update.
- TG-7: Once determined, develop a list of industry-valued credentials in the region.
- TG-8: Convene stakeholders to develop a plan to achieve the region’s share of the statewide goal “1 million new credentials.”
- TG-9: Working with education partners, identify ways to contextualize basic skills and English language skills into regional sector pathway programs.
- TG-10: Determine the need to streamline services to avoid delays in participants’ accessing basic services, and develop an action plan, as appropriate.
- TG-11: Examine opportunities for regional coordination of support services and develop an action plan, as needed.
- TG-12: Examine opportunities to further increase and leverage the resources and talents of community-based organizations throughout the region.
- TG-13: Organize a workgroup, including education partners, to determine how to capture training-related placement data for all partner and programs.
- TG-14: Examine opportunities to collaborate on administrative functions and develop an action plan, as appropriate

II. Strategic Goals

- SG-1: Develop a plan of action to continue to expand services and outcomes for the region’s disconnected youth.
- SG-2: Develop a regional framework for delivering demand-driven services to guide planning and program development across the network of system stakeholders
- SG-3: Develop a framework for determining the scalability and replication potential of career pathway programs developed at the local and/or stakeholder level and a protocol for bringing such programs to scale as regional sector pathway programs
- SG-4: Adopt a regional protocol for incumbent worker training (IWT), including strategies for using IWT for upward worker mobility.
- SG-5: Develop a framework for supporting workers engaged in the gig economy.

- SG-6: Develop a communications platform for the region to promote the sharing of information throughout the workforce system.
- SG-7: Develop a framework for system messaging to strengthen the impact of messages to key customer groups.
- SG-8: Implement a system-wide approach to industry engagement that would support the efforts of the seven boards and all system stakeholders.

**Los Angeles Regional Planning Unit
Draft Regional Plan**

**Community College Strong Workforce Program Plan for the
Los Angeles Region**

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The final Regional Plan will contain the document.

**Los Angeles Regional Planning Unit
Draft Regional Plan**

Adult Education Block Grant (AEBG) Consortium

Due to space limitations, the individual plans for the 13 AEBG consortia serving the Los Angeles Regional Planning Unit (Los Angeles County) are not included in this document.

To view the AEBG AB 86 Plans, Consortium 3-Year Plans and Annual Plans, please visit:

<http://aebg.cccco.edu/Consortia>



2015-
2020



LOS ANGELES:

PEOPLE, INDUSTRY AND JOBS

INSTITUTE FOR APPLIED ECONOMICS
Los Angeles County Economic Development Corporation



LOS ANGELES: PEOPLE, INDUSTRY AND JOBS

2015-2020



INSTITUTE FOR APPLIED ECONOMICS
444 S. Flower Street, 37th Floor
Los Angeles, CA 90071
www.LAEDC.org/IAE

May 2016

Christine Cooper, Ph.D.
Shannon M. Sedgwick



This report was commissioned by the Los Angeles County and City of Los Angeles Workforce Development Boards.

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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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. The implementation of the new Workforce Innovation and Opportunity Act of 2014 (WIOA) requires WDBs to engage in a holistic and regionally cooperative approach to its programs such that workforce development is to be better aligned with economic development priorities.

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

Demographic Portrait

Social and economic characteristics of the residents of Los Angeles County provide context and insight into the strengths and challenges of the community. Based upon this information, trends and patterns are revealed and can be used to target outreach programs and other types of development efforts.

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 more.

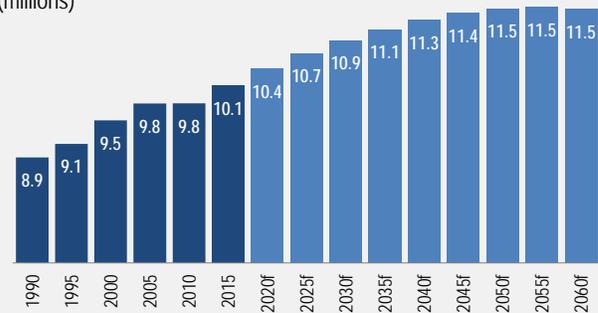
Since 1970, the population in Los Angeles County has increased by nearly 44 percent (Exhibit E-2), while the population in the City of Los Angeles has increased by 41 percent over the period, an average annual growth rate of 1.0 percent and 0.9 percent per year respectively (Exhibit E-3). From 1990 through 2013, the City of Los Angeles has added 471,500 residents, accounting for 37.0 percent of the 1.27 million additional residents added in Los Angeles County during that period.

Exhibit E-1
Selected Demographic and Income Characteristics 2014

| | California | LA County | City of LA |
|---------------------------|------------|------------|------------|
| Population | 38,802,500 | 10,006,705 | 3,928,827 |
| Median age | 36.0 | 35.8 | 35.0 |
| Households | 12,758,648 | 3,269,112 | 1,343,084 |
| Average household size | 2.98 | 3.04 | 2.86 |
| Median household income | \$61,933 | \$55,746 | \$50,544 |
| HH below poverty level | 14.7% | 16.9% | 20.2% |
| Per capita income | \$30,441 | \$28,373 | \$29,195 |
| Individuals below poverty | 16.4% | 18.7% | 22.4% |
| Median home value | \$412,700 | \$464,400 | \$505,500 |

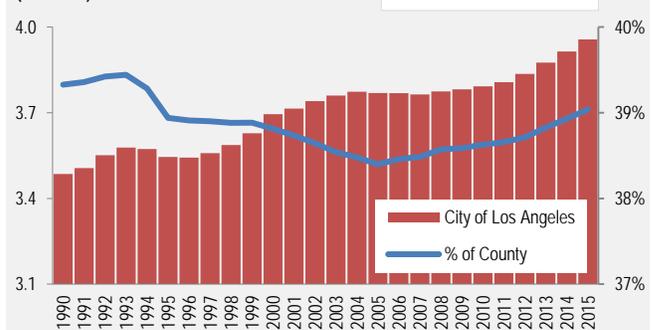
Source: 2014 ACS 1 year estimates

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



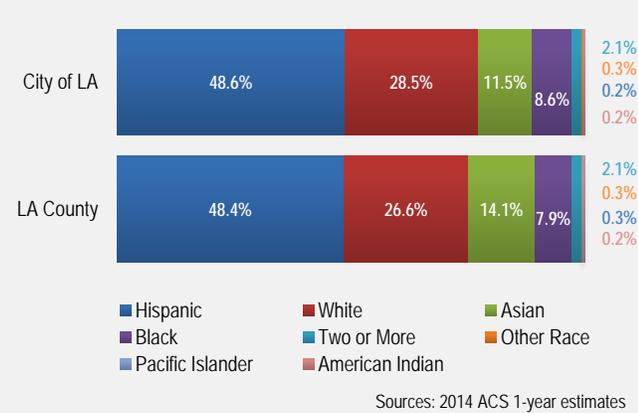
Source: California Department of Finance

Exhibit E-3
Population in City of Los Angeles (millions)



Source: California Department of Finance

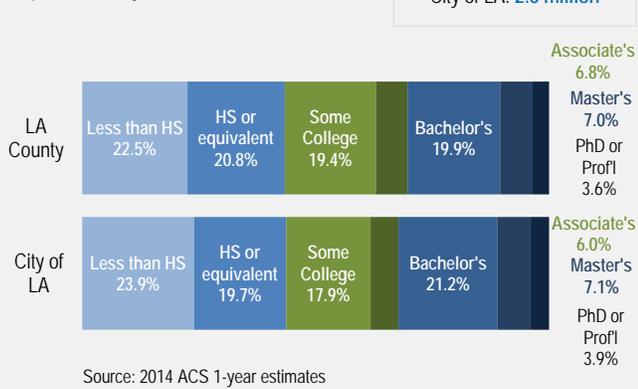
Exhibit E-4
Race and Ethnicity 2014



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-5
Educational Attainment
Population 25 years and over



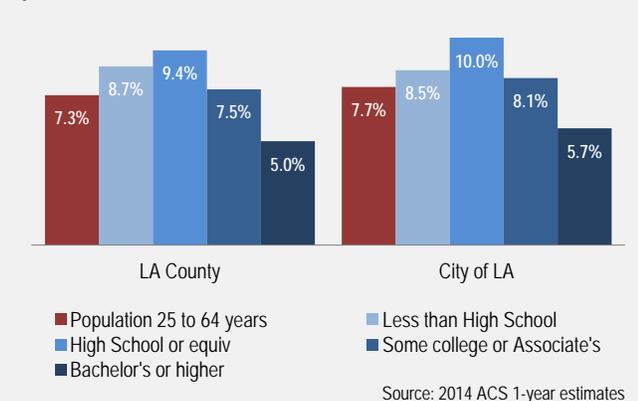
Educational Attainment

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 usually 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 25 percent of the population has less than a high school education and high school graduates (or equivalent) account for an additional 20 percent. 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-6
Civilian Unemployment Rate
by Educational Attainment 2014



Education and Unemployment

The highest unemployment rates, in both the City of Los Angeles and Los Angeles County, exist for individuals with an educational attainment of high school or less (Exhibit E-6).

Residents with a Bachelor's degree or higher had an unemployment rate of 5.0 percent in the County (5.7 percent in the City) in 2014, significantly lower than the rate experienced by those at the opposite end of the spectrum—less than a high school education and high school diploma or equivalent reported unemployment rates of 8.7 percent (8.5 percent) and 9.4 percent (10.0 percent) respectively.

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 nearly \$53,000 over those with less than a high school education (Exhibit E-7).

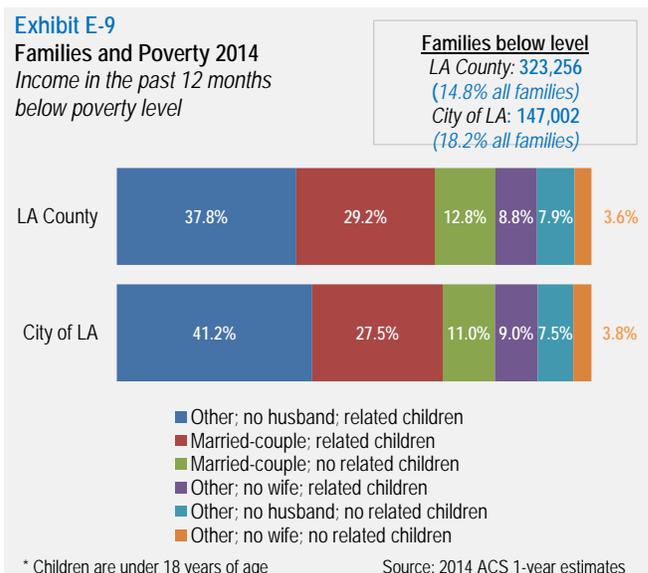
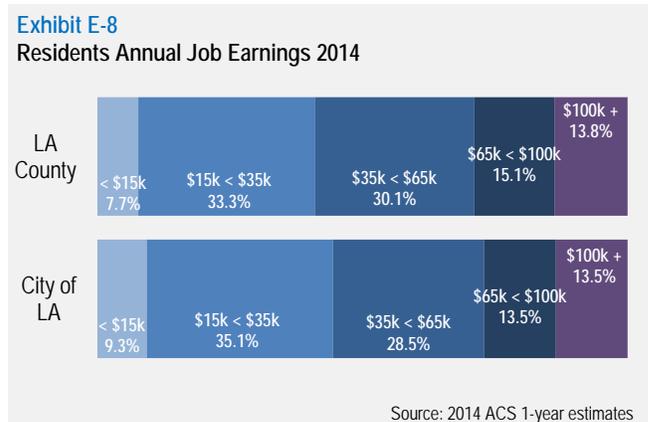
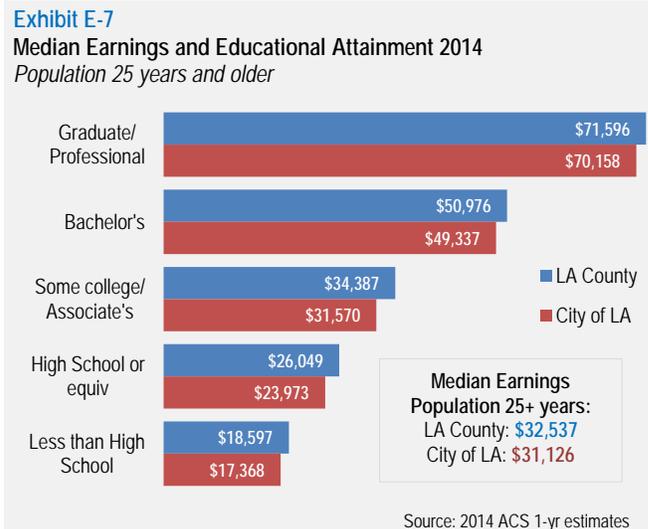
Approximately 29 percent of working residents in Los Angeles County earn more than \$65,000 per year (Exhibit E-8). The majority of working residents in the County and in the City of Los Angeles earn between \$15,000 and \$65,000 annually. Residents who earned less than \$15,000 per year represented close to eight percent of the total. Working residents earning \$100,000 or more annually account for just less than 14 percent of all employed residents in both geographies.

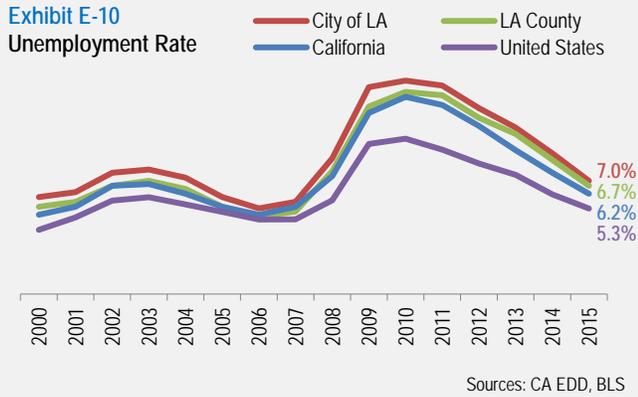
The combination of higher rates of unemployment and lower annual median earnings yield higher levels of poverty for those with lower levels of educational attainment.

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 2014, nearly 15 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 18 percent.

Of those families living below the poverty level, both in the city and countywide, single mothers with children under the age of 18 years head approximately 40 percent. Families headed by a married couple account for another 40 percent of all families living under the poverty level, the majority of whom have children under the age of 18 years.

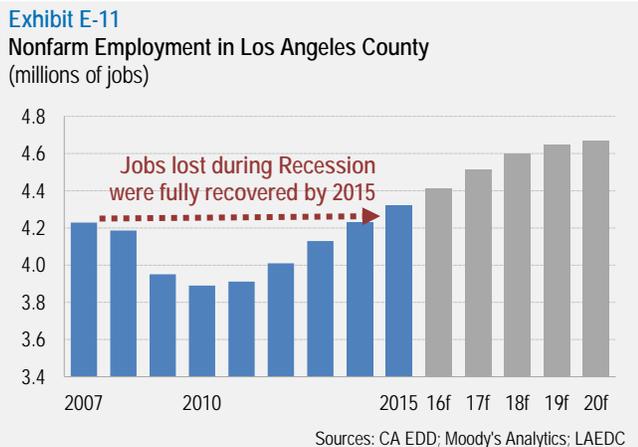




Employment, Industries and Jobs

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

Los Angeles County was hard hit during the recession, and has experienced a slow and anemic recovery. From an employment base of 4.2 million at the pre-recession peak in December 2007 to a post-recession trough of 3.9 million, the county saw a loss of more than 330,000 jobs, and an unemployment rate reaching a high of 12.5 percent (Exhibit E-10).



The City of Los Angeles fared somewhat worse, with an unemployment rate consistently at least 0.5 percentage points above the county rate, standing currently at 6.7 percent—both are above the state rate of 6.2 percent, which is also above the national rate, which stood at 5.3 percent in 2015.

Recovery of all jobs lost during the recession did not occur until 2015 (Exhibit E-11). Still, this does not take into account the job *growth* needed to accommodate labor force growth.

Most industry sectors will follow this general contour of post-recession 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 recession. Industries where employment fell steeply are expected to experience stronger than average growth as they recover from these deep losses.

Exhibit E-12
Industry Employment Growth 2015-2020 in Los Angeles County

| | Annual Average % Growth | Δ Employment (000s) |
|---|-------------------------|---------------------|
| Total Nonfarm Payroll Employment | 1.5 | 346.1 |
| Good Producing Industries: | 1.0 | 26.3 |
| Natural Resources and Mining | 0.7 | 0.2 |
| Construction | 3.1 | 20.9 |
| Manufacturing – Durable Goods | 0.3 | 3.3 |
| Manufacturing – Nondurable Goods | 0.2 | 2.0 |
| Service Providing Industries | 1.8 | 312.3 |
| Wholesale Trade | 1.0 | 11.3 |
| Retail Trade | 0.4 | 9.4 |
| Transportation, Warehousing, Utilities | 0.5 | 4.2 |
| Information | 0.8 | 8.4 |
| Financial Activities | 1.7 | 18.5 |
| Professional and Business Services | 3.0 | 98.6 |
| Educational and Health Services | 2.5 | 99.8 |
| Leisure and Hospitality | 2.0 | 49.1 |
| Other Services | 1.6 | 12.9 |
| Government | 0.3 | 7.5 |

Sources: California Employment Development Department; LAEDC

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.

Between 2015 and 2020, the economy is expected to add 346,000 new jobs in nonfarm industries across Los Angeles County, and 123,000 new jobs in the City of Los Angeles.

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 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) 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)
- ▶ Selected manufacturing (fashion, aerospace, analytical instruments, pharmaceuticals, medical devices—NAICS 313, 314, 315, 316, 325, 334, 336, 339)
- ▶ Trade and logistics (NAICS 42x, 48x, 49x)
- ▶ Entertainment and infotech (NAICS 511, 512, 515, 518, 519)
- ▶ Health services (NAICS 621, 622, 623)
- ▶ Leisure and hospitality (NAICS 721, 722)

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 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 Los Angeles County). Many of these occupations require lower levels of education and training, but approximately half of all occupational openings are middle-skilled occupations, requiring and 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 County 2015-2020

| SOC | Occupational Group | New Jobs | Replacement | Total * |
|---------------|---------------------------------|----------------|----------------|----------------|
| 11-0000 | Management occupations | 15,420 | 18,490 | 33,910 |
| 13-0000 | Business and financial | 15,720 | 18,210 | 33,930 |
| 15-0000 | Computer and mathematical | 10,050 | 8,540 | 18,580 |
| 17-0000 | Architecture and engineering | 4,700 | 7,320 | 12,020 |
| 19-0000 | Life, physical, social science | 2,180 | 3,250 | 5,430 |
| 21-0000 | Community and social services | 7,840 | 7,320 | 15,160 |
| 23-0000 | Legal occupations | 2,970 | 2,290 | 5,260 |
| 25-0000 | Education, training and library | 8,980 | 11,420 | 20,400 |
| 27-0000 | Arts, entertainment, sports | 5,440 | 10,280 | 15,720 |
| 29-0000 | Healthcare practitioners | 24,660 | 18,470 | 43,130 |
| 31-0000 | Healthcare support | 15,720 | 10,560 | 26,270 |
| 33-0000 | Protective services | 6,690 | 7,800 | 14,490 |
| 35-0000 | Food preparation and serving | 40,750 | 73,930 | 114,680 |
| 37-0000 | Building/grounds maintenance | 17,550 | 11,630 | 29,180 |
| 39-0000 | Personal care and service | 20,380 | 19,150 | 39,530 |
| 41-0000 | Sales and related | 17,990 | 63,010 | 81,000 |
| 43-0000 | Office and administrative | 52,360 | 63,410 | 115,770 |
| 45-0000 | Farming, fishing and forestry | 220 | 560 | 780 |
| 47-0000 | Construction and extraction | 14,440 | 8,190 | 22,620 |
| 49-0000 | Installation, maint / repair | 8,400 | 15,130 | 23,540 |
| 51-0000 | Production | 11,470 | 24,190 | 35,660 |
| 53-0000 | Transportation/material moving | 17,190 | 29,260 | 46,450 |
| Total* | | 321,100 | 432,400 | 750,500 |

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

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2 DEMOGRAPHIC PORTRAIT

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

The population of Los Angeles County in 2014 was 10.0 million in 3.3 million households, accounting for more than 25 percent of the population of the State of California and making it the most populous county in the nation (Exhibit 2-1). The median age is 35.8 years.

Just over 39 percent of the county population lives in its largest city and the county seat, the City of Los Angeles, with a population of 3.9 million in 1.3 million households in 2014. The median age, at 35.0 years, is slightly lower than the County average.

Median household income in Los Angeles County, estimated to be \$55,746, is approximately ten percent lower than the state median. At \$28,373, per capita income in the county is seven percent below the state average. The City of Los Angeles has a median household income of \$50,544 and a per capita income of \$29,195.

Approximately 17 percent of households in Los Angeles County and 20 percent in the City of Los Angeles lived under the poverty level in 2014, compared to 15 percent of households across the state. ❖

Exhibit 2-1

Selected Demographic and Income Characteristics 2014

| | California | LA County | City of LA |
|---------------------------|------------|------------|------------|
| Population | 38,802,500 | 10,006,705 | 3,928,827 |
| Median age | 36.0 | 35.8 | 35.0 |
| Households | 12,758,648 | 3,269,112 | 1,343,084 |
| Average household size | 2.98 | 3.04 | 2.86 |
| Median household income | \$61,933 | \$55,746 | \$50,544 |
| HH below poverty level | 14.7% | 16.9% | 20.2% |
| Per capita income | \$30,441 | \$28,373 | \$29,195 |
| Individuals below poverty | 16.4% | 18.7% | 22.4% |

Source: 2014 ACS 1 year estimates

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.

In January 2015, the population in Los Angeles County was 10.14 million, an increase of more than 300,000 from the population in 2010. The California Department of Finance forecasts that the county's population will continue to increase, reaching 10.44 million by 2020 and 10.70 million by 2025 (Exhibit 2-2).

Population Growth

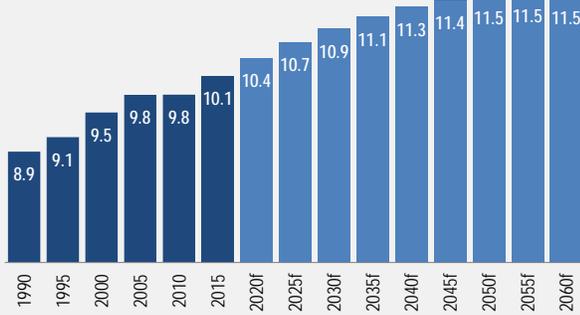
Population growth is determined by expected net migration and the birth and death rates of the current population. Knowing how a population is projected to grow can help to determine what an area will require in the future in terms of products and services, and the labor resources the region will provide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

Since 1970, the population in the county has increased by nearly 44 percent, an average annual growth rate of 1.0 percent per year. In only four of the last 45 years has the population declined from one year to the next. Those years were 1972, 1995, 2006 and 2007 (Exhibit 2-3). The county's current annual growth rate from last year is approximately 0.8 percent, a rate that is lower than the state rate of growth of 0.9 percent over last year.

The population in the City of Los Angeles has increased by 41 percent adding nearly 1.15 million residents since 1970, an average annual growth rate of 0.9 percent (Exhibit 2-4), with year-over-year positive growth since 2008. The city's current annual growth rate is 1.1 percent over last year. From 1990 through 2015, the City of Los Angeles has added 471,500 residents, accounting for 37.0 percent of the 1.27 million additional residents added in Los Angeles County during that period.

As of January 1, 2015, the City of Los Angeles had 3.96 million residents, 39.0 percent of the 10.14 million residents countywide.

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



Source: California Department of Finance

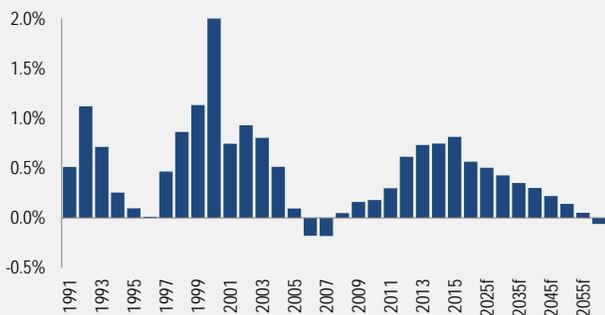
Age Distribution

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 indicate 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.

In both City of Los Angeles and Los Angeles County overall, about 70 percent of the resident population is of working age (between 15 and 65 years of age). Seniors (those over 64 years of age) account for approximately 12 percent of the population (Exhibit 2-5).

The population in the City of Los Angeles and Los Angeles County as a whole is expected to age somewhat as the share of residents aged 65 years and older increases to 13.0 percent in the city and 13.8 percent countywide by 2020. This has implications for the ability of the workforce to fill local jobs, especially those jobs requiring a higher level of manual labor.

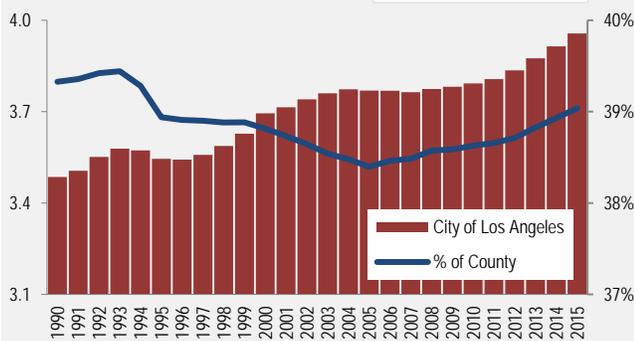
Exhibit 2-3
Population in Los Angeles County
Annual Growth Rates



Source: California Department of Finance; LAEDC

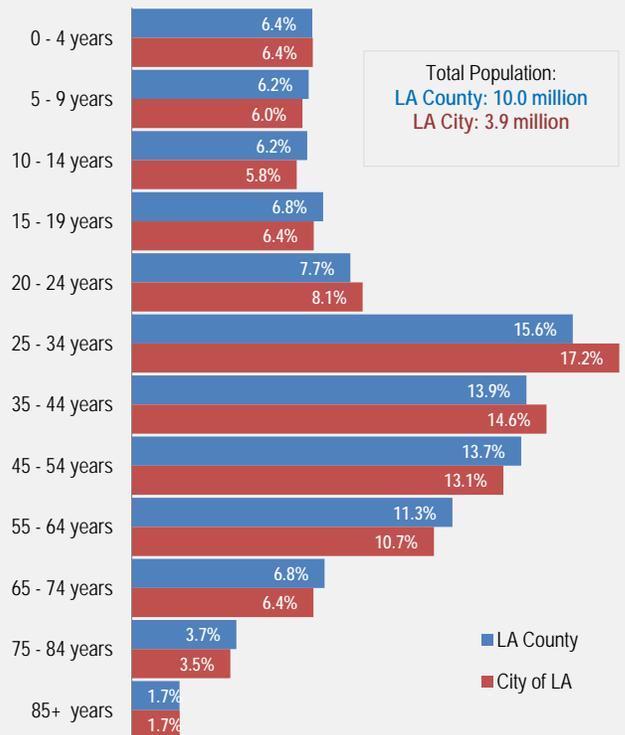
Exhibit 2-4
Population in City of Los Angeles
(millions)

Population 2015:
3.96 million population
39.0% of LA County



Source: California Department of Finance

Exhibit 2-5
Age Distribution of Population 2014



Source: 2014 ACS 1-year estimates

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.

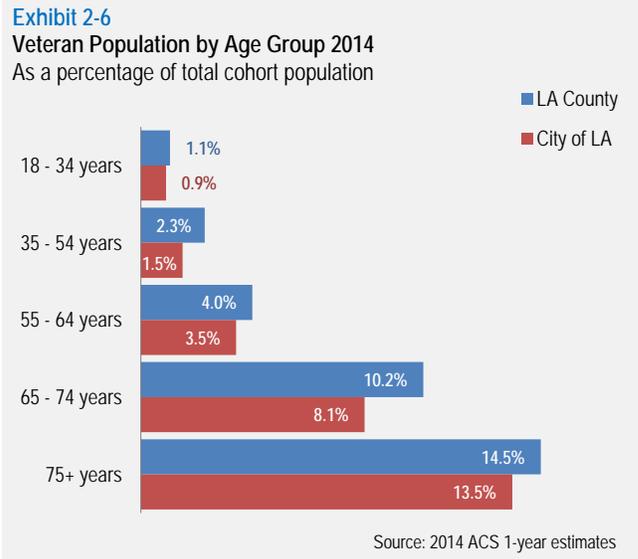
Exhibit 2-6 shows the veteran population ages 18 years and older as a share of the population of the same age in Los Angeles County and the City of Los Angeles in 2014.

There are 88,930 veterans living in the City of Los Angeles, and an additional 199,660 veterans reside in other parts of Los Angeles County, contributing to a total of 288,590 veterans living countywide.

Overall, the share of the population who are veterans has been declining in younger age groups. Of the population aged 75 years and older, 14.5 percent are veterans (13.5 percent in the City), whereas of the population aged 18 to 34 years, only 1.1 percent (0.9 percent) are veterans. These shares will grow, however, as combat troops return from the Middle East.

Exhibit 2-7 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.

Of all veterans living in Los Angeles County, 94 percent are male. The share of male veterans is similar within the boundaries of the City of Los Angeles with 93 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. ❖



2.3 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.

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 2014 is both ethnically and racially diverse. The share of the residents who reported to be of Hispanic origin is 48.4 percent, compared to 38.6 percent at the state level, while 27.0 percent reported to be white (Exhibit 2-8). In the City of Los Angeles, 48.6 percent of residents who reported to be of Hispanic origin and 28.5 percent reported to be white.

Exhibit 2-9 displays the race and ethnicity distribution within each age group in 2014 in Los Angeles County and the City of Los Angeles. These are quite similar, with the proportion of residents identifying as of Hispanic or Latino background increasing in younger cohorts.

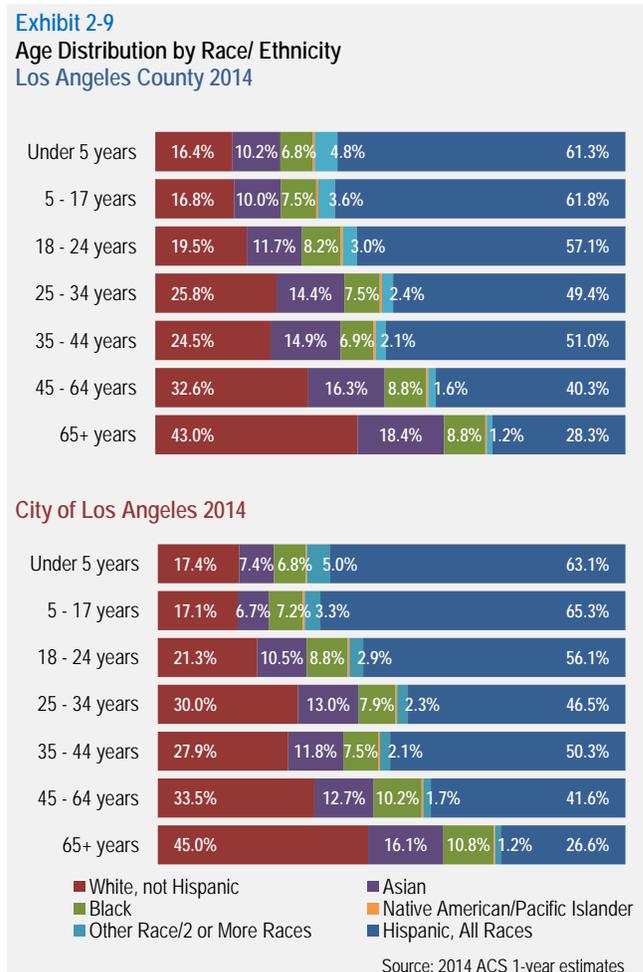
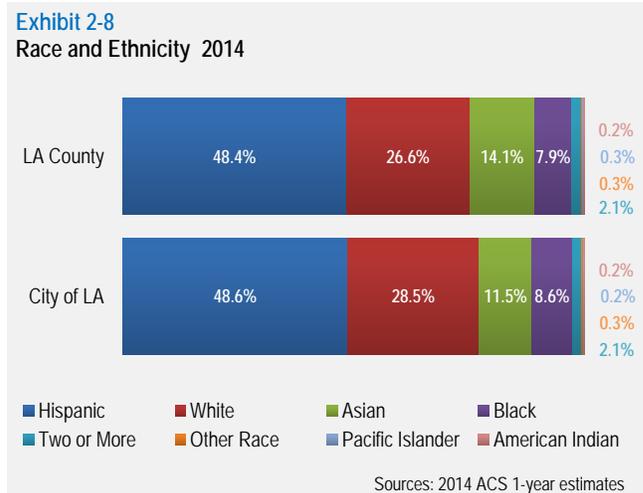
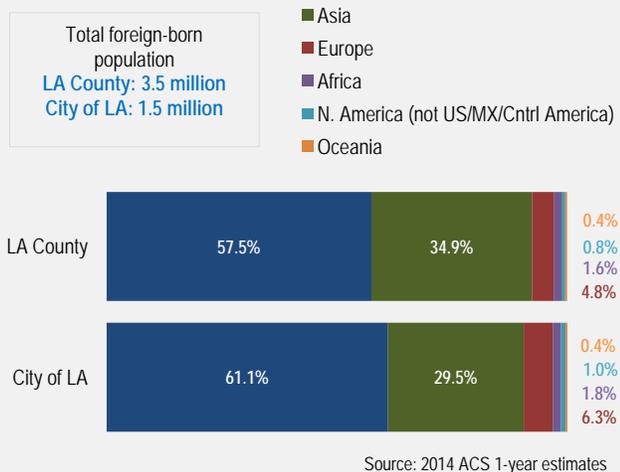


Exhibit 2-10

Foreign-Born Population 2014



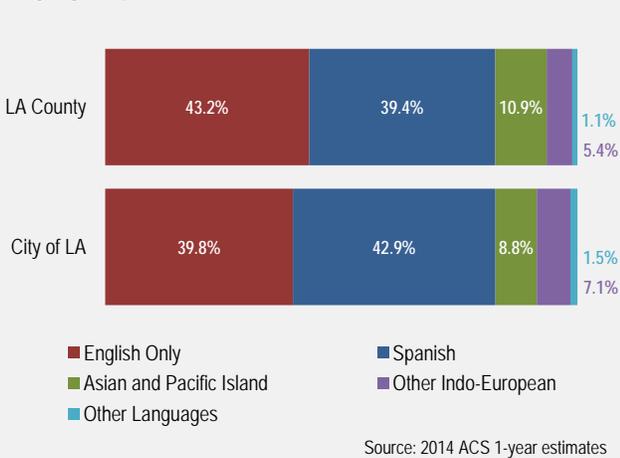
Foreign Born Population

Los Angeles County is home to just over 3.5 million immigrants from around the world, and hosts the largest communities of expatriates of several nations; the City of Los Angeles alone accounts for 43 percent of the foreign-born population in the County with nearly 1.5 million foreign-born residents.

More than half 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 2-10). 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, almost 10 percent, comes from the rest of the world, including Africa, Europe and Canada.

Exhibit 2-11

Languages Spoken at Home 2014



Language Ability

Language ability is an important aspect of employment and economic participation.

Over half of the population in Los Angeles County (or 57 percent) and the City of Los Angeles (or 60 percent) speaks a language other than English at home, with Spanish being the most common language, spoken by 40 percent and 43 percent of the population in the county and city respectively (Exhibit 2-12). Just 43 percent of residents speak only English at home in Los Angeles County, while that share is only 40 in the City of Los Angeles.

Exhibit 2-12

Languages Other than English Spoken at Home 2014

| 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 | 3,653.9 | 28.4% | 1,540.8 | 32.2% |
| Other Indo-European | 499.7 | 17.9% | 248.9 | 17.1% |
| Asian and Pacific | 1,001.5 | 26.6% | 308.7 | 26.2% |
| All other non-English | 100.4 | 10.5% | 52.6 | 8.9% |
| LA County Total | 5,255.6 | 26.7% | 2,151.0 | 29.0% |

Sources: ESRI; LAEDC

English-speaking capability is highly-variable among different nationalities. Exhibit 2-12 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.

Of the 5.3 million residents of Los Angeles County that speak languages other than English at home, approximately 27 percent speak English less than well, while 29 percent of the 2.2 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 15 percent speak English less than well—slightly lower than the 18 percent share in the City. ❖

2.4 Educational Attainment and Economic Opportunity

Educational attainment is 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 2014, and 2.6 million in the City of Los Angeles. Almost 25 percent of county residents in this age group have not earned a high school diploma (or equivalent) while 20 percent have graduated high school but have no other education (Exhibit 2-13). Approximately 30 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 2-14 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 45.3 percent of county residents in this age group having attained some college education. Completion of a Bachelor’s degree program was attained by 25.4 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.

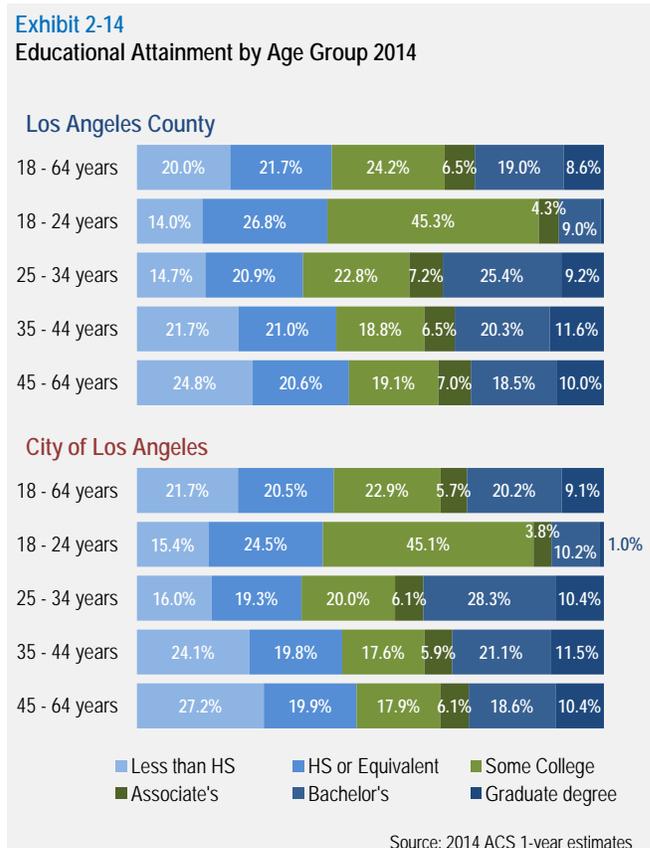
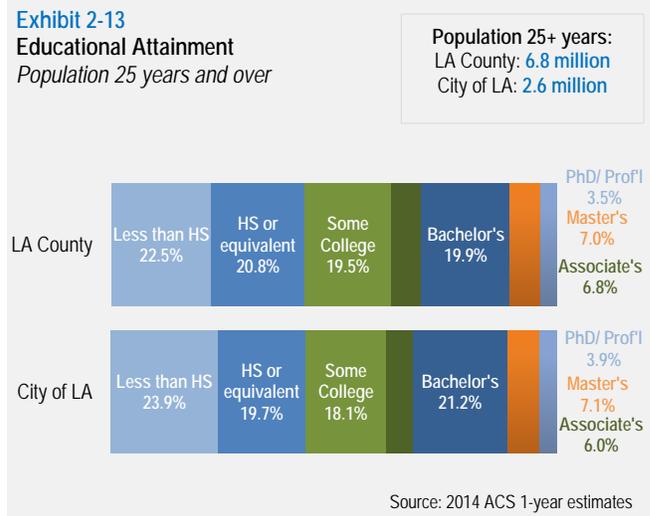
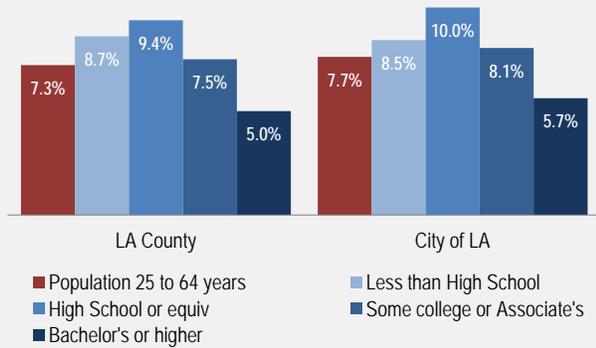


Exhibit 2-15
Civilian Unemployment Rate
by Educational Attainment 2014



Source: 2014 ACS 1-year estimates

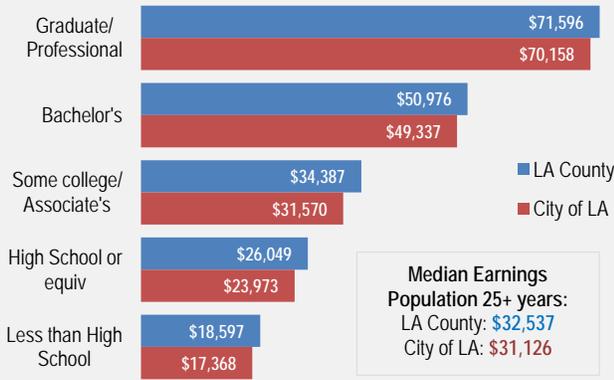
Unemployment is highly correlated with educational attainment.

Overall, the unemployment rate for individuals aged 25 to 64 years was 7.3 percent in the county (7.7 in the city) in 2014. However, rates of those with low levels of educational attainment are higher (Exhibit 1-15). Residents with a Bachelor's degree or higher had an unemployment rate of 5.0 percent in the County (5.7 percent in the City) in 2014, roughly half the rate experienced by those at the opposite end of the spectrum—less than a high school education and high school diploma or equivalent reported unemployment rates of 8.7 percent (8.5 percent) and 9.4 percent (10.0 percent) respectively.

Higher levels of educational attainment are also highly correlated with higher earnings.

Workers with a graduate or professional degree earn an annual wage premium of almost \$53,000 over those with less than a high school education (Exhibit 2-16).

Exhibit 2-16
Median Earnings and Educational Attainment 2014
Population 25 years and older

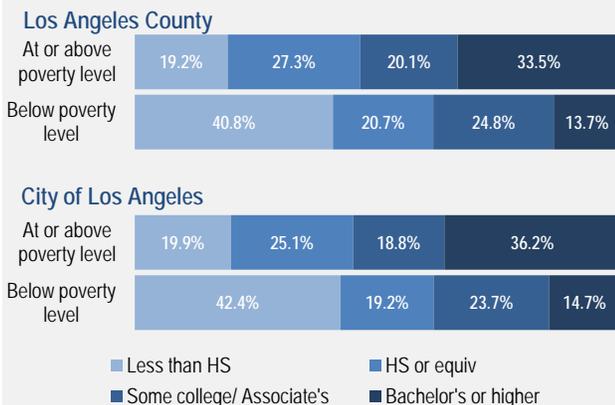


Source: 2014 ACS 1-yr estimates

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 (Exhibit 2-17).

Of residents of Los County aged 25 years and older whose income fell below the poverty level in the previous twelve months, 40.8 percent had less than a high school education. Another 20.7 percent were those with just a high school diploma or equivalent. Together, residents with a high school diploma or less accounted for 61.5 percent of those whose income fell below the poverty threshold the prior year.

Exhibit 2-17
Poverty Level by Educational Attainment 2014
Population 25 years and older



Source: 2014 ACS 1-yr estimates

On the flip side, of those whose income was above the poverty line, approximately one third had a high school diploma or less.

The distribution of educational attainment of those in poverty is similar in the City of Los Angeles that that in the County. ❖

2.5 Households and Housing

There were 3.3 million households in Los Angeles County in 2014, with an average household size of 3.0 people per household. By 2020, the county is projected to add over 119,100 additional households. The City of Los Angeles boasted 1.3 million households in 2014, with an average household size of 2.9 people per household. By 2020, the city is projected to add close to 47,200 additional households.

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 53 percent of all households in the county and 58 percent in the city (Exhibit 2-18). However, the region also has a significant number of larger sized households: 15 percent of all households in the county and 13 percent of households in the city have five or more people.

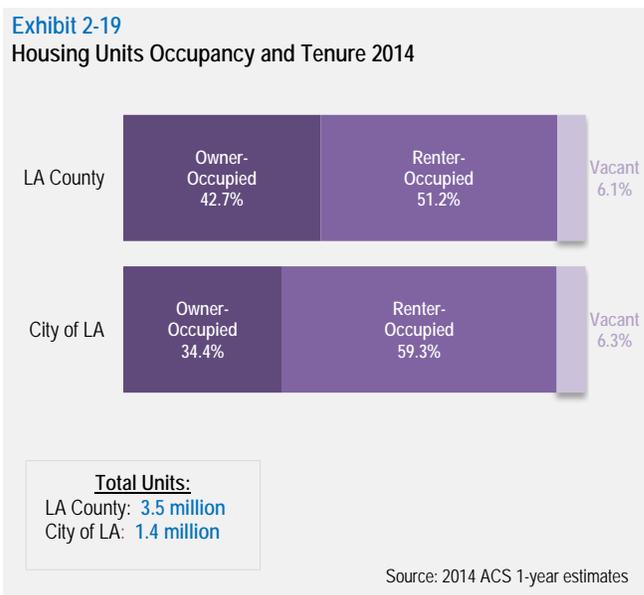
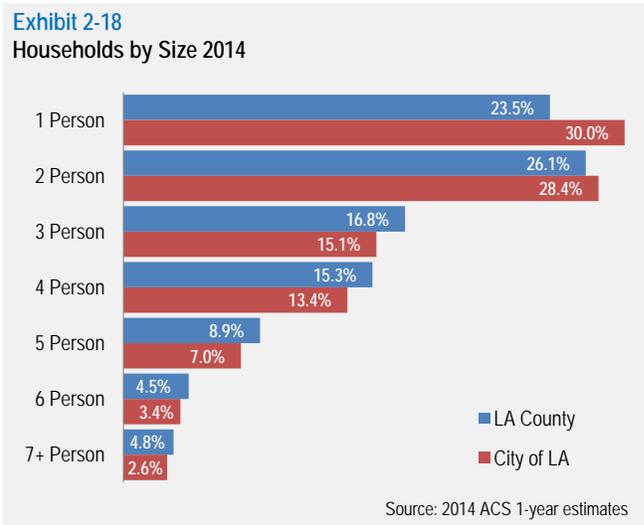
Housing

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 2014, there were 3.5 million housing units in Los Angeles County, 41 percent of which (1.4 million units) were located in the City of Los Angeles. The occupancy status and tenure of all housing units are shown in Exhibit 2-19.

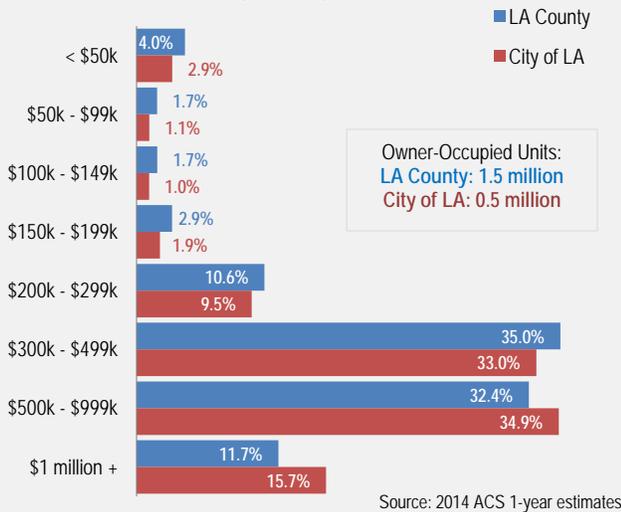
Over half of the housing stock in the county is rental property. There is a lower rate of home ownership in the City of Los Angeles compared to the County as a whole, with only a third of all housing units owner-occupied in the city, compared to 43 percent across all of Los Angeles County. The remaining vacant units account for approximately six percent of all housing units in both the city and 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 \$464,400 in 2014, which was lower than the \$505,500 median in the City of Los Angeles, yet higher than the statewide median of \$412,700.

Exhibit 2-20

Owner-Occupied Housing Units by Value 2014



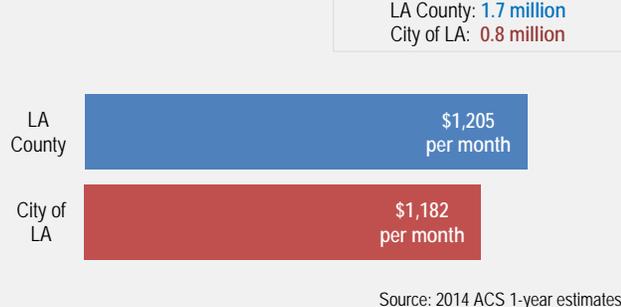
Owner-Occupied Units

Approximately 43 percent of the housing stock in Los Angeles County and 34 percent of housing stock 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 2-20).

One third of the owner-occupied housing stock, or 35 percent and 33 percent in the county and city respectively, falls within the price range of \$300,000 to \$499,000, with close to another third, 32 percent in the county and 35 percent in the city, valued between \$500,000 and \$999,000. An additional 12 percent of units in the county are valued at \$1 million and above, while the share of high valued units in the city is even higher with 16 percent. Housing units valued below \$200,000 account for ten percent of total housing stock in Los Angeles County, and only seven percent in the City of Los Angeles.

Exhibit 2-21

Median Gross Rent 2014



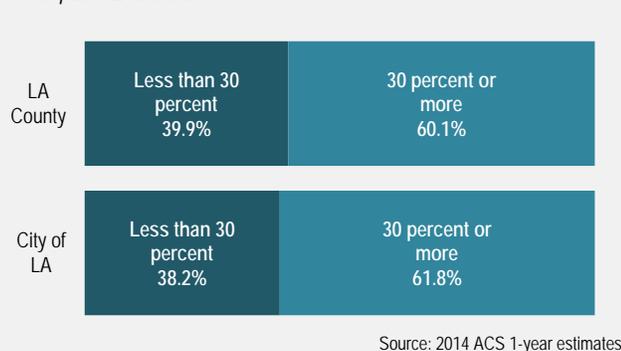
Renter-Occupied Units

More than half (51 percent) of the housing stock in Los Angeles County and 60 percent of housing stock in the City of Los Angeles are occupied by renters (Exhibit 2-20). Exhibit 2-21 displays the median gross rent of occupied housing units paying rent in Los Angeles County and the City of Los Angeles in 2014.

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

Exhibit 2-22

Gross Rent as a Share of Household Income 2014
In the past 12 months



Residents in the county and city appear to have a difficult time adhering to this guideline. In both the city and the county, only about 40 percent of occupied units paying rent in 2014 paid rent that equaled less than 30 percent of their income, while approximately 60 percent paid a higher percentage of household income on rent (Exhibit 2-22).

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. ❖

2.6 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 2-23 shows the job-related earnings for working residents in Los Angeles County and in the City of Los Angeles for 2014. Note that these are earnings from jobs regardless of where the jobs are located.

Approximately 29 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 33 percent and 30 percent respectively. Residents who earned less than \$15,000 per year represented close to eight percent of the total.

In the City of Los Angeles, exactly 27 percent of working residents earn more than \$65,000 per year and residents who earned less than \$15,000 per year represented a little over nine 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 just less than 14 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 \$29,195 in 2014, while countywide it is slightly lower at \$28,373 (Exhibit 2-24). The projected change from 2014 to 2020 is expected to be 6.5 percent in the city and 10.6 percent in the county, raising nominal per capita income to \$31,083 and \$31,376 respectively by 2020.

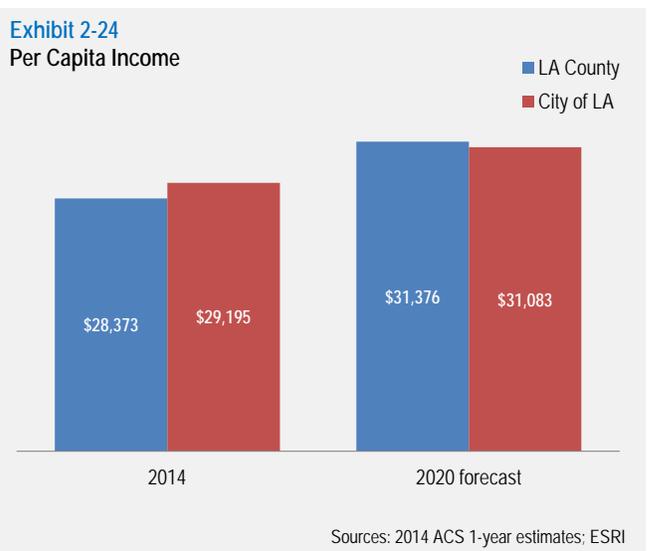
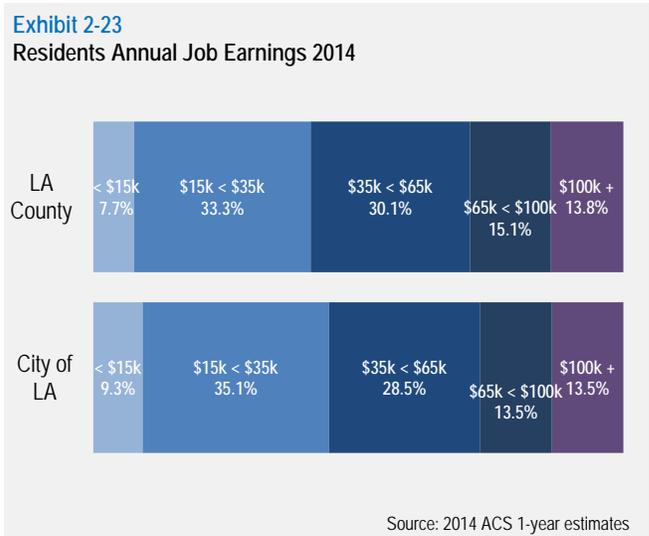
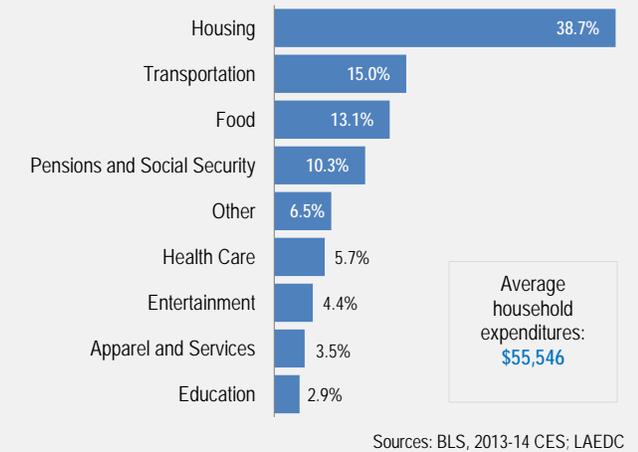


Exhibit 2-25
Households by Income 2014



Exhibit 2-26
Household Budget Expenditures
Los Angeles MSA 2013-14



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 2014 was estimated to be \$55,746 while in the City of Los Angeles it was slightly lower with \$50,544.

Almost half (45 percent) of households in Los Angeles County earn less than \$50,000 per year, and 13 percent earn over \$150,000 per year (Exhibit 2-25). In the City of Los Angeles, 49 percent of households earn less than

\$50,000 per year, and 13 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.

In 2013-2014, household expenditures in Los Angeles Metropolitan Statistical Area, which includes Los Angeles County, averaged \$55,546. Exhibit 2-26 displays a breakdown of these expenditures by broad category. (This data is not available at the city level.)

As noted above, on average, nearly 39 percent of household expenditures were allocated to housing, with another 15.0 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 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 3.2 million households in LA County, 1.3 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 16.9 percent and 20.2 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.

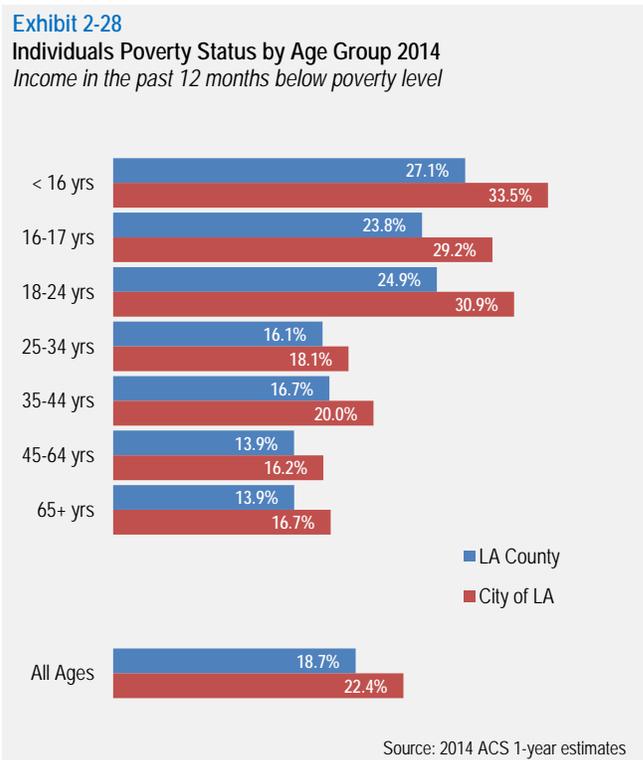
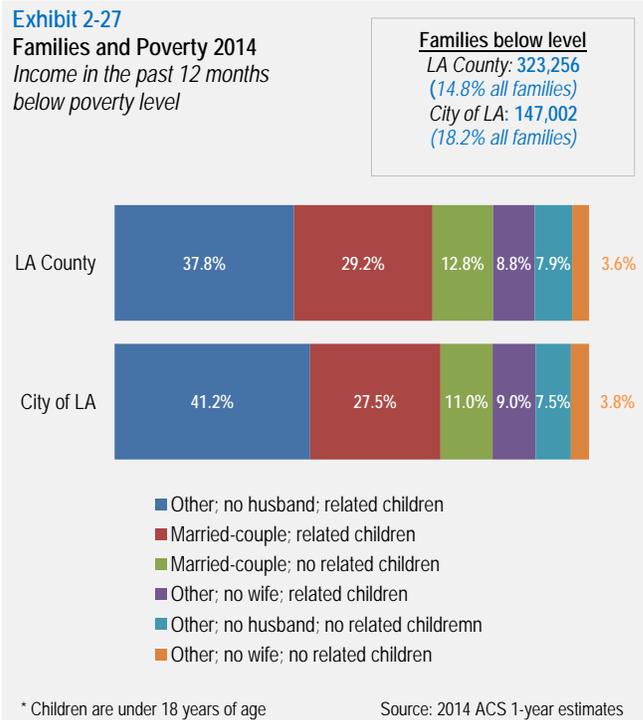
Of the 2.19 million families in Los Angeles County in 2014, approximately 323,300 have had their incomes fall below the poverty level in the 12 months prior; in the City of Los Angeles 147,000 of the almost 806,000 total families had their incomes fall below the poverty level within the prior year.

Exhibit 2-27 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 41 percent in the city and 38 percent in the county as a whole. Families headed by a married couple account for 39 percent and 42 percent of 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 just less than ten percent of all families whose income has fallen below poverty level in the previous year.

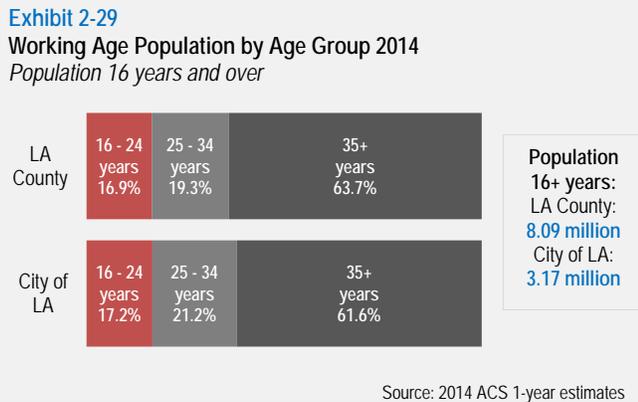
Poverty of Individuals

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 2-28). 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 in excess of 24 percent of its cohort. ❖

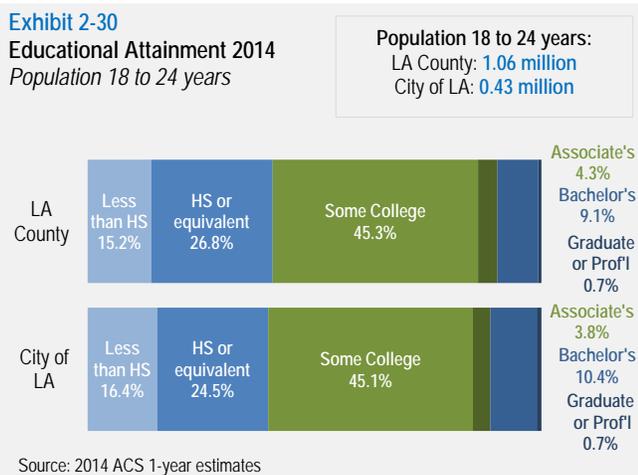


2.7 Population Aged 16 to 24 Years



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.

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 17.2 percent of the total working aged population of 16 years and older in the City and 16.9 percent countywide (Exhibit 2-29).



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 2-30). 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 without a degree, with its share in the city and the county both at 45 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 11.2 percent of this cohort in 2014 had the education level of a bachelor's degree or higher in the City of Los Angeles and 9.7 percent in Los Angeles County as a whole.

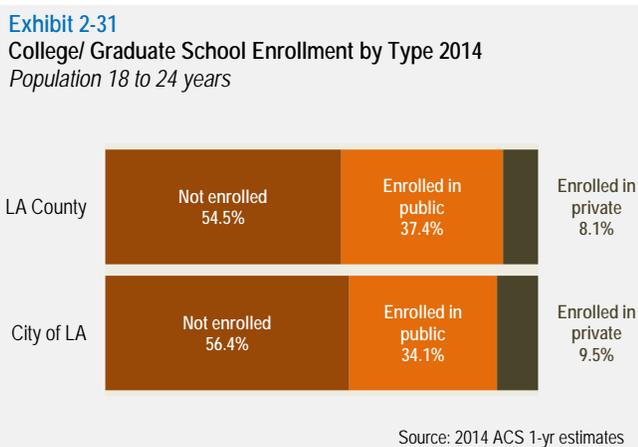


Exhibit 2-31 shows the percentage of the population ages 18 to 24 years that were enrolled in school at a college, university or graduate school in 2014 in the City of Los Angeles and the County as a whole.

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 2-32).

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 exceed 29 percent in all three of the youngest age groups in the city and roughly a quarter of all individuals in each respective age group 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.

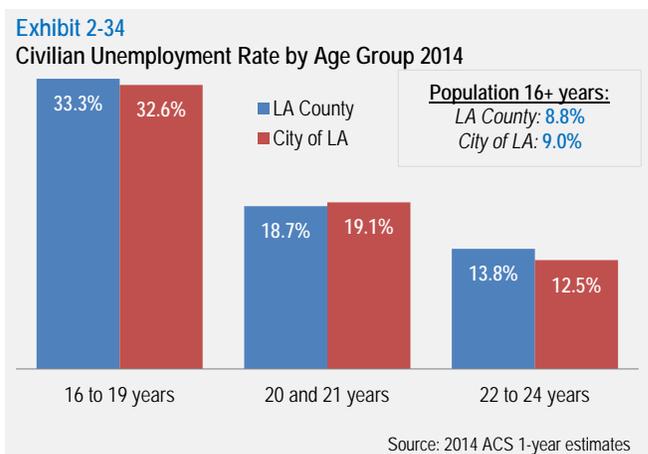
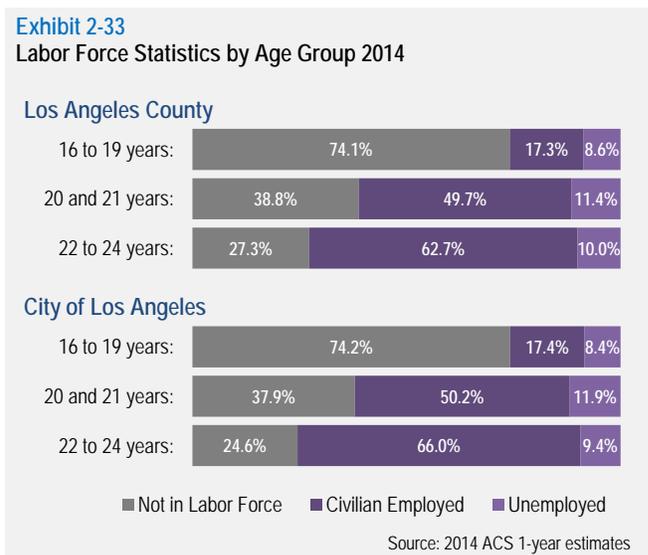
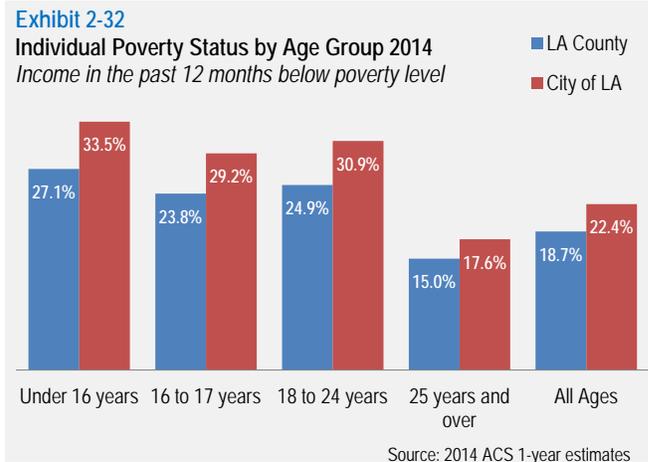
Poverty rates decline as the population gets older; more of these individuals have completed their education and have entered the workforce full-time.

Labor Force

Labor force participation for those aged 16 to 24 years varies greatly according with their age (Exhibit 2-33). Many younger individuals, age 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 civilian unemployment rate is the ratio of individuals classified as unemployed to the civilian labor force. The civilian unemployment rate in 2014 by age group for this population subset (ages 16 to 24 years) is displayed in Exhibit 2-34.

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 have completed their education and are entering the workforce. ❖



3 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.

3.1 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 growth 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.

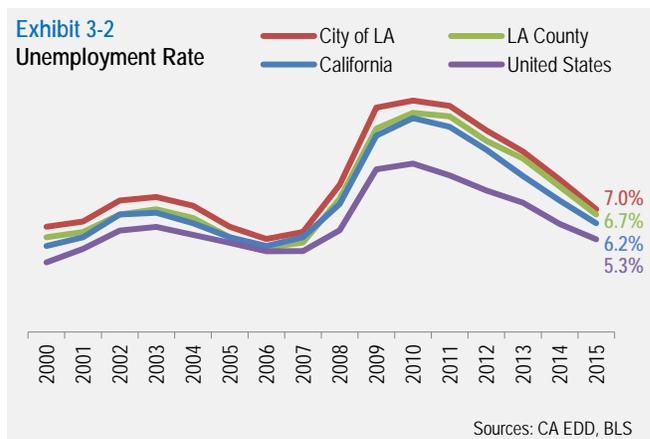
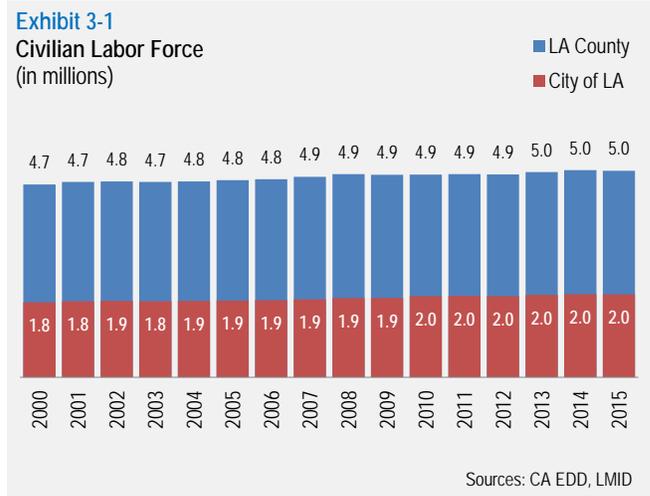
From 2007 through 2012, the labor force in Los Angeles County has hovered around 4.9 million, increasing to 5.0 million in 2013 through 2015. The labor force in the City of Los Angeles hovered around 1.9 million from 2002 through 2009, increasing to 2.0 million in 2010 through 2015 (Exhibit 3-1).

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 64.3 percent in Los Angeles County in 2014 (the most recent year that this data is available), compared to 66.5 percent in the City of Los Angeles.

Participation rates of older workers (aged 55 and over), while lower than average, has been rising since 1980. This is expected to continue increasing as future boomers remain in the labor force rather than retiring.

Unemployment

The unemployment rate measures the number of individuals who are unemployed and actively seeking work as a share of the total labor force.



From 4.8 percent in 2006 (the lowest rate in more than 30 years), unemployment in Los Angeles County reached a peak of 12.5 percent in 2010, improving since and currently standing at 6.7 percent (Exhibit 3-2).

The unemployment rate in the City has been consistently higher than in the county as a whole, from its lowest level of 5.3 in 2006 to a peak of 13.2 percent in 2010—almost one percentage point higher than the county. The unemployment rate in the City currently stands at 7.0 percent, just 0.3 percentage points above the county rate. ❖

3.2 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 about three-fourths of all nonfarm employment (Exhibit 3-3). Government employment (including local, state and federal government employment) accounts for 13 percent of nonfarm county employment and more than 19 percent of all city employment.

Among the service industries, educational and health services is the largest, accounting for over 17 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 2013 was food services and drinking places, providing 340,490 jobs (Exhibit 3-4). 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. Close to 93 percent of this industry’s employment was in restaurants.

The second largest industry was professional and technical services, providing 275,660 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, veterinary services and more.

Other significant industries in the county include administrative and support services (which includes temporary employment), social assistance, ambulatory health care services such as doctors’ and dentists’ offices, motion pictures and sound recording industries and hospitals, together providing more than 900,000 jobs.

**Exhibit 3-3
Industrial Profile 2014
(% of Total Employment)**

| | LA County | City of LA |
|---|---------------|---------------|
| Total Nonfarm Payroll Employment | 100.0% | 100.0% |
| Good Producing Industries: | 11.8% | 8.6% |
| Natural Resources and Mining | 0.2% | 0.1% |
| Construction | 2.9% | 2.4% |
| Manufacturing – Durable Goods | 4.9% | 2.8% |
| Manufacturing – Nondurable Goods | 3.9% | 3.3% |
| Service Providing Industries | 75.3% | 72.9% |
| Wholesale Trade | 5.3% | 4.4% |
| Retail Trade | 9.9% | 8.8% |
| Transportation, Warehousing, Utilities | 3.8% | 3.4% |
| Information | 4.8% | 4.0% |
| Financial Activities | 5.0% | 5.8% |
| Professional and Business Services | 14.5% | 14.7% |
| Educational and Health Services | 17.3% | 17.2% |
| Leisure and Hospitality | 11.2% | 11.2% |
| Other Services | 3.5% | 3.4% |
| Government | 12.9% | 18.5% |

Sources: California Employment Development Department (QCEW); LAEDC

**Exhibit 3-4
Top 20 Private Sector Industries by Employment
Los Angeles County 2014**

| NAICS | Industry | Employment | % of total |
|-------|---|------------|------------|
| 722 | Food services and drinking places | 340,490 | 9.4 |
| 541 | Professional and technical services | 275,660 | 7.6 |
| 561 | Administrative and support services | 255,250 | 7.0 |
| 624 | Social assistance | 228,020 | 6.3 |
| 621 | Ambulatory health care services | 194,040 | 5.4 |
| 512 | Motion picture and sound recording | 121,760 | 3.4 |
| 622 | Hospitals | 110,730 | 3.1 |
| 611 | Educational services | 104,710 | 2.9 |
| 423 | Wholesale: Durable goods | 100,260 | 2.8 |
| 424 | Wholesale: Nondurable goods | 99,760 | 2.8 |
| 445 | Retail: Food and beverage stores | 91,700 | 2.5 |
| 623 | Nursing and residential care facilities | 77,320 | 2.1 |
| 238 | Specialty trade contractors | 76,680 | 2.1 |
| 452 | Retail: General merchandise stores | 72,970 | 2.0 |
| 522 | Credit intermediation | 63,660 | 1.8 |
| 551 | Management of companies | 58,830 | 1.6 |
| 531 | Real estate | 56,080 | 1.5 |
| 448 | Retail: Clothing and accessories | 52,870 | 1.5 |
| 812 | Personal and laundry services | 52,170 | 1.4 |
| 336 | Manufacturing: Transportation equipment | 46,120 | 1.3 |

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 2014 was also food services and drinking places, providing 128,490 jobs and the second largest industry was professional and technical services, providing 118,460 jobs (Exhibit 3-5).

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, establishments involved in the wholesale of nondurable goods (such as paper products, apparel, grocery items, and chemical and petroleum products) and hospitals, together providing just under 370,000 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. ❖

Exhibit 3-5
Top 20 Private Sector Industries by Employment
City of Los Angeles

| NAICS | Industry | Employment | % of total |
|-------|---|------------|------------|
| 722 | Food services and drinking places | 128,490 | 10.0 |
| 541 | Professional and technical services | 118,460 | 9.2 |
| 624 | Social assistance | 96,840 | 7.5 |
| 561 | Administrative and support services | 91,300 | 7.1 |
| 621 | Ambulatory health care services | 70,810 | 5.5 |
| 611 | Educational services | 39,500 | 3.1 |
| 424 | Wholesale: Nondurable goods | 37,370 | 2.9 |
| 622 | Hospitals | 33,620 | 2.6 |
| 445 | Retail: Food and beverage stores | 32,980 | 2.6 |
| 623 | Nursing and residential care facilities | 29,640 | 2.3 |
| 512 | Motion picture and sound recording | 29,570 | 2.3 |
| 423 | Wholesale: Durable goods | 24,920 | 1.9 |
| 531 | Real estate | 24,890 | 1.9 |
| 238 | Specialty trade contractors | 24,890 | 1.9 |
| 522 | Credit intermediation | 23,740 | 1.8 |
| 812 | Personal and laundry services | 21,410 | 1.7 |
| 452 | Retail: General merchandise stores | 20,950 | 1.6 |
| 524 | Insurance carriers and related | 20,590 | 1.6 |
| 813 | Membership associations and orgs | 20,180 | 1.6 |
| 551 | Management of companies | 19,250 | 1.5 |

Sources: California Employment Development Department (OCEW); LAEDC

3.3 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.

The industry with the highest location quotient in Los Angeles County in 2014 was motion picture and sound recording industries, with a location quotient of 10.4 compared to the national average (Exhibit 3-6). Apparel manufacturing is a close second with a location quotient of 10.3. These industries are undeniably those in which the region 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, including leather products, textiles, petroleum and coal products, furniture, computer and electronic products and other miscellaneous manufacturing.

The City of Los Angeles exhibits competitive strength across most of the same industries at the county level, but there are some differences. Industries in which the city is competitive but the County is not are shown in italics at the bottom of the exhibit. These include: religious, grantmaking and civic organizations and securities, contracts and investments.

Exhibit 3-6
Top Competitive Industries 2014
(Location Quotients v. US)

| NAICS | Industry | LA County | City of LA |
|-------|--|-----------|------------|
| 512 | Motion picture and sound recording | 10.4 | 6.6 |
| 315 | Manufacturing: Apparel | 10.3 | 11.4 |
| 711 | Performing arts and spectator sports | 2.7 | 3.3 |
| 525 | Funds, trusts, and other financial | 2.4 | 0.6 |
| 488 | Support activities for transportation | 2.3 | 1.9 |
| 515 | Broadcasting (except internet) | 2.3 | 4.4 |
| 624 | Social assistance | 2.3 | 2.5 |
| 316 | Manufacturing: Leather products | 2.2 | 1.2 |
| 313 | Manufacturing: Textile mills | 1.8 | 1.9 |
| 483 | Water transportation | 1.7 | 1.2 |
| 424 | Wholesale: Nondurable goods | 1.6 | 1.6 |
| 519 | Other information services | 1.6 | 1.3 |
| 481 | Air transportation | 1.5 | 3.3 |
| 324 | Manufacturing: Petroleum and coal products | 1.4 | 1.1 |
| 611 | Educational services (private) | 1.3 | 1.3 |
| 448 | Retail: Clothing and accessories | 1.3 | 1.2 |
| 337 | Manufacturing: Furniture | 1.3 | 0.9 |
| 812 | Personal and laundry services | 1.3 | 1.3 |
| 314 | Manufacturing: Textile product mills | 1.3 | 1.0 |
| 531 | Real estate | 1.2 | 1.4 |
| 334 | Manufacturing: Computer / electronic prods | 1.2 | 0.9 |
| 532 | Rental and leasing services | 1.2 | 1.4 |
| 443 | Retail: Electronics and appliance | 1.1 | 1.0 |
| 423 | Wholesale: Durable goods | 1.1 | 0.7 |
| 492 | Couriers and messengers | 1.1 | 1.5 |
| 712 | Museums, historical sites, zoos and parks | 1.1 | 2.1 |
| 541 | Professional and technical services | 1.1 | 1.2 |
| 339 | Miscellaneous manufacturing | 1.1 | 0.9 |
| 323 | Printing and related support activities | 1.1 | 0.8 |
| 453 | Retail: Miscellaneous stores | 1.1 | 1.2 |
| 722 | Food services and drinking places | 1.1 | 1.0 |
| 813 | <i>Religious/grantmaking/civic/professional orgs</i> | 1.0 | 1.3 |
| 523 | <i>Securities, contracts and investments</i> | 0.9 | 1.3 |

Sources: California Employment Development Department; LAEDC

A complete list of all industries is provided in Exhibit A-3 in the appendix. ❖

3.4 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 3-7). Almost 32 percent is in traded industry clusters, such as trade, entertainment, business services and fashion.

The largest traded industry cluster in Los Angeles County in 2014 was trade, employing approximately 270,400 workers, followed by business services, with just over 235,700 workers, and entertainment, with close to 149,800 employed (Exhibit 3-8). Overall, more than 1.3 million jobs were involved in traded industry clusters.

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

Local industry clusters provide just over 70 percent more jobs than traded industry clusters (Exhibit 3-9). The largest clusters in Los Angeles County are health services, with almost 405,000 jobs, local hospitality establishments with close to 370,000 jobs, and local commercial services, with just over 288,000 jobs. ❖

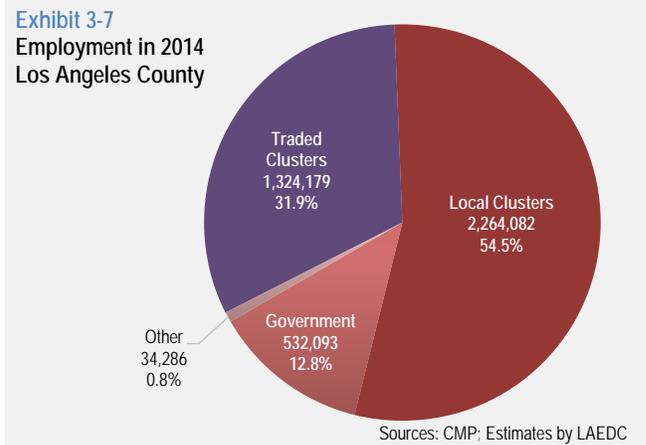


Exhibit 3-8
Largest Traded Industry Clusters in Los Angeles County in 2014
(By employment)

| | Employment | LQ |
|--|------------------|------------|
| Trade ¹ | 270,350 | 1.2 |
| Business Services | 235,740 | 1.0 |
| Entertainment | 149,750 | 8.7 |
| Education and Knowledge Creation | 83,680 | 1.2 |
| Hospitality and Tourism | 79,990 | 0.9 |
| Fashion | 58,390 | 4.2 |
| Marketing, Design and Publishing | 57,870 | 1.4 |
| Aerospace Vehicles and Defense | 54,160 | 2.9 |
| Financial Services | 53,390 | 0.9 |
| Food Processing and Manufacturing | 28,750 | 0.9 |
| IT and Analytical Instruments | 26,370 | 0.7 |
| All Other Traded Clusters | 225,750 | |
| Total Traded Cluster Employment | 1,324,180 | 1.1 |

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

Exhibit 3-9
Largest Local Industry Clusters in Los Angeles County in 2014
(By employment)

| | Employment |
|---------------------------------------|------------------|
| Health Services | 404,880 |
| Local Hospitality Establishments | 369,470 |
| Local Commercial Services | 288,430 |
| Community and Civic Organizations | 245,430 |
| Real Estate, Const. and Development | 200,790 |
| All Other Local Clusters | 755,090 |
| Total Local Cluster Employment | 2,264,080 |

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

3.5 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

Recovery from the Great Recession has been disappointing (Exhibit 3-10). Instead of robust job growth after the devastating decline of 2009 and 2010, anemic employment growth began in 2011 with a year-over-year gain of 0.6 percent. Employment growth has continued its recovery through 2015, but remains modest.

Recovery of all jobs lost during the recession did not occur until 2015. Still, this does not take into account the job growth needed to accommodate population and labor force growth.

Many industry sectors will follow this general contour of post-recession 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 recession. For example, construction employment fell steeply in 2008, 2009 and 2010. Its recovery in the near term is expected to be much stronger than the average, as it recovers from these deep losses.

The expected employment growth in individual sectors at the county level is shown in Exhibit 3-11. 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 3-10
Nonfarm Employment in Los Angeles County
(millions of jobs)

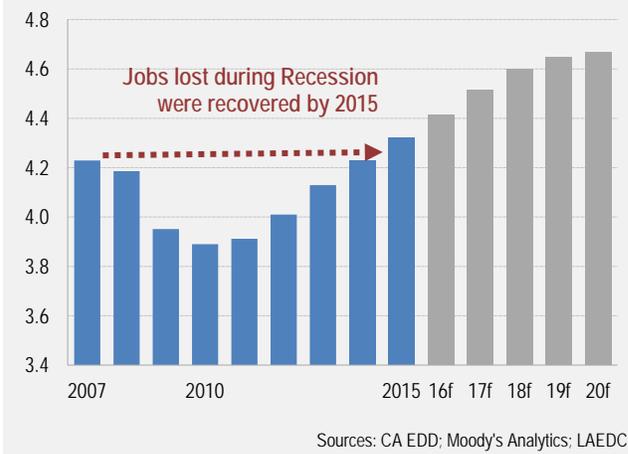


Exhibit 3-11
Industry Employment Growth 2015-2020
(Los Angeles County)

| | Annual Average % Growth | Δ Employment (000s) |
|---|-------------------------|---------------------|
| Total Nonfarm Payroll Employment | 1.5% | 346.1 |
| Good Producing Industries: | 1.0% | 26.3 |
| Natural Resources and Mining | 0.7 | 0.2 |
| Construction | 3.1 | 20.9 |
| Manufacturing – Durable Goods | 0.3 | 3.3 |
| Manufacturing – Nondurable Goods | 0.2 | 2.0 |
| Service Providing Industries | 1.8% | 312.3 |
| Wholesale Trade | 1.0 | 11.3 |
| Retail Trade | 0.4 | 9.4 |
| Transportation, Warehousing, Utilities | 0.5 | 4.2 |
| Information | 0.8 | 8.4 |
| Financial Activities | 1.7 | 18.5 |
| Professional and Business Services | 3.0 | 98.6 |
| Educational and Health Services | 2.5 | 99.8 |
| Leisure and Hospitality | 2.0 | 49.1 |
| Other Services | 1.6 | 12.9 |
| Government | 0.3% | 7.5 |

Sources: California Employment Development Department; LAEDC

City of Los Angeles

Employment in the City of Los Angeles has experienced the same general trend post-recession as the county as a whole, although the recovery of jobs in 2011 was much steeper. However, jobs lost during the recession will not be recovered until late 2016 (Exhibit 3-12). Still, this does not take into account the job *growth* needed to accommodate labor force growth.

Again, most industry sectors will follow this general contour of post-recession 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 recession.

The expected employment growth in individual sectors at the city level is shown in Exhibit 3-13. The projected job creation differs from the county given the different mix of industries in the two regions. ❖

Exhibit 3-12
Nonfarm Employment in Los Angeles City
(millions of jobs)

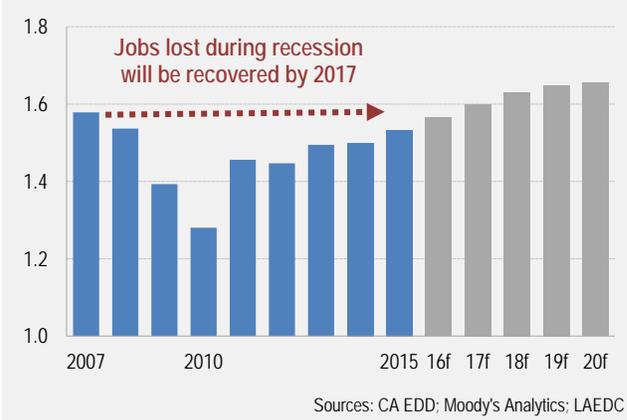


Exhibit 3-13
Industry Employment Growth 2015-2020
(City of Los Angeles)

| | Annual Average % Growth | Δ Employment (000s) |
|---|-------------------------|---------------------|
| Total Nonfarm Payroll Employment | 1.5% | 122.7 |
| Good Producing Industries: | 1.0% | 8.1 |
| Natural Resources and Mining | 0.7 | 0.0 |
| Construction | 3.1 | 6.7 |
| Manufacturing – Durable Goods | 0.3 | 0.8 |
| Manufacturing – Nondurable Goods | 0.2 | 0.6 |
| Service Providing Industries | 1.8% | 105.5 |
| Wholesale Trade | 1.0 | 3.5 |
| Retail Trade | 0.4 | 3.1 |
| Transportation, Warehousing, Utilities | 0.5 | 1.4 |
| Information | 0.8 | 2.7 |
| Financial Activities | 1.7 | 8.1 |
| Professional and Business Services | 3.0 | 37.4 |
| Educational and Health Services | 2.5 | 26.0 |
| Leisure and Hospitality | 2.0 | 18.6 |
| Other Services | 1.6 | 4.6 |
| Government | 0.3% | 3.9 |

Sources: California Employment Development Department; LAEDC

3.6 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 2015 and 2020, the economy is expected to add 346,000 new jobs in nonfarm industries across the county, and 122,700 new jobs in the City of Los Angeles (Exhibit 3-14).

The industry with the largest expected new job creation potential is the administrative and support services industry, expected to add 57,560 jobs between 2015 and 2020 in the county and 20,640 jobs in the city. This is largely a result of the increase in temporary employment services, which accounts for 40 percent of the industry. Other large segments include security services and janitorial/landscape services.

The industry with the second largest expected employment gains is food services and drinking places, projected to add 39,510 jobs between 2015 and 2020 in the county and 14,900 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, nursing and residential care facilities and social assistance are together projected to add 91,770 jobs from 2015 to 2020 in the county and 34,730 in the city. As noted above, these are expected to continue growing, although more than one third of the additional jobs are in social assistance.

Fourth on the list is professional and technical services, a large and diverse industry with relatively high growth potential.

Also on the list are specialty trade contractors, credit intermediation, motion pictures and sound recording, personal and laundry services and wholesalers.

Taken together, these thirty industries are expected to add more than 320,000 new jobs during the period from 2015 to 2020 in Los Angeles County and more than 120,000 new jobs in the City of Los Angeles, approximately 96 percent of all jobs forecasted to be added in each region.

Exhibit 3-14
Projected New Job Creation 2015-2020

| NAICS | Industry | LA County | LA City |
|---------------------------|---|----------------|----------------|
| 561 | Administrative and support services | 57,560 | 20,640 |
| 722 | Food services and drinking places | 39,510 | 14,900 |
| 624 | Social assistance | 34,300 | 14,560 |
| 541 | Professional and technical services | 33,300 | 14,310 |
| 621 | Ambulatory health care services | 29,190 | 10,650 |
| 622 | Hospitals | 16,650 | 5,060 |
| 238 | Specialty trade contractors | 13,650 | 4,420 |
| 623 | Nursing and residential care facilities | 11,630 | 4,460 |
| 522 | Credit intermediation | 5,950 | 2,220 |
| 512 | Motion pictures and sound recording | 5,630 | 1,370 |
| 812 | Personal and laundry services | 5,610 | 2,300 |
| 424 | Wholesale: Nondurable goods | 5,490 | 2,060 |
| 721 | Accommodation | 5,160 | 2,050 |
| 611 | Educational services | 4,860 | 1,830 |
| 236 | Construction of buildings | 4,560 | 1,620 |
| 531 | Real estate | 4,440 | 1,970 |
| 452 | Retail: General merchandise | 4,340 | 1,250 |
| 524 | Insurance carriers | 4,090 | 1,930 |
| 551 | Management of companies | 3,990 | 1,310 |
| 445 | Retail: Food and beverage stores | 3,980 | 1,430 |
| 519 | Other information services | 3,920 | 1,210 |
| 811 | Repair and maintenance | 3,090 | 1,020 |
| 423 | Wholesale: Durable goods | 2,890 | 720 |
| 813 | Membership associations and orgs | 2,890 | 1,370 |
| 425 | Wholesale electronic markets | 2,690 | 980 |
| 237 | Heavy / civil engineering construction | 2,450 | 620 |
| 523 | Securities, contracts, investments | 2,250 | 1,250 |
| 562 | Waste management and remediation | 2,220 | 430 |
| 92 | State government | 2,090 | 1,590 |
| 713 | Amusements, gambling and recreation | 2,040 | 510 |
| TOTAL JOB CREATION | | 346,100 | 122,700 |

Source: Estimates by LAEDC

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

3.7 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.

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) 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)
- ▶ Selected manufacturing (fashion, aerospace, analytical instruments, pharmaceuticals, medical devices—NAICS 313, 314, 315, 316, 325, 334, 336, 339)
- ▶ Trade and logistics (NAICS 42x, 48x, 49x)
- ▶ Entertainment and infotech (NAICS 511, 512, 515, 518, 519)
- ▶ Health services (NAICS 621, 622, 623)
- ▶ Leisure and hospitality (NAICS 721, 722)

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.

Construction Industries

As the housing market recovers, construction industries are expected to make a robust recovery. Housing starts are showing signs of life after a dismal few years, and will be needed to meet pent-up demand. In addition, many of the existing infrastructure projects currently planned will come on line, employing thousands of workers in highway, transit, infrastructure and other projects. Finally, continuing incentives and mandates related to energy efficiency and greening of existing buildings have the potential to drive employment in retrofitting and energy efficient implementations. Together, the sector is projected to add more than 20,000 jobs between 2015 and 2020 in Los Angeles County and almost 7,000 jobs in the City of Los Angeles.



Exhibit 3-16
Top Occupations in Construction Industry (by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 47-2061 | Construction laborers |
| 47-2031 | Carpenters |
| 47-2111 | Electricians |
| 47-1011 | First-line sups of const trades and extraction workers |
| 47-2152 | Plumbers, pipefitters and steamfitters |
| 47-2141 | Painters, construction and maintenance |
| 11-9021 | Construction managers |
| 47-2081 | Drywall and ceiling tile installers |
| 47-2051 | Cement masons and concrete finishers |
| 11-1021 | General and operations managers |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Manufacturing (Selected Products)

Employment in manufacturing as a whole has been on a long term decline over the past two decades, but is expected to show some improvement from current levels. The distinction must be made between durable goods and nondurable goods manufacturing. Overall, *durable goods manufacturing* will experience anemic growth as labor substitution and replacement by capital increases output at the expense of employment gains. *Nondurable goods manufacturing* will continue to be challenged as low-cost competition from lower income countries will drive these industries from the area.

Nevertheless, several manufacturing industries continue to be promising targets for employment growth in the county based on upon their linkage to important traded industry clusters. These clusters include Fashion, Aerospace, Information Technology and Analytical instruments and Biomedical Devices. Fabricated metals manufacturing is also a component industry of these important clusters and an important regional industry.

Many of these jobs are highly-skilled jobs that are highly-compensated, but many include positions that require workers with community college degrees or technical training. In addition, the expected retirement of aging skilled craftsman in some specialized manufacturing industries presents opportunities for apprenticeships, new entrants, and those moving up the career ladder.

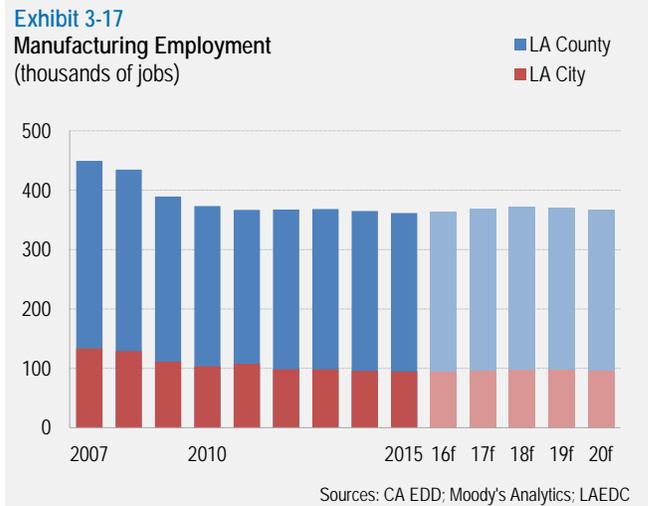


Exhibit 3-18
Top Occupations in Fashion (NAICS 313, 314, 315, 316)
 (by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 51-6031 | Sewing machine operators |
| 51-6061 | Textile bleaching and dyeing machine operators and tenders |
| 51-6062 | Textile cutting machine setters, operators and tenders |
| 43-5071 | Shipping, receiving, and traffic clerks |
| 51-9031 | Cutters and trimmers, hand |
| 51-1011 | First-line supervisors of production and operating workers |
| 11-1021 | General and operations managers |
| 53-7064 | Packers and packagers, hand |
| 51-9061 | Inspectors, testers, sorters, samplers and weighers |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Exhibit 3-19
Top Occupations in Other Manufacturing (NAICS 334, 336, 339)
 (by % of Industry Employment)

| SOC | Occupational Title |
|---------|---|
| 15-1133 | Software developers, systems software |
| 51-2092 | Team assemblers |
| 51-2022 | Electrical and electronic equipment assemblers |
| 51-9061 | Inspectors, testers, sorters, samplers and weighers |
| 15-1132 | Software developers, applications |
| 17-2072 | Electronics engineers, except computer |
| 17-2061 | Computer hardware engineers |
| 17-2112 | Industrial engineers |
| 11-9041 | Architectural and engineering managers |
| 11-1021 | General and operations managers |
| 17-2071 | Electrical engineers |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Trade and Logistics

Trade-related employment is the region’s largest traded industry cluster, one in which the region has competitive advantage, and one that will continue to dominate our export-oriented economic activity.

However, challenges exist to continued employment growth. The warehousing industry has become increasingly efficient and centralized and requires extremely large parcels of land, which are not available in Los Angeles County—expansion is moving to the Inland Empire. Transportation, however, will continue to grow as the ports of San Pedro Bay handle increasing trade volumes and as goods are delivered to inland warehouses.

Wholesale activities are included in the trade cluster, and although traditional wholesale activities will grow slowly, transactions conducted online will grow robustly.

The sector will add approximately 15,250 jobs from 2015 to 2020 in Los Angeles County, of which 5,270 will be in the City of Los Angeles. Many of these jobs can be filled by workers with lower levels of education and little work experience.

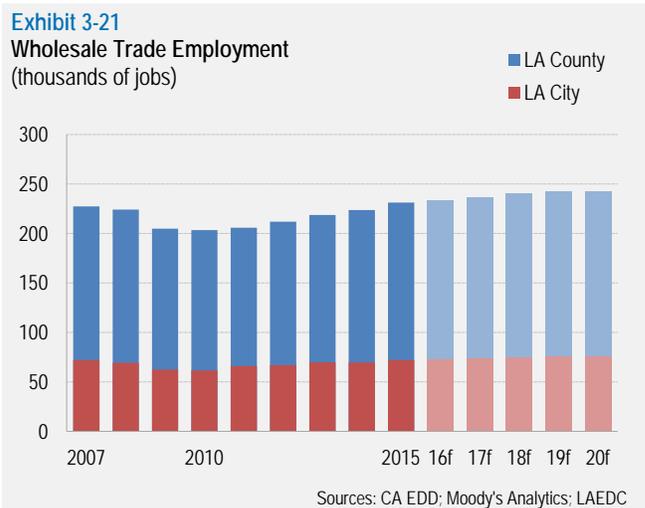
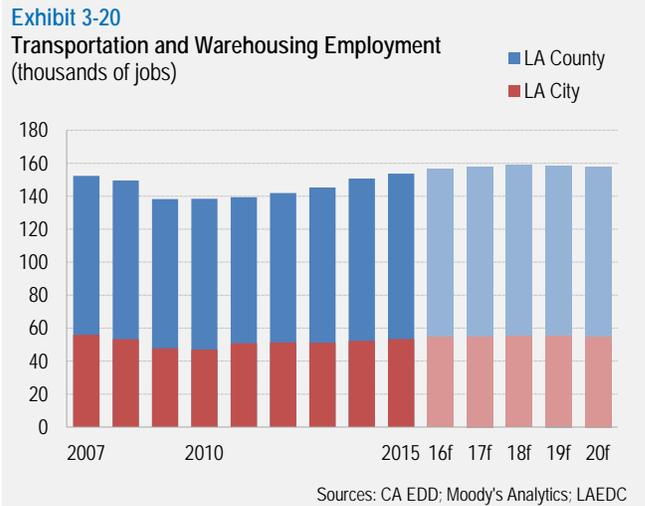


Exhibit 3-22
Top Occupations in Transportation / Warehousing (NAICS 48, 49)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 53-3032 | Heavy and tractor-trailer truck drivers |
| 53-7062 | Laborers and freight, stock and material movers, hand |
| 43-5052 | Postal service mail carriers |
| 53-3033 | Light truck or delivery services drivers |
| 53-7051 | Industrial truck and tractor operators |
| 53-3022 | Bus drivers, school or special client |
| 43-4181 | Reservation and transportation ticket agents and travel clerks |
| 43-5053 | Postal service mail sorters/processors/processing machine ops |
| 53-2031 | Flight attendants |
| 43-5011 | Cargo and freight agents |
| 43-5081 | Stock clerks and order fillers |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Exhibit 3-23
Top Occupations in Wholesale Trade (NAICS 42)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 41-4012 | Sales representatives, wholesale and manufacturing |
| 53-7062 | Laborers and freight, stock and material movers, hand |
| 11-1021 | General and operations managers |
| 43-5071 | Shipping, receiving and traffic clerks |
| 43-5081 | Stock clerks and order fillers |
| 41-4011 | Sales representatives, technical and scientific products |
| 43-4051 | Customer service representatives |
| 43-9061 | Office clerks, general |
| 53-3033 | Light truck or delivery services drivers |
| 43-3031 | Bookkeeping, accounting and auditing clerks |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Entertainment Industry and InfoTech

As the region’s signature traded industry cluster, the entertainment industry continues to generate employment opportunities for a range of occupations. This industry includes not only motion picture and television production, but also sound recording industries, pre- and post-production work, performing arts, and independent artists and performers, and has a variety of workforce needs in its direct supply chain as well.

This industry has connections across a spectrum of others, including marketing, publishing, information technology, software publishers (including video gaming) and online publishing and services. Together, these form a critical mass of creative industries and workers, which become a magnet for firms engaged in supporting and encouraging these activities. This is evidenced by these industries’ high location quotients.

The broader industry sector known as Information (NAICS 51) includes not only the motion picture production, broadcasting, publishing and new media industries. This sector will grow at an average annual of 0.8 percent per year, at almost the same rate as the overall nonfarm economy. The motion picture industry has recovered since the recession, assisted by incentives received through the California Film and Television Tax Credit Program. Traditional publishing industries will continue to decline as internet publishing and broadcasting will continue to grow, bringing new employment opportunities. Overall, the information sector is forecast to add 8,460 new jobs between 2015 and 2020 in the county and 2,050 in the city.

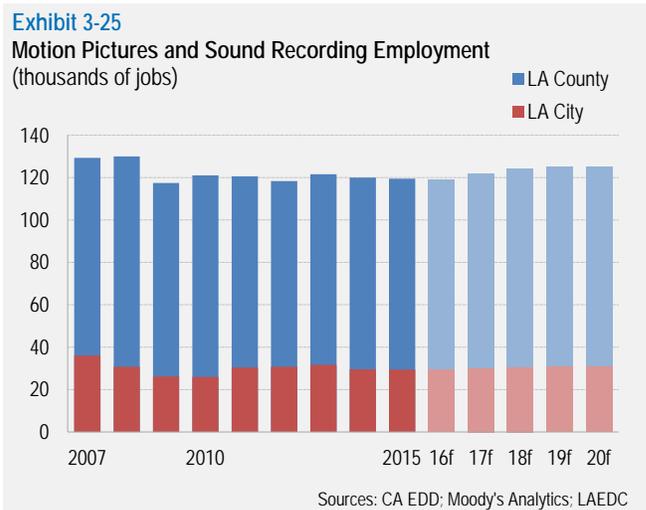
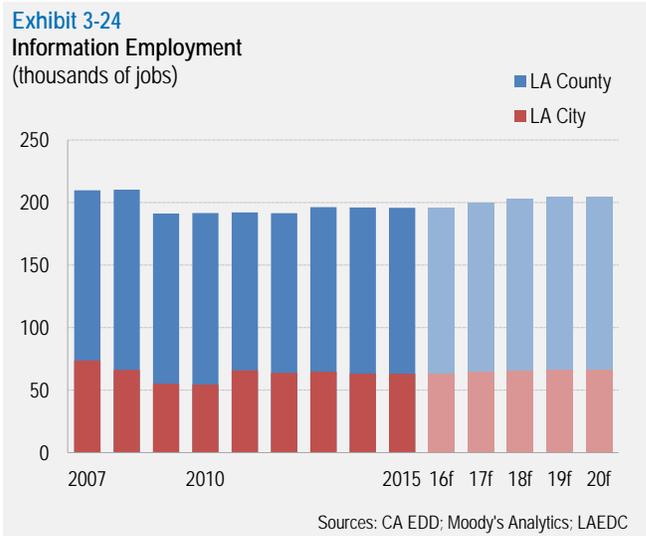
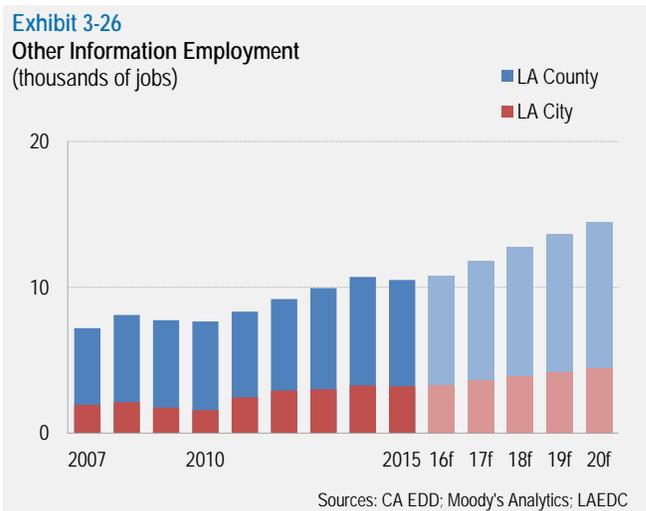


Exhibit 3-27
Top Occupations in Information (NAICS 51)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 15-1132 | Software developers, applications |
| 27-2012 | Producers and directors |
| 49-2022 | Telecommunications equip installers/repairers, not line installers |
| 41-3099 | Sales representatives, services, all other |
| 27-2011 | Actors |
| 27-4032 | Film and video editors |
| 43-4051 | Customer service representatives |
| 13-1199 | Business operations specialists, all other |
| 11-3021 | Computer and information systems managers |
| 43-9061 | Office clerks, general |
| 11-1021 | General and operations managers |

Sources: BLS: Occupational Employment Statistics Survey, May 2015



Professional and Business Services

The professional and business services sector is a large, diverse sector which includes professional, scientific and technical services, company management (headquarters locations), and administrative, support and waste services industries. Most of these firms provide services to other businesses in Los Angeles County.

These activities typically require a high degree of expertise and training, and can be highly-compensated. However, there is a wide range of occupations within these industries that can be filled by workers with some college training, some technical training, or on-the-job experience, such as clerical positions, receptionists, draftsmen, legal assistants, bookkeepers, accounting clerks, and so on.

Employment in the sector is forecast to grow at an average annual rate of 3.0 percent, assisted in large part by the rapid growth in administrative services (which includes temporary employment).

Overall, the sector will add more than 97,000 new jobs between 2015 and 2020, of which 36,680 will be in the City of Los Angeles.

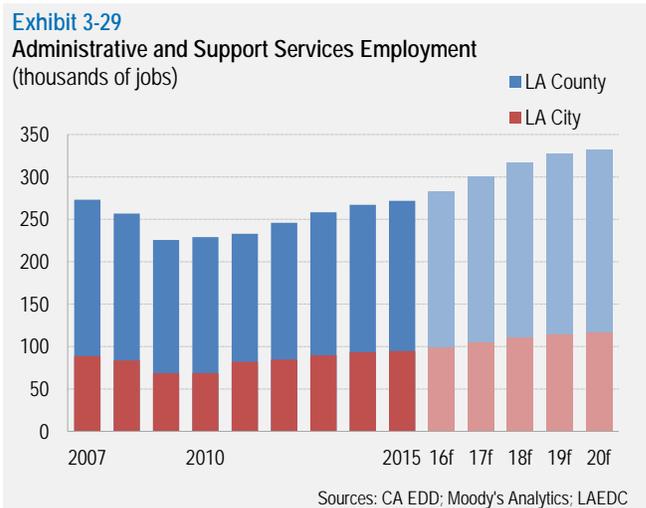
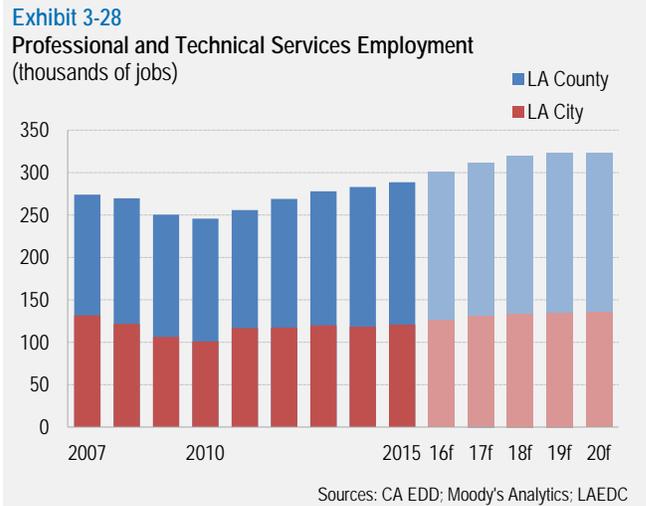


Exhibit 3-30
Top Occupations in Professional / Technical Services (NAICS 54)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|---|
| 13-2011 | Accountants and auditors |
| 15-1132 | Software developers, applications |
| 23-1011 | Lawyers |
| 15-1133 | Software developers, systems software |
| 11-1021 | General and operations managers |
| 13-1111 | Management analysts |
| 13-1161 | Market research analysts and marketing specialists |
| 43-9061 | Office clerks, general |
| 15-1121 | Computer systems analysts |
| 43-3031 | Bookkeeping, accounting and auditing clerks |
| 43-6014 | Secretaries and admin assistants, not legal/medical/executive |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Exhibit 3-31
Top Occupations in Administrative Services (NAICS 561)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|--|
| 33-9032 | Security guards |
| 37-2011 | Janitors and cleaners, not maids/ housekeeping cleaners |
| 53-7062 | Laborers and freight, stock and material movers, hand |
| 37-3011 | Landscaping and groundskeeping workers |
| 43-9061 | Office clerks, general |
| 43-4051 | Customer service representatives |
| 53-7064 | Packers and packagers, hand |
| 43-6014 | Secretaries and admin assistants, not legal/medical/ executive |
| 11-1021 | General and operations managers |
| 41-3099 | Sales representatives, services, all other |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Health Services

This is a large and growing industry sector which includes establishments providing health care, including: ambulatory health care services such as doctors’ offices, dentistry practices, medical laboratories and home health care services; hospitals; nursing and residential care facilities; and social assistance. These are large industries with high growth potential given the ongoing demographic shift, the advancement of medical technology and increased coverage through the American Care Act. The industry employs workers with a variety of skills and educational requirements, with career pathways that are achievable through stackable certificates. This sector is expected to add almost 92,000 new jobs from 2015 to 2020 in Los Angeles County and almost 35,000 in the City of Los Angeles.

Exhibit 3-32
Health Care Services Employment
(thousands of jobs)

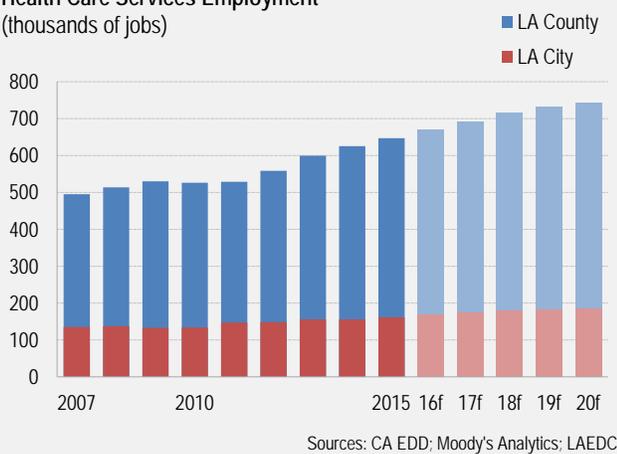


Exhibit 3-33
Top Occupations in Health Services (NAICS 62)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|---|
| 29-1141 | Registered nurses |
| 39-9021 | Personal care aides |
| 31-1014 | Nursing assistants |
| 31-9092 | Medical assistants |
| 43-6013 | Medical secretaries |
| 29-2061 | Licensed practical and licensed vocational nurses |
| 31-9091 | Dental assistants |
| 43-4171 | Receptionists and information clerks |
| 43-9061 | Office clerks, general |
| 25-2011 | Preschool teachers, not special education |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Leisure and Hospitality

One of the region’s major industry clusters, hospitality and tourism will continue to provide employment opportunities for a wide range of job entrants and incumbent workers. Food services is a large industry with a wide range of establishments serving food and beverages to customers. They include full-service restaurants, limited-service eating places, food service contractors (such as caterers), mobile food services, and drinking places. It is projected to add more than 49,000 new jobs from 2015 to 2020 in the county and almost 19,000 in the City of Los Angeles.

Exhibit 3-34
Leisure and Hospitality Employment
(thousands of jobs)



Exhibit 3-35
Top Occupations in Leisure and Hospitality (NAICS 71-72)
(by % of Industry Employment)

| SOC | Occupational Title |
|---------|---|
| 35-3021 | Combined food prep and serving workers, including fast food |
| 35-3031 | Waiters and waitresses |
| 35-2014 | Cooks, restaurant |
| 35-2011 | Cooks, fast food |
| 35-2021 | Food preparation workers |
| 35-9021 | Dishwashers |
| 35-1012 | First-Line supervisors of food prep and serving workers |
| 35-9011 | Dining room and cafeteria attendants/ bartender helpers |
| 37-2012 | Maids and housekeeping cleaners |
| 35-3011 | Bartenders |
| 41-2011 | Cashiers |
| 35-9031 | Hosts and hostesses, restaurant, lounge and coffee shop |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

4 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.

4.1 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 840 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 4-1. These are the occupations of the jobs that are located in Los Angeles County. (This data is not available at the City level.)

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 17.7 percent of all jobs in the region. This is followed by sales occupations, accounting for just over ten percent. These two occupational groups represent a variety of detailed occupations that are employed across many industries. The third largest occupational group, food preparation and serving occupations, accounted for 9.2 percent of all jobs. These are more likely to be found in restaurants and other food services establishments.

Healthcare occupations, including both practitioners and support occupations, account for 7.4 percent of jobs in Los Angeles County.

Exhibit 4-1
Occupational Profile 2015
(% of Employment)

| SOC | Occupational Group | |
|--------------|--|---------------|
| 11-0000 | Management occupations | 5.7% |
| 13-0000 | Business and financial operations | 5.6% |
| 15-0000 | Computer and mathematical science | 2.4% |
| 17-0000 | Architecture and engineering | 1.7% |
| 19-0000 | Life, physical and social science | 0.9% |
| 21-0000 | Community and social services | 1.6% |
| 23-0000 | Legal occupations | 1.0% |
| 25-0000 | Education, training and library | 5.7% |
| 27-0000 | Arts, design, entertainment, sports, media | 3.6% |
| 29-0000 | Healthcare practitioners and technical | 5.0% |
| 31-0000 | Healthcare support | 2.4% |
| 33-0000 | Protective services | 2.7% |
| 35-0000 | Food preparation and serving | 9.2% |
| 37-0000 | Building/grounds cleaning and maintenance | 2.7% |
| 39-0000 | Personal care and service | 2.7% |
| 41-0000 | Sales and related | 10.4% |
| 43-0000 | Office and administrative support | 17.7% |
| 45-0000 | Farming, fishing and forestry | 0.1% |
| 47-0000 | Construction and extraction | 2.5% |
| 49-0000 | Installation, maintenance and repair | 3.0% |
| 51-0000 | Production | 6.5% |
| 53-0000 | Transportation/material moving | 7.2% |
| Total | | 100.0% |

Sources: BLS: Occupational Employment Statistics Survey, May 2015

Blue-collar occupations, such as those in construction, protective services, maintenance production and transportation account for almost 22 percent of all jobs, a measure of how important these sectors are to the region's economy. ❖

4.2 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 4-2, and in the City of Los Angeles in Exhibit 4-3.

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

Data do not sum to estimated industry job creation shown in Section 3 due to non-disclosed data and rounding across all detailed occupations.

Exhibit 4-2

Occupational Growth in Los Angeles County 2015-2020

| SOC | Occupational Group | New Jobs | Replacement | Total * |
|---------------|---------------------------------|----------------|----------------|----------------|
| 11-0000 | Management occupations | 15,420 | 18,490 | 33,910 |
| 13-0000 | Business and financial | 15,720 | 18,210 | 33,930 |
| 15-0000 | Computer and mathematical | 10,050 | 8,540 | 18,580 |
| 17-0000 | Architecture and engineering | 4,700 | 7,320 | 12,020 |
| 19-0000 | Life, physical, social science | 2,180 | 3,250 | 5,430 |
| 21-0000 | Community and social services | 7,840 | 7,320 | 15,160 |
| 23-0000 | Legal occupations | 2,970 | 2,290 | 5,260 |
| 25-0000 | Education, training and library | 8,980 | 11,420 | 20,400 |
| 27-0000 | Arts, entertainment, sports | 5,440 | 10,280 | 15,720 |
| 29-0000 | Healthcare practitioners | 24,660 | 18,470 | 43,130 |
| 31-0000 | Healthcare support | 15,720 | 10,560 | 26,270 |
| 33-0000 | Protective services | 6,690 | 7,800 | 14,490 |
| 35-0000 | Food preparation and serving | 40,750 | 73,930 | 114,680 |
| 37-0000 | Building/grounds maintenance | 17,550 | 11,630 | 29,180 |
| 39-0000 | Personal care and service | 20,380 | 19,150 | 39,530 |
| 41-0000 | Sales and related | 17,990 | 63,010 | 81,000 |
| 43-0000 | Office and administrative | 52,360 | 63,410 | 115,770 |
| 45-0000 | Farming, fishing and forestry | 220 | 560 | 780 |
| 47-0000 | Construction and extraction | 14,440 | 8,190 | 22,620 |
| 49-0000 | Installation, maint / repair | 8,400 | 15,130 | 23,540 |
| 51-0000 | Production | 11,470 | 24,190 | 35,660 |
| 53-0000 | Transportation/material moving | 17,190 | 29,260 | 46,450 |
| Total* | | 321,100 | 432,400 | 750,500 |

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

Exhibit 4-3

Occupational Growth in City of Los Angeles 2015-2020

| SOC | Occupational Group | New Jobs | Replacement | Total * |
|---------------|---------------------------------|----------------|----------------|----------------|
| 11-0000 | Management occupations | 6,030 | 8,290 | 14,310 |
| 13-0000 | Business and financial | 6,590 | 9,490 | 16,080 |
| 15-0000 | Computer and mathematical | 4,000 | 3,790 | 7,790 |
| 17-0000 | Architecture and engineering | 1,980 | 3,260 | 5,240 |
| 19-0000 | Life, physical, social science | 980 | 2,270 | 3,260 |
| 21-0000 | Community and social services | 3,350 | 4,440 | 7,790 |
| 23-0000 | Legal occupations | 1,350 | 1,510 | 2,860 |
| 25-0000 | Education, training and library | 3,700 | 5,180 | 8,880 |
| 27-0000 | Arts, entertainment, sports | 1,840 | 4,020 | 5,870 |
| 29-0000 | Healthcare practitioners | 8,720 | 7,720 | 16,440 |
| 31-0000 | Healthcare support | 5,880 | 4,250 | 10,130 |
| 33-0000 | Protective services | 3,090 | 10,150 | 13,240 |
| 35-0000 | Food preparation and serving | 15,300 | 27,600 | 42,900 |
| 37-0000 | Building/grounds maintenance | 6,490 | 4,860 | 11,360 |
| 39-0000 | Personal care and service | 8,270 | 7,810 | 16,080 |
| 41-0000 | Sales and related | 6,550 | 22,280 | 28,830 |
| 43-0000 | Office and administrative | 20,100 | 27,270 | 47,370 |
| 45-0000 | Farming, fishing and forestry | 80 | 240 | 320 |
| 47-0000 | Construction and extraction | 4,820 | 3,590 | 8,410 |
| 49-0000 | Installation, maint / repair | 3,070 | 6,140 | 9,210 |
| 51-0000 | Production | 3,930 | 7,560 | 11,490 |
| 53-0000 | Transportation/material moving | 6,030 | 10,850 | 16,880 |
| Total* | | 122,160 | 182,590 | 304,750 |

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

Within each occupational group are 840 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 salespersons are employed in a full spectrum of industries.

Exhibit 4-4 presents the top 25 detailed occupations by projected job openings (new jobs and replacement jobs) between 2015 and 2020 in Los Angeles County and in the City of Los Angeles. These twenty-five occupations will account for almost 42 percent of all job openings in all occupations.

The largest number of openings will be found in occupations related to the largest major occupational groups: combined food preparation and serving workers and waiters and waitresses, which are both in the food preparation and serving occupational group; cashiers and retail salespersons, which are in the sales occupational group; and customer service representatives and office clerks, which are in office and administrative support occupational group.

Other occupations with large numbers of openings expected over the next five years are registered nurses, laborers and freight movers, janitors and cleaners, and personal care aides.

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

Exhibit 4-4

Occupational Growth in Los Angeles County 2015-2020 Top 25 Detailed Occupations

| SOC | Detailed Occupation | LA County | LA City |
|---------------|--|----------------|----------------|
| 35-3021 | Combined food preparation and serving workers | 28,700 | 10,840 |
| 35-3031 | Waiters and waitresses | 27,120 | 10,200 |
| 41-2011 | Cashiers | 24,480 | 8,650 |
| 41-2031 | Retail salespersons | 23,170 | 7,810 |
| 43-4051 | Customer service representatives | 16,690 | 6,750 |
| 53-7062 | Laborers and freight, stock, and material movers, hand | 16,350 | 6,370 |
| 43-9061 | Office clerks, general | 16,110 | 5,620 |
| 29-1111 | Registered nurses | 14,120 | 5,150 |
| 37-2011 | Janitors and cleaners, except maids and housekeeping cleaners | 13,380 | 5,150 |
| 39-9021 | Personal care aides | 11,440 | 4,720 |
| 43-5081 | Stock clerks and order fillers | 10,840 | 4,230 |
| 11-1021 | General and operations managers | 10,740 | 3,770 |
| 43-6014 | Secretaries and administrative assistants | 8,960 | 3,710 |
| 35-3022 | Counter attendants, cafeteria, food concession and coffee shop | 8,810 | 3,710 |
| 39-9011 | Childcare workers | 8,520 | 3,620 |
| 13-2011 | Accountants and auditors | 8,360 | 3,300 |
| 31-1014 | Nursing assistants | 8,270 | 3,280 |
| 43-1011 | First-line supervisors of office and administrative support workers | 7,980 | 3,200 |
| 33-9032 | Security guards | 7,790 | 2,920 |
| 43-4171 | Receptionists and information clerks | 7,420 | 2,900 |
| 35-2014 | Cooks, restaurant | 7,280 | 2,870 |
| 41-4012 | Sales representatives, wholesale and manufacturing, except technical and scientific products | 7,200 | 2,870 |
| 31-1011 | Home health aides | 7,170 | 2,850 |
| 37-3011 | Landscaping and groundskeeping workers | 7,100 | 2,740 |
| 35-1012 | First-line supervisors of food preparation and serving workers | 6,650 | 2,680 |
| Total* | | 314,650 | 119,900 |

* 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 4-5.

Entry level education requirements are as follows: 3=Bachelor’s degree; 4=Associate’s 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.

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. ❖

Exhibit 4-5

Median Wage and Entry Level Requirements for Top 25 Detailed Occupations 2015-2020

| SOC | Detailed Occupation | Median Annual Wage | Entry Level | | |
|---------|--|--------------------|-------------|----------|------|
| | | | Educ | Work Exp | OJT |
| 35-3021 | Combined food preparation and serving workers | \$ 19,650 | 8 | None | ST |
| 35-3031 | Waiters and waitresses | 22,540 | 8 | None | ST |
| 41-2011 | Cashiers | 19,890 | 8 | None | ST |
| 41-2031 | Retail salespersons | 23,020 | 8 | None | ST |
| 43-4051 | Customer service representatives | 35,510 | 7 | None | ST |
| 53-7062 | Laborers and freight, stock, and material movers, hand | 24,330 | 8 | None | ST |
| 43-9061 | Office clerks, general | 30,840 | 7 | None | ST |
| 29-1111 | Registered nurses | 98,380 | 4 | None | None |
| 37-2011 | Janitors and cleaners, except maids and housekeeping cleaners | 26,560 | 8 | None | ST |
| 39-9021 | Personal care aides | 20,790 | 8 | None | ST |
| 43-5081 | Stock clerks and order fillers | 22,880 | 8 | None | ST |
| 11-1021 | General and operations managers | 105,530 | 3 | <5 yrs | None |
| 43-6014 | Secretaries and administrative assistants | 38,240 | 7 | None | ST |
| 35-3022 | Counter attendants, cafeteria, food concession and coffee shop | 19,780 | 8 | None | ST |
| 39-9011 | Childcare workers | 23,600 | 7 | None | ST |
| 13-2011 | Accountants and auditors | 72,090 | 3 | None | None |
| 31-1014 | Nursing assistants | 28,870 | 5 | None | None |
| 43-1011 | First-line supervisors of office and administrative support workers | 56,510 | 7 | <5 yrs | None |
| 33-9032 | Security guards | 23,730 | 7 | None | ST |
| 43-4171 | Receptionists and information clerks | 28,380 | 7 | None | ST |
| 35-2014 | Cooks, restaurant | 23,880 | 8 | <5 yrs | MT |
| 41-4012 | Sales representatives, wholesale and manufacturing, except technical and scientific products | 47,970 | 7 | None | MT |
| 31-1011 | Home health aides | 23,540 | 8 | None | ST |
| 37-3011 | Landscaping and groundskeeping workers | 25,680 | 8 | None | ST |
| 35-1012 | First-line supervisors of food preparation and serving workers | 31,590 | 7 | <5 yrs | None |

ST=short term; MT=moderate-term
Source: Estimates by LAEDC

5 LOS ANGELES IN THE CALIFORNIA CONTEXT

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. The California Annual Plan contains its own state-level labor market analysis. In addition to an overview of economic and demographic conditions, it provides projections of employment and occupational growth over the period from 2012 to 2022.

In this section, the identification of target industries above is compared to the findings of the California labor market analysis produced by the Employment Development Department.

5.1 California's Labor Market Analysis

The labor market analysis in the California Annual Plan identifies “target” industries using three metrics: (1) the absolute number of jobs projected to be added in each industry; (2) the growth rate of industries over the forecast period; and (3) middle-skilled occupations.

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;
- Ambulatory health care services; and
- Educational services.

Industries with Highest Growth Rate

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

- Construction;
- Education and health care services;
- Professional and business services; and
- Leisure and hospitality.

Individual industries that have grown the most quickly over the past three years include several information technology industries, professional services industries and industries associated with California’s housing and construction sector.

Middle-Skilled Occupations with Highest Needs

Middle-skilled jobs are those that require candidates with an educational attainment of more than high school credential but less than a bachelor’s degree. Many projected job openings fall into this category. It is expected that these occupations will pay higher wages than occupations requiring lower levels of education. Middle-skilled occupations projected to have the highest number of job openings (generated through both job growth and through replacement needs of existing workers) over the forecast period include:

- Registered nurses;
- Teacher assistants;
- Heavy and tractor-trailer truck drivers;
- Nursing assistants;
- Medical assistants; and
- Licensed practical / licensed vocational nurses.

The state-level labor market analysis also identifies the sub-regions of the state and notes that these are differentiated according to prevailing wages, occupational distribution and industry make-up.

Employment and occupational projections are based on the ten-year period from 2012 through 2022. This period encapsulates in its first few years a somewhat faster job growth out of the recession than is expected to persist beyond 2015. As the projections are based on a ten-year period rather than a five-year period as used in this report, the absolute numbers of job creation estimates are based on ten years of growth. Furthermore, the projections are based on statewide industry and employment growth. ❖

5.2 The Los Angeles Region

The findings in this report are based on the industry and occupational structure of the Los Angeles region. As noted in the sections above, this region is more specialized in a number of industries that the area is competitive in.

As such, its growth industries and those which are identified as targets differ somewhat from the state level findings. These include:

- Entertainment-related industries;
- Aerospace and analytical instruments;
- Trade and logistics; and
- Hospitality and tourism.

Still, large population-serving industries that are projected to add significant numbers of jobs are consistent across all regions. These include:

- Health care services;
- Social assistance;
- Construction; and
- Professional and business services.

Several fast-growing industries identified in the California analysis are associated with industries concentrated in the Bay area, such as computer systems design and other information services. While the latter is an industry showing potential growth in the Los Angeles region, it is still quite small.

Projections for middle-skilled occupations are similar across regions as most of these emanate from population-serving industries.

The projections in this report are based on the five-year period from 2015 to 2020. This period reflects a somewhat slower growth rate than the years immediately following the recession as the business cycle is now more mature, hence the annual projections of job growth are similarly proportionately smaller. ❖

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APPENDIX

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 2015-2020 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 | |
| 11-1011 | Chief Executives | 1,308 | 571 | 3 | ≥5 years | None | N/A |
| 11-1021 | General and Operations Managers | 10,736 | 4,226 | 3 | <5 years | None | 107,557 |
| 11-1031 | Legislators | 85 | 206 | 3 | <5 years | None | N/A |
| 11-2011 | Advertising and Promotions Managers | 248 | 106 | 3 | <5 years | None | 126,568 |
| 11-2021 | Marketing Managers | 1,070 | 403 | 3 | ≥5 years | None | 139,984 |
| 11-2022 | Sales Managers | 1,845 | 659 | 3 | <5 years | None | 109,845 |
| 11-2031 | Public Relations and Fundraising Managers | 318 | 147 | 3 | ≥5 years | None | 96,866 |
| 11-3011 | Administrative Services Managers | 1,166 | 519 | 3 | <5 years | None | 89,960 |
| 11-3021 | Computer and Information Systems Managers | 1,489 | 617 | 3 | ≥5 years | None | 140,816 |
| 11-3031 | Financial Managers | 2,464 | 1,054 | 3 | ≥5 years | None | 138,653 |
| 11-3051 | Industrial Production Managers | 520 | 150 | 3 | ≥5 years | None | 96,054 |
| 11-3061 | Purchasing Managers | 311 | 128 | 3 | ≥5 years | None | 102,710 |
| 11-3071 | Transportation, Storage, and Distribution Managers | 460 | 197 | 7 | ≥5 years | None | 83,678 |
| 11-3111 | Compensation and Benefits Managers | 93 | 40 | 3 | ≥5 years | None | 112,403 |
| 11-3121 | Human Resources Managers | 671 | 290 | 3 | ≥5 years | None | 116,646 |
| 11-3131 | Training and Development Managers | 173 | 71 | 3 | ≥5 years | None | 116,522 |
| 11-9013 | Farmers, Ranchers, and Other Agricultural Managers | 7 | 3 | 7 | ≥5 years | None | 100,027 |
| 11-9021 | Construction Managers | 1,048 | 381 | 3 | None | MT OJT | 49,566 |
| 11-9031 | Education Administrators, Preschool and Childcare | 799 | 342 | 3 | <5 years | None | N/A |
| 11-9032 | Education Administrators, Elementary and Secondary School | 361 | 144 | 2 | ≥5 years | None | 98,114 |
| 11-9033 | Education Administrators, Postsecondary | 200 | 76 | 2 | ≥5 years | None | 98,384 |
| 11-9039 | Education Administrators, All Other | 86 | 63 | 3 | <5 years | None | 150,842 |
| 11-9041 | Architectural and Engineering Managers | 942 | 396 | 3 | ≥5 years | None | 46,363 |
| 11-9051 | Food Service Managers | 1,197 | 453 | 7 | <5 years | None | 57,970 |
| 11-9061 | Funeral Service Managers | 74 | 30 | 4 | <5 years | None | 84,053 |
| 11-9071 | Gaming Managers | 7 | 2 | 7 | ≥5 years | MT OJT | 50,128 |
| 11-9081 | Lodging Managers | 194 | 77 | 7 | <5 years | None | 117,291 |
| 11-9111 | Medical and Health Services Managers | 1,910 | 765 | 3 | None | None | 141,981 |
| 11-9121 | Natural Sciences Managers | 249 | 148 | 3 | ≥5 years | None | 88,754 |
| 11-9141 | Property, Real Estate, and Community Association Managers | 1,146 | 528 | 7 | <5 years | None | 61,693 |
| 11-9151 | Social and Community Service Managers | 1,217 | 586 | 3 | ≥5 years | None | 75,421 |
| 11-9161 | Emergency Management Directors | 20 | 21 | 3 | ≥5 years | None | 112,694 |
| 11-9199 | Managers, All Other | 1,496 | 914 | 7 | <5 years | None | 120,744 |
| 13-1011 | Agents and Business Managers of Artists, Performers, and | 170 | 73 | 3 | <5 years | None | 89,877 |
| 13-1021 | Buyers and Purchasing Agents, Farm Products | 56 | 20 | 7 | None | LT OJT | 65,458 |
| 13-1022 | Wholesale and Retail Buyers, Except Farm Products | 601 | 199 | 7 | None | LT OJT | 50,461 |
| 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm | 1,090 | 496 | 7 | None | LT OJT | 66,934 |
| 13-1031 | Claims Adjusters, Examiners, and Investigators | 1,006 | 636 | 7 | None | LT OJT | 67,808 |
| 13-1032 | Insurance Appraisers, Auto Damage | 58 | 27 | 5 | None | MT OJT | 69,909 |
| 13-1041 | Compliance Officers | 848 | 642 | 3 | None | MT OJT | 75,338 |
| 13-1051 | Cost Estimators | 1,341 | 437 | 3 | None | None | 64,314 |
| 13-1071 | Human Resources Specialists | 2,564 | 1,117 | 3 | None | None | 63,232 |
| 13-1075 | Labor Relations Specialists | 380 | 182 | 3 | None | None | 87,339 |
| 13-1081 | Logisticians | 378 | 182 | 3 | None | None | 83,304 |
| 13-1111 | Management Analysts | 2,726 | 1,343 | 3 | <5 years | None | 87,194 |
| 13-1121 | Meeting, Convention, and Event Planners | 408 | 172 | 3 | None | None | 52,915 |
| 13-1131 | Fundraisers | 350 | 155 | 3 | None | None | 67,330 |
| 13-1141 | Compensation, Benefits, and Job Analysis Specialists | 352 | 172 | 3 | None | None | 68,515 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 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 | |
| 13-1151 | Training and Development Specialists | 1,250 | 527 | 3 | <5 years | None | 58,614 |
| 13-1161 | Market Research Analysts and Marketing Specialists | 2,326 | 915 | 3 | None | None | 64,750 |
| 13-1199 | Business Operations Specialists, All Other | 3,312 | 1,797 | 7 | None | None | 74,006 |
| 13-2011 | Accountants and Auditors | 8,359 | 3,714 | 3 | None | None | 71,531 |
| 13-2021 | Appraisers and Assessors of Real Estate | 172 | 118 | 3 | None | LT OJT | 84,510 |
| 13-2031 | Budget Analysts | 306 | 242 | 3 | None | None | 82,971 |
| 13-2041 | Credit Analysts | 386 | 146 | 3 | None | None | 70,845 |
| 13-2051 | Financial Analysts | 1,455 | 642 | 3 | None | None | 92,456 |
| 13-2052 | Personal Financial Advisors | 908 | 455 | 3 | None | None | 83,117 |
| 13-2053 | Insurance Underwriters | 428 | 198 | 3 | None | MT OJT | 68,952 |
| 13-2061 | Financial Examiners | 150 | 104 | 3 | None | MT OJT | 76,877 |
| 13-2071 | Credit Counselors | 123 | 50 | 3 | None | MT OJT | 44,907 |
| 13-2072 | Loan Officers | 1,372 | 525 | 3 | None | MT OJT | 84,282 |
| 13-2081 | Tax Examiners and Collectors, and Revenue Agents | 150 | 364 | 3 | None | MT OJT | 76,336 |
| 13-2082 | Tax Preparers | 493 | 212 | 7 | None | MT OJT | 40,394 |
| 13-2099 | Financial Specialists, All Other | 412 | 222 | 3 | None | MT OJT | 61,110 |
| 15-1121 | Computer Systems Analysts | 2,527 | 1,076 | 3 | None | None | 92,664 |
| 15-1122 | Information Security Analysts | 389 | 160 | 3 | <5 years | None | 101,109 |
| 15-1131 | Computer Programmers | 2,048 | 859 | 3 | None | None | 89,440 |
| 15-1132 | Software Developers, Applications | 3,447 | 1,355 | 3 | None | None | 103,750 |
| 15-1133 | Software Developers, Systems Software | 1,752 | 679 | 3 | None | None | 120,286 |
| 15-1134 | Web Developers | 739 | 284 | 4 | None | None | 67,142 |
| 15-1141 | Database Administrators | 560 | 234 | 3 | <5 years | None | 91,270 |
| 15-1142 | Network and Computer Systems Administrators | 1,702 | 695 | 3 | None | None | 80,974 |
| 15-1143 | Computer Network Architects | 638 | 269 | 3 | ≥5 years | None | 113,298 |
| 15-1151 | Computer User Support Specialists | 2,649 | 1,064 | 6 | None | MT OJT | 53,248 |
| 15-1152 | Computer Network Support Specialists | 738 | 306 | 4 | None | None | 69,722 |
| 15-1199 | Computer Occupations, All Other | 652 | 445 | 3 | None | None | 79,123 |
| 15-2011 | Actuaries | 119 | 56 | 3 | None | LT OJT | 97,053 |
| 15-2021 | Mathematicians | 4 | 2 | 2 | None | None | 113,214 |
| 15-2031 | Operations Research Analysts | 425 | 197 | 3 | None | None | 83,262 |
| 15-2041 | Statisticians | 142 | 86 | 2 | None | None | 83,720 |
| 17-1011 | Architects, Except Landscape and Naval | 658 | 292 | 3 | None | I/R | 82,202 |
| 17-1012 | Landscape Architects | 128 | 58 | 3 | None | I/R | 93,995 |
| 17-1021 | Cartographers and Photogrammetrists | 53 | 34 | 3 | None | None | 71,822 |
| 17-1022 | Surveyors | 267 | 127 | 3 | <5 years | None | 88,150 |
| 17-2011 | Aerospace Engineers | 348 | 142 | 3 | None | None | 125,362 |
| 17-2031 | Biomedical Engineers | 104 | 41 | 3 | None | None | 87,838 |
| 17-2041 | Chemical Engineers | 167 | 69 | 3 | None | None | 84,136 |
| 17-2051 | Civil Engineers | 1,521 | 876 | 3 | None | None | 97,656 |
| 17-2061 | Computer Hardware Engineers | 165 | 65 | 3 | None | None | 107,349 |
| 17-2071 | Electrical Engineers | 862 | 329 | 3 | None | None | 108,930 |
| 17-2072 | Electronics Engineers, Except Computer | 603 | 269 | 3 | None | None | 104,790 |
| 17-2081 | Environmental Engineers | 304 | 173 | 3 | None | None | 105,165 |
| 17-2111 | Health and Safety Engineers, Except Mining Safety Engineers | 132 | 57 | 3 | None | None | 100,547 |
| 17-2112 | Industrial Engineers | 1,205 | 353 | 3 | None | None | 98,946 |
| 17-2121 | Marine Engineers and Naval Architects | 16 | 7 | 3 | None | None | N/A |
| 17-2131 | Materials Engineers | 135 | 50 | 3 | None | None | 101,858 |
| 17-2141 | Mechanical Engineers | 1,708 | 633 | 3 | None | None | 95,472 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 17-2151 | Mining and Geological Engineers, Including Mining | 12 | 5 | 3 | None | None | N/A |
| 17-2161 | Nuclear Engineers | 21 | 10 | 3 | None | None | N/A |
| 17-2171 | Petroleum Engineers | 102 | 34 | 3 | None | None | 119,309 |
| 17-2199 | Engineers, All Other | 508 | 269 | 3 | None | None | 101,837 |
| 17-3011 | Architectural and Civil Drafters | 511 | 218 | 4 | None | None | 60,133 |
| 17-3012 | Electrical and Electronics Drafters | 129 | 49 | 4 | None | None | 56,181 |
| 17-3013 | Mechanical Drafters | 220 | 74 | 4 | None | None | 50,523 |
| 17-3019 | Drafters, All Other | 66 | 25 | 4 | None | None | 54,995 |
| 17-3021 | Aerospace Engineering and Operations Technicians | 58 | 21 | 4 | None | None | 73,840 |
| 17-3022 | Civil Engineering Technicians | 319 | 232 | 4 | None | None | 72,571 |
| 17-3023 | Electrical and Electronics Engineering Technicians | 598 | 241 | 4 | None | None | 62,192 |
| 17-3024 | Electro-Mechanical Technicians | 59 | 21 | 4 | None | None | 44,262 |
| 17-3025 | Environmental Engineering Technicians | 102 | 48 | 4 | None | None | 57,075 |
| 17-3026 | Industrial Engineering Technicians | 241 | 72 | 4 | None | None | 61,610 |
| 17-3027 | Mechanical Engineering Technicians | 220 | 77 | 4 | None | None | 59,259 |
| 17-3029 | Engineering Technicians, Except Drafters, All Other | 216 | 136 | 4 | None | None | 65,603 |
| 17-3031 | Surveying and Mapping Technicians | 259 | 132 | 7 | None | MT OJT | 74,090 |
| 19-1011 | Animal Scientists | 4 | 2 | 3 | None | None | N/A |
| 19-1012 | Food Scientists and Technologists | 78 | 28 | 3 | None | None | 64,626 |
| 19-1013 | Soil and Plant Scientists | 32 | 14 | 3 | None | None | 74,568 |
| 19-1021 | Biochemists and Biophysicists | 207 | 88 | 1 | None | None | 95,306 |
| 19-1022 | Microbiologists | 109 | 63 | 3 | None | None | 81,536 |
| 19-1023 | Zoologists and Wildlife Biologists | 71 | 79 | 3 | None | None | 56,264 |
| 19-1029 | Biological Scientists, All Other | 40 | 22 | 3 | None | None | 79,165 |
| 19-1031 | Conservation Scientists | 13 | 11 | 3 | None | None | 85,134 |
| 19-1032 | Foresters | 6 | 4 | 3 | None | None | 64,750 |
| 19-1041 | Epidemiologists | 7 | 4 | 3 | None | None | 48,069 |
| 19-1042 | Medical Scientists, Except Epidemiologists | 522 | 212 | 1 | None | None | 91,853 |
| 19-1099 | Life Scientists, All Other | 37 | 20 | 3 | None | None | 88,358 |
| 19-2011 | Astronomers | 3 | 1 | 3 | None | None | 137,176 |
| 19-2012 | Physicists | 82 | 45 | 1 | None | None | 109,637 |
| 19-2021 | Atmospheric and Space Scientists | 20 | 10 | 3 | None | None | 109,138 |
| 19-2031 | Chemists | 471 | 226 | 3 | None | None | 63,898 |
| 19-2032 | Materials Scientists | 36 | 14 | 3 | None | None | 93,850 |
| 19-2041 | Environmental Scientists and Specialists, Including Health | 474 | 346 | 3 | None | None | 84,053 |
| 19-2042 | Geoscientists, Except Hydrologists and Geographers | 169 | 88 | 3 | None | None | 105,414 |
| 19-2043 | Hydrologists | 12 | 6 | 3 | None | None | N/A |
| 19-2099 | Physical Scientists, All Other | 67 | 57 | 3 | None | None | 106,163 |
| 19-3011 | Economists | 96 | 71 | 2 | None | None | 102,835 |
| 19-3022 | Survey Researchers | 84 | 37 | 2 | None | None | 59,509 |
| 19-3031 | Clinical, Counseling, and School Psychologists | 554 | 245 | 1 | None | I/R | 69,659 |
| 19-3039 | Psychologists, All Other | 50 | 49 | 2 | None | I/R | 102,690 |
| 19-3041 | Sociologists | 12 | 7 | 2 | None | None | 74,547 |
| 19-3051 | Urban and Regional Planners | 168 | 243 | 2 | None | None | 72,675 |
| 19-3091 | Anthropologists and Archeologists | 36 | 21 | 2 | None | None | 65,062 |
| 19-3092 | Geographers | 1 | 1 | 3 | None | None | N/A |
| 19-3093 | Historians | 4 | 2 | 3 | None | None | 48,630 |
| 19-3094 | Political Scientists | 7 | 4 | 3 | None | None | 81,141 |
| 19-3099 | Social Scientists and Related Workers, All Other | 74 | 81 | 3 | None | None | 85,155 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 19-4011 | Agricultural and Food Science Technicians | 110 | 46 | 4 | None | MT OJT | 31,470 |
| 19-4021 | Biological Technicians | 380 | 207 | 3 | None | None | 47,944 |
| 19-4031 | Chemical Technicians | 350 | 147 | 4 | None | MT OJT | 42,266 |
| 19-4041 | Geological and Petroleum Technicians | 67 | 26 | 4 | None | MT OJT | 55,224 |
| 19-4051 | Nuclear Technicians | 3 | 1 | 4 | None | MT OJT | N/A |
| 19-4061 | Social Science Research Assistants | 193 | 90 | 4 | None | None | 39,354 |
| 19-4091 | Environmental Science and Protection Technicians, Including Health | 249 | 148 | 4 | None | None | 47,091 |
| 19-4092 | Forensic Science Technicians | 45 | 82 | 3 | None | MT OJT | 84,531 |
| 19-4093 | Forest and Conservation Technicians | 90 | 193 | 4 | None | None | 38,397 |
| 19-4099 | Life, Physical, and Social Science Technicians, All Other | 399 | 213 | 4 | None | None | 44,242 |
| 21-1011 | Substance Abuse and Behavioral Disorder Counselors | 682 | 293 | 7 | None | MT OJT | 33,509 |
| 21-1012 | Educational, Guidance, School, and Vocational Counselors | 753 | 332 | 2 | None | None | 63,461 |
| 21-1013 | Marriage and Family Therapists | 314 | 150 | 2 | None | I/R | 45,947 |
| 21-1014 | Mental Health Counselors | 1,120 | 480 | 2 | None | I/R | 42,162 |
| 21-1015 | Rehabilitation Counselors | 1,248 | 589 | 2 | None | None | 28,912 |
| 21-1019 | Counselors, All Other | 200 | 102 | 2 | None | None | 41,454 |
| 21-1021 | Child, Family, and School Social Workers | 2,166 | 1,268 | 3 | None | None | 49,317 |
| 21-1022 | Healthcare Social Workers | 1,084 | 458 | 2 | None | None | 63,253 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 898 | 405 | 3 | None | None | 53,290 |
| 21-1029 | Social Workers, All Other | 295 | 247 | 3 | None | None | 62,442 |
| 21-1091 | Health Educators | 377 | 195 | 3 | None | None | 48,506 |
| 21-1092 | Probation Officers and Correctional Treatment Specialists | 192 | 391 | 3 | None | ST OJT | 73,549 |
| 21-1093 | Social and Human Service Assistants | 4,154 | 2,004 | 7 | None | ST OJT | 32,365 |
| 21-1094 | Community Health Workers | 482 | 227 | 7 | None | ST OJT | 38,459 |
| 21-1099 | Community and Social Service Specialists, All Other | 764 | 452 | 2 | None | None | 49,234 |
| 21-2011 | Clergy | 253 | 114 | 3 | None | MT OJT | 53,414 |
| 21-2021 | Directors, Religious Activities and Education | 136 | 64 | 3 | <5 years | None | 44,824 |
| 21-2099 | Religious Workers, All Other | 41 | 19 | 3 | None | None | 63,960 |
| 23-1011 | Lawyers | 3,153 | 1,636 | 1 | None | None | 160,368 |
| 23-1012 | Judicial Law Clerks | 14 | 34 | 1 | None | None | 69,930 |
| 23-1021 | Administrative Law Judges, Adjudicators, and Hearing Officers | 17 | 41 | 1 | <5 years | ST OJT | 89,856 |
| 23-1022 | Arbitrators, Mediators, and Conciliators | 17 | 8 | 1 | <5 years | MT OJT | 57,054 |
| 23-1023 | Judges, Magistrate Judges, and Magistrates | 34 | 83 | 1 | ≥5 years | ST OJT | N/A |
| 23-2011 | Paralegals and Legal Assistants | 1,539 | 748 | 4 | None | None | 61,922 |
| 23-2091 | Court Reporters | 73 | 57 | 5 | None | ST OJT | 99,403 |
| 23-2093 | Title Examiners, Abstractors, and Searchers | 279 | 123 | 7 | None | ST OJT | 43,597 |
| 23-2099 | Legal Support Workers, All Other | 138 | 127 | 7 | None | ST OJT | 55,286 |
| 25-1011 | Business Teachers, Postsecondary | 85 | 32 | 1 | None | None | N/A |
| 25-1021 | Computer Science Teachers, Postsecondary | 36 | 14 | 1 | None | None | N/A |
| 25-1022 | Mathematical Science Teachers, Postsecondary | 54 | 21 | 1 | None | None | N/A |
| 25-1031 | Architecture Teachers, Postsecondary | 3 | 1 | 1 | None | None | N/A |
| 25-1032 | Engineering Teachers, Postsecondary | 36 | 14 | 1 | None | None | N/A |
| 25-1041 | Agricultural Sciences Teachers, Postsecondary | 11 | 4 | 1 | None | None | N/A |
| 25-1042 | Biological Science Teachers, Postsecondary | 55 | 21 | 1 | None | None | N/A |
| 25-1043 | Forestry and Conservation Science Teachers, Postsecondary | 1 | 0 | 1 | None | None | N/A |
| 25-1051 | Atmospheric, Earth, Marine, and Space Sciences Teachers, | 11 | 4 | 1 | None | None | N/A |
| 25-1052 | Chemistry Teachers, Postsecondary | 22 | 8 | 1 | None | None | N/A |
| 25-1053 | Environmental Science Teachers, Postsecondary | 2 | 1 | 1 | None | None | N/A |
| 25-1054 | Physics Teachers, Postsecondary | 14 | 5 | 1 | None | None | N/A |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 25-1061 | Anthropology and Archeology Teachers, Postsecondary | 5 | 2 | 1 | None | None | N/A |
| 25-1062 | Area, Ethnic, and Cultural Studies Teachers, Postsecondary | 9 | 3 | 1 | None | None | N/A |
| 25-1063 | Economics Teachers, Postsecondary | 14 | 5 | 1 | None | None | N/A |
| 25-1064 | Geography Teachers, Postsecondary | 2 | 1 | 1 | None | None | N/A |
| 25-1065 | Political Science Teachers, Postsecondary | 18 | 7 | 1 | None | None | N/A |
| 25-1066 | Psychology Teachers, Postsecondary | 38 | 14 | 1 | None | None | N/A |
| 25-1067 | Sociology Teachers, Postsecondary | 16 | 6 | 1 | None | None | N/A |
| 25-1069 | Social Sciences Teachers, Postsecondary, All Other | 11 | 4 | 1 | None | None | N/A |
| 25-1071 | Health Specialties Teachers, Postsecondary | 195 | 72 | 1 | <5 years | None | N/A |
| 25-1072 | Nursing Instructors and Teachers, Postsecondary | 68 | 25 | 2 | <5 years | None | N/A |
| 25-1081 | Education Teachers, Postsecondary | 61 | 23 | 1 | None | None | N/A |
| 25-1082 | Library Science Teachers, Postsecondary | 2 | 1 | 1 | None | None | N/A |
| 25-1111 | Criminal Justice and Law Enforcement Teachers, Postsecondary | 16 | 6 | 1 | None | None | N/A |
| 25-1112 | Law Teachers, Postsecondary | 6 | 2 | 1 | None | None | N/A |
| 25-1113 | Social Work Teachers, Postsecondary | 4 | 2 | 2 | None | None | N/A |
| 25-1121 | Art, Drama, and Music Teachers, Postsecondary | 99 | 38 | 2 | None | None | N/A |
| 25-1122 | Communications Teachers, Postsecondary | 30 | 11 | 1 | None | None | N/A |
| 25-1123 | English Language and Literature Teachers, Postsecondary | 76 | 29 | 1 | None | None | N/A |
| 25-1124 | Foreign Language and Literature Teachers, Postsecondary | 31 | 12 | 1 | None | None | N/A |
| 25-1125 | History Teachers, Postsecondary | 25 | 9 | 1 | None | None | N/A |
| 25-1126 | Philosophy and Religion Teachers, Postsecondary | 23 | 9 | 1 | None | None | N/A |
| 25-1191 | Graduate Teaching Assistants | 128 | 48 | 3 | None | None | N/A |
| 25-1192 | Home Economics Teachers, Postsecondary | 3 | 1 | 2 | None | None | N/A |
| 25-1193 | Recreation and Fitness Studies Teachers, Postsecondary | 18 | 7 | 1 | None | None | N/A |
| 25-1194 | Vocational Education Teachers, Postsecondary | 150 | 67 | 3 | <5 years | None | 53,061 |
| 25-1199 | Postsecondary Teachers, All Other | 73 | 27 | 2 | None | None | N/A |
| 25-2011 | Preschool Teachers, Except Special Education | 5,977 | 2,559 | 4 | None | None | 29,869 |
| 25-2012 | Kindergarten Teachers, Except Special Education | 391 | 155 | 3 | None | I/R | N/A |
| 25-2021 | Elementary School Teachers, Except Special Education | 1,827 | 693 | 3 | None | I/R | N/A |
| 25-2022 | Middle School Teachers, Except Special and Career/Technical Education | 864 | 327 | 3 | None | I/R | N/A |
| 25-2023 | Career/Technical Education Teachers, Middle School | 5 | 2 | 3 | None | I/R | N/A |
| 25-2031 | Secondary School Teachers, Except Special and Career/Technical | 1,467 | 564 | 3 | None | I/R | N/A |
| 25-2032 | Career/Technical Education Teachers, Secondary School | 126 | 55 | 3 | <5 years | I/R | N/A |
| 25-2051 | Special Education Teachers, Preschool | 144 | 61 | 3 | None | I/R | N/A |
| 25-2052 | Special Education Teachers, Kindergarten and Elementary School | 298 | 117 | 3 | None | I/R | N/A |
| 25-2053 | Special Education Teachers, Middle School | 104 | 40 | 3 | None | I/R | N/A |
| 25-2054 | Special Education Teachers, Secondary School | 163 | 64 | 3 | None | I/R | N/A |
| 25-2059 | Special Education Teachers, All Other | 49 | 20 | 3 | None | I/R | N/A |
| 25-3011 | Adult Basic and Secondary Education and Literacy Teachers and | 162 | 74 | 3 | None | I/R | 76,877 |
| 25-3021 | Self-Enrichment Education Teachers | 627 | 278 | 7 | <5 years | None | 34,778 |
| 25-3097 | Teachers and Instructors, All Other, Except Substitute Teachers | 266 | 117 | 3 | None | I/R | N/A |
| 25-3098 | Substitute Teachers | 999 | 381 | 3 | None | I/R | 42,370 |
| 25-4011 | Archivists | 30 | 16 | 2 | None | None | 47,403 |
| 25-4012 | Curators | 44 | 36 | 2 | None | None | 64,480 |
| 25-4013 | Museum Technicians and Conservators | 40 | 35 | 3 | None | None | 50,003 |
| 25-4021 | Librarians | 370 | 271 | 2 | None | None | 72,925 |
| 25-4031 | Library Technicians | 472 | 550 | 5 | None | None | 44,138 |
| 25-9011 | Audio-Visual and Multimedia Collections Specialists | 7 | 3 | 3 | <5 years | None | 43,888 |
| 25-9021 | Farm and Home Management Advisors | 5 | 3 | 2 | ≥5 years | None | N/A |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 25-9031 | Instructional Coordinators | 246 | 120 | 2 | ≥5 years | None | 77,126 |
| 25-9041 | Teacher Assistants | 4,183 | 1,753 | 6 | None | None | N/A |
| 25-9099 | Education, Training, and Library Workers, All Other | 78 | 34 | 6 | None | None | 29,723 |
| 27-1011 | Art Directors | 326 | 117 | 3 | ≥5 years | None | 110,344 |
| 27-1012 | Craft Artists | 51 | 20 | 7 | None | LT OJT | 68,619 |
| 27-1013 | Fine Artists, Including Painters, Sculptors, and Illustrators | 123 | 46 | 7 | None | LT OJT | 59,509 |
| 27-1014 | Multimedia Artists and Animators | 565 | 165 | 3 | None | MT OJT | 81,640 |
| 27-1019 | Artists and Related Workers, All Other | 36 | 25 | 7 | None | LT OJT | 66,186 |
| 27-1021 | Commercial and Industrial Designers | 166 | 58 | 3 | None | None | 60,133 |
| 27-1022 | Fashion Designers | 307 | 114 | 3 | None | None | 68,016 |
| 27-1023 | Floral Designers | 181 | 74 | 7 | None | MT OJT | 28,350 |
| 27-1024 | Graphic Designers | 1,427 | 554 | 3 | None | None | 52,104 |
| 27-1025 | Interior Designers | 295 | 120 | 3 | None | None | 53,976 |
| 27-1026 | Merchandise Displayers and Window Trimmers | 519 | 191 | 7 | None | MT OJT | 31,637 |
| 27-1027 | Set and Exhibit Designers | 194 | 67 | 3 | None | None | 58,448 |
| 27-1029 | Designers, All Other | 74 | 24 | 3 | None | None | 51,605 |
| 27-2011 | Actors | 536 | 148 | 7 | None | None | N/A |
| 27-2012 | Producers and Directors | 2,963 | 962 | 3 | <5 years | None | 102,898 |
| 27-2021 | Athletes and Sports Competitors | 151 | 67 | 7 | None | LT OJT | N/A |
| 27-2022 | Coaches and Scouts | 661 | 263 | 3 | None | None | N/A |
| 27-2023 | Umpires, Referees, and Other Sports Officials | 90 | 59 | 7 | None | MT OJT | N/A |
| 27-2031 | Dancers | 120 | 52 | 7 | None | LT OJT | 20779.2 |
| 27-2032 | Choreographers | 27 | 11 | 7 | ≥5 years | LT OJT | N/A |
| 27-2041 | Music Directors and Composers | 121 | 51 | 3 | <5 years | None | 57,845 |
| 27-2042 | Musicians and Singers | 460 | 207 | 7 | None | LT OJT | 77084.8 |
| 27-2099 | Entertainers and Performers, Sports and Related Workers, All Other | 220 | 63 | 7 | None | None | 37377.6 |
| 27-3011 | Radio and Television Announcers | 227 | 153 | 3 | None | None | 37,586 |
| 27-3012 | Public Address System and Other Announcers | 61 | 27 | 7 | None | ST OJT | 25,792 |
| 27-3021 | Broadcast News Analysts | 49 | 35 | 3 | None | None | 74,131 |
| 27-3022 | Reporters and Correspondents | 308 | 161 | 3 | None | None | 37,710 |
| 27-3031 | Public Relations Specialists | 993 | 459 | 3 | None | None | 65,728 |
| 27-3041 | Editors | 573 | 215 | 3 | <5 years | None | 63,045 |
| 27-3042 | Technical Writers | 364 | 148 | 3 | <5 years | ST OJT | 72,571 |
| 27-3043 | Writers and Authors | 404 | 154 | 3 | None | MT OJT | N/A |
| 27-3091 | Interpreters and Translators | 208 | 94 | 3 | None | ST OJT | 65,624 |
| 27-3099 | Media and Communication Workers, All Other | 444 | 123 | 7 | None | ST OJT | 47,070 |
| 27-4011 | Audio and Video Equipment Technicians | 715 | 247 | 5 | None | ST OJT | 48,214 |
| 27-4012 | Broadcast Technicians | 197 | 116 | 4 | None | ST OJT | 53,893 |
| 27-4013 | Radio Operators | 0 | 0 | 4 | None | ST OJT | N/A |
| 27-4014 | Sound Engineering Technicians | 329 | 94 | 5 | None | ST OJT | 58,594 |
| 27-4021 | Photographers | 273 | 115 | 7 | None | LT OJT | 58,115 |
| 27-4031 | Camera Operators, Television, Video, and Motion Picture | 234 | 69 | 3 | None | None | 59,134 |
| 27-4032 | Film and Video Editors | 471 | 122 | 3 | None | None | 86,778 |
| 27-4099 | Media and Communication Equipment Workers, All Other | 252 | 77 | 7 | None | ST OJT | 70,928 |
| 29-1011 | Chiropractors | 213 | 77 | 1 | None | None | 128,502 |
| 29-1021 | Dentists, General | 758 | 282 | 1 | None | None | 130,437 |
| 29-1022 | Oral and Maxillofacial Surgeons | 22 | 8 | 1 | None | None | N/A |
| 29-1023 | Orthodontists | 47 | 17 | 1 | None | I/R | 186,098 |
| 29-1024 | Prosthodontists | 3 | 1 | 1 | None | None | N/A |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 29-1029 | Dentists, All Other Specialists | 27 | 16 | 1 | None | I/R | 124,467 |
| 29-1031 | Dietitians and Nutritionists | 272 | 115 | 3 | None | I/R | 73,278 |
| 29-1041 | Optometrists | 256 | 93 | 1 | None | None | 106,413 |
| 29-1051 | Pharmacists | 1,395 | 506 | 1 | None | None | 137,114 |
| 29-1061 | Anesthesiologists | 122 | 44 | 1 | None | None | N/A |
| 29-1062 | Family and General Practitioners | 467 | 167 | 1 | None | None | N/A |
| 29-1063 | Internists, General | 345 | 123 | 1 | None | I/R | 179,733 |
| 29-1064 | Obstetricians and Gynecologists | 161 | 58 | 1 | None | I/R | N/A |
| 29-1065 | Pediatricians, General | 229 | 82 | 1 | None | I/R | 183,414 |
| 29-1066 | Psychiatrists | 166 | 69 | 1 | None | I/R | 183,706 |
| 29-1067 | Surgeons | 300 | 109 | 1 | None | I/R | N/A |
| 29-1069 | Physicians and Surgeons, All Other | 1,936 | 802 | 1 | None | I/R | N/A |
| 29-1071 | Physician Assistants | 332 | 119 | 1 | None | I/R | 95,222 |
| 29-1081 | Podiatrists | 60 | 24 | 1 | None | I/R | 57,034 |
| 29-1122 | Occupational Therapists | 570 | 212 | 2 | None | None | 91,333 |
| 29-1123 | Physical Therapists | 1,387 | 504 | 1 | None | None | 90,771 |
| 29-1124 | Radiation Therapists | 94 | 31 | 4 | None | None | 95,306 |
| 29-1125 | Recreational Therapists | 98 | 45 | 3 | None | None | 55,931 |
| 29-1126 | Respiratory Therapists | 543 | 176 | 4 | None | None | 75,920 |
| 29-1127 | Speech-Language Pathologists | 475 | 183 | 2 | None | None | 79,830 |
| 29-1128 | Exercise Physiologists | 28 | 10 | 3 | None | None | 73,528 |
| 29-1129 | Therapists, All Other | 65 | 25 | 3 | None | None | 35,506 |
| 29-1131 | Veterinarians | 553 | 247 | 1 | None | None | 101,234 |
| 29-1141 | Registered Nurses | 14,118 | 5,149 | 4 | None | None | 96,366 |
| 29-1151 | Nurse Anesthetists | 230 | 83 | 2 | None | None | 177,070 |
| 29-1161 | Nurse Midwives | 19 | 7 | 2 | None | None | 129,854 |
| 29-1171 | Nurse Practitioners | 763 | 278 | 2 | None | None | 116,563 |
| 29-1181 | Audiologists | 37 | 13 | 2 | None | None | 89,024 |
| 29-1199 | Health Diagnosing and Treating Practitioners, All Other | 142 | 94 | 2 | None | None | 61,797 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 986 | 355 | 3 | None | None | 81,182 |
| 29-2012 | Medical and Clinical Laboratory Technicians | 1,059 | 385 | 4 | None | None | 42,224 |
| 29-2021 | Dental Hygienists | 1,579 | 582 | 4 | None | None | 106,746 |
| 29-2031 | Cardiovascular Technologists and Technicians | 241 | 77 | 4 | None | None | 64,605 |
| 29-2032 | Diagnostic Medical Sonographers | 303 | 101 | 4 | None | None | 87,506 |
| 29-2033 | Nuclear Medicine Technologists | 100 | 33 | 4 | None | None | 99,070 |
| 29-2034 | Radiologic Technologists | 957 | 331 | 4 | None | None | 71,573 |
| 29-2035 | Magnetic Resonance Imaging Technologists | 172 | 58 | 4 | <5 years | None | 87,339 |
| 29-2041 | Emergency Medical Technicians and Paramedics | 1,429 | 774 | 5 | None | None | 27,997 |
| 29-2051 | Dietetic Technicians | 115 | 44 | 4 | None | None | 31,262 |
| 29-2052 | Pharmacy Technicians | 1,051 | 372 | 7 | None | MT OJT | 36,941 |
| 29-2053 | Psychiatric Technicians | 226 | 99 | 5 | None | ST OJT | 54,371 |
| 29-2054 | Respiratory Therapy Technicians | 41 | 13 | 4 | None | MT OJT | 73,778 |
| 29-2055 | Surgical Technologists | 437 | 143 | 5 | None | None | 53,955 |
| 29-2056 | Veterinary Technologists and Technicians | 499 | 216 | 4 | None | None | 36,608 |
| 29-2057 | Ophthalmic Medical Technicians | 201 | 73 | 5 | None | None | 43,867 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 4,623 | 1,859 | 5 | None | None | 50,814 |
| 29-2071 | Medical Records and Health Information Technicians | 1,238 | 468 | 5 | None | None | 41,475 |
| 29-2081 | Opticians, Dispensing | 489 | 173 | 7 | None | LT OJT | 37,544 |
| 29-2091 | Orthotists and Prosthetists | 18 | 7 | 2 | None | I/R | 58,032 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 29-2092 | Hearing Aid Specialists | 11 | 4 | 3 | None | ST OJT | 54,891 |
| 29-2099 | Health Technologists and Technicians, All Other | 425 | 152 | 7 | None | None | 41,995 |
| 29-9011 | Occupational Health and Safety Specialists | 273 | 168 | 3 | None | ST OJT | 73,299 |
| 29-9012 | Occupational Health and Safety Technicians | 64 | 33 | 7 | None | MT OJT | 38,397 |
| 29-9091 | Athletic Trainers | 121 | 44 | 3 | None | None | N/A |
| 29-9092 | Genetic Counselors | 7 | 2 | 3 | None | None | 91,811 |
| 29-9099 | Healthcare Practitioners and Technical Workers, All Other | 230 | 101 | 3 | None | None | 56,306 |
| 31-1011 | Home Health Aides | 7,173 | 2,850 | 8 | None | ST OJT | 23,150 |
| 31-1013 | Psychiatric Aides | 316 | 168 | 7 | None | ST OJT | 28,038 |
| 31-1014 | Nursing Assistants | 8,273 | 3,204 | 5 | None | None | 28,434 |
| 31-1015 | Orderlies | 251 | 88 | 7 | None | ST OJT | 33,675 |
| 31-2011 | Occupational Therapy Assistants | 236 | 88 | 4 | None | None | 70,138 |
| 31-2012 | Occupational Therapy Aides | 64 | 24 | 7 | None | ST OJT | 28,954 |
| 31-2021 | Physical Therapist Assistants | 519 | 187 | 4 | None | None | 69,243 |
| 31-2022 | Physical Therapist Aides | 331 | 123 | 7 | None | ST OJT | 28,101 |
| 31-9011 | Massage Therapists | 470 | 183 | 5 | None | None | 38,709 |
| 31-9091 | Dental Assistants | 2,262 | 845 | 5 | None | None | 36,858 |
| 31-9092 | Medical Assistants | 3,897 | 1,413 | 5 | None | None | 32,635 |
| 31-9093 | Medical Equipment Preparers | 267 | 88 | 7 | None | MT OJT | 38,626 |
| 31-9094 | Medical Transcriptionists | 417 | 147 | 5 | None | None | 53,581 |
| 31-9095 | Pharmacy Aides | 162 | 58 | 7 | None | ST OJT | 23,400 |
| 31-9096 | Veterinary Assistants and Laboratory Animal Caretakers | 472 | 204 | 7 | None | ST OJT | 28,184 |
| 31-9097 | Phlebotomists | 703 | 245 | 5 | None | None | 36,733 |
| 31-9099 | Healthcare Support Workers, All Other | 456 | 212 | 7 | None | None | 38,272 |
| 33-1011 | First-Line Supervisors of Correctional Officers | 127 | 248 | 7 | <5 years | MT OJT | 90,043 |
| 33-1012 | First-Line Supervisors of Police and Detectives | 206 | 491 | 7 | <5 years | MT OJT | 135,928 |
| 33-1021 | First-Line Supervisors of Fire Fighting and Prevention Workers | 183 | 419 | 5 | <5 years | MT OJT | 167,378 |
| 33-1099 | First-Line Supervisors of Protective Service Workers, All Other | 418 | 188 | 7 | <5 years | None | 43,430 |
| 33-2011 | Firefighters | 700 | 1,420 | 5 | None | LT OJT | 81,910 |
| 33-2021 | Fire Inspectors and Investigators | 27 | 54 | 7 | ≥5 years | MT OJT | 105,726 |
| 33-3011 | Bailiffs | 3 | 7 | 7 | None | MT OJT | N/A |
| 33-3012 | Correctional Officers and Jailers | 1,024 | 1,946 | 7 | None | MT OJT | 56,243 |
| 33-3021 | Detectives and Criminal Investigators | 170 | 413 | 7 | <5 years | MT OJT | 109,990 |
| 33-3031 | Fish and Game Wardens | 1 | 2 | 7 | None | MT OJT | N/A |
| 33-3041 | Parking Enforcement Workers | 18 | 37 | 7 | None | ST OJT | 46,093 |
| 33-3051 | Police and Sheriff's Patrol Officers | 1,382 | 3,279 | 7 | None | MT OJT | 89,544 |
| 33-3052 | Transit and Railroad Police | 6 | 14 | 7 | None | ST OJT | N/A |
| 33-9011 | Animal Control Workers | 27 | 52 | 7 | None | MT OJT | 50,669 |
| 33-9021 | Private Detectives and Investigators | 204 | 86 | 7 | <5 years | MT OJT | 55,245 |
| 33-9031 | Gaming Surveillance Officers and Gaming Investigators | 35 | 16 | 7 | None | ST OJT | 31,574 |
| 33-9032 | Security Guards | 7,788 | 2,917 | 7 | None | ST OJT | 24,128 |
| 33-9092 | Lifeguards, Ski Patrol, and Other Recreational Protective Service | 1,152 | 846 | 7 | None | ST OJT | 28,933 |
| 33-9093 | Transportation Security Screeners | 82 | 171 | 7 | None | ST OJT | 39,645 |
| 33-9099 | Protective Service Workers, All Other | 858 | 586 | 7 | None | ST OJT | 36,358 |
| 35-1011 | Chefs and Head Cooks | 656 | 251 | 7 | ≥5 years | None | 38,584 |
| 35-1012 | First-Line Supervisors of Food Preparation and Serving Workers | 6,655 | 2,513 | 7 | <5 years | None | 31,346 |
| 35-2011 | Cooks, Fast Food | 3,466 | 1,307 | 8 | None | ST OJT | 19,302 |
| 35-2012 | Cooks, Institution and Cafeteria | 2,071 | 862 | 8 | None | ST OJT | 29,390 |
| 35-2014 | Cooks, Restaurant | 7,281 | 2,739 | 8 | <5 years | MT OJT | 23,317 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 35-2015 | Cooks, Short Order | 1,116 | 417 | 8 | None | ST OJT | 22,630 |
| 35-2019 | Cooks, All Other | 116 | 44 | 8 | None | MT OJT | 28,870 |
| 35-2021 | Food Preparation Workers | 6,103 | 2,315 | 8 | None | ST OJT | 19,781 |
| 35-3011 | Bartenders | 5,309 | 2,031 | 8 | None | ST OJT | 19,906 |
| 35-3021 | Combined Food Preparation and Serving Workers, Including Fast Food | 28,702 | 10,841 | 8 | None | ST OJT | 19,302 |
| 35-3022 | Counter Attendants, Cafeteria, Food Concession, and Coffee Shop | 8,809 | 2,868 | 8 | None | ST OJT | 19,594 |
| 35-3031 | Waiters and Waitresses | 27,117 | 10,202 | 8 | None | ST OJT | 19,926 |
| 35-3041 | Food Servers, Nonrestaurant | 1,790 | 672 | 8 | None | ST OJT | 23,130 |
| 35-9011 | Dining Room and Cafeteria Attendants and Bartender Helpers | 4,086 | 1,535 | 8 | None | ST OJT | 19,240 |
| 35-9021 | Dishwashers | 5,143 | 1,937 | 8 | None | ST OJT | 19,157 |
| 35-9031 | Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop | 5,772 | 2,178 | 8 | None | None | 19,469 |
| 35-9099 | Food Preparation and Serving Related Workers, All Other | 488 | 186 | 8 | None | ST OJT | 21,154 |
| 37-1011 | First-Line Supervisors of Housekeeping and Janitorial Workers | 1,132 | 446 | 7 | <5 years | None | 42,286 |
| 37-1012 | First-Line Supervisors of Landscaping, Lawn Service, and | 623 | 244 | 7 | <5 years | None | 41,808 |
| 37-2011 | Janitors and Cleaners, Except Maids and Housekeeping Cleaners | 13,379 | 5,152 | 8 | None | ST OJT | 24,835 |
| 37-2012 | Maids and Housekeeping Cleaners | 5,625 | 2,144 | 8 | None | ST OJT | 23,504 |
| 37-2019 | Building Cleaning Workers, All Other | 124 | 47 | 8 | None | ST OJT | 28,974 |
| 37-2021 | Pest Control Workers | 717 | 262 | 7 | None | MT OJT | 29,827 |
| 37-3011 | Landscaping and Groundskeeping Workers | 7,097 | 2,871 | 8 | None | ST OJT | 24,586 |
| 37-3012 | Pesticide Handlers, Sprayers, and Applicators, Vegetation | 184 | 81 | 7 | None | MT OJT | 29,827 |
| 37-3013 | Tree Trimmers and Pruners | 235 | 86 | 7 | None | MT OJT | 32,448 |
| 37-3019 | Grounds Maintenance Workers, All Other | 65 | 26 | 8 | None | ST OJT | 31,304 |
| 39-1011 | Gaming Supervisors | 105 | 39 | 7 | <5 years | None | 43,534 |
| 39-1021 | First-Line Supervisors of Personal Service Workers | 1,478 | 604 | 7 | <5 years | None | 41,122 |
| 39-2011 | Animal Trainers | 117 | 50 | 7 | None | MT OJT | 41,933 |
| 39-2021 | Nonfarm Animal Caretakers | 796 | 351 | 8 | None | ST OJT | 22,069 |
| 39-3011 | Gaming Dealers | 387 | 136 | 7 | None | ST OJT | 19,136 |
| 39-3012 | Gaming and Sports Book Writers and Runners | 81 | 34 | 7 | None | ST OJT | 20,758 |
| 39-3019 | Gaming Service Workers, All Other | 20 | 7 | 7 | None | ST OJT | 28,475 |
| 39-3021 | Motion Picture Projectionists | 437 | 108 | 8 | None | ST OJT | 21,590 |
| 39-3031 | Ushers, Lobby Attendants, and Ticket Takers | 5,031 | 1,505 | 8 | None | ST OJT | 19,302 |
| 39-3091 | Amusement and Recreation Attendants | 2,121 | 978 | 8 | None | ST OJT | 23,962 |
| 39-3092 | Costume Attendants | 214 | 66 | 7 | None | ST OJT | 50,565 |
| 39-3093 | Locker Room, Coatroom, and Dressing Room Attendants | 166 | 62 | 7 | None | ST OJT | 24,003 |
| 39-3099 | Entertainment Attendants and Related Workers, All Other | 9 | 3 | 7 | None | ST OJT | 22,152 |
| 39-4011 | Embalmers | 31 | 13 | 5 | None | ST OJT | 52,291 |
| 39-4021 | Funeral Attendants | 285 | 117 | 7 | None | ST OJT | 29,141 |
| 39-4031 | Morticians, Undertakers, and Funeral Directors | 198 | 82 | 4 | None | LT OJT | 38,626 |
| 39-5011 | Barbers | 122 | 50 | 5 | None | None | 20,634 |
| 39-5012 | Hairdressers, Hairstylists, and Cosmetologists | 2,801 | 1,140 | 5 | None | None | 22,672 |
| 39-5091 | Makeup Artists, Theatrical and Performance | 40 | 10 | 5 | None | None | 64,314 |
| 39-5092 | Manicurists and Pedicurists | 437 | 179 | 5 | None | None | 19,115 |
| 39-5093 | Shampooers | 66 | 27 | 5 | None | None | 21,674 |
| 39-5094 | Skincare Specialists | 193 | 77 | 5 | None | None | 32,989 |
| 39-6011 | Baggage Porters and Bellhops | 290 | 111 | 7 | None | ST OJT | 22,755 |
| 39-6012 | Concierges | 213 | 89 | 7 | None | MT OJT | 31,970 |
| 39-7011 | Tour Guides and Escorts | 319 | 182 | 7 | None | MT OJT | 26,229 |
| 39-7012 | Travel Guides | 30 | 11 | 7 | None | MT OJT | 35,714 |
| 39-9011 | Childcare Workers | 8,519 | 3,620 | 7 | None | ST OJT | 22,422 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 39-9021 | Personal Care Aides | 11,444 | 4,722 | 8 | None | ST OJT | 21,174 |
| 39-9031 | Fitness Trainers and Aerobics Instructors | 721 | 254 | 7 | None | ST OJT | 46,530 |
| 39-9032 | Recreation Workers | 1,297 | 733 | 3 | None | None | 24,606 |
| 39-9041 | Residential Advisors | 1,178 | 512 | 7 | None | ST OJT | 32,698 |
| 39-9099 | Personal Care and Service Workers, All Other | 368 | 207 | 7 | None | ST OJT | 27,269 |
| 41-1011 | First-Line Supervisors of Retail Sales Workers | 4,346 | 1,498 | 7 | <5 years | None | 40,414 |
| 41-1012 | First-Line Supervisors of Non-Retail Sales Workers | 1,069 | 391 | 7 | <5 years | None | 59,259 |
| 41-2011 | Cashiers | 24,475 | 8,646 | 8 | None | ST OJT | 20,197 |
| 41-2012 | Gaming Change Persons and Booth Cashiers | 37 | 13 | 8 | None | ST OJT | N/A |
| 41-2021 | Counter and Rental Clerks | 2,971 | 1,192 | 8 | None | ST OJT | 24,190 |
| 41-2022 | Parts Salespersons | 1,001 | 270 | 8 | None | MT OJT | 29,203 |
| 41-2031 | Retail Salespersons | 23,170 | 7,814 | 8 | None | ST OJT | 23,130 |
| 41-3011 | Advertising Sales Agents | 1,349 | 632 | 7 | None | MT OJT | 68,910 |
| 41-3021 | Insurance Sales Agents | 1,591 | 744 | 7 | None | MT OJT | 54,018 |
| 41-3031 | Securities, Commodities, and Financial Services Sales Agents | 1,724 | 805 | 3 | None | MT OJT | 68,848 |
| 41-3041 | Travel Agents | 571 | 206 | 7 | None | MT OJT | 34,694 |
| 41-3099 | Sales Representatives, Services, All Other | 5,975 | 2,226 | 7 | None | ST OJT | 54,995 |
| 41-4011 | Sales Representatives, Wholesale and Manufacturing, Technical and | 1,665 | 564 | 3 | None | MT OJT | 77,230 |
| 41-4012 | Sales Representatives, Wholesale and Manufacturing, Except Technical | 7,204 | 2,355 | 7 | None | MT OJT | 52,562 |
| 41-9011 | Demonstrators and Product Promoters | 271 | 107 | 8 | None | ST OJT | 26,853 |
| 41-9012 | Models | 15 | 5 | 8 | None | None | 46,405 |
| 41-9021 | Real Estate Brokers | 174 | 77 | 7 | <5 years | None | 69,742 |
| 41-9022 | Real Estate Sales Agents | 707 | 315 | 7 | None | LT OJT | 54,205 |
| 41-9031 | Sales Engineers | 299 | 103 | 3 | None | MT OJT | 102,170 |
| 41-9041 | Telemarketers | 1,920 | 700 | 8 | None | ST OJT | 28,059 |
| 41-9091 | Door-to-Door Sales Workers, News and Street Vendors, and Related | 17 | 7 | 7 | None | ST OJT | 23,026 |
| 41-9099 | Sales and Related Workers, All Other | 452 | 163 | 7 | None | None | 33,904 |
| 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 7,976 | 3,297 | 7 | <5 years | None | 56,888 |
| 43-2011 | Switchboard Operators, Including Answering Service | 631 | 242 | 7 | None | ST OJT | 30,451 |
| 43-2021 | Telephone Operators | 38 | 16 | 7 | None | ST OJT | 19,698 |
| 43-3011 | Bill and Account Collectors | 2,746 | 1,017 | 7 | None | MT OJT | 37,898 |
| 43-3021 | Billing and Posting Clerks | 2,907 | 1,103 | 7 | None | ST OJT | 36,150 |
| 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 5,973 | 2,386 | 7 | None | MT OJT | 40,747 |
| 43-3041 | Gaming Cage Workers | 73 | 28 | 7 | None | ST OJT | 30,576 |
| 43-3051 | Payroll and Timekeeping Clerks | 933 | 376 | 7 | None | MT OJT | 45,011 |
| 43-3061 | Procurement Clerks | 404 | 221 | 7 | None | MT OJT | 41,350 |
| 43-3071 | Tellers | 4,216 | 1,576 | 7 | None | ST OJT | 27,394 |
| 43-3099 | Financial Clerks, All Other | 217 | 93 | 7 | None | ST OJT | 43,389 |
| 43-4011 | Brokerage Clerks | 335 | 174 | 7 | None | MT OJT | 50,482 |
| 43-4021 | Correspondence Clerks | 20 | 8 | 7 | None | MT OJT | 40,976 |
| 43-4031 | Court, Municipal, and License Clerks | 164 | 356 | 7 | None | MT OJT | 43,950 |
| 43-4041 | Credit Authorizers, Checkers, and Clerks | 183 | 66 | 7 | None | ST OJT | 40,165 |
| 43-4051 | Customer Service Representatives | 16,693 | 6,368 | 7 | None | ST OJT | 35,838 |
| 43-4061 | Eligibility Interviewers, Government Programs | 250 | 436 | 7 | None | MT OJT | 44,907 |
| 43-4071 | File Clerks | 902 | 404 | 7 | None | ST OJT | 30,867 |
| 43-4081 | Hotel, Motel, and Resort Desk Clerks | 2,001 | 798 | 7 | None | ST OJT | 23,858 |
| 43-4111 | Interviewers, Except Eligibility and Loan | 1,072 | 408 | 7 | None | ST OJT | 35,963 |
| 43-4121 | Library Assistants, Clerical | 473 | 530 | 7 | None | ST OJT | 24,461 |
| 43-4131 | Loan Interviewers and Clerks | 714 | 269 | 7 | None | ST OJT | 44,013 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 43-4141 | New Accounts Clerks | 287 | 108 | 7 | None | MT OJT | 39,666 |
| 43-4151 | Order Clerks | 1,169 | 391 | 7 | None | ST OJT | 31,283 |
| 43-4161 | Human Resources Assistants, Except Payroll and Timekeeping | 751 | 348 | 7 | None | ST OJT | 42,578 |
| 43-4171 | Receptionists and Information Clerks | 7,422 | 2,896 | 7 | None | ST OJT | 29,078 |
| 43-4181 | Reservation and Transportation Ticket Agents and Travel Clerks | 679 | 409 | 7 | None | ST OJT | 39,874 |
| 43-4199 | Information and Record Clerks, All Other | 532 | 465 | 7 | None | ST OJT | 41,787 |
| 43-5011 | Cargo and Freight Agents | 725 | 262 | 7 | None | ST OJT | 45,240 |
| 43-5021 | Couriers and Messengers | 326 | 135 | 7 | None | ST OJT | 31,470 |
| 43-5031 | Police, Fire, and Ambulance Dispatchers | 257 | 436 | 7 | None | MT OJT | 54,746 |
| 43-5032 | Dispatchers, Except Police, Fire, and Ambulance | 1,101 | 414 | 7 | None | MT OJT | 35,859 |
| 43-5041 | Meter Readers, Utilities | 125 | 93 | 7 | None | ST OJT | 45,760 |
| 43-5051 | Postal Service Clerks | 1 | 1 | 7 | None | ST OJT | 56,410 |
| 43-5052 | Postal Service Mail Carriers | 11 | 6 | 7 | None | ST OJT | 58,053 |
| 43-5053 | Postal Service Mail Sorters, Processors, and Processing Machine | 1 | 0 | 7 | None | ST OJT | 55,328 |
| 43-5061 | Production, Planning, and Expediting Clerks | 1,780 | 618 | 7 | None | MT OJT | 45,739 |
| 43-5071 | Shipping, Receiving, and Traffic Clerks | 3,706 | 1,201 | 7 | None | ST OJT | 28,725 |
| 43-5081 | Stock Clerks and Order Fillers | 10,837 | 3,711 | 8 | None | ST OJT | 23,171 |
| 43-5111 | Weighers, Measurers, Checkers, and Samplers, Recordkeeping | 388 | 131 | 7 | None | ST OJT | 24,731 |
| 43-6011 | Executive Secretaries and Executive Administrative Assistants | 2,762 | 1,260 | 7 | <5 years | None | 57,574 |
| 43-6012 | Legal Secretaries | 1,148 | 528 | 7 | None | MT OJT | 56,618 |
| 43-6013 | Medical Secretaries | 2,844 | 1,012 | 7 | None | MT OJT | 35,672 |
| 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and | 8,963 | 3,773 | 7 | None | ST OJT | 37,565 |
| 43-9011 | Computer Operators | 212 | 85 | 7 | None | MT OJT | 43,638 |
| 43-9021 | Data Entry Keyers | 1,045 | 416 | 7 | None | MT OJT | 30,285 |
| 43-9022 | Word Processors and Typists | 128 | 87 | 7 | None | ST OJT | 39,291 |
| 43-9031 | Desktop Publishers | 47 | 18 | 4 | None | ST OJT | 47,528 |
| 43-9041 | Insurance Claims and Policy Processing Clerks | 1,173 | 538 | 7 | None | MT OJT | 39,499 |
| 43-9051 | Mail Clerks and Mail Machine Operators, Except Postal Service | 632 | 270 | 7 | None | ST OJT | 31,470 |
| 43-9061 | Office Clerks, General | 16,108 | 6,748 | 7 | None | ST OJT | 30,680 |
| 43-9071 | Office Machine Operators, Except Computer | 447 | 171 | 7 | None | ST OJT | 32,531 |
| 43-9081 | Proofreaders and Copy Markers | 46 | 17 | 3 | None | None | 42,661 |
| 43-9111 | Statistical Assistants | 59 | 41 | 3 | None | None | 41,350 |
| 43-9199 | Office and Administrative Support Workers, All Other | 1,127 | 609 | 7 | None | ST OJT | 24,669 |
| 45-1011 | First-Line Supervisors of Farming, Fishing, and Forestry Workers | 39 | 20 | 7 | <5 years | None | 50,918 |
| 45-2011 | Agricultural Inspectors | 40 | 59 | 3 | None | MT OJT | 49,878 |
| 45-2041 | Graders and Sorters, Agricultural Products | 94 | 34 | 8 | None | ST OJT | 22,027 |
| 45-2091 | Agricultural Equipment Operators | 23 | 8 | 7 | None | MT OJT | N/A |
| 45-2092 | Farmworkers and Laborers, Crop, Nursery, and Greenhouse | 407 | 119 | 8 | None | ST OJT | 20,197 |
| 45-2093 | Farmworkers, Farm, Ranch, and Aquacultural Animals | 141 | 55 | 8 | None | ST OJT | 30,347 |
| 45-2099 | Agricultural Workers, All Other | 8 | 3 | 8 | None | ST OJT | 44,450 |
| 45-4011 | Forest and Conservation Workers | 13 | 19 | 7 | None | MT OJT | 17,035 |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | 1,843 | 672 | 7 | ≥5 years | None | 75,005 |
| 47-2011 | Boilermakers | 33 | 10 | 7 | None | APP | 86,632 |
| 47-2021 | Brickmasons and Blockmasons | 256 | 85 | 7 | None | APP | 62,358 |
| 47-2022 | Stonemasons | 36 | 12 | 7 | None | APP | 27,310 |
| 47-2031 | Carpenters | 2,814 | 974 | 7 | None | APP | 50,731 |
| 47-2041 | Carpet Installers | 45 | 14 | 8 | None | ST OJT | 23,712 |
| 47-2042 | Floor Layers, Except Carpet, Wood, and Hard Tiles | 20 | 6 | 8 | None | MT OJT | 52,666 |
| 47-2043 | Floor Sanders and Finishers | 13 | 4 | 8 | None | MT OJT | 37,731 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 47-2044 | Tile and Marble Setters | 152 | 50 | 8 | None | LT OJT | 38,106 |
| 47-2051 | Cement Masons and Concrete Finishers | 660 | 216 | 8 | None | MT OJT | 48,838 |
| 47-2053 | Terrazzo Workers and Finishers | 14 | 4 | 7 | None | APP | 51,958 |
| 47-2061 | Construction Laborers | 4,546 | 1,589 | 8 | None | ST OJT | 39,021 |
| 47-2071 | Paving, Surfacing, and Tamping Equipment Operators | 179 | 86 | 7 | None | MT OJT | 50,627 |
| 47-2072 | Pile-Driver Operators | 9 | 2 | 8 | None | MT OJT | 56,930 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | 1,357 | 621 | 7 | None | MT OJT | 80,475 |
| 47-2081 | Drywall and Ceiling Tile Installers | 369 | 121 | 8 | None | MT OJT | 58,323 |
| 47-2082 | Tapers | 71 | 23 | 8 | None | MT OJT | 53,914 |
| 47-2111 | Electricians | 2,751 | 937 | 7 | None | APP | 61,006 |
| 47-2121 | Glaziers | 221 | 72 | 7 | None | APP | 58,198 |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | 81 | 26 | 8 | None | ST OJT | 35,568 |
| 47-2132 | Insulation Workers, Mechanical | 91 | 30 | 8 | None | ST OJT | 41,309 |
| 47-2141 | Painters, Construction and Maintenance | 984 | 348 | 8 | None | MT OJT | 44,096 |
| 47-2142 | Paperhangers | 12 | 5 | 8 | None | ST OJT | N/A |
| 47-2151 | Pipelayers | 120 | 58 | 8 | None | ST OJT | 61,318 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | 1,559 | 531 | 7 | None | APP | 61,443 |
| 47-2161 | Plasterers and Stucco Masons | 77 | 26 | 8 | None | LT OJT | 39,021 |
| 47-2171 | Reinforcing Iron and Rebar Workers | 57 | 18 | 8 | None | MT OJT | 57,866 |
| 47-2181 | Roofers | 544 | 178 | 8 | None | MT OJT | 47,632 |
| 47-2211 | Sheet Metal Workers | 587 | 202 | 7 | None | APP | 61,152 |
| 47-2221 | Structural Iron and Steel Workers | 381 | 125 | 7 | None | APP | 75,691 |
| 47-2231 | Solar Photovoltaic Installers | 15 | 5 | 8 | None | ST OJT | N/A |
| 47-3011 | Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble | 114 | 37 | 8 | None | ST OJT | 24,024 |
| 47-3012 | Helpers--Carpenters | 184 | 64 | 8 | None | ST OJT | 30,534 |
| 47-3013 | Helpers--Electricians | 334 | 112 | 7 | None | ST OJT | 28,954 |
| 47-3014 | Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons | 56 | 18 | 8 | None | ST OJT | 29,120 |
| 47-3015 | Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters | 244 | 80 | 7 | None | ST OJT | 29,578 |
| 47-3016 | Helpers--Roofers | 39 | 13 | 8 | None | ST OJT | N/A |
| 47-3019 | Helpers, Construction Trades, All Other | 78 | 27 | 8 | None | ST OJT | 33,072 |
| 47-4011 | Construction and Building Inspectors | 390 | 314 | 7 | ≥5 years | MT OJT | 85,904 |
| 47-4021 | Elevator Installers and Repairers | 96 | 31 | 7 | None | APP | 87,651 |
| 47-4031 | Fence Erectors | 115 | 38 | 7 | None | MT OJT | 36,587 |
| 47-4041 | Hazardous Materials Removal Workers | 308 | 70 | 7 | None | MT OJT | 38,771 |
| 47-4051 | Highway Maintenance Workers | 178 | 364 | 7 | None | MT OJT | 50,149 |
| 47-4061 | Rail-Track Laying and Maintenance Equipment Operators | 8 | 3 | 7 | None | MT OJT | N/A |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | 144 | 52 | 8 | None | MT OJT | 35,298 |
| 47-4099 | Construction and Related Workers, All Other | 119 | 56 | 7 | None | MT OJT | 29,682 |
| 47-5011 | Derrick Operators, Oil and Gas | 4 | 1 | 8 | None | ST OJT | 50,918 |
| 47-5012 | Rotary Drill Operators, Oil and Gas | 42 | 10 | 8 | None | MT OJT | 78,125 |
| 47-5013 | Service Unit Operators, Oil, Gas, and Mining | 104 | 24 | 8 | None | MT OJT | 49,192 |
| 47-5021 | Earth Drillers, Except Oil and Gas | 36 | 11 | 8 | None | MT OJT | 67,122 |
| 47-5071 | Roustabouts, Oil and Gas | 101 | 24 | 8 | None | MT OJT | 46,010 |
| 49-1011 | First-Line Supervisors of Mechanics, Installers, and Repairers | 2,156 | 910 | 7 | <5 years | None | 72,613 |
| 49-2011 | Computer, Automated Teller, and Office Machine Repairers | 433 | 148 | 6 | None | None | 41,995 |
| 49-2021 | Radio, Cellular, and Tower Equipment Installers and Repairers | 29 | 12 | 4 | None | MT OJT | 65,770 |
| 49-2022 | Telecommunications Equipment Installers and Repairers, Except Line | 434 | 170 | 5 | None | MT OJT | 56,326 |
| 49-2091 | Avionics Technicians | 95 | 37 | 4 | None | None | 65,811 |
| 49-2092 | Electric Motor, Power Tool, and Related Repairers | 65 | 21 | 5 | None | LT OJT | 46,675 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|---|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 49-2093 | Electrical and Electronics Installers and Repairers, Transportation | 35 | 16 | 5 | None | LT OJT | 69,035 |
| 49-2094 | Electrical and Electronics Repairers, Commercial and Industrial Equipment | 230 | 108 | 5 | None | LT OJT | 54,101 |
| 49-2095 | Electrical and Electronics Repairers, Powerhouse, Substation, and Relay | 54 | 23 | 5 | None | LT OJT | 75,546 |
| 49-2096 | Electronic Equipment Installers and Repairers, Motor Vehicles | 19 | 5 | 5 | None | ST OJT | 35,110 |
| 49-2097 | Electronic Home Entertainment Equipment Installers and Repairers | 161 | 55 | 5 | None | None | 32,885 |
| 49-2098 | Security and Fire Alarm Systems Installers | 492 | 172 | 7 | None | MT OJT | 44,990 |
| 49-3011 | Aircraft Mechanics and Service Technicians | 830 | 439 | 5 | None | None | 70,824 |
| 49-3021 | Automotive Body and Related Repairers | 648 | 210 | 7 | None | MT OJT | 37,190 |
| 49-3023 | Automotive Service Technicians and Mechanics | 3,014 | 1,024 | 7 | None | LT OJT | 34,507 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 952 | 363 | 7 | None | LT OJT | 54,309 |
| 49-3041 | Farm Equipment Mechanics and Service Technicians | 38 | 11 | 7 | None | LT OJT | N/A |
| 49-3042 | Mobile Heavy Equipment Mechanics, Except Engines | 596 | 250 | 7 | None | LT OJT | 61,464 |
| 49-3043 | Rail Car Repairers | 69 | 26 | 7 | None | LT OJT | 41,558 |
| 49-3051 | Motorboat Mechanics and Service Technicians | 25 | 7 | 7 | None | LT OJT | 42,557 |
| 49-3052 | Motorcycle Mechanics | 53 | 15 | 7 | None | LT OJT | 46,093 |
| 49-3053 | Outdoor Power Equipment and Other Small Engine Mechanics | 108 | 39 | 7 | None | MT OJT | 43,118 |
| 49-3091 | Bicycle Repairers | 43 | 13 | 7 | None | MT OJT | 22,901 |
| 49-3092 | Recreational Vehicle Service Technicians | 12 | 4 | 7 | None | LT OJT | N/A |
| 49-3093 | Tire Repairers and Changers | 520 | 144 | 7 | None | ST OJT | 30,763 |
| 49-9011 | Mechanical Door Repairers | 42 | 14 | 7 | None | ST OJT | 39,229 |
| 49-9012 | Control and Valve Installers and Repairers, Except Mechanical Door | 169 | 82 | 7 | None | MT OJT | 67,392 |
| 49-9021 | Heating, Air Conditioning, and Refrigeration Mechanics and Installers | 1,463 | 507 | 5 | None | LT OJT | 51,896 |
| 49-9031 | Home Appliance Repairers | 21 | 7 | 7 | None | ST OJT | 36,587 |
| 49-9041 | Industrial Machinery Mechanics | 1,411 | 452 | 7 | None | LT OJT | 60,133 |
| 49-9043 | Maintenance Workers, Machinery | 219 | 72 | 7 | None | MT OJT | 39,666 |
| 49-9044 | Millwrights | 75 | 24 | 7 | None | MT OJT | 69,326 |
| 49-9051 | Electrical Power-Line Installers and Repairers | 461 | 176 | 7 | None | LT OJT | 101,795 |
| 49-9052 | Telecommunications Line Installers and Repairers | 447 | 160 | 7 | None | LT OJT | 67,766 |
| 49-9061 | Camera and Photographic Equipment Repairers | 6 | 2 | 7 | None | MT OJT | 43,950 |
| 49-9062 | Medical Equipment Repairers | 258 | 84 | 4 | None | MT OJT | 50,232 |
| 49-9063 | Musical Instrument Repairers and Tuners | 30 | 9 | 7 | None | APP | N/A |
| 49-9069 | Precision Instrument and Equipment Repairers, All Other | 54 | 28 | 7 | None | LT OJT | 68,453 |
| 49-9071 | Maintenance and Repair Workers, General | 5,998 | 2,682 | 7 | None | LT OJT | 40,352 |
| 49-9091 | Coin, Vending, and Amusement Machine Servicers and Repairers | 120 | 43 | 7 | None | ST OJT | 35,506 |
| 49-9094 | Locksmiths and Safe Repairers | 164 | 63 | 7 | None | LT OJT | 46,821 |
| 49-9096 | Riggers | 91 | 32 | 7 | None | ST OJT | 60,008 |
| 49-9097 | Signal and Track Switch Repairers | 1 | 1 | 5 | None | MT OJT | N/A |
| 49-9098 | Helpers--Installation, Maintenance, and Repair Workers | 712 | 280 | 7 | None | MT OJT | 29,370 |
| 49-9099 | Installation, Maintenance, and Repair Workers, All Other | 639 | 259 | 7 | None | MT OJT | 32,531 |
| 51-1011 | First-Line Supervisors of Production and Operating Workers | 1,695 | 548 | 5 | <5 years | None | 52,707 |
| 51-2011 | Aircraft Structure, Surfaces, Rigging, and Systems Assemblers | 126 | 20 | 7 | None | MT OJT | 46,862 |
| 51-2021 | Coil Winders, Tapers, and Finishers | 21 | 5 | 7 | None | ST OJT | 23,566 |
| 51-2022 | Electrical and Electronic Equipment Assemblers | 629 | 191 | 7 | None | ST OJT | 27,206 |
| 51-2023 | Electromechanical Equipment Assemblers | 98 | 27 | 7 | None | ST OJT | 27,394 |
| 51-2031 | Engine and Other Machine Assemblers | 15 | 5 | 7 | None | ST OJT | 36,234 |
| 51-2041 | Structural Metal Fabricators and Filers | 462 | 112 | 7 | None | MT OJT | 37,003 |
| 51-2091 | Fiberglass Laminators and Fabricators | 47 | 8 | 7 | None | MT OJT | 30,098 |
| 51-2092 | Team Assemblers | 4,285 | 1,218 | 7 | None | MT OJT | 24,752 |
| 51-2099 | Assemblers and Fabricators, All Other | 1,167 | 382 | 7 | None | MT OJT | 28,101 |

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 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 51-3011 | Bakers | 867 | 291 | 8 | None | LT OJT | 23,733 |
| 51-3021 | Butchers and Meat Cutters | 685 | 245 | 8 | None | LT OJT | 25,043 |
| 51-3022 | Meat, Poultry, and Fish Cutters and Trimmers | 600 | 172 | 8 | None | ST OJT | 20,467 |
| 51-3023 | Slaughterers and Meat Packers | 35 | 10 | 8 | None | MT OJT | 24,773 |
| 51-3091 | Food and Tobacco Roasting, Baking, and Drying Machine Operators and | 78 | 22 | 8 | None | MT OJT | 25,230 |
| 51-3092 | Food Batchmakers | 607 | 170 | 7 | None | MT OJT | 22,256 |
| 51-3093 | Food Cooking Machine Operators and Tenders | 160 | 46 | 7 | None | MT OJT | 24,066 |
| 51-4011 | Computer-Controlled Machine Tool Operators, Metal and Plastic | 556 | 115 | 7 | None | MT OJT | 37,024 |
| 51-4012 | Computer Numerically Controlled Machine Tool Programmers, Metal and | 98 | 23 | 7 | None | LT OJT | 61,318 |
| 51-4021 | Extruding and Drawing Machine Setters, Operators, and Tenders, Metal | 168 | 33 | 7 | None | MT OJT | 27,934 |
| 51-4022 | Forging Machine Setters, Operators, and Tenders, Metal and Plastic | 61 | 14 | 7 | None | MT OJT | 33,883 |
| 51-4023 | Rolling Machine Setters, Operators, and Tenders, Metal and Plastic | 80 | 14 | 7 | None | MT OJT | 28,662 |
| 51-4031 | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, | 421 | 116 | 7 | None | MT OJT | 26,645 |
| 51-4032 | Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal | 42 | 9 | 7 | None | MT OJT | 27,643 |
| 51-4033 | Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, | 207 | 43 | 7 | None | MT OJT | 29,203 |
| 51-4034 | Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal | 111 | 24 | 7 | None | MT OJT | 36,920 |
| 51-4035 | Milling and Planing Machine Setters, Operators, and Tenders, Metal and | 58 | 12 | 7 | None | MT OJT | 40,539 |
| 51-4041 | Machinists | 1,429 | 382 | 7 | None | LT OJT | 34,674 |
| 51-4051 | Metal-Refining Furnace Operators and Tenders | 35 | 4 | 7 | None | MT OJT | 40,934 |
| 51-4052 | Pourers and Casters, Metal | 14 | 1 | 7 | None | MT OJT | 26,166 |
| 51-4071 | Foundry Mold and Coremakers | 17 | 2 | 7 | None | MT OJT | 33,862 |
| 51-4072 | Molding, Coremaking, and Casting Machine Setters, Operators, and | 252 | 58 | 7 | None | MT OJT | 24,128 |
| 51-4081 | Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic | 279 | 61 | 7 | None | MT OJT | 40,768 |
| 51-4111 | Tool and Die Makers | 85 | 18 | 7 | None | LT OJT | 52,790 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 1,506 | 403 | 7 | None | MT OJT | 36,296 |
| 51-4122 | Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders | 199 | 40 | 7 | None | MT OJT | 28,600 |
| 51-4191 | Heat Treating Equipment Setters, Operators, and Tenders, Metal and | 57 | 12 | 7 | None | MT OJT | 34,944 |
| 51-4192 | Layout Workers, Metal and Plastic | 40 | 10 | 7 | None | MT OJT | 38,501 |
| 51-4193 | Plating and Coating Machine Setters, Operators, and Tenders, Metal and | 108 | 27 | 7 | None | MT OJT | 30,805 |
| 51-4199 | Metal Workers and Plastic Workers, All Other | 88 | 30 | 7 | None | MT OJT | 35,360 |
| 51-5111 | Prepress Technicians and Workers | 168 | 54 | 5 | None | None | 41,933 |
| 51-5112 | Printing Press Operators | 654 | 215 | 7 | None | MT OJT | 34,653 |
| 51-5113 | Print Binding and Finishing Workers | 207 | 66 | 7 | None | ST OJT | 27,539 |
| 51-6011 | Laundry and Dry-Cleaning Workers | 1,691 | 692 | 8 | None | ST OJT | 21,174 |
| 51-6021 | Pressers, Textile, Garment, and Related Materials | 326 | 133 | 8 | None | ST OJT | 21,133 |
| 51-6031 | Sewing Machine Operators | 792 | 312 | 8 | None | ST OJT | 19,240 |
| 51-6041 | Shoe and Leather Workers and Repairers | 38 | 9 | 7 | None | MT OJT | 23,192 |
| 51-6042 | Shoe Machine Operators and Tenders | 27 | 6 | 7 | None | MT OJT | N/A |
| 51-6051 | Sewers, Hand | 38 | 15 | 8 | None | MT OJT | 22,110 |
| 51-6052 | Tailors, Dressmakers, and Custom Sewers | 96 | 37 | 8 | None | MT OJT | 30,493 |
| 51-6061 | Textile Bleaching and Dyeing Machine Operators and Tenders | 32 | 12 | 7 | None | ST OJT | 21,882 |
| 51-6062 | Textile Cutting Machine Setters, Operators, and Tenders | 159 | 62 | 7 | None | MT OJT | 24,586 |
| 51-6063 | Textile Knitting and Weaving Machine Setters, Operators, and Tenders | 118 | 48 | 7 | None | MT OJT | 22,776 |
| 51-6064 | Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, | 55 | 21 | 7 | None | MT OJT | 23,525 |
| 51-6091 | Extruding and Forming Machine Setters, Operators, and Tenders, | 37 | 12 | 7 | None | MT OJT | 32,032 |
| 51-6092 | Fabric and Apparel Patternmakers | 92 | 37 | 7 | None | MT OJT | 47,507 |
| 51-6093 | Upholsterers | 202 | 56 | 7 | None | MT OJT | 27,810 |
| 51-6099 | Textile, Apparel, and Furnishings Workers, All Other | 63 | 24 | 7 | None | ST OJT | 19,198 |
| 51-7011 | Cabinetmakers and Bench Carpenters | 363 | 100 | 7 | None | MT OJT | 36,046 |
| 51-7021 | Furniture Finishers | 79 | 22 | 7 | None | ST OJT | 26,936 |
| 51-7041 | Sawing Machine Setters, Operators, and Tenders, Wood | 136 | 35 | 7 | None | ST OJT | 31,034 |

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 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Education | Work Exp | | |
| 51-7042 | Woodworking Machine Setters, Operators, and Tenders, Except Sawing | 143 | 38 | 7 | None | ST OJT | 27,102 |
| 51-7099 | Woodworkers, All Other | 31 | 9 | 7 | None | MT OJT | 20,114 |
| 51-8012 | Power Distributors and Dispatchers | 39 | 20 | 7 | None | LT OJT | 103,334 |
| 51-8013 | Power Plant Operators | 124 | 49 | 7 | None | LT OJT | 85,384 |
| 51-8021 | Stationary Engineers and Boiler Operators | 149 | 76 | 7 | None | LT OJT | 71,448 |
| 51-8031 | Water and Wastewater Treatment Plant and System Operators | 324 | 534 | 7 | None | LT OJT | 78,582 |
| 51-8091 | Chemical Plant and System Operators | 208 | 85 | 7 | None | LT OJT | 57,990 |
| 51-8092 | Gas Plant Operators | 54 | 14 | 7 | None | LT OJT | 73,278 |
| 51-8093 | Petroleum Pump System Operators, Refinery Operators, and Gaugers | 236 | 76 | 7 | None | LT OJT | 77,043 |
| 51-8099 | Plant and System Operators, All Other | 12 | 4 | 7 | None | LT OJT | 59,259 |
| 51-9011 | Chemical Equipment Operators and Tenders | 349 | 136 | 7 | None | MT OJT | 39,978 |
| 51-9012 | Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Crushing, Grinding, and Polishing Machine Setters, Operators, and | 212 | 74 | 7 | None | MT OJT | 45,802 |
| 51-9021 | Crushing, Grinding, and Polishing Machine Setters, Operators, and | 100 | 30 | 7 | None | MT OJT | 31,741 |
| 51-9022 | Grinding and Polishing Workers, Hand | 121 | 28 | 8 | None | MT OJT | 23,317 |
| 51-9023 | Mixing and Blending Machine Setters, Operators, and Tenders | 506 | 177 | 7 | None | MT OJT | 28,163 |
| 51-9031 | Cutters and Trimmers, Hand | 38 | 10 | 8 | None | ST OJT | 25,043 |
| 51-9032 | Cutting and Slicing Machine Setters, Operators, and Tenders | 173 | 45 | 7 | None | ST OJT | 28,392 |
| 51-9041 | Extruding, Forming, Pressing, and Compacting Machine Setters, | 222 | 60 | 7 | None | MT OJT | 27,747 |
| 51-9051 | Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders | 54 | 13 | 7 | None | MT OJT | 43,701 |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 2,292 | 732 | 7 | None | MT OJT | 36,941 |
| 51-9071 | Jewelers and Precious Stone and Metal Workers | 82 | 27 | 7 | None | LT OJT | 35,443 |
| 51-9081 | Dental Laboratory Technicians | 201 | 72 | 7 | None | MT OJT | 38,418 |
| 51-9082 | Medical Appliance Technicians | 78 | 26 | 7 | None | LT OJT | 37,606 |
| 51-9083 | Ophthalmic Laboratory Technicians | 165 | 56 | 7 | None | MT OJT | 31,866 |
| 51-9111 | Packaging and Filling Machine Operators and Tenders | 2,000 | 665 | 7 | None | MT OJT | 23,192 |
| 51-9121 | Coating, Painting, and Spraying Machine Setters, Operators, and | 248 | 61 | 7 | None | MT OJT | 27,435 |
| 51-9122 | Painters, Transportation Equipment | 223 | 64 | 7 | None | MT OJT | 39,478 |
| 51-9123 | Painting, Coating, and Decorating Workers | 68 | 22 | 8 | None | MT OJT | 33,904 |
| 51-9141 | Semiconductor Processors | 120 | 35 | 4 | None | MT OJT | 31,699 |
| 51-9151 | Photographic Process Workers and Processing Machine Operators | 237 | 83 | 7 | None | ST OJT | 35,776 |
| 51-9191 | Adhesive Bonding Machine Operators and Tenders | 56 | 11 | 7 | None | MT OJT | 26,790 |
| 51-9192 | Cleaning, Washing, and Metal Pickling Equipment Operators and | 55 | 14 | 8 | None | MT OJT | 27,997 |
| 51-9193 | Cooling and Freezing Equipment Operators and Tenders | 27 | 7 | 7 | None | MT OJT | 26,936 |
| 51-9194 | Etchers and Engravers | 28 | 9 | 7 | None | MT OJT | 38,189 |
| 51-9195 | Molders, Shapers, and Casters, Except Metal and Plastic | 130 | 40 | 7 | None | LT OJT | 26,187 |
| 51-9196 | Paper Goods Machine Setters, Operators, and Tenders | 105 | 19 | 7 | None | MT OJT | 29,286 |
| 51-9197 | Tire Builders | 9 | 2 | 7 | None | MT OJT | N/A |
| 51-9198 | Helpers--Production Workers | 2,032 | 658 | 8 | None | ST OJT | 21,944 |
| 51-9199 | Production Workers, All Other | 1,494 | 497 | 7 | None | MT OJT | 24,586 |
| 53-1011 | Aircraft Cargo Handling Supervisors | 34 | 20 | 7 | <5 years | None | 51,043 |
| 53-1021 | First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand | 928 | 302 | 7 | <5 years | None | 46,384 |
| 53-1031 | First-Line Supervisors of Transportation and Material-Moving Machine | 1,042 | 398 | 7 | <5 years | None | 60,861 |
| 53-2011 | Airline Pilots, Copilots, and Flight Engineers | 539 | 460 | 3 | <5 years | MT OJT | N/A |
| 53-2012 | Commercial Pilots | 124 | 47 | 7 | None | MT OJT | N/A |
| 53-2021 | Air Traffic Controllers | 93 | 161 | 4 | None | LT OJT | N/A |
| 53-2022 | Airfield Operations Specialists | 37 | 39 | 7 | None | LT OJT | 60,362 |
| 53-2031 | Flight Attendants | 0 | 0 | 7 | <5 years | MT OJT | N/A |
| 53-3011 | Ambulance Drivers and Attendants, Except Emergency Medical | 63 | 23 | 7 | None | MT OJT | 26,395 |
| 53-3021 | Bus Drivers, Transit and Intercity | 407 | 366 | 7 | None | MT OJT | 40,435 |
| 53-3022 | Bus Drivers, School or Special Client | 1,395 | 691 | 7 | None | ST OJT | 31,242 |
| 53-3031 | Driver/Sales Workers | 2,239 | 817 | 7 | None | ST OJT | 25,168 |

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

Exhibit A-5 (cont'd)

Projected Occupational Openings 2015-2020 with Job Requirements

| SOC Code | Occupational Title | LA County | LA City | Entry Level | | On-the-Job Training to Attain Competency | Median Annual Wage |
|----------|--|-----------|---------|-------------|----------|--|--------------------|
| | | | | Educ-ation | Work Exp | | |
| 53-3032 | Heavy and Tractor-Trailer Truck Drivers | 5,373 | 1,523 | 5 | None | ST OJT | 40,165 |
| 53-3033 | Light Truck or Delivery Services Drivers | 3,298 | 1,223 | 7 | None | ST OJT | 28,787 |
| 53-3041 | Taxi Drivers and Chauffeurs | 787 | 309 | 8 | None | ST OJT | 26,083 |
| 53-3099 | Motor Vehicle Operators, All Other | 326 | 146 | 7 | None | ST OJT | 58,011 |
| 53-4011 | Locomotive Engineers | 9 | 3 | 7 | <5 years | MT OJT | N/A |
| 53-4031 | Railroad Conductors and Yardmasters | 12 | 16 | 7 | None | MT OJT | N/A |
| 53-4041 | Subway and Streetcar Operators | 2 | 4 | 7 | None | MT OJT | 48,693 |
| 53-4099 | Rail Transportation Workers, All Other | 6 | 5 | 7 | None | MT OJT | 36,858 |
| 53-5011 | Sailors and Marine Oilers | 38 | 13 | 5 | None | ST OJT | 37,482 |
| 53-5021 | Captains, Mates, and Pilots of Water Vessels | 370 | 127 | 3 | None | None | 65,728 |
| 53-5022 | Motorboat Operators | 5 | 2 | 7 | None | MT OJT | N/A |
| 53-5031 | Ship Engineers | 12 | 4 | 5 | None | ST OJT | 64,314 |
| 53-6011 | Bridge and Lock Tenders | 1 | 1 | 7 | None | MT OJT | N/A |
| 53-6021 | Parking Lot Attendants | 1,634 | 668 | 8 | None | ST OJT | 20,550 |
| 53-6031 | Automotive and Watercraft Service Attendants | 525 | 177 | 8 | None | ST OJT | 27,643 |
| 53-6041 | Traffic Technicians | 6 | 4 | 8 | None | ST OJT | 65,998 |
| 53-6051 | Transportation Inspectors | 104 | 94 | 7 | None | MT OJT | 73,944 |
| 53-6061 | Transportation Attendants, Except Flight Attendants | 54 | 22 | 7 | None | ST OJT | 28,392 |
| 53-6099 | Transportation Workers, All Other | 406 | 223 | 7 | None | ST OJT | 38,480 |
| 53-7011 | Conveyor Operators and Tenders | 162 | 50 | 8 | None | ST OJT | 31,450 |
| 53-7021 | Crane and Tower Operators | 79 | 24 | 5 | None | ST OJT | 83,782 |
| 53-7032 | Excavating and Loading Machine and Dragline Operators | 102 | 32 | 7 | <5 years | MT OJT | 43,139 |
| 53-7041 | Hoist and Winch Operators | 3 | 1 | 8 | None | ST OJT | N/A |
| 53-7051 | Industrial Truck and Tractor Operators | 2,555 | 762 | 8 | None | ST OJT | 39,437 |
| 53-7061 | Cleaners of Vehicles and Equipment | 1,852 | 602 | 8 | None | ST OJT | 20,758 |
| 53-7062 | Laborers and Freight, Stock, and Material Movers, Hand | 16,353 | 5,620 | 8 | None | ST OJT | 24,294 |
| 53-7063 | Machine Feeders and Offbearers | 88 | 25 | 8 | None | ST OJT | 22,734 |
| 53-7064 | Packers and Packagers, Hand | 4,593 | 1,541 | 8 | None | ST OJT | 19,947 |
| 53-7072 | Pump Operators, Except Wellhead Pumpers | 12 | 4 | 8 | None | ST OJT | 43,493 |
| 53-7073 | Wellhead Pumpers | 4 | 1 | 8 | None | ST OJT | 71,469 |
| 53-7081 | Refuse and Recyclable Material Collectors | 654 | 276 | 8 | None | ST OJT | 45,760 |
| 53-7121 | Tank Car, Truck, and Ship Loaders | 18 | 5 | 8 | None | ST OJT | 58,635 |
| 53-7199 | Material Moving Workers, All Other | 101 | 42 | 8 | None | ST OJT | 53,165 |

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



LOS ANGELES COUNTY
ECONOMIC DEVELOPMENT CORPORATION

444 S. Flower Street, 37th Floor
Los Angeles CA 90071
www.LAEDC.org

DECEMBER 2016



*Data
Supplement*



LOS ANGELES:

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Los Angeles County Economic Development Corporation



LOS ANGELES: PEOPLE, INDUSTRY AND JOBS

Data Supplement



INSTITUTE FOR APPLIED ECONOMICS
444 S. Flower Street, 37th Floor
Los Angeles, CA 90071
www.LAEDC.org/IAE

December 2016

Christine Cooper, Ph.D.
Rafael De Anda
Somjita Mitra, Ph.D.



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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1 LABOR FORCE ANALYSIS FOR SELECT GROUPS

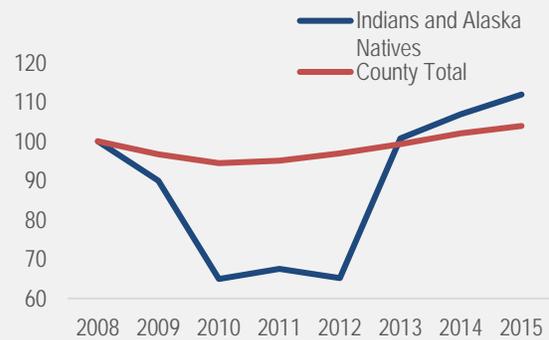
1.1 Indians and Alaska Natives

Exhibit 1-1
Select Education and Workforce Statistics for Indians and Alaska Natives in L.A. County.

| | |
|---|--------|
| Population | 55,283 |
| Share of County Population | 0.5% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 36.3% |
| High School Degree | 43.6 |
| Associate's Degree | 5.2 |
| Bachelor's Degree | 9.8 |
| Master's Degree | 5.0 |
| Labor Force Statistics | |
| Labor Force | 35,410 |
| Labor Force Participation Rate | 64.1% |
| Employment | 32,189 |
| Unemployment | 3,221 |
| Unemployment Rate | 9.1% |

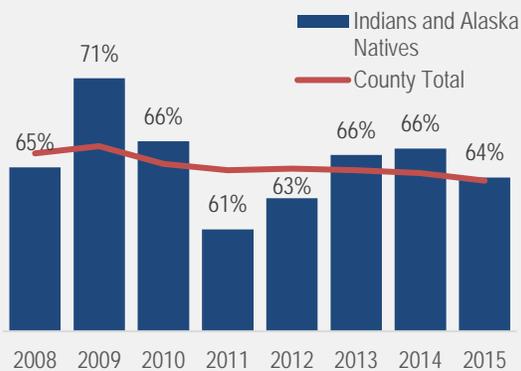
Sources: California Employment Development Department; LAEDC

Exhibit 1-3
Employment Growth Since 2008 in L.A. County



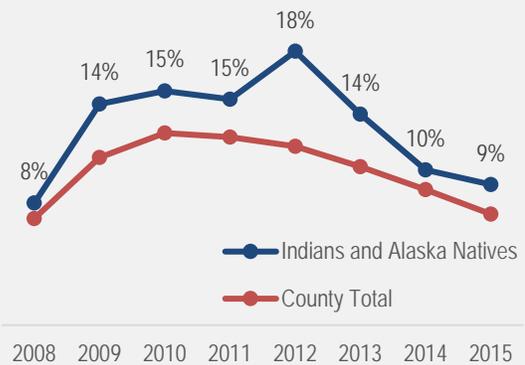
Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-2
Labor Force Participation in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-4
Unemployment Rates in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

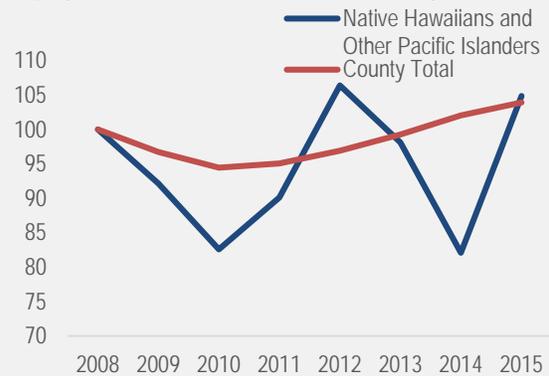
1.2 Native Hawaiians and Other Pacific Islanders

Exhibit 1-5
Select Education and Workforce Statistics for Native Hawaiians and Other Pacific Islanders in L.A. County.

| | |
|---|---------------|
| Population | 21,869 |
| Share of County Population | 0.2% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 10.7% |
| High School Degree | 64.9 |
| Associate's Degree | 6.2 |
| Bachelor's Degree | 12.8 |
| Master's Degree | 5.4 |
| Labor Force Statistics | |
| Labor Force | 13,742 |
| Labor Force Participation Rate | 62.8% |
| Employment | 12,437 |
| Unemployment | 1,305 |
| Unemployment Rate | 9.5% |

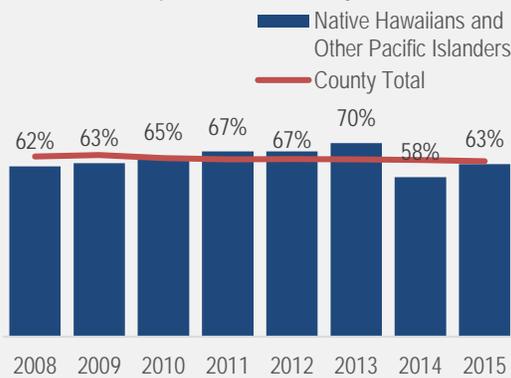
Sources: California Employment Development Department; LAEDC

Exhibit 1-7
Employment Growth Since 2008 in L.A. County



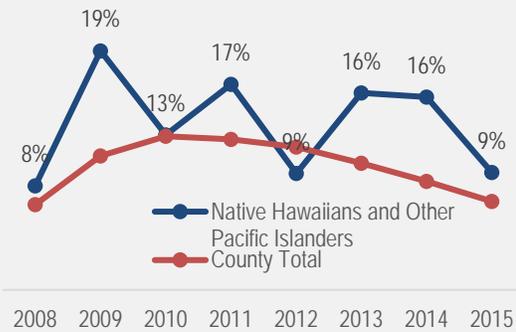
Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-6
Labor Force Participation in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-8
Unemployment Rates in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

1.3 Individuals with Disabilities and Youths with Disabilities

Exhibit 1-9
Select Education and Workforce Statistics for Individuals with Disabilities in L.A. County.

| | |
|---|----------------|
| Population | 483,754 |
| Share of County Population | 4.8% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 32.7% |
| High School Degree | 43.8 |
| Associate's Degree | 5.9 |
| Bachelor's Degree | 11.2 |
| Master's Degree | 6.4 |
| Labor Force Statistics | |
| Labor Force | 192,709 |
| Labor Force Participation Rate | 39.8% |
| Employment | 164,405 |
| Unemployment | 28,304 |
| Unemployment Rate | 14.7% |

Sources: California Employment Development Department; LAEDC

Exhibit 1-12
Unemployment Rates in L.A. County

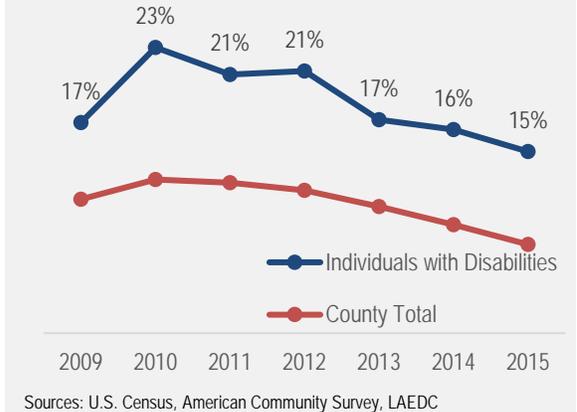


Exhibit 1-10
Labor Force Participation in L.A. County

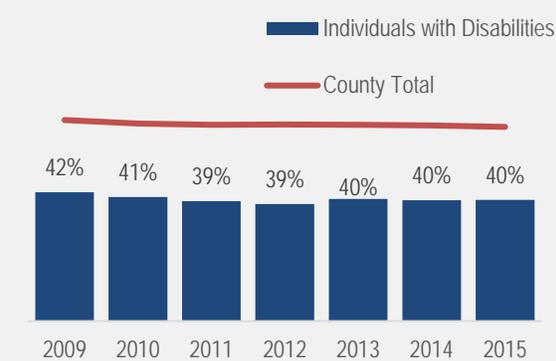


Exhibit 1-13
Select Education Statistics for Youths (Under 18) with Disabilities in L.A. County.

| | | |
|--|------------------------|--------------|
| | With Disability | Total |
| Population | 61,459 | |
| Share of County Youth Population | 2.7 | |
| School Enrollment by Grade Level (3 to 17 Years of Age) | | |
| Pre-K through 3 rd Grade | 27.3% | 36.4% |
| 4 th Grade through 6 th Grade | 22.2 | 20.7 |
| 7 th or 8 th Grade | 13.6 | 13.9 |
| High School | 36.9 | 28.9 |

Sources: California Employment Development Department; LAEDC

Exhibit 1-11
Employment Growth Since 2009 in L.A. County

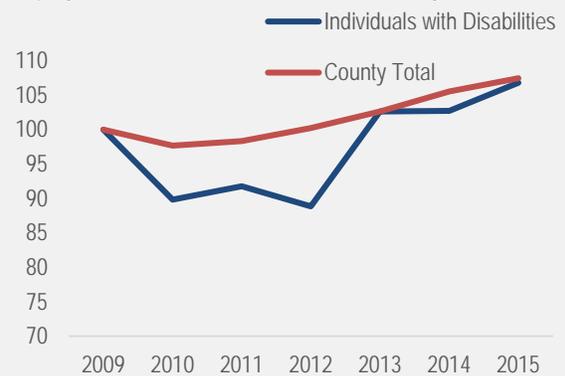
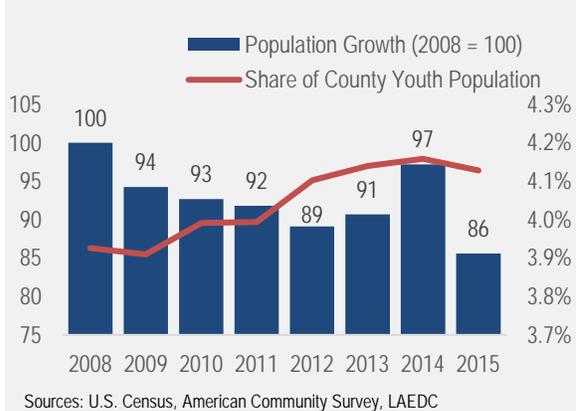


Exhibit 1-14
Youth with Disability Population in L.A. County



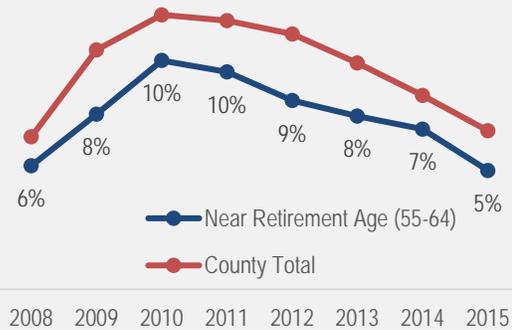
1.4 Older Individuals

Exhibit 1-15
Select Education and Workforce Statistics for Individuals Near Retirement Age (55 to 64) in L.A. County.

| | |
|---|------------------|
| Population | 1,175,678 |
| Share of County Population | 11.6% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 23.8% |
| High School Degree | 39.6 |
| Associate's Degree | 7.5 |
| Bachelor's Degree | 17.9 |
| Master's Degree | 11.5 |
| Labor Force Statistics | |
| Labor Force | 760,79 |
| Labor Force Participation Rate | 64.7% |
| Employment | 719,850 |
| Unemployment | 40,929 |
| Unemployment Rate | 5.4% |

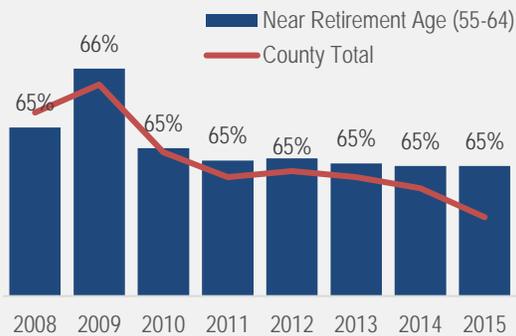
Sources: California Employment Development Department; LAEDC

Exhibit 1-18
Unemployment Rates in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-16
Labor Force Participation in L.A. County



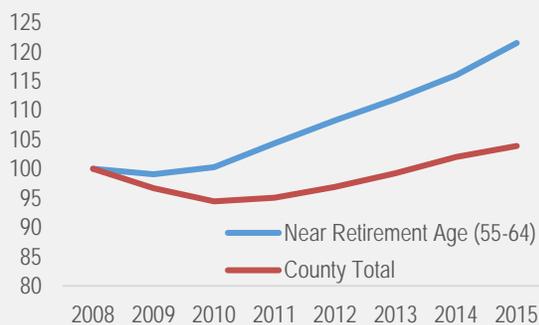
Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-19
Select Education and Workforce Statistics for Individuals At Retirement Age (65 and Over) in L.A. County.

| | |
|---|------------------|
| Population | 1,277,334 |
| Share of County Population | 12.6% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 27.7% |
| High School Degree | 39.0 |
| Associate's Degree | 6.0 |
| Bachelor's Degree | 15.3 |
| Master's Degree | 12.0 |
| Labor Force Statistics | |
| Labor Force | 233,035 |
| Labor Force Participation Rate | 18.2% |
| Employment | 226,843 |
| Unemployment | 6,192 |
| Unemployment Rate | 2.7% |

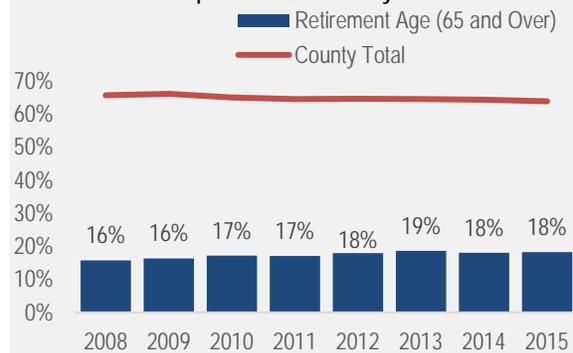
Sources: California Employment Development Department; LAEDC

Exhibit 1-17
Employment Growth Since 2008 in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-20
Labor Force Participation in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-21
Employment Growth Since 2008 in L.A. County

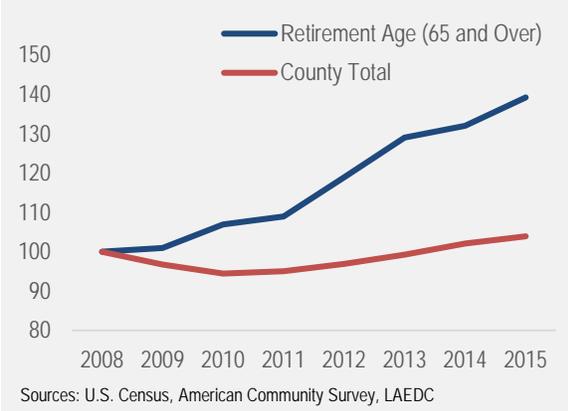
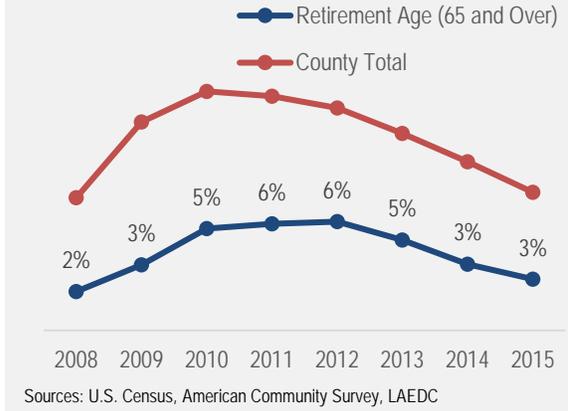


Exhibit 1-22
Unemployment Rates in L.A. County



1.5 Individuals with Limited English Proficiency

Exhibit 1-23

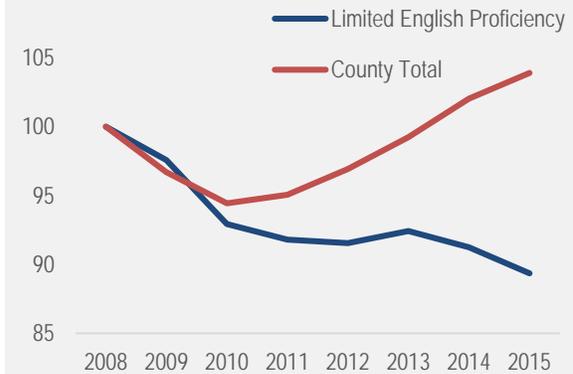
Select Education and Workforce Statistics for Individuals with Limited English Proficiency in L.A. County.

| | |
|---|------------------|
| Population | 2,342,038 |
| Share of County Population | 24.6% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 50.3% |
| High School Degree | 32.6 |
| Associate's Degree | 4.0 |
| Bachelor's Degree | 9.5 |
| Master's Degree | 3.6 |
| Labor Force Statistics | |
| Labor Force | 1,277,179 |
| Labor Force Participation Rate | 54.5% |
| Employment | 1,194,803 |
| Unemployment | 82,306 |
| Unemployment Rate | 6.4% |

Sources: California Employment Development Department; LAEDC

Exhibit 1-25

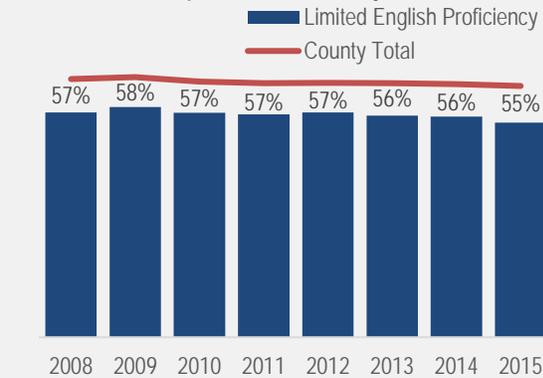
Employment Growth Since 2008 in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-24

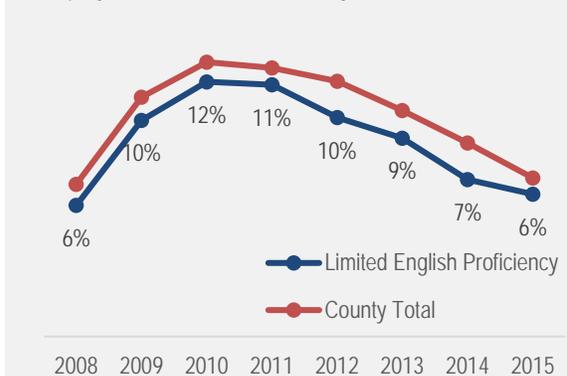
Labor Force Participation in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-26

Unemployment Rates in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

1.5 Single Parents

Exhibit 1-27

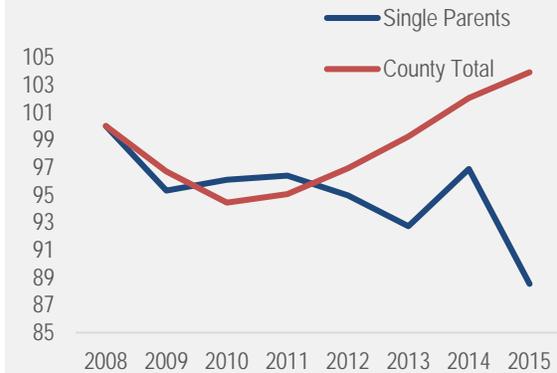
Select Education and Workforce Statistics for Single Parents in L.A. County.

| | |
|---|----------------|
| Population | 309,468 |
| Share of County Population | 3.0% |
| Population by Educational Attainment (25 and over) | |
| No High School Degree | 29.1% |
| High School Degree | 46.4 |
| Associate's Degree | 6.9 |
| Bachelor's Degree | 11.9 |
| Master's Degree | 5.5 |
| Labor Force Statistics | |
| Labor Force | 252,920 |
| Labor Force Participation Rate | 18.3% |
| Employment | 236,358 |
| Unemployment | 16,403 |
| Unemployment Rate | 6.5% |

Sources: California Employment Development Department; LAEDC

Exhibit 1-29

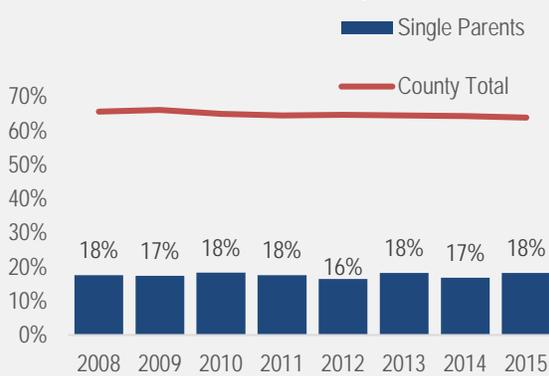
Employment Growth Since 2008 in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-28

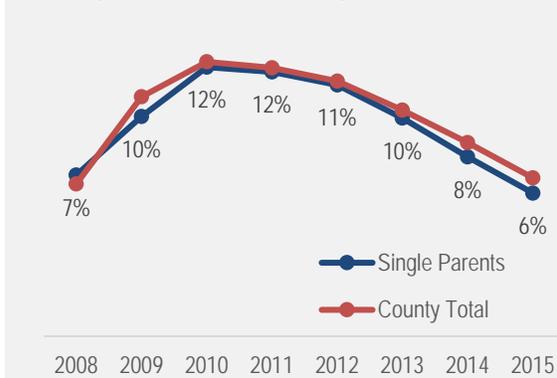
Labor Force Participation in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

Exhibit 1-30

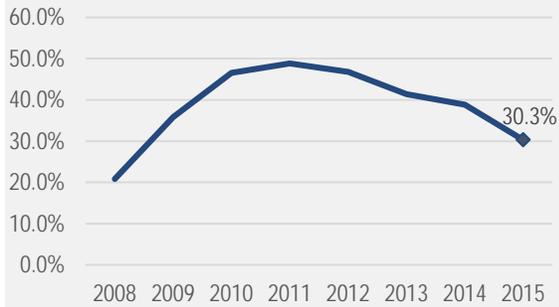
Unemployment Rates in L.A. County



Sources: U.S. Census, American Community Survey, LAEDC

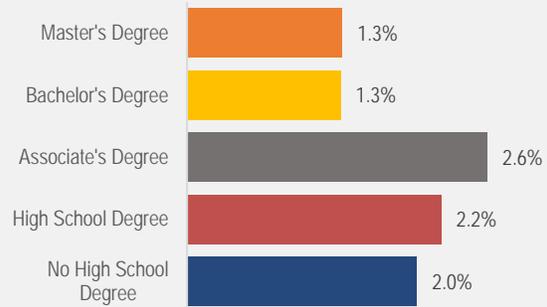
1.6 Long Term Unemployed Labor Force

Exhibit 1-31
Share of Long-Term Unemployed Labor Force (27+ weeks) in L.A. County



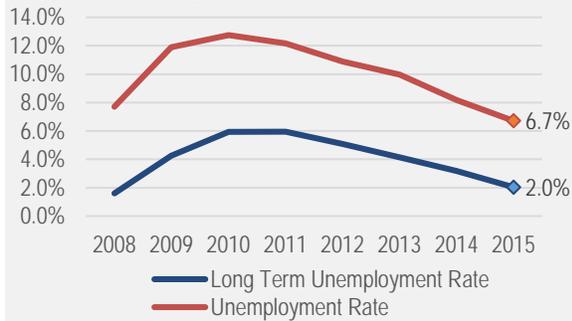
Source: Current Population Survey Public Use Tapes, Estimated by LAEDC

Exhibit 1-34
Long Term Unemployment Rate in L.A. County by Highest Level of Education in 2015



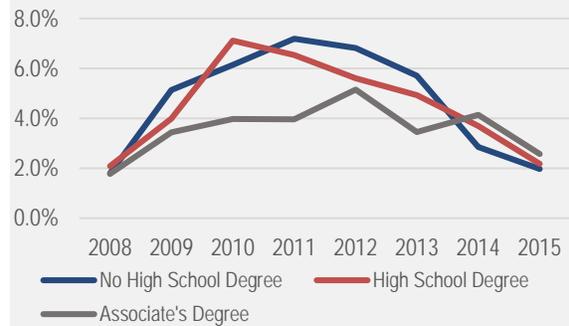
Source: Current Population Survey Public Use Tapes, Estimated by LAEDC

Exhibit 1-32
Unemployment and Long-Term Unemployment Rates in L.A. County



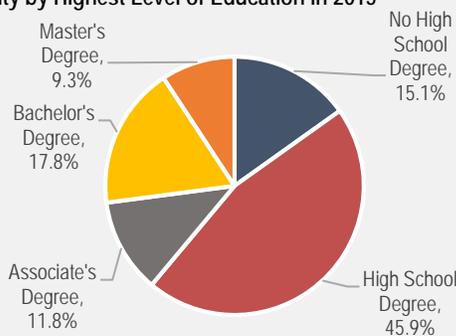
Source: Current Population Survey Public Use Tapes, Estimated by LAEDC

Exhibit 1-35
Long-Term Unemployment Rates in L.A. County for Select Education Levels



Source: Current Population Survey Public Use Tapes, Estimated by LAEDC

Exhibit 1-33
Long Term Unemployed Labor Force in L.A. County by Highest Level of Education in 2015



Source: Current Population Survey Public Use Tapes, Estimated by LAEDC

2 OCCUPATIONAL ANALYSIS

2.1 Manufacturing

Exhibit 2-1
Top Occupations in L.A. County's Manufacturing Industry

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|--|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 51-2092 | Team Assemblers | 4.56% | 13.07 | 27,180 | 11.54 | 24,010 | 7 | None | MT OJT |
| 2 | 51-1011 | First-Line Supervisors of Production and Operating Workers | 2.81% | 27.99 | 58,230 | 25.36 | 52,740 | 7 | <5 years | None |
| 3 | 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 2.63% | 19.16 | 39,860 | 17.06 | 35,490 | 7 | None | MT OJT |
| 4 | 11-1021 | General and Operations Managers | 2.47% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 5 | 51-9111 | Packaging and Filling Machine Operators and Tenders | 2.14% | 13.55 | 28,180 | 11.55 | 24,020 | 7 | None | MT OJT |
| 6 | 51-4041 | Machinists | 2.12% | 18.34 | 38,150 | 16.62 | 34,570 | 7 | None | LT OJT |
| 7 | 15-1133 | Software Developers, Systems Software | 1.89% | 55.75 | 115,960 | 56.20 | 116,900 | 3 | None | None |
| 8 | 51-2022 | Electrical and Electronic Equipment Assemblers | 1.83% | 16.17 | 33,640 | 14.81 | 30,810 | 7 | None | MT OJT |
| 9 | 43-5071 | Shipping, Receiving, and Traffic Clerks | 1.77% | 14.82 | 30,830 | 13.73 | 28,570 | 7 | None | ST OJT |
| 10 | 41-4012 | Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 1.62% | 29.08 | 60,500 | 23.06 | 47,970 | 7 | None | MT OJT |
| 11 | 17-2112 | Industrial Engineers | 1.40% | 49.51 | 102,970 | 47.45 | 98,700 | 3 | None | None |
| 12 | 11-3051 | Industrial Production Managers | 1.28% | 51.45 | 107,020 | 45.05 | 93,710 | 3 | ≥5 years | None |
| 13 | 51-4121 | Welders, Cutters, Solderers, and Brazers | 1.28% | 19.28 | 40,090 | 17.47 | 36,340 | 7 | None | MT OJT |
| 14 | 43-4051 | Customer Service Representatives | 1.22% | 18.48 | 38,430 | 17.07 | 35,510 | 7 | None | ST OJT |
| 15 | 43-9061 | Office Clerks, General | 1.18% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 16 | 49-9071 | Maintenance and Repair Workers, General | 1.08% | 21.34 | 44,400 | 19.82 | 41,230 | 7 | None | LT OJT |
| 17 | 15-1132 | Software Developers, Applications | 1.07% | 53.07 | 110,380 | 52.66 | 109,540 | 3 | None | None |
| 18 | 43-5061 | Production, Planning, and Expediting Clerks | 1.03% | 22.82 | 47,470 | 21.35 | 44,410 | 7 | None | MT OJT |
| 19 | 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 1.02% | 33.98 | 70,680 | 32.51 | 67,630 | 3 | None | LT OJT |
| 20 | 17-2141 | Mechanical Engineers | 1.00% | 47.82 | 99,470 | 45.83 | 95,330 | 3 | None | None |
| 21 | 11-9041 | Architectural and Engineering Managers | 0.98% | 77.33 | 160,840 | 71.98 | 149,710 | 3 | ≥5 years | None |
| 22 | 17-2072 | Electronics Engineers, Except Computer | 0.97% | 57.93 | 120,500 | 56.82 | 118,190 | 3 | None | None |
| 23 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 0.96% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 24 | 51-5112 | Printing Press Operators | 0.94% | 17.14 | 35,650 | 15.19 | 31,600 | 7 | None | MT OJT |
| 25 | 49-9041 | Industrial Machinery Mechanics | 0.93% | 29.55 | 61,470 | 28.79 | 59,870 | 7 | None | LT OJT |
| 26 | 17-2061 | Computer Hardware Engineers | 0.91% | 53.68 | 111,650 | 52.58 | 109,370 | 3 | None | None |
| 27 | 13-2011 | Accountants and Auditors | 0.90% | 37.94 | 78,910 | 34.66 | 72,090 | 3 | None | None |
| 28 | 51-3092 | Food Batchmakers | 0.89% | 12.39 | 25,780 | 10.66 | 22,160 | 7 | None | MT OJT |
| 29 | 51-4031 | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | 0.86% | 13.93 | 28,970 | 13.01 | 27,070 | 7 | None | MT OJT |
| 30 | 51-9023 | Mixing and Blending Machine Setters, Operators, and Tenders | 0.84% | 14.06 | 29,240 | 13.21 | 27,480 | 7 | None | MT OJT |
| 31 | 17-3023 | Electrical and Electronics Engineering Technicians | 0.80% | 30.86 | 64,180 | 30.02 | 62,450 | 4 | None | None |

| | | | | | | | | | | |
|----|---------|---|-------|-------|---------|-------|---------|---|----------|--------|
| 32 | 51-2099 | Assemblers and Fabricators, All Other | 0.80% | 15.25 | 31,720 | 13.29 | 27,650 | 7 | None | MT OJT |
| 33 | 51-4011 | Computer-Controlled Machine Tool Operators, Metal and Plastic | 0.79% | 18.19 | 37,830 | 16.81 | 34,970 | 7 | None | MT OJT |
| 34 | 53-3032 | Heavy and Tractor-Trailer Truck Drivers | 0.79% | 20.54 | 42,730 | 19.21 | 39,960 | 5 | None | ST OJT |
| 35 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 0.73% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 36 | 13-1199 | Business Operations Specialists, All Other | 0.70% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |
| 37 | 17-2071 | Electrical Engineers | 0.69% | 50.86 | 105,780 | 48.95 | 101,820 | 3 | None | None |
| 38 | 13-1161 | Market Research Analysts and Marketing Specialists | 0.67% | 35 | 72,790 | 30.75 | 63,970 | 3 | None | None |
| 39 | 51-7011 | Cabinetmakers and Bench Carpenters | 0.64% | 17.76 | 36,940 | 16.23 | 33,760 | 7 | None | MT OJT |
| 40 | 51-4072 | Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic | 0.63% | 12.66 | 26,340 | 11.22 | 23,330 | 7 | None | MT OJT |
| 41 | 41-4011 | Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 0.62% | 41.19 | 85,670 | 34.82 | 72,430 | 3 | None | MT OJT |
| 42 | 51-4033 | Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic | 0.62% | 15.32 | 31,870 | 14.04 | 29,210 | 7 | None | MT OJT |
| 43 | 11-3021 | Computer and Information Systems Managers | 0.59% | 73.47 | 152,820 | 68.87 | 143,250 | 3 | ≥5 years | None |
| 44 | 11-2022 | Sales Managers | 0.54% | 61.25 | 127,410 | 52.86 | 109,960 | 3 | <5 years | None |
| 45 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 0.54% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 46 | 51-9199 | Production Workers, All Other | 0.51% | 13.52 | 28,120 | 10.06 | 20,930 | 7 | None | MT OJT |
| 47 | 17-2011 | Aerospace Engineers | 0.51% | 61.36 | 127,630 | 61.29 | 127,490 | 3 | None | None |
| 48 | 51-9121 | Coating, Painting, and Spraying Machine Setters, Operators, and Tenders | 0.51% | 14.94 | 31,070 | 13.63 | 28,350 | 7 | None | MT OJT |
| 49 | 51-9012 | Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders | 0.50% | 19.19 | 39,920 | 17.96 | 37,350 | 7 | None | MT OJT |
| 50 | 11-3031 | Financial Managers | 0.50% | 72.17 | 150,110 | 65.08 | 135,370 | 3 | ≥5 years | None |

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

2.2 Construction

Exhibit 2-2

Top Occupations in L.A. County's Construction Industry

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|---|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 47-2031 | Carpenters | 10.28% | 25.74 | 53,530 | 23.80 | 49,510 | 7 | None | APP |
| 2 | 47-2111 | Electricians | 6.38% | 29.84 | 62,080 | 30.07 | 62,540 | 7 | None | APP |
| 3 | 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | 5.05% | 36.93 | 76,820 | 35.84 | 74,550 | 7 | ≥5 years | None |
| 4 | 47-2152 | Plumbers, Pipefitters, and Steamfitters | 4.60% | 26.53 | 55,180 | 24.74 | 51,460 | 7 | None | APP |
| 5 | 11-9021 | Construction Managers | 3.48% | 45.2 | 94,020 | 41.05 | 85,380 | 3 | None | MT OJT |
| 6 | 11-1021 | General and Operations Managers | 2.60% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 7 | 43-9061 | Office Clerks, General | 2.50% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 8 | 47-2073 | Operating Engineers and Other Construction Equipment Operators | 2.48% | 35.73 | 74,330 | 37.42 | 77,840 | 7 | None | MT OJT |
| 9 | 13-1051 | Cost Estimators | 2.31% | 31.81 | 66,160 | 29.08 | 60,480 | 3 | None | None |
| 10 | 49-9021 | Heating, Air Conditioning, and Refrigeration Mechanics and Installers | 2.30% | 25.76 | 53,580 | 25.09 | 52,180 | 5 | None | LT OJT |
| 11 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 1.91% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 12 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 1.82% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 13 | 41-3099 | Sales Representatives, Services, All Other | 1.75% | 29.74 | 61,870 | 25.46 | 52,950 | 7 | None | MT OJT |
| 14 | 47-2211 | Sheet Metal Workers | 1.21% | 29.16 | 60,660 | 28.34 | 58,940 | 7 | None | APP |
| 15 | 47-2221 | Structural Iron and Steel Workers | 0.78% | 31.29 | 65,090 | 33.40 | 69,480 | 7 | None | APP |
| 16 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 0.75% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 17 | 51-4121 | Welders, Cutters, Solderers, and Brazers | 0.72% | 19.28 | 40,090 | 17.47 | 36,340 | 7 | None | MT OJT |
| 18 | 47-2121 | Glaziers | 0.71% | 30.21 | 62,830 | 28.34 | 58,950 | 7 | None | APP |
| 19 | 49-9052 | Telecommunications Line Installers and Repairers | 0.64% | 28.95 | 60,210 | 32.22 | 67,020 | 7 | None | LT OJT |
| 20 | 49-2022 | Telecommunications Equipment Installers and Repairers, Except Line Installers | 0.64% | 26.93 | 56,020 | 26.83 | 55,810 | 5 | None | MT OJT |
| 21 | 53-3032 | Heavy and Tractor-Trailer Truck Drivers | 0.62% | 20.54 | 42,730 | 19.21 | 39,960 | 5 | None | ST OJT |
| 22 | 47-2021 | Brickmasons and Blockmasons | 0.61% | 28.64 | 59,580 | 28.61 | 59,510 | 7 | None | APP |
| 23 | 47-3013 | Helpers--Electricians | 0.60% | 18.77 | 39,040 | 15.80 | 32,870 | 7 | None | ST OJT |
| 24 | 13-2011 | Accountants and Auditors | 0.58% | 37.94 | 78,910 | 34.66 | 72,090 | 3 | None | None |
| 25 | 47-2171 | Reinforcing Iron and Rebar Workers | 0.55% | 26.78 | 55,690 | 26.50 | 55,120 | 7 | None | APP |
| 26 | 17-2051 | Civil Engineers | 0.52% | 48.45 | 100,780 | 48.87 | 101,640 | 3 | None | None |
| 27 | 43-4171 | Receptionists and Information Clerks | 0.50% | 14.57 | 30,300 | 13.64 | 28,380 | 7 | None | ST OJT |
| 28 | 49-9099 | Installation, Maintenance, and Repair Workers, All Other | 0.44% | 17.69 | 36,800 | 16.98 | 35,320 | 7 | None | MT OJT |
| 29 | 49-9071 | Maintenance and Repair Workers, General | 0.43% | 21.34 | 44,400 | 19.82 | 41,230 | 7 | None | LT OJT |
| 30 | 43-6011 | Executive Secretaries and Executive Administrative Assistants | 0.43% | 29.15 | 60,630 | 28.47 | 59,230 | 7 | <5 years | None |
| 31 | 47-3015 | Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters | 0.42% | 15.29 | 31,810 | 14.59 | 30,340 | 7 | None | ST OJT |

| | | | | | | | | | | |
|----|---------|--|-------|--------|---------|-------|---------|---|----------|--------|
| 32 | 43-5032 | Dispatchers, Except Police, Fire, and Ambulance | 0.42% | 19.01 | 39,540 | 17.04 | 35,430 | 7 | None | MT OJT |
| 33 | 43-3051 | Payroll and Timekeeping Clerks | 0.41% | 21.88 | 45,510 | 21.70 | 45,140 | 7 | None | MT OJT |
| 34 | 49-2098 | Security and Fire Alarm Systems Installers | 0.40% | 22.38 | 46,550 | 22.65 | 47,110 | 7 | None | MT OJT |
| 35 | 13-1199 | Business Operations Specialists, All Other | 0.39% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |
| 36 | 49-1011 | First-Line Supervisors of Mechanics, Installers, and Repairers | 0.36% | 36.01 | 74,910 | 34.95 | 72,710 | 7 | <5 years | None |
| 37 | 11-3031 | Financial Managers | 0.32% | 72.17 | 150,110 | 65.08 | 135,370 | 3 | ≥5 years | None |
| 38 | 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 0.31% | 33.98 | 70,680 | 32.51 | 67,630 | 3 | None | LT OJT |
| 39 | 49-9051 | Electrical Power-Line Installers and Repairers | 0.28% | 46.79 | 97,330 | 49.85 | 103,690 | 7 | None | LT OJT |
| 40 | 49-9098 | Helpers--Installation, Maintenance, and Repair Workers | 0.26% | 14.83 | 30,850 | 13.85 | 28,810 | 7 | None | ST OJT |
| 41 | 17-3011 | Architectural and Civil Drafters | 0.25% | 28.34 | 58,940 | 27.67 | 57,540 | 4 | None | None |
| 42 | 47-4021 | Elevator Installers and Repairers | 0.23% | 37.82 | 78,660 | 41.97 | 87,290 | 7 | None | APP |
| 43 | 53-3033 | Light Truck or Delivery Services Drivers | 0.22% | 17.16 | 35,690 | 14.21 | 29,550 | 7 | None | ST OJT |
| 44 | 43-5061 | Production, Planning, and Expediting Clerks | 0.22% | 22.82 | 47,470 | 21.35 | 44,410 | 7 | None | MT OJT |
| 45 | 47-4099 | Construction and Related Workers, All Other | 0.22% | 22.38 | 46,560 | 21.49 | 44,690 | 7 | None | MT OJT |
| 46 | 47-2022 | Stonemasons | 0.21% | 15.55 | 32,340 | 12.74 | 26,510 | 7 | None | APP |
| 47 | 37-2011 | Janitors and Cleaners, Except Maids and Housekeeping Cleaners | 0.19% | 13.89 | 28,890 | 12.77 | 26,560 | 8 | None | ST OJT |
| 48 | 37-3011 | Landscaping and Groundskeeping Workers | 0.19% | 14.45 | 30,050 | 12.34 | 25,680 | 8 | None | ST OJT |
| 49 | 11-1011 | Chief Executives | 0.19% | 104.04 | 216,400 | # | # | 3 | ≥5 years | None |
| 50 | 49-3042 | Mobile Heavy Equipment Mechanics, Except Engines | 0.18% | 30.71 | 63,890 | 29.09 | 60,520 | 7 | None | LT OJT |

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

2.3 Health Care

Exhibit 2-3

Top Occupations in L.A. County's Health Care Industry

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|---|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 29-1141 | Registered Nurses | 12.9% | 46.61 | 96,960 | 47.30 | 98,380 | 3 | None | None |
| 2 | 39-9021 | Personal Care Aides | 15.1% | 11.35 | 23,610 | 9.99 | 20,790 | 8 | None | ST OJT |
| 3 | 31-1014 | Nursing Assistants | 15.0% | 14.67 | 30,500 | 13.88 | 28,870 | 5 | None | None |
| 4 | 31-9092 | Medical Assistants | 15.9% | 16.39 | 34,100 | 15.71 | 32,680 | 5 | None | None |
| 5 | 43-6013 | Medical Secretaries | 15.1% | 17.94 | 37,310 | 17.24 | 35,870 | 7 | None | MT OJT |
| 6 | 29-2061 | Licensed Practical and Licensed Vocational Nurses | 18.1% | 23.86 | 49,630 | 23.73 | 49,360 | 5 | None | None |
| 7 | 31-9091 | Dental Assistants | 16.8% | 18.31 | 38,080 | 17.47 | 36,340 | 5 | None | None |
| 8 | 43-4171 | Receptionists and Information Clerks | 13.6% | 14.57 | 30,300 | 13.64 | 28,380 | 7 | None | ST OJT |
| 9 | 43-9061 | Office Clerks, General | 11.5% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 10 | 25-2011 | Preschool Teachers, Except Special Education | 11.3% | 15.65 | 32,550 | 14.28 | 29,700 | 4 | None | None |
| 11 | 31-1011 | Home Health Aides | 10.8% | 13.96 | 29,040 | 11.32 | 23,540 | 8 | None | ST OJT |
| 12 | 21-1093 | Social and Human Service Assistants | 11.0% | 21.59 | 44,900 | 19.40 | 40,360 | 7 | None | ST OJT |
| 13 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 10.3% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 14 | 37-2012 | Maids and Housekeeping Cleaners | 11.0% | 12.64 | 26,300 | 11.26 | 23,410 | 8 | None | ST OJT |
| 15 | 11-9111 | Medical and Health Services Managers | 13.1% | 57.22 | 119,030 | 55.44 | 115,310 | 3 | <5 years | None |
| 16 | 39-9011 | Childcare Workers | 13.0% | 12.06 | 25,080 | 11.35 | 23,600 | 7 | None | ST OJT |
| 17 | 29-2021 | Dental Hygienists | 12.7% | 46.69 | 97,120 | 49.93 | 103,860 | 4 | None | None |
| 18 | 43-3021 | Billing and Posting Clerks | 12.5% | 17.91 | 37,240 | 17.24 | 35,860 | 7 | None | MT OJT |
| 19 | 29-1123 | Physical Therapists | 11.8% | 44.29 | 92,120 | 44.62 | 92,810 | 1 | None | None |
| 20 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 12.6% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 21 | 29-2012 | Medical and Clinical Laboratory Technicians | 13.0% | 21.65 | 45,030 | 19.90 | 41,400 | 4 | None | None |
| 22 | 29-2034 | Radiologic Technologists | 12.9% | 33.94 | 70,590 | 34.12 | 70,960 | 4 | None | None |
| 23 | 29-2041 | Emergency Medical Technicians and Paramedics | 12.8% | 17.3 | 35,980 | 14.32 | 29,780 | 5 | None | None |
| 24 | 29-2071 | Medical Records and Health Information Technicians | 13.5% | 22.76 | 47,330 | 20.47 | 42,580 | 5 | None | None |
| 25 | 29-1062 | Family and General Practitioners | 13.5% | 88.32 | 183,710 | 79.52 | 165,400 | 1 | None | I/R |
| 26 | 21-1021 | Child, Family, and School Social Workers | 15.7% | 27.91 | 58,050 | 25.52 | 53,090 | 3 | None | None |
| 27 | 29-1126 | Respiratory Therapists | 15.9% | 35.99 | 74,850 | 35.98 | 74,830 | 4 | None | None |
| 28 | 37-2011 | Janitors and Cleaners, Except Maids and Housekeeping Cleaners | 16.2% | 13.89 | 28,890 | 12.77 | 26,560 | 8 | None | ST OJT |
| 29 | 11-1021 | General and Operations Managers | 16.3% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 30 | 43-4051 | Customer Service Representatives | 15.8% | 18.48 | 38,430 | 17.07 | 35,510 | 7 | None | ST OJT |
| 31 | 29-1021 | Dentists, General | 15.4% | 83.24 | 173,150 | 75.82 | 157,700 | 1 | None | None |
| 32 | 29-2099 | Health Technologists and Technicians, All Other | 15.4% | 23.11 | 48,080 | 21.51 | 44,730 | 7 | None | None |
| 33 | 31-9097 | Phlebotomists | 15.4% | 18.43 | 38,330 | 17.73 | 36,880 | 5 | None | None |
| 34 | 21-1022 | Healthcare Social Workers | 15.3% | 32.86 | 68,360 | 31.56 | 65,640 | 2 | None | None |
| 35 | 29-1051 | Pharmacists | 15.4% | 64.6 | 134,380 | 67.42 | 140,240 | 1 | None | None |
| 36 | 35-2012 | Cooks, Institution and Cafeteria | 15.9% | 14.5 | 30,160 | 13.92 | 28,950 | 8 | None | ST OJT |
| 37 | 35-3041 | Food Servers, Nonrestaurant | 15.8% | 14.27 | 29,680 | 11.82 | 24,580 | 8 | None | ST OJT |
| 38 | 13-1199 | Business Operations Specialists, All Other | 16.8% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |

| | | | | | | | | | | |
|----|---------|--|-------|-------|---------|-------|---------|---|----------|--------|
| 39 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 16.5% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 40 | 21-1015 | Rehabilitation Counselors | 16.7% | 15.93 | 33,130 | 13.63 | 28,350 | 2 | None | None |
| 41 | 21-1014 | Mental Health Counselors | 16.9% | 26.12 | 54,330 | 22.67 | 47,150 | 2 | None | I/R |
| 42 | 29-1171 | Nurse Practitioners | 16.6% | 58.71 | 122,120 | 58.03 | 120,700 | 2 | None | None |
| 43 | 29-2055 | Surgical Technologists | 16.1% | 27.22 | 56,610 | 27.17 | 56,510 | 5 | None | None |
| 44 | 29-2011 | Medical and Clinical Laboratory Technologists | 16.6% | 40.17 | 83,560 | 40.54 | 84,310 | 3 | None | None |
| 45 | 11-9151 | Social and Community Service Managers | 16.5% | 38.21 | 79,470 | 34.92 | 72,640 | 3 | ≥5 years | None |
| 46 | 43-4111 | Interviewers, Except Eligibility and Loan | 16.4% | 17.83 | 37,090 | 17.16 | 35,700 | 7 | None | ST OJT |
| 47 | 29-1122 | Occupational Therapists | 16.2% | 41.89 | 87,140 | 43.70 | 90,890 | 2 | None | None |
| 48 | 29-2052 | Pharmacy Technicians | 16.6% | 18.73 | 38,960 | 17.98 | 37,390 | 7 | None | MT OJT |
| 49 | 19-3031 | Clinical, Counseling, and School Psychologists | 16.6% | 38.6 | 80,300 | 37.92 | 78,870 | 1 | None | I/R |
| 50 | 49-9071 | Maintenance and Repair Workers, General | 15.9% | 21.34 | 44,400 | 19.82 | 41,230 | 7 | None | LT OJT |

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

2.4 Accommodation and Food Services

Exhibit 2-4
Top Occupations in L.A. County's Accommodation and Food Services Industry

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|---|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 35-1012 | First-Line Supervisors of Food Preparation and Serving Workers | 4.8% | 16.61 | 34,560 | 15.19 | 31,590 | 7 | <5 years | None |
| 2 | 11-9051 | Food Service Managers | 2.1% | 23.5 | 48,890 | 20.62 | 42,890 | 7 | <5 years | None |
| 3 | 43-4081 | Hotel, Motel, and Resort Desk Clerks | 1.6% | 12.37 | 25,730 | 11.43 | 23,780 | 7 | None | ST OJT |
| 4 | 35-1011 | Chefs and Head Cooks | 1.1% | 19.59 | 40,740 | 17.34 | 36,070 | 7 | ≥5 years | None |
| 5 | 11-1021 | General and Operations Managers | 0.8% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 6 | 53-3031 | Driver/Sales Workers | 0.7% | 14.26 | 29,650 | 11.68 | 24,300 | 7 | None | ST OJT |
| 7 | 49-9071 | Maintenance and Repair Workers, General | 0.6% | 21.34 | 44,400 | 19.82 | 41,230 | 7 | None | LT OJT |
| 8 | 33-9032 | Security Guards | 0.5% | 12.83 | 26,690 | 11.41 | 23,730 | 7 | None | ST OJT |
| 9 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 0.4% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 10 | 11-9081 | Lodging Managers | 0.3% | 28.81 | 59,930 | 24.59 | 51,140 | 7 | <5 years | None |
| 11 | 37-1011 | First-Line Supervisors of Housekeeping and Janitorial Workers | 0.3% | 21.57 | 44,870 | 20.77 | 43,190 | 7 | <5 years | None |
| 12 | 43-9061 | Office Clerks, General | 0.2% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 13 | 39-6011 | Baggage Porters and Bellhops | 0.2% | 13.24 | 27,530 | 11.68 | 24,300 | 7 | None | ST OJT |
| 14 | 39-3011 | Gaming Dealers | 0.2% | 13.21 | 27,470 | 11.97 | 24,890 | 7 | None | ST OJT |
| 15 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 0.2% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 16 | 41-3099 | Sales Representatives, Services, All Other | 0.2% | 29.74 | 61,870 | 25.46 | 52,950 | 7 | None | MT OJT |
| 17 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 0.2% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 18 | 13-1121 | Meeting, Convention, and Event Planners | 0.1% | 26.88 | 55,900 | 25.12 | 52,260 | 3 | None | None |
| 19 | 31-9011 | Massage Therapists | 0.1% | 20.1 | 41,800 | 19.58 | 40,720 | 5 | None | None |
| 20 | 43-4051 | Customer Service Representatives | 0.1% | 18.48 | 38,430 | 17.07 | 35,510 | 7 | None | ST OJT |
| 21 | 13-2011 | Accountants and Auditors | 0.1% | 37.94 | 78,910 | 34.66 | 72,090 | 3 | None | None |
| 22 | 39-6012 | Concierges | 0.1% | 15.64 | 32,530 | 15.84 | 32,940 | 7 | None | MT OJT |
| 23 | 53-3033 | Light Truck or Delivery Services Drivers | 0.1% | 17.16 | 35,690 | 14.21 | 29,550 | 7 | None | ST OJT |
| 24 | 43-2011 | Switchboard Operators, Including Answering Service | 0.1% | 15.65 | 32,550 | 14.35 | 29,850 | 7 | None | ST OJT |
| 25 | 11-2022 | Sales Managers | 0.1% | 61.25 | 127,410 | 52.86 | 109,960 | 3 | <5 years | None |
| 26 | 49-1011 | First-Line Supervisors of Mechanics, Installers, and Repairers | 0.1% | 36.01 | 74,910 | 34.95 | 72,710 | 7 | <5 years | None |
| 27 | 11-3031 | Financial Managers | 0.1% | 72.17 | 150,110 | 65.08 | 135,370 | 3 | ≥5 years | None |
| 28 | 43-4181 | Reservation and Transportation Ticket Agents and Travel Clerks | 0.1% | 19.05 | 39,620 | 19.43 | 40,410 | 7 | None | ST OJT |
| 29 | 41-1011 | First-Line Supervisors of Retail Sales Workers | 0.1% | 20.71 | 43,080 | 18.36 | 38,180 | 7 | <5 years | None |
| 30 | 39-9032 | Recreation Workers | 0.1% | 13.26 | 27,580 | 12.57 | 26,140 | 7 | None | ST OJT |
| 31 | 43-4171 | Receptionists and Information Clerks | 0.1% | 14.57 | 30,300 | 13.64 | 28,380 | 7 | None | ST OJT |
| 32 | 13-1071 | Human Resources Specialists | 0.1% | 34.34 | 71,430 | 31.14 | 64,770 | 3 | None | None |
| 33 | 11-3011 | Administrative Services Managers | 0.1% | 48.61 | 101,110 | 43.82 | 91,140 | 3 | <5 years | None |
| 34 | 43-3051 | Payroll and Timekeeping Clerks | 0.0% | 21.88 | 45,510 | 21.70 | 45,140 | 7 | None | MT OJT |
| 35 | 43-6011 | Executive Secretaries and Executive Administrative Assistants | 0.0% | 29.15 | 60,630 | 28.47 | 59,230 | 7 | <5 years | None |

| | | | | | | | | | | |
|----|---------|--|------|-------|---------|-------|---------|---|----------|--------|
| 36 | 39-3093 | Locker Room, Coatroom, and Dressing Room Attendants | 0.0% | 14.31 | 29,770 | 15.01 | 31,230 | 7 | None | ST OJT |
| 37 | 13-1199 | Business Operations Specialists, All Other | 0.0% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |
| 38 | 43-3021 | Billing and Posting Clerks | 0.0% | 17.91 | 37,240 | 17.24 | 35,860 | 7 | None | MT OJT |
| 39 | 51-3093 | Food Cooking Machine Operators and Tenders | 0.0% | 12.02 | 25,000 | 10.05 | 20,910 | 7 | None | MT OJT |
| 40 | 43-5071 | Shipping, Receiving, and Traffic Clerks | 0.0% | 14.82 | 30,830 | 13.73 | 28,570 | 7 | None | ST OJT |
| 41 | 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 0.0% | 33.98 | 70,680 | 32.51 | 67,630 | 3 | None | LT OJT |
| 42 | 49-9091 | Coin, Vending, and Amusement Machine Servicers and Repairers | 0.0% | 17.82 | 37,070 | 15.73 | 32,730 | 7 | None | ST OJT |
| 43 | 39-9031 | Fitness Trainers and Aerobics Instructors | 0.0% | 24.5 | 50,970 | 23.99 | 49,910 | 7 | None | ST OJT |
| 44 | 43-3041 | Gaming Cage Workers | 0.0% | 15.25 | 31,730 | 13.05 | 27,130 | 7 | None | ST OJT |
| 45 | 11-9199 | Managers, All Other | 0.0% | 62.53 | 130,060 | 58.11 | 120,860 | 3 | <5 years | None |
| 46 | 13-1161 | Market Research Analysts and Marketing Specialists | 0.0% | 35 | 72,790 | 30.75 | 63,970 | 3 | None | None |
| 47 | 39-1021 | First-Line Supervisors of Personal Service Workers | 0.0% | 22.43 | 46,660 | 20.38 | 42,390 | 7 | <5 years | None |
| 48 | 39-5094 | Skincare Specialists | 0.0% | 17.65 | 36,700 | 16.56 | 34,450 | 5 | None | None |
| 49 | 11-3121 | Human Resources Managers | 0.0% | 60.44 | 125,710 | 56.40 | 117,320 | 3 | ≥5 years | None |
| 50 | 43-4161 | Human Resources Assistants, Except Payroll and Timekeeping | 0.0% | 21.29 | 44,270 | 20.67 | 42,990 | 4 | None | None |

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

2.5 Transportation and Warehousing

Exhibit 2-5
Top Occupations in L.A. County's Transportation and Warehousing Industry

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|--|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 53-3032 | Heavy and Tractor-Trailer Truck Drivers | 14.57% | 20.54 | 42,730 | 19.21 | 39,960 | 5 | None | ST OJT |
| 2 | 43-5052 | Postal Service Mail Carriers | 6.17% | 25.56 | 53,160 | 28.50 | 59,290 | 7 | None | ST OJT |
| 3 | 53-3033 | Light Truck or Delivery Services Drivers | 4.99% | 17.16 | 35,690 | 14.21 | 29,550 | 7 | None | ST OJT |
| 4 | 53-3022 | Bus Drivers, School or Special Client | 2.63% | 14.51 | 30,180 | 13.64 | 28,370 | 7 | None | ST OJT |
| 5 | 43-4181 | Reservation and Transportation Ticket Agents and Travel Clerks | 2.44% | 19.05 | 39,620 | 19.43 | 40,410 | 7 | None | ST OJT |
| 6 | 43-5053 | Postal Service Mail Sorters, Processors, and Processing Machine Operators | 2.44% | 24.15 | 50,230 | 26.78 | 55,700 | 7 | None | ST OJT |
| 7 | 43-5011 | Cargo and Freight Agents | 2.12% | 22.54 | 46,880 | 20.52 | 42,690 | 7 | None | ST OJT |
| 8 | 43-5032 | Dispatchers, Except Police, Fire, and Ambulance | 1.93% | 19.01 | 39,540 | 17.04 | 35,430 | 7 | None | MT OJT |
| 9 | 43-5071 | Shipping, Receiving, and Traffic Clerks | 1.84% | 14.82 | 30,830 | 13.73 | 28,570 | 7 | None | ST OJT |
| 10 | 53-3021 | Bus Drivers, Transit and Intercity | 1.69% | 18.84 | 39,190 | 18.69 | 38,880 | 7 | None | MT OJT |
| 11 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 1.65% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 12 | 53-1031 | First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators | 1.61% | 31.08 | 64,640 | 30.00 | 62,400 | 7 | <5 years | None |
| 13 | 49-3011 | Aircraft Mechanics and Service Technicians | 1.50% | 31.27 | 65,050 | 32.09 | 66,750 | 5 | None | None |
| 14 | 11-1021 | General and Operations Managers | 1.47% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 15 | 43-5051 | Postal Service Clerks | 1.38% | 25.95 | 53,980 | 27.31 | 56,800 | 7 | None | ST OJT |
| 16 | 43-4051 | Customer Service Representatives | 1.37% | 18.48 | 38,430 | 17.07 | 35,510 | 7 | None | ST OJT |
| 17 | 53-1021 | First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand | 1.31% | 23.75 | 49,400 | 21.57 | 44,870 | 7 | <5 years | None |
| 18 | 43-9061 | Office Clerks, General | 1.21% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 19 | 41-3099 | Sales Representatives, Services, All Other | 1.02% | 29.74 | 61,870 | 25.46 | 52,950 | 7 | None | MT OJT |
| 20 | 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 1.02% | 25.71 | 53,480 | 26.45 | 55,020 | 7 | None | LT OJT |
| 21 | 11-3071 | Transportation, Storage, and Distribution Managers | 0.94% | 46.21 | 96,110 | 41.06 | 85,400 | 7 | ≥5 years | None |
| 22 | 43-5021 | Couriers and Messengers | 0.93% | 15.97 | 33,220 | 15.39 | 32,020 | 7 | None | ST OJT |
| 23 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 0.80% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 24 | 49-9071 | Maintenance and Repair Workers, General | 0.80% | 21.34 | 44,400 | 19.82 | 41,230 | 7 | None | LT OJT |
| 25 | 53-6099 | Transportation Workers, All Other | 0.79% | 18.01 | 37,460 | 18.30 | 38,060 | 7 | None | ST OJT |
| 26 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 0.64% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 27 | 53-6061 | Transportation Attendants, Except Flight Attendants | 0.56% | 13.39 | 27,850 | 12.46 | 25,920 | 7 | None | ST OJT |
| 28 | 43-5061 | Production, Planning, and Expediting Clerks | 0.52% | 22.82 | 47,470 | 21.35 | 44,410 | 7 | None | MT OJT |
| 29 | 49-1011 | First-Line Supervisors of Mechanics, Installers, and Repairers | 0.44% | 36.01 | 74,910 | 34.95 | 72,710 | 7 | <5 years | None |

| | | | | | | | | | | |
|----|---------|--|-------|-------|---------|-------|---------|---|----------|--------|
| 30 | 43-3021 | Billing and Posting Clerks | 0.38% | 17.91 | 37,240 | 17.24 | 35,860 | 7 | None | MT OJT |
| 31 | 13-1199 | Business Operations Specialists, All Other | 0.35% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |
| 32 | 43-4151 | Order Clerks | 0.33% | 16.21 | 33,720 | 14.98 | 31,170 | 7 | None | ST OJT |
| 33 | 53-3031 | Driver/Sales Workers | 0.32% | 14.26 | 29,650 | 11.68 | 24,300 | 7 | None | ST OJT |
| 34 | 13-2011 | Accountants and Auditors | 0.27% | 37.94 | 78,910 | 34.66 | 72,090 | 3 | None | None |
| 35 | 39-6011 | Baggage Porters and Bellhops | 0.25% | 13.24 | 27,530 | 11.68 | 24,300 | 7 | None | ST OJT |
| 36 | 53-5021 | Captains, Mates, and Pilots of Water Vessels | 0.24% | 32.43 | 67,450 | 30.15 | 62,710 | 5 | <5 years | None |
| 37 | 33-9032 | Security Guards | 0.23% | 12.83 | 26,690 | 11.41 | 23,730 | 7 | None | ST OJT |
| 38 | 11-2022 | Sales Managers | 0.22% | 61.25 | 127,410 | 52.86 | 109,960 | 3 | <5 years | None |
| 39 | 11-3011 | Administrative Services Managers | 0.21% | 48.61 | 101,110 | 43.82 | 91,140 | 3 | <5 years | None |
| 40 | 49-3023 | Automotive Service Technicians and Mechanics | 0.20% | 19.33 | 40,210 | 17.07 | 35,500 | 5 | None | ST OJT |
| 41 | 43-9021 | Data Entry Keyers | 0.18% | 14.93 | 31,050 | 14.11 | 29,350 | 7 | None | MT OJT |
| 42 | 49-2091 | Avionics Technicians | 0.18% | 31.94 | 66,440 | 32.17 | 66,910 | 4 | None | None |
| 43 | 43-4171 | Receptionists and Information Clerks | 0.17% | 14.57 | 30,300 | 13.64 | 28,380 | 7 | None | ST OJT |
| 44 | 49-9098 | Helpers--Installation, Maintenance, and Repair Workers | 0.17% | 14.83 | 30,850 | 13.85 | 28,810 | 7 | None | ST OJT |
| 45 | 53-6051 | Transportation Inspectors | 0.17% | 35.75 | 74,360 | 33.60 | 69,880 | 7 | None | MT OJT |
| 46 | 51-9111 | Packaging and Filling Machine Operators and Tenders | 0.16% | 13.55 | 28,180 | 11.55 | 24,020 | 7 | None | MT OJT |
| 47 | 13-1071 | Human Resources Specialists | 0.15% | 34.34 | 71,430 | 31.14 | 64,770 | 3 | None | None |
| 48 | 43-4071 | File Clerks | 0.15% | 15.24 | 31,690 | 14.14 | 29,420 | 7 | None | ST OJT |
| 49 | 53-1011 | Aircraft Cargo Handling Supervisors | 0.15% | 26.74 | 55,620 | 26.51 | 55,140 | 7 | <5 years | None |
| 50 | 43-3011 | Bill and Account Collectors | 0.14% | 19.85 | 41,280 | 18.35 | 38,180 | 7 | None | MT OJT |

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

2.6 Information Technology

Exhibit 2-6

Top Occupations in L.A. County's Information Technology Sector

| | SOC Code | Occupation | % of Industry | Hourly Average Wage | Annual Average Wage | Hourly Median Wage | Annual Median Wage | Entry Level Education | Work Experience | On-the-Job Training |
|----|----------|---|---------------|---------------------|---------------------|--------------------|--------------------|-----------------------|-----------------|---------------------|
| 1 | 15-1132 | Software Developers, Applications | 6.82% | 53.07 | 110,380 | 52.66 | 109,540 | 3 | None | None |
| 2 | 15-1133 | Software Developers, Systems Software | 4.19% | 55.75 | 115,960 | 56.20 | 116,900 | 3 | None | None |
| 3 | 11-1021 | General and Operations Managers | 2.83% | 62.25 | 129,480 | 50.74 | 105,530 | 3 | ≥5 years | None |
| 4 | 13-1161 | Market Research Analysts and Marketing Specialists | 2.74% | 35.00 | 72,790 | 30.75 | 63,970 | 3 | None | None |
| 5 | 41-3099 | Sales Representatives, Services, All Other | 2.47% | 29.74 | 61,870 | 25.46 | 52,950 | 7 | None | MT OJT |
| 6 | 15-1121 | Computer Systems Analysts | 2.45% | 45.58 | 94,800 | 44.78 | 93,150 | 3 | None | None |
| 7 | 43-4051 | Customer Service Representatives | 2.24% | 18.48 | 38,430 | 17.07 | 35,510 | 7 | None | ST OJT |
| 8 | 13-1111 | Management Analysts | 2.19% | 47.54 | 98,880 | 42.07 | 87,510 | 3 | <5 years | None |
| 9 | 11-3021 | Computer and Information Systems Managers | 2.04% | 73.47 | 152,820 | 68.87 | 143,250 | 3 | ≥5 years | None |
| 10 | 15-1151 | Computer User Support Specialists | 1.93% | 27.56 | 57,320 | 26.55 | 55,230 | 6 | None | None |
| 11 | 13-1199 | Business Operations Specialists, All Other | 1.87% | 36.53 | 75,990 | 34.27 | 71,290 | 3 | None | None |
| 12 | 43-9061 | Office Clerks, General | 1.86% | 15.88 | 33,030 | 14.83 | 30,840 | 7 | None | ST OJT |
| 13 | 15-1131 | Computer Programmers | 1.66% | 45.98 | 95,650 | 45.10 | 93,800 | 3 | None | None |
| 14 | 13-2011 | Accountants and Auditors | 1.54% | 37.94 | 78,910 | 34.66 | 72,090 | 3 | None | None |
| 15 | 17-2061 | Computer Hardware Engineers | 1.49% | 53.68 | 111,650 | 52.58 | 109,370 | 3 | None | None |
| 16 | 43-6014 | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 1.47% | 19.31 | 40,160 | 18.38 | 38,240 | 7 | None | ST OJT |
| 17 | 49-2022 | Telecommunications Equipment Installers and Repairers, Except Line Installers | 1.40% | 26.93 | 56,020 | 26.83 | 55,810 | 5 | None | MT OJT |
| 18 | 15-1142 | Network and Computer Systems Administrators | 1.27% | 40.78 | 84,820 | 39.76 | 82,700 | 3 | None | None |
| 19 | 41-4011 | Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 1.26% | 41.19 | 85,670 | 34.82 | 72,430 | 3 | None | MT OJT |
| 20 | 43-6011 | Executive Secretaries and Executive Administrative Assistants | 1.25% | 29.15 | 60,630 | 28.47 | 59,230 | 7 | <5 years | None |
| 21 | 27-2012 | Producers and Directors | 1.22% | 65.22 | 135,650 | 46.20 | 96,100 | 3 | <5 years | None |
| 22 | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 1.18% | 21.13 | 43,940 | 20.10 | 41,800 | 6 | None | MT OJT |
| 23 | 17-2072 | Electronics Engineers, Except Computer | 1.17% | 57.93 | 120,500 | 56.82 | 118,190 | 3 | None | None |
| 24 | 51-2022 | Electrical and Electronic Equipment Assemblers | 1.15% | 16.17 | 33,640 | 14.81 | 30,810 | 7 | None | MT OJT |
| 25 | 27-1024 | Graphic Designers | 1.03% | 28.21 | 58,670 | 25.07 | 52,140 | 3 | None | None |
| 26 | 43-1011 | First-Line Supervisors of Office and Administrative Support Workers | 0.96% | 28.68 | 59,650 | 27.17 | 56,510 | 7 | <5 years | None |
| 27 | 15-1134 | Web Developers | 0.93% | 33.85 | 70,410 | 31.16 | 64,820 | 4 | None | None |
| 28 | 11-2021 | Marketing Managers | 0.93% | 70.61 | 146,860 | 66.87 | 139,080 | 3 | ≥5 years | None |
| 29 | 11-9041 | Architectural and Engineering Managers | 0.90% | 77.33 | 160,840 | 71.98 | 149,710 | 3 | ≥5 years | None |
| 30 | 43-5071 | Shipping, Receiving, and Traffic Clerks | 0.89% | 14.82 | 30,830 | 13.73 | 28,570 | 7 | None | ST OJT |
| 31 | 43-5061 | Production, Planning, and Expediting Clerks | 0.88% | 22.82 | 47,470 | 21.35 | 44,410 | 7 | None | MT OJT |
| 32 | 11-2022 | Sales Managers | 0.86% | 61.25 | 127,410 | 52.86 | 109,960 | 3 | <5 years | None |
| 33 | 13-1071 | Human Resources Specialists | 0.80% | 34.34 | 71,430 | 31.14 | 64,770 | 3 | None | None |

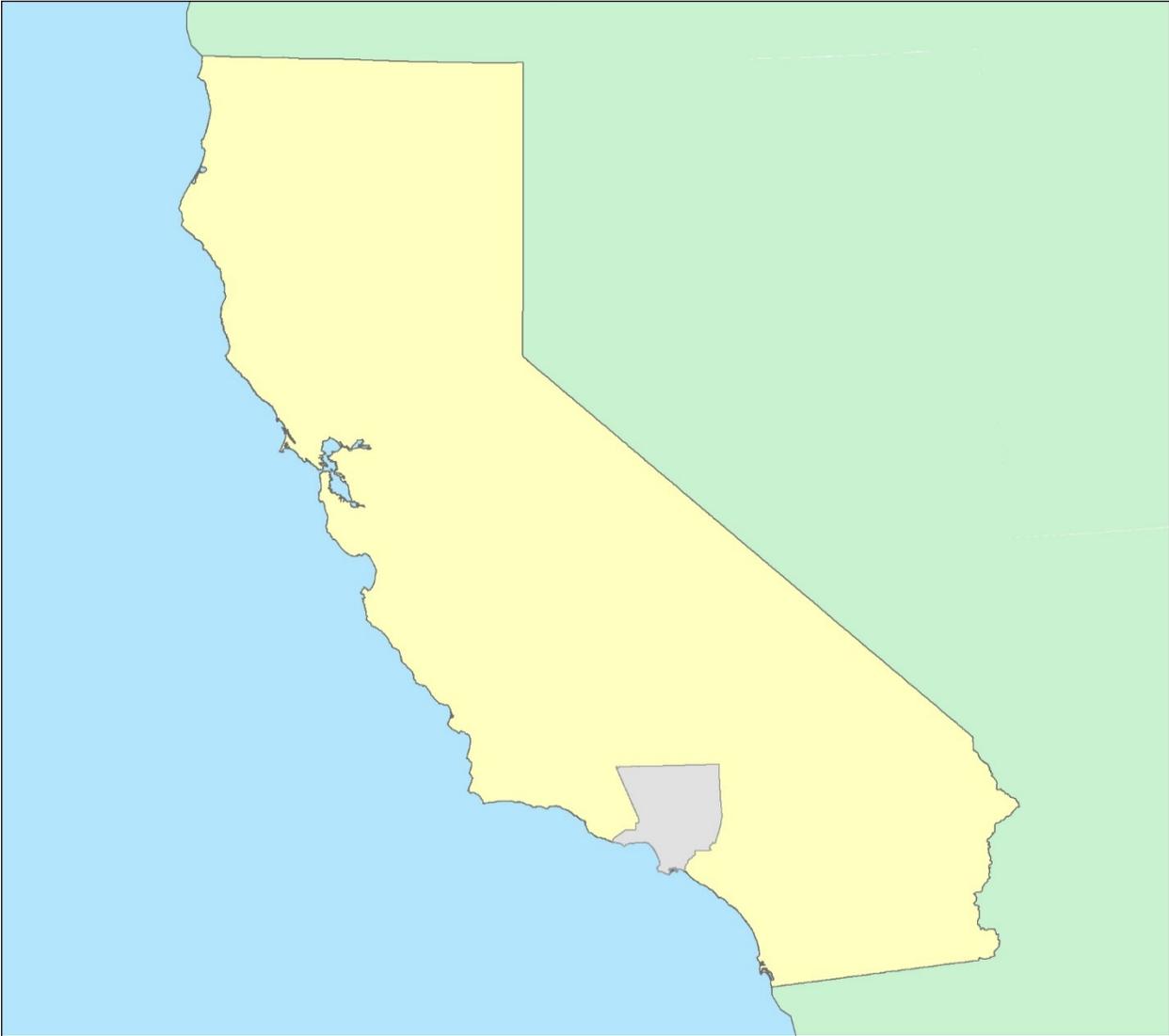
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|----|---------|--|-------|-------|---------|-------|---------|---|----------|--------|
| 34 | 17-3023 | Electrical and Electronics Engineering Technicians | 0.78% | 30.86 | 64,180 | 30.02 | 62,450 | 4 | None | None |
| 35 | 17-2071 | Electrical Engineers | 0.78% | 50.86 | 105,780 | 48.95 | 101,820 | 3 | None | None |
| 36 | 11-3031 | Financial Managers | 0.74% | 72.17 | 150,110 | 65.08 | 135,370 | 3 | ≥5 years | None |
| 37 | 41-4012 | Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 0.73% | 29.08 | 60,500 | 23.06 | 47,970 | 7 | None | MT OJT |
| 38 | 51-2092 | Team Assemblers | 0.73% | 13.07 | 27,180 | 11.54 | 24,010 | 7 | None | MT OJT |
| 39 | 41-3011 | Advertising Sales Agents | 0.71% | 35.60 | 74,040 | 30.48 | 63,400 | 7 | None | MT OJT |
| 40 | 51-5112 | Printing Press Operators | 0.69% | 17.14 | 35,650 | 15.19 | 31,600 | 7 | None | MT OJT |
| 41 | 15-1199 | Computer Occupations, All Other | 0.69% | 38.22 | 79,490 | 36.11 | 75,120 | 3 | None | None |
| 42 | 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 0.67% | 19.16 | 39,860 | 17.06 | 35,490 | 7 | None | MT OJT |
| 43 | 27-4032 | Film and Video Editors | 0.65% | 54.07 | 112,460 | 45.26 | 94,130 | 3 | None | None |
| 44 | 15-1152 | Computer Network Support Specialists | 0.63% | 35.69 | 74,230 | 34.26 | 71,260 | 4 | None | None |
| 45 | 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 0.63% | 33.98 | 70,680 | 32.51 | 67,630 | 3 | None | LT OJT |
| 46 | 15-1143 | Computer Network Architects | 0.61% | 57.83 | 120,290 | 57.68 | 119,980 | 3 | ≥5 years | None |
| 47 | 31-9096 | Veterinary Assistants and Laboratory Animal Caretakers | 0.60% | 13.86 | 28,820 | 13.07 | 27,190 | 7 | None | ST OJT |
| 48 | 13-2051 | Financial Analysts | 0.59% | 44.72 | 93,010 | 41.53 | 86,390 | 3 | None | None |
| 49 | 17-2112 | Industrial Engineers | 0.57% | 49.51 | 102,970 | 47.45 | 98,700 | 3 | None | None |
| 50 | 27-3031 | Public Relations Specialists | 0.56% | 35.12 | 73,050 | 29.21 | 60,760 | 3 | None | None |

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

Regional Planning Unit Summary: Los Angeles Basin

Employment Development Department, Labor Market Information Division
Revised September 1, 2016



Los Angeles County



Regional Planning Unit: Los Angeles Basin

Local Workforce Development Areas: Foothill Consortium, Los Angeles City/County, Pacific Gateway Workforce Investment Network, South Bay Consortium, (SELACO) Southeast Los Angeles County Consortium, and Verdugo Consortium
 County: Los Angeles

Labor Market Profile

| | May 2016 | May 2015 | Change | Percent |
|-------------------|-----------|-----------|----------|---------|
| Labor Market | 4,990,800 | 5,028,100 | -37,300 | -0.7% |
| Employed | 4,777,200 | 4,684,200 | 93,000 | 2.0% |
| Unemployed | 213,600 | 343,900 | -130,300 | -37.9% |
| Unemployment Rate | 4.3% | 6.8% | -2.6% | - |

Source: Employment Development Department, Labor Market Information Division.
 Data Note: Numbers may not add due to rounding.

Unemployment Insurance Claims

Unemployment Insurance Claims data is available by county [here](#).

Source: Employment Development Department, Unemployment Insurance Division.

Commute Patterns

| Living and Employed in the Area | Inflow | Outflow |
|---------------------------------|---------|---------|
| 2,942,194 | 925,915 | 703,156 |

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2014).

Regional Economic Growth

| Major Industry Sector | May 2016 (preliminary) | May 2012 | Change | Percent | Location Quotient |
|-------------------------------------|------------------------|-----------|---------|---------|-------------------|
| Total All Industries | 4,373,200 | 4,051,600 | 321,600 | 7.9% | - |
| Total Farm | 5,300 | 5,900 | -600 | -10.2% | 0.0 |
| Total Nonfarm | 4,367,900 | 4,045,700 | 322,200 | 8.0% | 1.0 |
| Mining and Logging | 3,500 | 4,200 | -700 | -16.7% | 0.5 |
| Construction | 130,500 | 108,000 | 22,500 | 20.8% | 0.7 |
| Manufacturing | 354,300 | 368,300 | -14,000 | -3.8% | 1.1 |
| Trade, Transportation and Utilities | 822,900 | 761,900 | 61,000 | 8.0% | 1.1 |
| Information | 207,400 | 189,600 | 17,800 | 9.4% | 1.6 |
| Financial Activities | 219,000 | 212,100 | 6,900 | 3.3% | 1.0 |
| Professional and Business Services | 606,800 | 565,600 | 41,200 | 7.3% | 0.9 |
| Educational and Health Services | 777,100 | 703,100 | 74,000 | 10.5% | 1.2 |
| Leisure and Hospitality | 510,200 | 418,700 | 91,500 | 21.9% | 1.0 |
| Other Services | 154,300 | 142,600 | 11,700 | 8.2% | 1.1 |
| Government | 581,900 | 571,600 | 10,300 | 1.8% | 0.9 |

Source: Employment Development Department, Labor Market Information Division.

Data Note: Numbers may not add due to suppression. Location quotients (LQs) are calculated by first dividing RPU industry employment by the all industry total of RPU employment. Second, California industry employment is divided by the all industry total for California. Finally, the RPU ratio (first calculation) is divided by the California ratio (second calculation). If an LQ is equal to 1, then the industry has the same share of RPU employment as it does in California. An LQ greater than 1 indicates an industry with a greater share of RPU employment than is the case statewide.

Demand Industry Sectors

| Top Demand Industry Sub Sector | Total Projected Job Openings 2012-2022 | Location Quotient |
|---|---|--------------------------|
| Restaurants and Other Eating Places | 162,502 | 1.0 |
| Individual and Family Services | 111,070 | 1.4 |
| Elementary and Secondary Schools | 64,054 | 0.9 |
| Employment Services | 46,154 | 1.1 |
| Colleges, Universities, and Professional Schools | 43,024 | 1.1 |
| Motion Picture and Video Industries | 38,560 | 3.2 |
| Management, Scientific, and Technical Consulting Services | 37,758 | 1.0 |
| General Medical and Surgical Hospitals | 35,715 | 1.1 |
| Grocery Stores | 32,266 | 1.0 |
| Other General Merchandise Stores | 29,729 | 0.9 |

Source: Employment Development Department, Labor Market Information Division.

Data Note: Total projected job openings are the sum of new and replacement job openings.

Emergent Industry Sectors

| Top Emergent Industry Sub Sector | Numeric Change 2012-2022 | Percent Change | Location Quotient |
|---|---------------------------------|-----------------------|--------------------------|
| Other Information Services | 7,210 | 78.9% | 0.6 |
| Electronic Shopping and Mail Order Houses | 5,420 | 75.8% | 1.0 |
| Wired Telecommunications Carriers | 9,890 | 75.6% | 1.2 |
| Other General Merchandise Stores | 19,480 | 62.2% | 0.9 |
| Individual and Family Services | 95,280 | 60.6% | 1.4 |
| Management, Scientific, and Technical Consulting Services | 28,350 | 60.5% | 1.0 |
| Home Health Care Services | 11,880 | 52.8% | 1.1 |
| Software Publishers | 2,800 | 51.3% | 0.4 |
| Taxi and Limousine Service | 1,140 | 50.0% | 1.1 |
| Outpatient Care Centers | 11,350 | 49.2% | 0.9 |

Source: Employment Development Department, Labor Market Information Division.

Data Note: Emergent industry sectors are industries with the highest levels of growth as measured by percent change.

Top 25 Middle-Skill, Middle-Wage or Higher Occupations

| Top 25 Middle-Skill, Middle-Wage or Higher Occupations | Total Projected Job Openings 2012-2022 | HWOL Job Ads | Median Annual Wage 2016 1st Quarter |
|---|---|---------------------|--|
| Registered Nurses | 23,591 | 11,315 | \$99,805 |
| Licensed Practical and Licensed Vocational Nurses | 10,302 | 2,066 | \$50,077 |
| Medical Assistants | 9,095 | 1,892 | \$33,325 |
| Heavy and Tractor-Trailer Truck Drivers | 8,200 | 5,673 | \$40,713 |
| Computer User Support Specialists | 5,410 | 3,801 | \$56,028 |
| Dental Assistants | 3,671 | 1,406 | \$37,060 |
| Telecommunications Equipment Installers and Repairers, Except Line Installers | 3,312 | 349 | \$56,441 |
| Medical and Clinical Laboratory Technicians | 2,950 | 156 | \$41,995 |
| Paralegals and Legal Assistants | 2,859 | 1,534 | \$58,047 |
| Web Developers | 2,644 | 4,740 | \$65,759 |
| Firefighters | 2,518 | 24 | \$76,834 |
| Dental Hygienists | 2,515 | 215 | \$105,358 |
| First-Line Supervisors of Production and Operating Workers | 2,187 | 2,564 | \$53,828 |
| Medical Records and Health Information Technicians | 2,030 | 1,038 | \$43,199 |
| Heating, Air Conditioning, and Refrigeration Mechanics and Installers | 2,019 | 600 | \$52,764 |
| Audio and Video Equipment Technicians | 1,605 | 456 | \$51,785 |
| Aircraft Mechanics and Service Technicians | 1,538 | 76 | \$67,505 |
| Phlebotomists | 1,359 | 141 | \$37,610 |
| Library Technicians | 1,276 | 30 | \$41,759 |
| Respiratory Therapists | 1,188 | 145 | \$75,911 |
| Radiologic Technologists | 1,184 | 312 | \$71,990 |
| Massage Therapists | 1,090 | 480 | \$41,529 |
| Surgical Technologists | 854 | 380 | \$57,329 |
| Electrical and Electronics Engineering Technicians | 725 | 399 | \$63,351 |
| Computer Network Support Specialists | 679 | 55 | \$72,289 |

Source: Employment Development Department, Labor Market Information Division; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending June 21, 2016.

Data Note: Middle-skill occupations typically require more than a high school diploma but less than a Bachelor's degree. Middle-wage occupations make at least 80 percent of the area's median annual wage (\$39,248).

Demographic Data

| Age | Population | Percent Share of Total Population |
|--------------------|------------------|-----------------------------------|
| Under 5 Years | 644,638 | 6.5% |
| 5 to 9 Years | 629,141 | 6.3% |
| 10 to 14 Years | 651,107 | 6.5% |
| 15 to 17 Years | 422,714 | 4.2% |
| 18 and 19 Years | 292,037 | 2.9% |
| 20 Years | 158,709 | 1.6% |
| 21 Years | 158,887 | 1.6% |
| 22 to 24 Years | 459,224 | 4.6% |
| 25 to 29 Years | 783,815 | 7.9% |
| 30 to 34 Years | 738,318 | 7.4% |
| 35 to 39 Years | 699,471 | 7.0% |
| 40 to 44 Years | 719,924 | 7.2% |
| 45 to 49 Years | 700,782 | 7.0% |
| 50 to 54 Years | 678,968 | 6.8% |
| 55 to 59 Years | 596,246 | 6.0% |
| 60 and 61 Years | 210,848 | 2.1% |
| 62 to 64 Years | 279,481 | 2.8% |
| 65 and 66 Years | 163,553 | 1.6% |
| 67 to 69 Years | 199,916 | 2.0% |
| 70 to 74 Years | 264,639 | 2.7% |
| 75 to 79 Years | 200,867 | 2.0% |
| 80 to 84 Years | 156,022 | 1.6% |
| 85 Years and Older | 164,896 | 1.7% |
| Total | 9,974,203 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Gender | Population |
|--------------|------------------|
| Male | 4,913,688 |
| Female | 5,060,515 |
| Total | 9,974,203 |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Median Household Income by County | Median Household Income |
|-----------------------------------|-------------------------|
| Los Angeles | \$55,870 |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Poverty Status | Population | Percentage |
|--|------------------|---------------|
| Income in the Past 12 Months Below Poverty Level | 1,805,868 | 18.4% |
| Income in the Past 12 at or Above Poverty Level | 8,013,529 | 81.6% |
| Total | 9,819,397 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Race | Population | Percentage |
|--|------------------|---------------|
| Hispanic or Latino | 4,800,491 | 100.0% |
| White Alone | 2,617,668 | 54.5% |
| Black or African American Alone | 30,121 | 0.6% |
| American Indian and Alaska Native Alone | 36,202 | 0.8% |
| Asian Alone | 17,016 | 0.4% |
| Native Hawaiian and Other Pacific Islander Alone | 2,153 | 0.0% |
| Some Other Race Alone | 1,925,133 | 40.1% |
| Two or More Races | 172,198 | 3.6% |
| Non-Hispanic or Latino | 5,173,712 | 100.0% |
| White Alone | 2,711,665 | 52.4% |
| Black or African American Alone | 802,132 | 15.5% |
| American Indian and Alaska Native Alone | 18,207 | 0.4% |
| Asian Alone | 1,377,333 | 26.6% |
| Native Hawaiian and Other Pacific Islander Alone | 23,921 | 0.5% |
| Some Other Race Alone | 24,807 | 0.5% |
| Two or More Races | 215,647 | 4.2% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Native and Foreign Born | Population | Percentage |
|-------------------------|------------------|---------------|
| Native | 6,489,853 | 65.1% |
| Foreign Born | 3,484,350 | 34.9% |
| Total | 9,974,203 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| English Learners | Population | Percentage |
|--------------------------------------|------------------|---------------|
| Speaks English Less Than "Very Well" | 2,407,270 | 25.8% |
| Speaks English "Very Well" | 2,890,179 | 31.0% |
| Speaks Only English | 4,032,116 | 43.2% |
| Total | 9,329,565 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Veteran Status | Population | Percentage |
|-----------------|----------------|---------------|
| Male Veterans | 297,686 | 93.8% |
| Female Veterans | 19,821 | 6.2% |
| Total | 317,507 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Disability Status | Population | Percentage |
|---------------------|------------------|---------------|
| With Any Disability | 947,099 | 9.6% |
| No Disability | 8,955,704 | 90.4% |
| Total | 9,902,803 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Labor Force Participation | Population | Percentage |
|-----------------------------|------------------|---------------|
| Employed or in Armed Forces | 4,552,326 | 57.5% |
| Unemployed | 564,669 | 7.1% |
| Not in labor force | 2,796,585 | 35.3% |
| Total | 7,913,580 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Individuals with Barriers to Employment | Total |
|---|-----------|
| Ethnic Minorities | 7,262,538 |
| Households with Cash Public Assistance or Food Stamps | 318,788 |
| Population 18 and Over with Less Than a 9th Grade Level Education | 916,547 |
| Single Parent Households | 732,397 |
| Speak English Less Than "Very Well" | 2,407,270 |
| Youth Ages 10 to 24 | 2,142,678 |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Educational Attainment | Male | Percentage | Female | Percentage |
|---|------------------|---------------|------------------|---------------|
| Less than 9th grade | 430,302 | 11.6% | 486,245 | 12.4% |
| 9th to 12th grade, no diploma | 410,731 | 11.1% | 368,103 | 9.4% |
| High school graduate (includes equivalency) | 817,999 | 22.0% | 814,916 | 20.8% |
| Some college, no degree | 838,366 | 22.6% | 903,449 | 23.1% |
| Associate's degree | 216,407 | 5.8% | 276,535 | 7.1% |
| Bachelor's degree | 654,562 | 17.6% | 722,827 | 18.5% |
| Graduate or professional degree | 345,803 | 9.3% | 340,358 | 8.7% |
| Total | 3,714,170 | 100.0% | 3,912,433 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Educational Attainment, 25 Years and Over | Hispanic or Latino | Percent of Hispanic or Latino, Total | White alone, not Hispanic or Latino | Percent of White alone, not Hispanic or Latino, Total |
|---|--------------------|--------------------------------------|-------------------------------------|---|
| Less than high school diploma | 1,183,681 | 43.1% | 129,721 | 6.2% |
| High school graduate (includes equivalency) | 674,758 | 24.6% | 357,167 | 17.1% |
| Some college or associate's degree | 597,224 | 21.7% | 628,185 | 30.0% |
| Bachelor's degree or higher | 290,196 | 10.6% | 978,841 | 46.7% |
| Total | 2,745,859 | 100.0% | 2,093,914 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

| Educational Attainment by Race, 25 Years and Over | White Alone | Percent of White Alone, Total | Black or African American Alone | Percent of Black or African American Alone, Total | American Indian and Alaska Native Alone | Percent of American Indian and Alaska Native Alone, Total | Asian Alone | Percent of Asian Alone, Total | Native Hawaiian and Other Pacific Islander Alone | Percent of Native Hawaiian and Other Pacific Islander Alone, Total | Some Other Race Alone | Percent of Some Other Race Alone, Total | Two or More Races | Percent of Two or more races, Total |
|--|--------------------|--------------------------------------|--|--|--|--|--------------------|--------------------------------------|---|---|------------------------------|--|--------------------------|--|
| Less than high school diploma | 766,750 | 21.2% | 65,777 | 11.8% | 11,275 | 30.8% | 131,589 | 12.7% | 2,782 | 17.0% | 511,209 | 46.0% | 30,861 | 16.5% |
| High school graduate (includes equivalency) | 723,648 | 20.0% | 136,415 | 24.5% | 8,510 | 23.3% | 154,810 | 15.0% | 4,966 | 30.4% | 284,474 | 25.6% | 34,445 | 18.4% |
| Some college or associate's degree | 968,760 | 26.8% | 224,228 | 40.3% | 11,196 | 30.6% | 234,327 | 22.7% | 5,929 | 36.2% | 223,431 | 20.1% | 61,101 | 32.7% |
| Bachelor's degree or higher | 1,158,935 | 32.0% | 129,350 | 23.3% | 5,568 | 15.2% | 512,502 | 49.6% | 2,679 | 16.4% | 91,934 | 8.3% | 60,295 | 32.3% |
| Total | 3,618,093 | 100.0% | 555,770 | 100.0% | 36,549 | 100.0% | 1,033,228 | 100.0% | 16,356 | 100.0% | 1,111,048 | 100.0% | 186,702 | 100.0% |

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Gross Domestic Product (GDP) by Metropolitan Statistical Area (MSA)

The Bureau of Economic Analysis (BEA) estimates GDP at the State and MSA level only. Where applicable, the table below displays MSA data as a substitute for county level data.

GDP by Los Angeles-Long Beach-Anaheim MSA (substitute for Los Angeles County)

| Major Industry Sector | 2014 Millions of Current Dollars |
|---|---|
| Total All Industries | \$866,745 |
| Agriculture, Forestry, Fishing, and Hunting | \$377 |
| Mining | \$8,817 |
| Utilities | \$7,182 |
| Construction | \$23,034 |
| Manufacturing | \$81,861 |
| Wholesale Trade | \$61,451 |
| Retail Trade | \$48,335 |
| Transportation and Warehousing | \$21,979 |
| Information | \$95,536 |
| Finance, Insurance, Real Estate, Rental, and Leasing | \$205,141 |
| Professional and Business Services | \$111,434 |
| Educational Services, Health Care, and Social Assistance | \$62,459 |
| Arts, Entertainment, Recreation, Accommodation, and Food Services | \$41,537 |
| Other Services, Except Government | \$18,780 |
| Government | \$78,824 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

Skill Requirements for Top 25 Middle-Skill, Middle-Wage or Higher Occupations

| Occupations | Skills | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|------------------|-------------------------|--------------|-------------------|-----------------------|--------------|-------------|------------------------------|---------------------|-----------------------------------|-------------|------------|-----------------------|----------------------|---------------------|-------------|--------------------------|-----------------------|-----------|---------|---------------------|-----------------------|----------|------------------|-----------------|-----------------|---------|
| | Active Learning | Active Listening | Complex Problem Solving | Coordination | Critical Thinking | Equipment Maintenance | Installation | Instructing | Judgment and Decision Making | Learning Strategies | Management of Personnel Resources | Mathematics | Monitoring | Operation and Control | Operation Monitoring | Operations Analysis | Programming | Quality Control Analysis | Reading Comprehension | Repairing | Science | Service Orientation | Social Perceptiveness | Speaking | Systems Analysis | Time Management | Troubleshooting | Writing |
| Registered Nurses | • | • | | • | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | |
| Licensed Practical and Licensed Vocational Nurses | | • | | • | • | | | | • | | | | • | | | | | | • | | | • | • | • | | • | | |
| Medical Assistants | • | • | | • | • | | | | | | | | • | | | | | | • | | | • | • | • | | | | • |
| Heavy and Tractor-Trailer Truck Drivers | | • | • | | • | • | | | | | | | • | • | • | | | | • | | | | | • | | • | | |
| Computer User Support Specialists | • | • | | • | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | • |
| Dental Assistants | • | • | | | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | • |
| Telecommunications Equipment Installers and Repairers, Except Line Installers | • | • | • | | • | | | | | | | | • | | • | | | • | • | • | | | | | | • | | |
| Medical and Clinical Laboratory Technicians | • | • | • | • | • | | | | • | | | | • | | | | | | • | | | • | | • | | | | |
| Paralegals and Legal Assistants | • | • | | • | • | | | | | | | | • | | | | | | • | | | • | • | • | | • | | • |
| Web Developers | • | • | • | | • | | | • | | | | | • | | | • | • | | • | | | | | | | | | • |
| Firefighters* | | • | | • | • | | | • | | | | | • | | • | | | | • | | | • | • | • | | | | |
| Dental Hygienists | • | • | • | • | • | | | | | | | | • | | | | | | • | | | • | • | • | | | | • |
| First-Line Supervisors of Production and Operating Workers | | • | • | • | • | | | | | | • | | | | | | | | • | | | • | • | • | | • | | • |
| Medical Records and Health Information Technicians | | • | • | | • | | | | • | • | | | • | | | | | | • | | | | | • | | • | | • |
| Heating, Air Conditioning, and Refrigeration Mechanics and Installers* | | • | | • | • | • | • | | | | | | • | | | | | • | • | • | | | | | | | • | |
| Audio and Video Equipment Technicians | • | • | | • | • | | | • | | | | | • | | • | | | | • | | | | | • | | | | • |
| Aircraft Mechanics and Service Technicians | | • | • | | • | • | | • | | | | | | • | | | | • | • | • | | | | | | • | | |
| Phlebotomists | • | • | | • | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | |
| Library Technicians | • | • | | • | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | • |
| Respiratory Therapists | • | • | | | • | | | • | | | | | • | | | | | | • | | • | • | • | • | | | | |
| Radiologic Technologists | • | • | | • | • | | | | | | | | • | | | | | | • | | | • | • | • | | • | | • |
| Massage Therapists | • | • | | | • | | | • | | | | | • | | | | | | • | | | • | • | • | | | | • |
| Surgical Technologists | • | • | • | • | • | | | • | • | | | | • | | | | | | • | | | • | | | | | | |
| Electrical and Electronics Engineering Technicians* | | • | • | | • | | | | | | | • | • | | | | | | • | • | | | | • | | • | | • |
| Computer Network Support Specialists | • | • | • | | • | | | • | | | | | • | | | | | | • | | | | • | • | | | | • |

Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.

* Skills listed for the occupation represent a specialty occupation.

Knowledge Requirements for Top 25 Middle-Skill, Middle-Wage or Higher Occupations

| Occupations | Knowledge | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------|---------|---------------------------|-----------|----------|--------------------------|---------------------------|-------------------------------|--------|--------------------------|------------------------|----------------------------|------------------|-----------|--------------------|-------------|------------|------------------------|-------------------------------|-------------------------|---------|---------------------------|------------|----------------------------|---------------------|----------------------------|--------------------|------------------------|
| | Administration and Management | Biology | Building and Construction | Chemistry | Clerical | Communications and Media | Computers and Electronics | Customer and Personal Service | Design | Economics and Accounting | Education and Training | Engineering and Technology | English Language | Geography | Law and Government | Mathematics | Mechanical | Medicine and Dentistry | Personnel and Human Resources | Philosophy and Theology | Physics | Production and Processing | Psychology | Public Safety and Security | Sales and Marketing | Sociology and Anthropology | Telecommunications | Therapy and Counseling |
| Registered Nurses | | • | | | • | | | • | | | • | • | | | | • | | • | | | | | • | | | • | | |
| Licensed Practical and Licensed Vocational Nurses | | | | • | • | | | • | | | • | • | | | | • | | • | | • | | | • | | | | | • |
| Medical Assistants | • | | | | • | | • | • | | | • | • | | | | • | | • | | | | | • | • | | | | • |
| Heavy and Tractor-Trailer Truck Drivers | • | | | | | | | • | | | • | • | | • | • | • | • | | | | | | | • | | | | • |
| Computer User Support Specialists | • | | | | • | • | • | • | | | • | • | • | | | • | | | | | | | | | | | • | |
| Dental Assistants | | | | • | • | | • | • | | | • | • | | | | | | • | | | | • | • | | | | | |
| Telecommunications Equipment Installers and Repairers, Except Line Installers | | | | | • | | • | • | | | • | • | • | | | • | • | | | | | | | • | | | • | |
| Medical and Clinical Laboratory Technicians | | • | | • | • | | • | • | | | | • | | | | • | | • | | | | • | | • | | | | |
| Paralegals and Legal Assistants | • | | | | • | • | • | • | | | • | • | | | • | • | | | | | | | • | | | | | |
| Web Developers | • | | | | • | • | • | • | • | | • | • | | | | • | | | | | | | | | • | | | |
| Firefighters* | • | | • | • | | | | • | | | • | • | | | • | | • | | | | • | | | • | | | | |
| Dental Hygienists | | • | | • | • | | • | • | | | • | • | | | | | | • | | | | | • | | • | | | |
| First-Line Supervisors of Production and Operating Workers | • | | | | • | | • | • | • | | • | • | | | | • | • | | • | | | • | | | | | | |
| Medical Records and Health Information Technicians | • | | | | • | • | • | • | | | • | • | | | • | • | | | | | | | | • | | | | |
| Heating, Air Conditioning, and Refrigeration Mechanics and Installers* | | | • | • | | | • | • | • | | • | • | | | | • | • | | | | • | | | | | | | |
| Audio and Video Equipment Technicians | | | | | | • | • | • | • | | • | • | • | | | | • | | | | | • | | | | | • | |
| Aircraft Mechanics and Service Technicians | | | | • | | | | • | • | | • | • | | | | • | • | | | | | • | • | | | | | • |
| Phlebotomists | | | | • | • | | • | • | | | • | • | | | | | | • | | • | | | • | • | | | | |
| Library Technicians | • | | | | • | • | • | • | | | • | • | | | • | • | | | | | | | | | | | | |
| Respiratory Therapists | | • | | • | | | • | • | | | • | • | | | | • | | • | | | | | • | | | | | • |
| Radiologic Technologists | | • | | • | | | • | • | | | • | • | | | | • | | • | | | • | | • | | | | | |
| Massage Therapists | • | • | | | • | | • | • | | | • | • | | | | | | • | | | | | • | | • | | | • |
| Surgical Technologists | | • | | • | | | • | • | | | • | • | | | | | | • | | | | | • | • | | | | • |
| Electrical and Electronics Engineering Technicians* | | | | | | | • | • | | | • | • | | | • | • | | | | | • | • | | | | | | |
| Computer Network Support Specialists | • | | | | • | • | • | • | | | • | • | • | | | | | | | | | | | | | | • | |

Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.

* Knowledge listed for the occupation represent a specialty occupation.



Regional Economic Analysis Profile

Southern Economic Sub-Market

Los Angeles County

April 2015



EDD Employment
Development
Department
State of California

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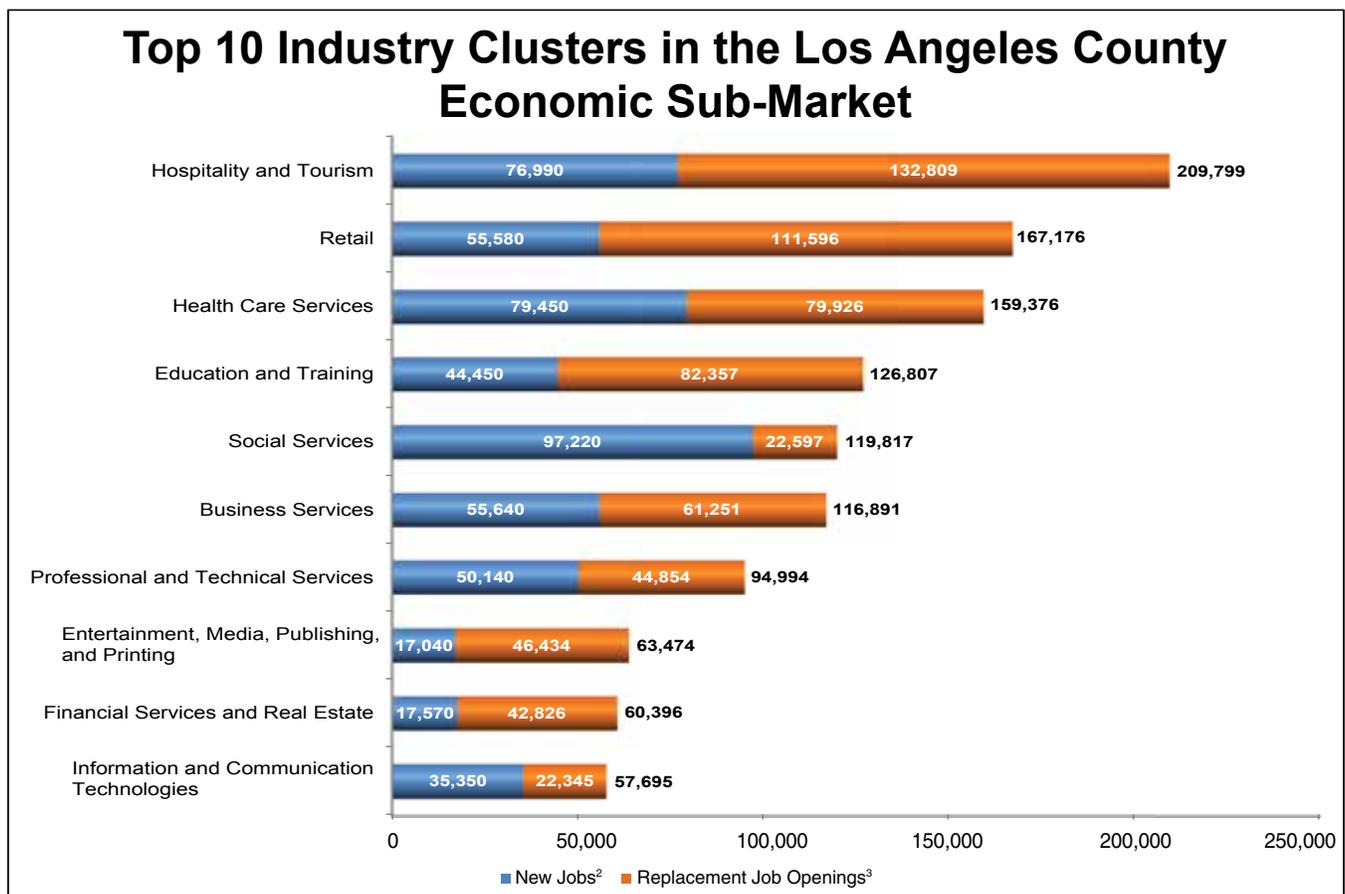
SUMMARY OF THE LOS ANGELES COUNTY ECONOMIC SUB-MARKET INDUSTRY CLUSTERS

What is an Industry Cluster?

Industry clusters are groups of associated industries in an economic market that stimulate the creation of new businesses and job opportunities in a particular field. The application of workforce and economic development resources toward the continual development of industry clusters will help stimulate economic growth and boost the number of employment opportunities for the labor force.

Purpose of this Report

The purpose of this report is to help align the state’s workforce institutions and programs around the needs of economic sub-market industry clusters. This report focuses on the future employment demand of economic sub-market industry clusters and features them as primary investment opportunities for the California workforce development system. The goal of this report is to account for industry clusters with the largest number of projected total job openings¹ and help the California workforce development system prepare the state’s workforce to compete for these future job opportunities.



Source: California Employment Development Department, Projections of Employment 2012-2022. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

¹ Total job openings are the sum of new jobs and replacement job openings.

² New jobs are only openings due to growth and do not include job declines. If an occupation’s employment change is negative, there is no job growth and new jobs are set to zero.

³ Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

INDUSTRY CLUSTER DESCRIPTIONS

The following are descriptions of the Los Angeles County Economic Sub-Market's top 10 industry clusters followed by a list of the top industries with the highest total projected job openings in the cluster.

The **Hospitality and Tourism** industry cluster includes interrelated industries such as eating establishments, hotels and motels, casinos, museums, and sightseeing transportation. During 2013-2014,* this cluster comprised more than 419,000 workers, or 10.9 percent of the economic sub-market's employment. Industries within this cluster with the most projected job openings include:

- Restaurants and Other Eating Places
- Traveler Accommodation
- Other Amusement and Recreation Industries
- Special Food Services
- Drinking Places (Alcoholic Beverages)

The **Retail** industry cluster includes grocery and department stores, dollar stores, retail pharmacies, and clothing specialty stores. During 2013-2014,* this cluster employed more than 367,000 workers, or 9.6 percent of the economic sub-market's total employment. Industries projected to have the largest number of jobs (new and replacement) include:

- Grocery Stores
- Other General Merchandise Stores
- Clothing Stores
- Automobile Dealers
- Department Stores

The **Health Care Services** industry cluster includes acute care and outpatient hospitals, nursing homes and rehabilitation centers, adult day care centers, and community service agencies for the elderly. It employed more than 413,000 people in the economic sub-market's during 2013-2014,* accounting for 10.8 percent of the workforce. Industries in this cluster may include both public and private employment. Top industries within this cluster include:

- General Medical and Surgical Hospitals
- Offices of Physicians
- Nursing Care Facilities (Skilled Nursing Facilities)
- Home Health Care Services
- Outpatient Care Centers

The **Education and Training** industry cluster is comprised of public and private elementary and high schools, community colleges, universities, and professional schools with programs such as dental, law, and medical. Other establishments include English as a Second Language (ESL) programs, test preparation and tutoring, or driving instruction. During 2013-2014,* this cluster employed nearly 351,000 people in the economic sub-market's, accounting for 9.1 percent of the workforce. Top industries within this cluster include:

- Elementary and Secondary Schools
- Colleges, Universities, and Professional Schools
- Other Schools and Instruction
- Junior Colleges
- Educational Support Services

The **Social Services** industry cluster is comprised of establishments and agencies (public and private) that provide non-residential services for the welfare of children, adults, the elderly, and disabled. Examples include nonmedical in-home care programs, day care centers, and community food banks. In total, the cluster employed more than 219,000 people and accounted for 5.7 percent of the economic sub-market's workforce in 2013-2014.* Industries include:

- Individual and Family Services
- Child Day Care Services
- Community Food and Housing, and Emergency and Other Relief Services
- Vocational Rehabilitation Services

The **Business Services** industry cluster is comprised of industries that include temporary help agencies, employer organizations, janitorial services, security systems services, and carpet cleaning establishments. This cluster employed more than 309,000 people during 2013-2014,* 8.1 percent of the economic sub-market's workforce. Top industries in this cluster include:

- Employment Services
- Management of Companies and Enterprises
- Investigation and Security Services
- Services to Buildings and Dwellings
- Office Administrative Services

* Quarterly Census of Employment and Wages (QCEW), a federal-state cooperative program, for the period April 2013 through March 2014.

INDUSTRY CLUSTER DESCRIPTIONS

The **Professional and Technical Services** industry cluster is comprised of interrelated industries that include engineering and architectural firms, law offices, advertising companies, and accounting firms. In 2013-2014,* nearly 237,000 people were employed, or 6.2 percent of the economic sub-market's workforce. Top industries within this cluster include:

- Management, Scientific, and Technical Consulting Services
- Accounting, Tax Preparation, Bookkeeping, and Payroll Services
- Architectural, Engineering, and Related Services
- Legal Services
- Advertising, Public Relations, and Related Services

The **Entertainment, Media, Publishing, and Printing** cluster is comprised of industries related to movie and video production and distribution, radio and television broadcasting, newspaper and book publishing, cable programming, and performing arts companies. This cluster employed more than 198,000 people during 2013-2014,* 5.2 percent of the economic sub-market's workforce. Top industries in this cluster include:

- Motion Picture and Video Industries
- Independent Artists, Writers, and Performers
- Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
- Performing Arts Companies
- Radio and Television Broadcasting

The **Financial Services and Real Estate** industry cluster includes commercial banks, savings institutions, credit unions, credit card companies, insurance firms, and real estate appraisers or property management companies. In total, the cluster employed more than 190,000 people, which accounted for 5 percent of the economic sub-market's workforce in 2013-2014.* Industries showing the highest projected job openings include:

- Depository Credit Intermediation
- Activities Related to Real Estate
- Agencies, Brokerages, and Other Insurance Related Activities
- Nondepository Credit Intermediation
- Other Financial Investment Activities

The **Information and Communication Technologies** industry cluster includes interdependent industries related to computers and peripheral equipment, as well as software design and manufacturing, computer programming services, installation services, and wireless telecommunications carriers. For 2013-2014,* this cluster employed more than 116,000 workers, or 3 percent of the economic sub-market's total employment. Industries with the highest number of expected job openings include:

- Computer Systems Design and Related Services
- Wired Telecommunications Carriers
- Wholesale Electronic Markets and Agents and Brokers
- Other Information Services
- Software Publishers

* Quarterly Census of Employment and Wages (QCEW), a federal-state cooperative program, for the period April 2013 through March 2014.

INDUSTRY CLUSTER DEFINITIONS

The following is a list of the North American Industry Classification System (NAICS) codes and corresponding industries that fall under each of the top 10 industry clusters in the Los Angeles County Economic Sub-Market.

Hospitality and Tourism

- 4871 Scenic and Sightseeing Transportation, Land
- 4872 Scenic and Sightseeing Transportation, Water
- 4879 Scenic and Sightseeing Transportation, Other
- 5615 Travel Arrangement and Reservation Services
- 7121 Museums, Historical Sites, and Similar Institutions
- 7131 Amusement Parks and Arcades
- 7132 Gambling Industries
- 7139 Other Amusement and Recreation Industries
- 7211 Traveler Accommodation
- 7212 RV (Recreational Vehicle) Parks and Recreational Camps
- 7213 Rooming and Boarding Houses
- 7223 Special Food Services
- 7224 Drinking Places (Alcoholic Beverages)
- 7225 Restaurants and Other Eating Places

Retail

- 4411 Automobile Dealers
- 4412 Other Motor Vehicle Dealers
- 4413 Automotive Parts, Accessories, and Tire Stores
- 4431 Electronics and Appliance Stores
- 4441 Building Material and Supplies Dealers
- 4451 Grocery Stores
- 4452 Specialty Food Stores
- 4453 Beer, Wine, and Liquor Stores
- 4461 Health and Personal Care Stores
- 4471 Gasoline Stations
- 4481 Clothing Stores
- 4482 Shoe Stores
- 4483 Jewelry, Luggage, and Leather Goods Stores
- 4511 Sporting Goods, Hobby, and Musical Instrument Stores
- 4521 Department Stores
- 4529 Other General Merchandise Stores
- 4532 Office Supplies, Stationery, and Gift Stores
- 4533 Used Merchandise Stores
- 4542 Vending Machine Operators

Health Care Services

- 6211 Offices of Physicians
- 6212 Offices of Dentists
- 6213 Offices of Other Health Practitioners
- 6214 Outpatient Care Centers
- 6215 Medical and Diagnostic Laboratories
- 6216 Home Health Care Services

Health Care Services (Continued)

- 6219 Other Ambulatory Health Care Services
- 6221 General Medical and Surgical Hospitals
- 6222 Psychiatric and Substance Abuse Hospitals
- 6223 Specialty (except Psychiatric and Substance Abuse) Hospitals
- 6231 Nursing Care Facilities (Skilled Nursing Facilities)
- 6232 Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities
- 6233 Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly
- 6239 Other Residential Care Facilities

Education and Training

- 6111 Elementary and Secondary Schools
- 6112 Junior Colleges
- 6113 Colleges, Universities, and Professional Schools
- 6114 Business Schools and Computer and Management Training
- 6115 Technical and Trade Schools
- 6116 Other Schools and Instruction
- 6117 Educational Support Services

Social Services

- 6241 Individual and Family Services
- 6242 Community Food and Housing, and Emergency and Other Relief Services
- 6243 Vocational Rehabilitation Services
- 6244 Child Day Care Services

Business Services

- 5511 Management of Companies and Enterprises
- 5611 Office Administrative Services
- 5612 Facilities Support Services
- 5613 Employment Services
- 5614 Business Support Services
- 5616 Investigation and Security Services
- 5617 Services to Buildings and Dwellings
- 5619 Other Support Services
- 5621 Waste Collection
- 5622 Waste Treatment and Disposal
- 5629 Remediation and Other Waste Management Services

INDUSTRY CLUSTER DEFINITIONS

Professional and Technical Services

- 5411 Legal Services
- 5412 Accounting, Tax Preparation, Bookkeeping, and Payroll Services
- 5413 Architectural, Engineering, and Related Services
- 5414 Specialized Design Services
- 5416 Management, Scientific, and Technical Consulting Services
- 5418 Advertising, Public Relations, and Related Services
- 5419 Other Professional, Scientific, and Technical Services

Entertainment, Media, Publishing, and Printing

- 3231 Printing and Related Support Activities
- 4512 Book Stores and News Dealers
- 5111 Newspaper, Periodical, Book, and Directory Publishers
- 5121 Motion Picture and Video Industries
- 5122 Sound Recording Industries
- 5151 Radio and Television Broadcasting
- 5152 Cable and Other Subscription Programming
- 7111 Performing Arts Companies
- 7112 Spectator Sports
- 7113 Promoters of Performing Arts, Sports, and Similar Events
- 7114 Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
- 7115 Independent Artists, Writers, and Performers

Financial Services and Real Estate

- 5211 Monetary Authorities-Central Bank
- 5221 Depository Credit Intermediation
- 5222 Nondepository Credit Intermediation
- 5223 Activities Related to Credit Intermediation
- 5231 Securities and Commodity Contracts Intermediation and Brokerage
- 5232 Securities and Commodity Exchanges
- 5239 Other Financial Investment Activities
- 5241 Insurance Carriers
- 5242 Agencies, Brokerages, and Other Insurance Related Activities
- 5251 Insurance and Employee Benefit Funds
- 5259 Other Investment Pools and Funds
- 5311 Lessors of Real Estate
- 5312 Offices of Real Estate Agents and Brokers
- 5313 Activities Related to Real Estate

Information and Communication Technologies

- 3341 Computer and Peripheral Equipment Manufacturing
- 3342 Communications Equipment Manufacturing
- 3344 Semiconductor and Other Electronic Component Manufacturing
- 3359 Other Electrical Equipment and Component Manufacturing
- 4251 Wholesale Electronic Markets and Agents and Brokers
- 5112 Software Publishers
- 5171 Wired Telecommunications Carriers
- 5172 Wireless Telecommunications Carriers (except Satellite)
- 5174 Satellite Telecommunications
- 5179 Other Telecommunications
- 5182 Data Processing, Hosting, and Related Services
- 5191 Other Information Services
- 5415 Computer Systems Design and Related Services
- 8112 Electronic and Precision Equipment Repair and Maintenance



Occupational Analysis: Hospitality and Tourism Cluster

Southern Economic Sub-Market

Los Angeles County

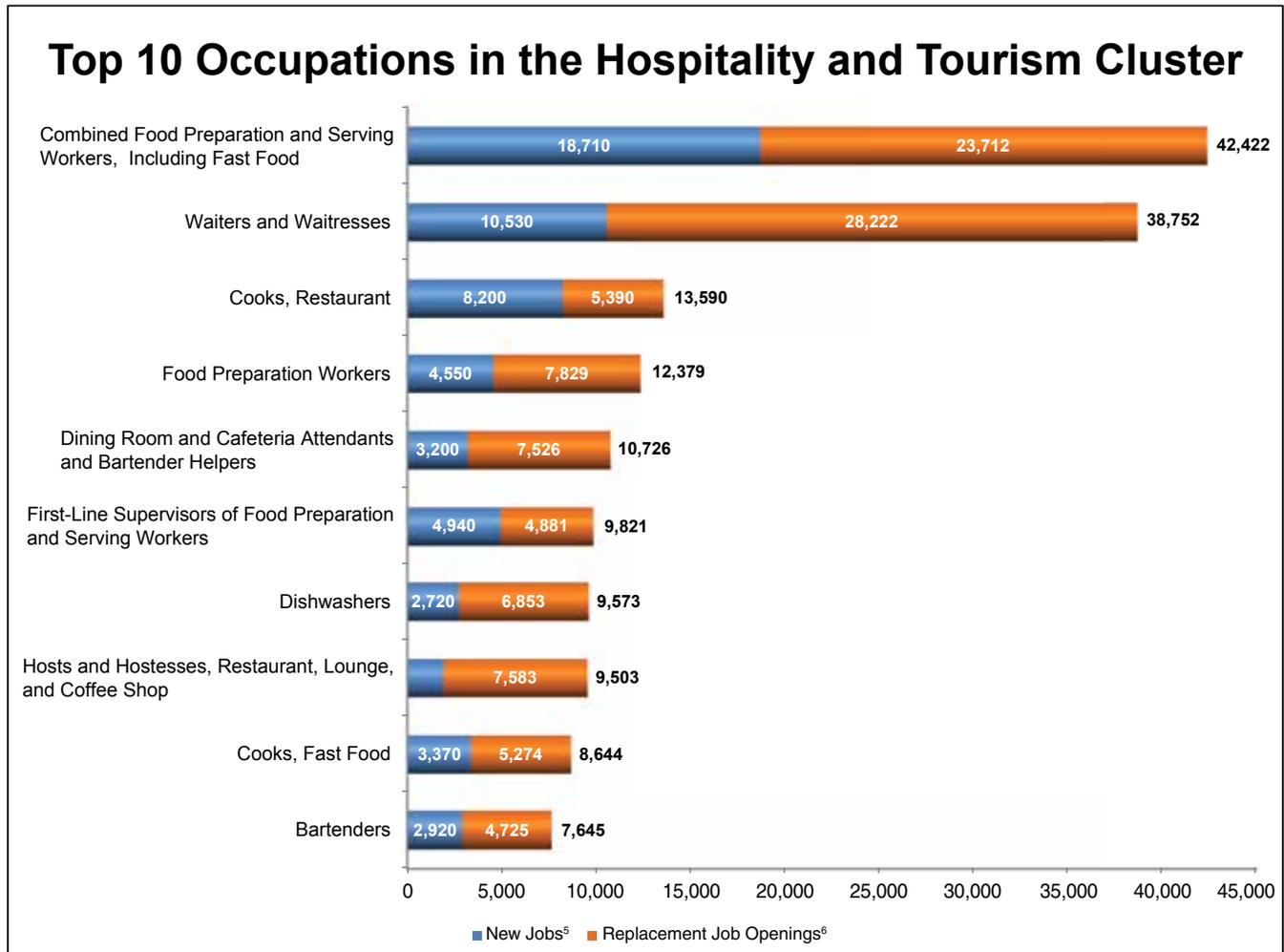
April 2015

What is the Hospitality and Tourism Cluster?

The Hospitality and Tourism cluster is comprised of 14 industries that provide goods and services related to lodging, food, recreation, travel, and sightseeing transportation. Establishments in this cluster include restaurants, hotels, casinos, golf courses, marinas, and fitness centers. The workers employed within this cluster share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Hospitality and Tourism Cluster

The graph below identifies the top 10 occupations in the Hospitality and Tourism cluster, based on the Los Angeles County Economic Sub-Market's new job growth plus replacement openings. In sum, these 10 occupations represent more than three-quarters of the 209,799 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active listening, coordination, reading comprehension, social perceptiveness, and speaking.⁴



Source: California Employment Development Department, *Projections of Employment 2012-2022*. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

⁴ U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

⁵ New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.

⁶ Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Hospitality and Tourism Cluster

The table below further profiles the Los Angeles County Economic Sub-Market's top 10 occupations in the Hospitality and Tourism cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a recent 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBSSM (www.caljobs.ca.gov), California's online job listing system.

| Occupations | Total Job Openings ⁷ (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | Entry Level Education ⁸ | HWOL Job Ads ⁹ (120 days) |
|--|---|---------------------------|---------------------------|------------------------------------|--------------------------------------|
| Combined Food Preparation and Serving Workers, Including Fast Food | 42,422 | \$9.31 | \$19,358 | Less than high school | 2,425 |
| Waiters and Waitresses | 38,752 | \$9.34 | \$19,422 | Less than high school | 1,803 |
| Cooks, Restaurant | 13,590 | \$10.93 | \$22,739 | Less than high school | 2,185 |
| Food Preparation Workers | 12,379 | \$9.40 | \$19,545 | Less than high school | 603 |
| Dining Room and Cafeteria Attendants and Bartender Helpers | 10,726 | \$9.30 | \$19,340 | Less than high school | 467 |
| First-Line Supervisors of Food Preparation and Serving Workers | 9,821 | \$14.07 | \$29,262 | High school diploma or equivalent | 4,158 |
| Dishwashers | 9,573 | \$9.29 | \$19,321 | Less than high school | 836 |
| Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop | 9,503 | \$9.38 | \$19,520 | Less than high school | 601 |
| Cooks, Fast Food | 8,644 | \$9.22 | \$19,166 | Less than high school | 227 |
| Bartenders | 7,645 | \$9.47 | \$19,702 | Less than high school | 405 |

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending March 11, 2015.

⁷ Total job openings are the sum of new jobs and replacement job openings.

⁸ U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.

⁹ Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Hospitality and Tourism Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Hospitality and Tourism cluster. The table includes the Los Angeles County Economic Sub-Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

| Occupations | Total Job Openings ¹⁰ (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | HWOL Job Ads (120 days) |
|---|---|------------------------------|------------------------------|----------------------------|
| Requires a Bachelor's Degree or Higher | | | | |
| General and Operations Managers | 1,175 | \$52.29 | \$108,756 | 1,806 |
| Meeting, Convention, and Event Planners | 298 | \$27.30 | \$56,784 | 406 |
| Accountants and Auditors | 215 | \$35.04 | \$72,888 | 6,656 |
| Coaches and Scouts | 212 | N/A | \$44,116 | 331 |
| Museum Technicians and Conservators | 187 | \$23.87 | \$49,663 | 7 |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | |
| Skincare Specialists | 148 | \$14.54 | \$30,249 | 209 |
| Massage Therapists | 115 | \$15.15 | \$31,510 | 471 |
| Audio and Video Equipment Technicians | 65 | \$24.48 | \$50,915 | 386 |
| Actors | 56 | N/A | N/A | 1,752 |
| Library Technicians | 47 | \$20.57 | \$42,795 | 11 |
| Requires a High School Diploma or Equivalent or Less | | | | |
| Combined Food Preparation and Serving Workers, Including Fast Food | 42,422 | \$9.31 | \$19,358 | 2,425 |
| Waiters and Waitresses | 38,752 | \$9.34 | \$19,422 | 1,803 |
| Cooks, Restaurant | 13,590 | \$10.93 | \$22,739 | 2,185 |
| Food Preparation Workers | 12,379 | \$9.40 | \$19,545 | 603 |
| Dining Room and Cafeteria Attendants and Bartender Helpers | 10,726 | \$9.30 | \$19,340 | 467 |

Source: California Employment Development Department, *Projections of Employment 2012-2022*; *Occupational Employment Statistics Wage Survey*, updated to 4th Q, 2014; *The Conference Board Help Wanted OnLine™ (HWOL) Data Series*, 120-day period ending March 11, 2015.

¹⁰ Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Hospitality and Tourism Cluster

The table below lists the 10 top skills required for top occupations in the Hospitality and Tourism cluster, categorized by entry-level education requirements. Active listening, critical thinking, and speaking are the most commonly shared skills, followed by monitoring and reading comprehension. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

| Occupations | Skills | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|------------------|-------------------------|--------------|-------------------|-------------|------------------------------|---------------------|-----------------------------------|-------------|------------|-------------|----------------------|------------|--------------------------|-----------------------|---------------------|-----------------------|----------|------------------|--------------------|-----------------|---------|
| | Active Learning | Active Listening | Complex Problem Solving | Coordination | Critical Thinking | Instructing | Judgment and Decision Making | Learning Strategies | Management of Personnel Resources | Mathematics | Monitoring | Negotiation | Operation Monitoring | Persuasion | Quality Control Analysis | Reading Comprehension | Service Orientation | Social Perceptiveness | Speaking | Systems Analysis | Systems Evaluation | Time Management | Writing |
| Requires a Bachelor's Degree or Higher | | | | | | | | | | | | | | | | | | | | | | | |
| General and Operations Managers | ● | ● | | ● | ● | | | | ● | | ● | | | | | ● | | ● | ● | | | | ● |
| Meeting, Convention, and Event Planners | | ● | | ● | ● | | | | | | ● | ● | | | | ● | ● | ● | ● | | | ● | |
| Accountants and Auditors ¹¹ | ● | ● | | | ● | | ● | | | ● | ● | | | | | ● | | | ● | ● | | | ● |
| Coaches and Scouts | | ● | | | ● | ● | ● | ● | ● | | ● | | | | | | | ● | ● | | | ● | |
| Museum Technicians and Conservators | ● | ● | ● | | ● | | ● | | | | ● | | | | | ● | | ● | ● | | | | ● |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | | | | | | | | | | | | | | | | | | | | |
| Skincare Specialists | ● | ● | | ● | ● | | ● | | | | ● | | | | | ● | ● | ● | ● | | | | |
| Massage Therapists | ● | ● | | | ● | | ● | | | | ● | | | | | ● | ● | ● | ● | | | | ● |
| Audio and Video Equipment Technicians | ● | ● | | ● | ● | ● | | | | | ● | | ● | | | ● | | | ● | | | | ● |
| Actors | ● | ● | | ● | ● | | | | | | ● | | | ● | | ● | | ● | ● | | | | ● |
| Library Technicians | ● | ● | | ● | ● | ● | | | | | ● | | | | | ● | ● | ● | | | | | ● |
| Requires a High School Diploma or Equivalent or Less | | | | | | | | | | | | | | | | | | | | | | | |
| Combined Food Preparation and Serving Workers, Including Fast Food | | ● | | ● | ● | ● | | ● | | | | | | ● | | ● | ● | ● | ● | | | | |
| Waiters and Waitresses | | ● | | ● | ● | | | ● | | | ● | | | ● | | ● | ● | ● | ● | | | | |
| Cooks, Restaurant | ● | ● | | ● | ● | ● | | | | | ● | | | | ● | | | ● | | | | ● | ● |
| Food Preparation Workers | | ● | ● | ● | ● | | | | | | ● | | | | | ● | ● | ● | ● | | | ● | |
| Dining Room and Cafeteria Attendants and Bartender Helpers | | ● | | ● | ● | | ● | | | | ● | | | | | ● | ● | ● | ● | | | ● | |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

¹¹ Skills listed represent Accountants, a specialty occupation of Accountants and Auditors.

Related Occupations for the Hospitality and Tourism Cluster

The table below lists top occupations in the Hospitality and Tourism cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Hospitality and Tourism cluster occupations.

| Hospitality and Tourism Occupations | Related Occupations |
|---|---|
| Requires a Bachelor's Degree or Higher | |
| General and Operations Managers | <ul style="list-style-type: none"> • First-Line Supervisors of Office and Administrative Support Workers • Logistics Managers • Storage and Distribution Managers |
| Meeting, Convention, and Event Planners | <ul style="list-style-type: none"> • Human Resources Specialists • Marketing Managers • Public Relations Specialists |
| Accountants and Auditors | <ul style="list-style-type: none"> • Bookkeeping, Accounting, and Auditing Clerks • Financial Analysts • Risk Management Specialists |
| Coaches and Scouts | <ul style="list-style-type: none"> • Recreational Therapists • Recreation Workers • Secondary School Teachers, Except Special and Career/Technical Education |
| Museum Technicians and Conservators | <ul style="list-style-type: none"> • Audio-Visual and Multimedia Collections Specialists • Commercial and Industrial Designers • Set and Exhibit Designers |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | |
| Skincare Specialists | <ul style="list-style-type: none"> • Hairdressers, Hairstylists, and Cosmetologists • Manicurists and Pedicurists • Shampooers |
| Massage Therapists | <ul style="list-style-type: none"> • Hairdressers, Hairstylists, and Cosmetologists • Manicurists and Pedicurists • Skincare Specialists |
| Audio and Video Equipment Technicians | <ul style="list-style-type: none"> • Computer User Support Specialists • Film and Video Editors • Technical Directors/Managers |
| Actors | <ul style="list-style-type: none"> • Concierges • Radio and Television Announcers • Tour Guides and Escorts |
| Library Technicians | <ul style="list-style-type: none"> • File Clerks • Procurement Clerks • Title Examiners, Abstractors, and Searchers |
| Requires a High School Diploma or Equivalent or Less | |
| Combined Food Preparation and Serving Workers, Including Fast Food | <ul style="list-style-type: none"> • Counter Attendants, Cafeteria, Food Concession, and Coffee Shop • Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop • Waiters and Waitresses |
| Waiters and Waitresses | <ul style="list-style-type: none"> • Dining Room and Cafeteria Attendants and Bartender Helpers • Food Servers, Nonrestaurant • Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop |
| Cooks, Restaurant | <ul style="list-style-type: none"> • Bakers • Combined Food Preparation and Serving Workers, Including Fast Food • Cooks, Fast Food |
| Food Preparation Workers | <ul style="list-style-type: none"> • Cooks, Restaurant • Dining Room and Cafeteria Attendants and Bartender Helpers • Waiters and Waitresses |
| Dining Room and Cafeteria Attendants and Bartender Helpers | <ul style="list-style-type: none"> • Food Servers, Nonrestaurant • Maids and Housekeeping Cleaners • Waiters and Waitresses |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

Employer Demand for the Hospitality and Tourism Cluster

The following table lists the Los Angeles County Economic Sub-Market employers in the Hospitality and Tourism cluster who posted the most job advertisements during the 120-day period ending March 11, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

| Hospitality and Tourism Cluster Employers | Recent Job Advertisements ¹³ (120-day period) | Prior Year Job Advertisements (120-day period) | Numerical Change | Year-Over Percent Change (HWOL Job Advertisements) |
|---|---|---|------------------|---|
| Chipotle | 314 | 56 | 258 | 460.7% |
| Taco Bell | 256 | 20 | 236 | 1,180.0% |
| Hilton Hotels & Resorts | 217 | 141 | 76 | 53.9% |
| Sodexo Inc. | 206 | 91 | 115 | 126.4% |
| Marriott | 196 | 489 | -293 | -59.9% |
| Domino's Pizza | 190 | 1 | 189 | 18,900.0% |
| Panda Restaurant Group | 162 | 133 | 29 | 21.8% |
| 24 Hour Fitness | 144 | 413 | -269 | -65.1% |
| The Cheesecake Factory | 134 | 184 | -50 | -27.2% |
| Ritz-Carlton | 118 | 28 | 90 | 321.4% |
| Hyatt | 116 | 152 | -36 | -23.7% |
| The Walt Disney Company | 110 | 180 | -70 | -38.9% |
| Terranea Resort | 91 | 90 | 1 | 1.1% |
| Pacifica Hotel Company | 82 | 8 | 74 | 925.0% |
| McDonald's Corporation | 79 | 67 | 12 | 17.9% |
| Interstate Hotels & Resorts | 74 | 59 | 15 | 25.4% |
| Benihana | 67 | 4 | 63 | 1,575.0% |
| G6 Hospitality, LLC | 60 | 5 | 55 | 1,100.0% |
| Embassy Suites | 59 | 44 | 15 | 34.1% |
| American Golf Corporation | 56 | 49 | 7 | 14.3% |

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending March 11, 2015.

¹³ Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Top Hospitality and Tourism Cluster Occupations

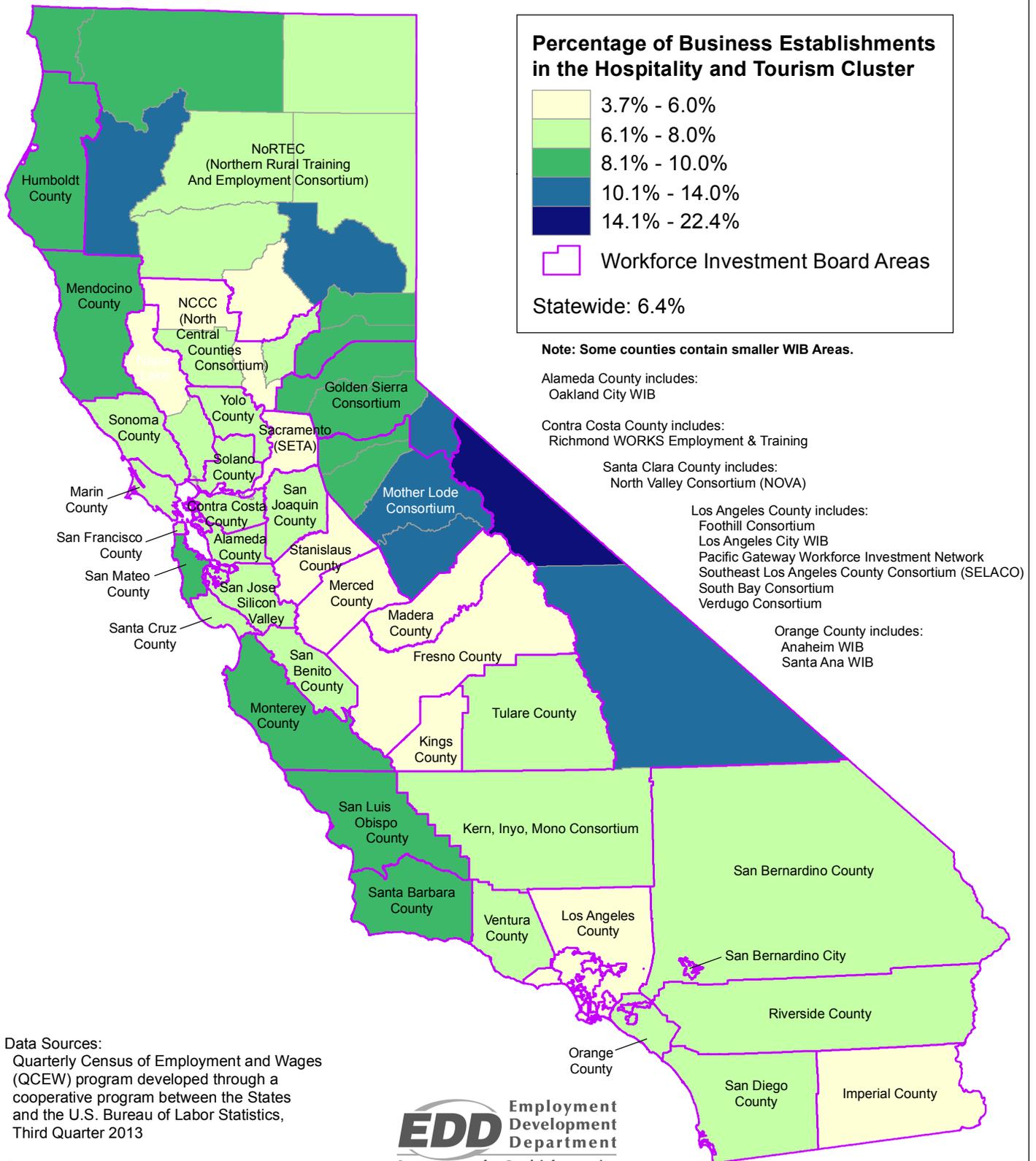
The table below provides examples of instructional programs related to some of the top occupations in the Hospitality and Tourism cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Hospitality and Tourism cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

| Occupations | Classification of Instructional Program (CIP) | | Taxonomy of Programs (TOP) | |
|---------------------------------------|---|---|----------------------------|---------------------------|
| | CIP Code | CIP Title | TOP Code | TOP Title |
| Skincare Specialists | 12.0401 | Cosmetology/Cosmetologist, General | 300700 | Cosmetology and Barbering |
| | 12.0408 | Facial Treatment Specialist/Facialist | | |
| | 12.0409 | Aesthetician/Esthetician and Skin Care Specialist | | |
| Massage Therapists | 51.3501 | Massage Therapy/Therapeutic Massage | 126200 | Massage Therapy |
| | 51.3502 | Asian Bodywork Therapy | | |
| | 51.3503 | Somatic Bodywork | | |
| Audio and Video Equipment Technicians | 01.0802 | Agricultural Communication/Journalism | 100500 | Commercial Music |
| | 10.0201 | Photographic and Film/Video Technology/Technician and Assistant | 101200 | Applied Photography |
| | 10.0203 | Recording Arts Technology/Technician | | |
| Actors | 50.0506 | Acting | 100700 | Dramatic Arts |
| | 50.0507 | Directing and Theatrical Production | | |
| | 50.0509 | Musical Theatre | | |
| Library Technicians | 25.0301 | Library and Archives Assisting | 160200 | Library Technician (Aide) |
| Cooks, Restaurant | 12.0500 | Cooking and Related Culinary Arts, General | 130630 | Culinary Arts |
| | 12.0503 | Culinary Arts/Chef Training | | |

Source: U.S. Department of Education [Integrated Postsecondary Education Data System \(IPEDS\)](http://www.nces.ed.gov) at www.nces.ed.gov; [California Community Colleges TOP-to-CIP Crosswalk 7th Edition \(2010\)](http://www.cccco.edu), www.cccco.edu.

California Hospitality and Tourism Cluster

Percentage of Total County Establishments, 2013



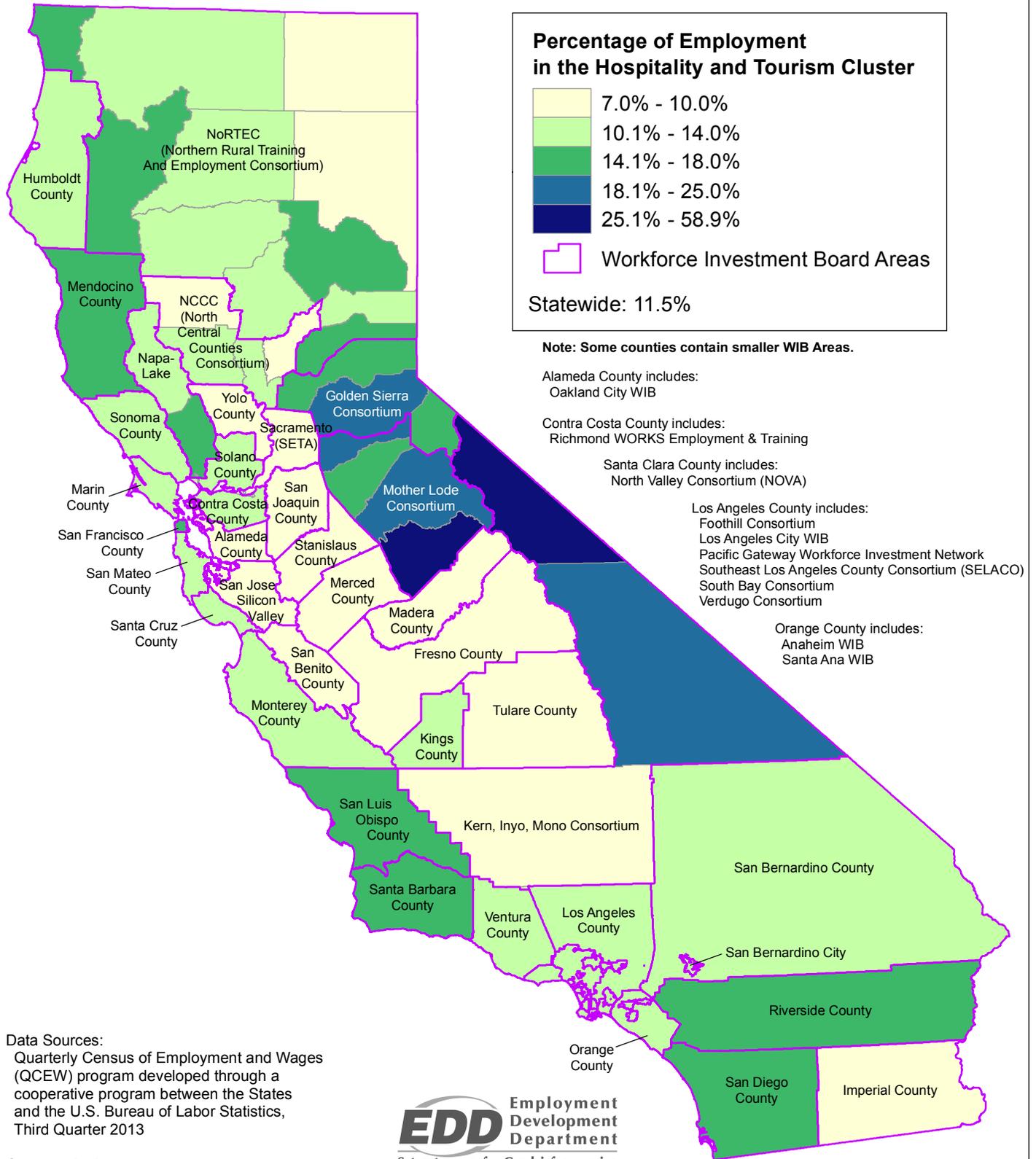
Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014



California Hospitality and Tourism Cluster

Percentage of Total County Employment, 2013



Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014





Occupational Analysis: Retail Cluster

Southern Economic Sub-Market

Los Angeles County

April 2015

What is the Retail Cluster?

The Retail cluster is composed of 19 industries involved in the sales of goods both familiar and esoteric, everything from groceries and automobiles to musical instruments and surfboards. The workers employed within this cluster span all skill levels and share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Retail Cluster

The graph below identifies the top 10 occupations in the Retail cluster, based on the Los Angeles County Economic Sub-Market's new job growth plus replacement openings. In sum, these 10 occupations represent more than three-quarters of the 167,176 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active listening, critical thinking, monitoring, reading comprehension, and speaking.¹⁷



Source: California Employment Development Department, *Projections of Employment 2012-2022*. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

¹⁴ U.S. Department of Labor's *Occupational Information Network (O*NET)* at www.onetonline.org.

¹⁵ New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.

¹⁶ Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Education and Training Cluster

The table below further profiles the Los Angeles County Economic Sub-Market's top 10 occupations in the Retail cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBSSM (www.caljobs.ca.gov), California's online job listing system.

| Occupations | Total Job Openings ¹⁷ (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | Entry Level Education ¹⁸ | HWOL Job Ads ¹⁹ (120 days) |
|--|---|------------------------------|------------------------------|-------------------------------------|--|
| Retail Salespersons | 48,060 | \$10.76 | \$22,380 | Less than high school | 5,806 |
| Cashiers | 38,452 | \$9.75 | \$20,287 | Less than high school | 1,218 |
| Stock Clerks and Order Fillers | 14,730 | \$11.26 | \$23,432 | Less than high school | 1,650 |
| First-Line Supervisors of Retail Sales Workers | 10,257 | \$19.32 | \$40,177 | High school diploma or equivalent | 4,275 |
| Laborers and Freight, Stock, and Material Movers, Hand | 5,310 | \$11.32 | \$23,531 | Less than high school | 1,391 |
| Combined Food Preparation and Serving Workers, Including Fast Food | 4,390 | \$9.31 | \$19,358 | Less than high school | 2,425 |
| Automotive Service Technicians and Mechanics | 2,972 | \$16.55 | \$34,431 | High school diploma or equivalent | 1,351 |
| Butchers and Meat Cutters | 2,130 | \$12.23 | \$25,440 | Less than high school | 30 |
| Packers and Packagers, Hand | 2,096 | \$9.68 | \$20,130 | Less than high school | 183 |
| Customer Service Representatives | 1,865 | \$17.39 | \$36,186 | High school diploma or equivalent | 5,482 |

Source: California Employment Development Department, *Projections of Employment 2012-2022*; *Occupational Employment Statistics Wage Survey*, updated to 4th Q, 2014; *The Conference Board Help Wanted OnLine™ (HWOL) Data Series*, 120-day period ending March 11, 2015.

¹⁷ Total job openings are the sum of new jobs and replacement job openings.

¹⁸ U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.

¹⁹ Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Retail Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Retail cluster. The table includes the Los Angeles County Economic Sub-Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

| Occupations | Total Job Openings ²⁰ (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | HWOL Job Ads (120 days) |
|---|---|------------------------------|------------------------------|----------------------------|
| Requires a Bachelor's Degree or Higher | | | | |
| General and Operations Managers | 1,654 | \$52.29 | \$108,756 | 1,806 |
| Sales Managers | 1,355 | \$55.79 | \$116,036 | 2,480 |
| Pharmacists | 1,254 | \$66.31 | \$137,922 | 428 |
| Loan Officers | 237 | \$40.08 | \$83,361 | 1,642 |
| Accountants and Auditors | 148 | \$35.04 | \$72,888 | 6,656 |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | |
| First-Line Supervisors of Production and Operating Workers | 449 | \$25.61 | \$53,267 | 2,392 |
| Heavy and Tractor-Trailer Truck Drivers | 175 | \$20.20 | \$42,009 | 4,435 |
| Computer, Automated Teller, and Office Machine Repairers | 164 | \$19.61 | \$40,776 | 36 |
| Hairdressers, Hairstylists, and Cosmetologists | 121 | \$10.96 | \$22,799 | 1,176 |
| Computer User Support Specialists | 67 | \$25.13 | \$52,268 | 3,404 |
| Requires a High School Diploma or Equivalent or Less | | | | |
| Retail Salespersons | 48,060 | \$10.76 | \$22,380 | 5,806 |
| Cashiers | 38,452 | \$9.75 | \$20,287 | 1,218 |
| Stock Clerks and Order Fillers | 14,730 | \$11.26 | \$23,432 | 1,650 |
| First-Line Supervisors of Retail Sales Workers | 10,257 | \$19.32 | \$40,177 | 4,275 |
| Laborers and Freight, Stock, and Material Movers, Hand | 5,310 | \$11.32 | \$25,531 | 1,391 |

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending period ending March 11, 2015.

²⁰ Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Retail Cluster

The table below lists the 10 top skills required for top occupations in the Retail cluster, categorized by entry-level education requirements. Critical thinking and speaking are the most commonly shared skills, followed by active listening, monitoring and reading comprehension. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

| Occupations | Skills | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|------------------|-------------------------|--------------|-------------------|-----------------------|-------------|------------------------------|---------------------|-----------------------------------|-------------|------------|-------------|-----------------------|----------------------|------------|-----------------------|-----------|---------|---------------------|-----------------------|----------|------------------|-----------------|-----------------|---------|
| | Active Learning | Active Listening | Complex Problem Solving | Coordination | Critical Thinking | Equipment Maintenance | Instruction | Judgment and Decision Making | Learning Strategies | Management of Personnel Resources | Mathematics | Monitoring | Negotiation | Operation and Control | Operation Monitoring | Persuasion | Reading Comprehension | Repairing | Science | Service Orientation | Social Perceptiveness | Speaking | Systems Analysis | Time Management | Troubleshooting | Writing |
| Requires a Bachelor's Degree or Higher | | | | | | | | | | | | | | | | | | | | | | | | | | |
| General and Operations Managers | ● | ● | | ● | ● | | | | | ● | | ● | | | | ● | | | | | ● | ● | | | | ● |
| Sales Managers | | | | ● | ● | | ● | | ● | | ● | | | | ● | | | | | | ● | ● | | ● | | ● |
| Pharmacists | ● | ● | | | ● | ● | | | | | ● | | | | | ● | | ● | | | ● | ● | | | | ● |
| Loan Officers | ● | ● | ● | | ● | | ● | | | ● | | | | | | ● | | | | ● | | | | | | ● |
| Accountants and Auditors ²¹ | ● | ● | | | ● | | ● | | | ● | ● | | | | | ● | | | | | | ● | ● | | | ● |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | | | | | | | | | | | | | | | | | | | | | | | |
| First-Line Supervisors of Production and Operating Workers | | ● | | ● | ● | | | | | ● | | ● | | | | ● | | | | | ● | ● | | ● | | ● |
| Heavy and Tractor-Trailer Truck Drivers | | ● | ● | | ● | ● | | | | | | ● | | ● | ● | | ● | | | | | ● | | ● | | ● |
| Computer, Automated Teller, and Office Machine Repairers | ● | ● | | | ● | | | | | | ● | | ● | ● | | ● | ● | | | | | ● | | | ● | |
| Hairdressers, Hairstylists, and Cosmetologists | ● | ● | | | ● | ● | | ● | | | ● | | | | ● | | | | | ● | ● | ● | | | | |
| Computer User Support Specialists | ● | ● | | ● | ● | | ● | | | | ● | | | | | ● | | | | ● | ● | ● | | | | ● |
| Requires a High School Diploma or Equivalent or Less | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Retail Salespersons | | ● | | | ● | | | | | | ● | ● | | | ● | ● | | | | ● | ● | ● | | | | ● |
| Cashiers | | ● | | ● | ● | | | | | | ● | | | | | ● | | | | ● | ● | ● | | ● | | ● |
| Stock Clerks and Order Fillers ²² | ● | ● | ● | ● | ● | | | | | | ● | | | | | ● | | | | ● | ● | ● | | | | |
| First-Line Supervisors of Retail Sales Workers | | | | | ● | ● | | | ● | | ● | ● | | | ● | ● | | | | | ● | ● | | ● | | |
| Laborers and Freight, Stock, and Material Movers, Hand | | ● | ● | ● | ● | | | | | | ● | | ● | ● | | ● | | | | | | ● | | | | ● |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

²¹ Skills listed represent Accountants, a specialty occupation of Accountants and Auditors.

²² Skills listed represent Stock Clerks, Sales Floor, a specialty occupation of Stock Clerks and Order Fillers.

Work Activities in the Retail Cluster

The table below lists the 10 top work activities required for top occupations in the Retail cluster, categorized by entry-level education requirements. The most common include establishing and maintaining interpersonal relationships; organizing, planning, and prioritizing work; communicating with supervisors, peers, or subordinates; and making decisions and solving problems.

| Occupations | Work Activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------|---------------------------------|--------------------------------|---|--|------------------------------------|--|--|---|---------------------|---|-----------------------------|--|---|----------------------------|---------------------------------------|---|--------------------------------------|--|---|--------------------------------------|--|--|------------------------|---|--|--|---|--------------------------------|-------------------------------|---------------------|------------------------------|---------------------------------------|---|
| | Analyzing Data or Information | Assisting and Caring for Others | Coaching and Developing Others | Communicating with Persons Outside Organization | Communicating with Supervisors, Peers, or Subordinates | Controlling Machines and Processes | Coordinating the Work and Activities of Others | Establishing and Maintaining Interpersonal Relationships | Evaluating Information to Determine Compliance with Standards | Getting Information | Guiding, Directing, and Motivating Subordinates | Handling and Moving Objects | Identifying Objects, Actions, and Events | Inspecting Equipment, Structures, or Material | Interacting With Computers | Making Decisions and Solving Problems | Monitor Processes, Materials, or Surroundings | Monitoring and Controlling Resources | Operating Vehicles, Mechanized Devices, or Equipment | Organizing, Planning, and Prioritizing Work | Performing Administrative Activities | Performing for or Working Directly with the Public | Performing General Physical Activities | Processing Information | Provide Consultation and Advice to Others | Repairing and Maintaining Electronic Equipment | Repairing and Maintaining Mechanical Equipment | Resolving Conflicts and Negotiating with Others | Scheduling Work and Activities | Selling or Influencing Others | Thinking Creatively | Training and Teaching Others | Updating and Using Relevant Knowledge | |
| Requires a Bachelor's Degree or Higher | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| General and Operations Managers | | | | ● | ● | | ● | ● | | | | | | | ● | | ● | | | ● | | | | | | | | ● | ● | | ● | | | |
| Sales Managers | | | ● | ● | ● | | ● | ● | | ● | | | | | ● | | | | | ● | | | | | | | | ● | ● | | | | | |
| Pharmacists | ● | ● | | | | | ● | ● | | | ● | | | | | ● | | | | ● | ● | | ● | | | | | | | | | | | ● |
| Loan Officers | | | | ● | | | ● | | ● | | | | | | ● | | | | | ● | ● | | ● | ● | | | | ● | | | | | | ● |
| Accountants and Auditors ²³ | ● | | | ● | | | ● | ● | ● | | | | | | ● | | | | | ● | ● | | ● | | | | | | | | | | | ● |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| First-Line Supervisors of Production and Operating Workers | | | ● | | ● | ● | ● | ● | | | ● | ● | | | | | | | | | | | | ● | | | | ● | ● | | | | | |
| Heavy and Tractor-Trailer Truck Drivers | | | | | | ● | | ● | | ● | | ● | ● | ● | | ● | | | | ● | ● | | ● | | | | | | | | | | | |
| Computer, Automated Teller, and Office Machine Repairers | | | | | ● | | | ● | | | | ● | | ● | ● | | | | | ● | | | | | ● | ● | | | | | | | ● | ● |
| Hairdressers, Hairstylists, and Cosmetologists | ● | | ● | | | | | ● | | ● | | ● | | | | | | | | ● | | ● | | ● | | | | | | | | ● | | ● |
| Computer User Support Specialists | | | | | ● | | | ● | | ● | | ● | | ● | ● | | | | | ● | | | ● | | | | | | | | | ● | | ● |
| Requires a High School Diploma or Equivalent or Less | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Retail Salespersons | | | | ● | ● | | | ● | | | | ● | | | ● | | | | | ● | | ● | | | | | | | | ● | ● | | ● | |
| Cashiers | | | | ● | ● | | | ● | | ● | | | | | ● | | | | | | ● | ● | | | | | | ● | | ● | | | | |
| Stock Clerks and Order Fillers ²⁴ | | | | ● | ● | | | ● | | ● | ● | | | | | | | | | ● | | ● | ● | | | | | | | | ● | ● | | ● |
| First-Line Supervisors of Retail Sales Workers | | | ● | | ● | | | ● | | ● | | | | | ● | | | | | ● | | ● | | | | | | ● | ● | | | | | |
| Laborers and Freight, Stock, and Material Movers, Hand | | | | ● | ● | | | ● | ● | | | ● | ● | | | ● | | | | ● | ● | | ● | | | | | | | | | | | |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

²³ Work Activities listed represent Accountants, a specialty occupation of Accountants and Auditors.

²⁴ Work Activities listed represent Stock Clerks, Sales Floor, a specialty occupation of Stock Clerks and Order Fillers.

Related Occupations for the Retail Cluster

The table below lists top occupations in the Retail cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Retail cluster occupations.

| Retail Occupations | Related Occupations |
|---|---|
| Requires a Bachelor's Degree or Higher | |
| General and Operations Managers | <ul style="list-style-type: none"> Administrative Services Managers Logistics Managers Storage and Distribution Managers |
| Sales Managers | <ul style="list-style-type: none"> Financial Managers, Branch or Department Logistics Managers Transportation Managers |
| Pharmacists | <ul style="list-style-type: none"> Health Specialties Teachers, Postsecondary Medical Scientists, Except Epidemiologists Nursing Instructors and Teachers, Postsecondary |
| Loan Officers | <ul style="list-style-type: none"> Customs Brokers Insurance Sales Agents Sales Agents, Financial Services |
| Accountants and Auditors | <ul style="list-style-type: none"> Financial Analysts Personal Financial Advisors Risk Management Specialists |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | |
| First-Line Supervisors of Production and Operating Workers | <ul style="list-style-type: none"> First-Line Supervisors of Construction Trades and Extraction Workers First-Line Supervisors of Mechanics, Installers, and Repairers Non-Destructive Testing Specialists |
| Heavy and Tractor-Trailer Truck Drivers | <ul style="list-style-type: none"> Light Truck or Delivery Services Drivers Pile-Driver Operators Service Unit Operators, Oil, Gas, and Mining |
| Computer, Automated Teller, and Office Machine Repairers | <ul style="list-style-type: none"> Computer Programmers Computer Systems Analysts Information Security Analysts |
| Hairdressers, Hairstylists, and Cosmetologists | <ul style="list-style-type: none"> Massage Therapists Dental Assistants Skincare Specialists |
| Computer User Support Specialists | <ul style="list-style-type: none"> Computer Operators Desktop Publishers Web Administrators |
| Requires a High School Diploma or Equivalent or Less | |
| Retail Salespersons | <ul style="list-style-type: none"> Counter and Rental Clerks Hotel, Motel, and Resort Desk Clerks Tellers |
| Cashiers | <ul style="list-style-type: none"> Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop Stock Clerks, Sales Floor Waiters and Waitresses |
| Stock Clerks and Order Fillers | <ul style="list-style-type: none"> Cashiers Dining Room and Cafeteria Attendants and Bartender Helpers Marking Clerks |
| First-Line Supervisors of Retail Sales Workers | <ul style="list-style-type: none"> First-Line Supervisors of Food Preparation and Serving Workers Hotel, Motel, and Resort Desk Clerks Retail Salespersons |
| Laborers and Freight, Stock, and Material Movers, Hand | <ul style="list-style-type: none"> Fence Erectors Industrial Truck and Tractor Operators Reinforcing Iron and Rebar Workers |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

Employer Demand for the Retail Cluster

The following table lists the Los Angeles County Economic Sub-Market employers in the Retail cluster who posted the most job advertisements during the 120-day period ending March 11, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

| Retail Cluster Employers | Recent Job Advertisements ²⁵ (120-day period) | Prior Year Job Advertisements (120-day period) | Numerical Change | Year-Over Percent Change (HWOL Job Advertisements) |
|----------------------------|---|---|------------------|---|
| Macy's | 678 | 424 | 254 | 59.9% |
| Safeway Companies | 486 | 44 | 442 | 1,004.5% |
| Nordstrom | 400 | 381 | 19 | 5.0% |
| Home Depot | 385 | 215 | 170 | 79.1% |
| Forever 21 Inc. | 368 | 325 | 43 | 13.2% |
| Bloomingdale's | 292 | 94 | 198 | 210.6% |
| Target Corporation | 285 | 46 | 239 | 519.6% |
| Lowe's | 261 | 229 | 32 | 14.0% |
| Sears Holdings Corporation | 239 | 590 | -351 | -59.5% |
| Whole Foods | 220 | 226 | -6 | -2.7% |
| Office Depot | 197 | 152 | 45 | 29.6% |
| Harbor Freight Tools | 196 | 280 | -84 | -30.0% |
| Big 5 Sporting Goods | 179 | 56 | 123 | 219.6% |
| Rite Aid | 155 | 74 | 81 | 109.5% |
| T-Mobile | 146 | 183 | -37 | -20.2% |
| Toys"R"Us | 139 | 234 | -95 | -40.6% |
| Toyota Motor Corporation | 138 | 80 | 58 | 72.5% |
| Staples | 135 | 193 | -58 | -30.1% |
| Dollar Tree Stores, Inc. | 116 | 64 | 52 | 81.3% |
| BCBG Max Azria | 107 | 130 | -23 | -17.7% |

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending March 11, 2015.

²⁵ Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Top Retail Cluster Occupations

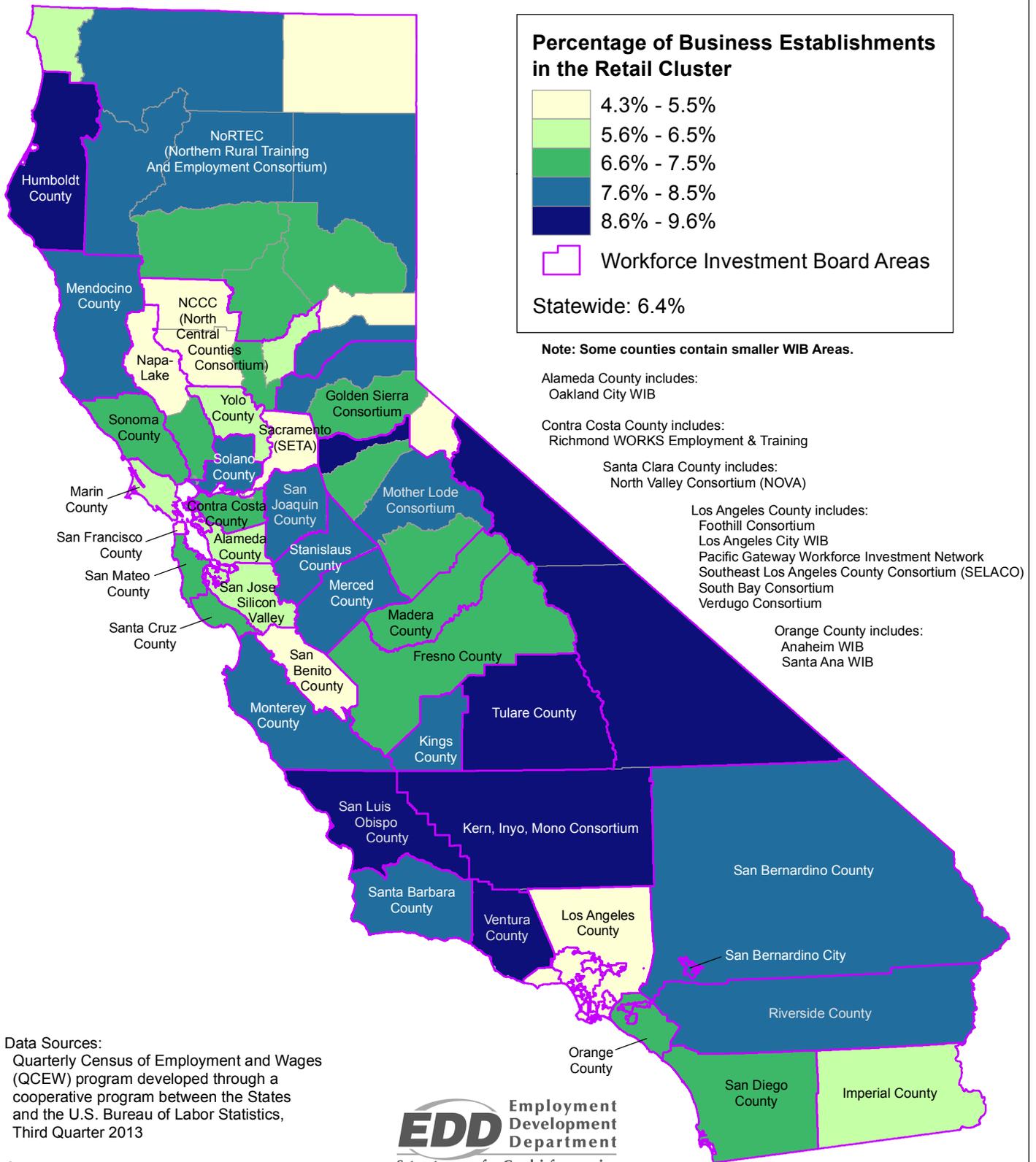
The table below provides examples of instructional programs related to some of the top occupations in the Retail cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Retail cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

| Occupations | Classification of Instructional Program (CIP) | | Taxonomy of Programs (TOP) | |
|--|---|---|----------------------------|--|
| | CIP Code | CIP Title | TOP Code | TOP Title |
| First-Line Supervisors of Production and Operating Workers | 52.0205 | Operations Management and Supervision | N/A | N/A |
| Heavy and Tractor-Trailer Truck Drivers | 49.0205 | Truck and Bus Driver/ Commercial Vehicle Operator and Instructor | 094750 | Truck and Bus Driving |
| Computer, Automated Teller, and Office Machine Repairers | 47.0102 47.0104 | Business Machine Repair Computer Installation and Repair Technology/Technician | 093410 | Computer Electronics |
| Hairdressers, Hairstylists, and Cosmetologists | 12.0401 | Cosmetology/Cosmetologist, General | 300700 | Cosmetology and Barbering |
| | 12.0406 | Make-Up Artist/Specialist | | |
| | 12.0413 | Cosmetology, Barber/Styling, and Nail Instructor | | |
| Computer User Support Specialists | 01.0106 | Agricultural Business Technology | 070820 | Computer Support |
| | 11.1006 | Computer Support Specialist | | |
| | 51.0709 | Medical Office Computer Specialist/Assistant | | |
| First-Line Supervisors of Retail Sales Workers | 19.0203 | Consumer Merchandising/Retailing Management | 050650 | Retail Store Operations and Management |
| | 52.0212 | Retail Management | 050940 | Sales and Salesmanship |
| | 52.1803 | Retailing and Retail Operations | 050960 | Display |

Source: U.S. Department of Education [Integrated Postsecondary Education Data System \(IPEDS\)](http://www.nces.ed.gov/ipeds) at www.nces.ed.gov; [California Community Colleges TOP-to-CIP Crosswalk 7th Edition \(2010\)](http://www.cccco.edu), www.cccco.edu.

California Retail Cluster

Percentage of Total County Establishments, 2013



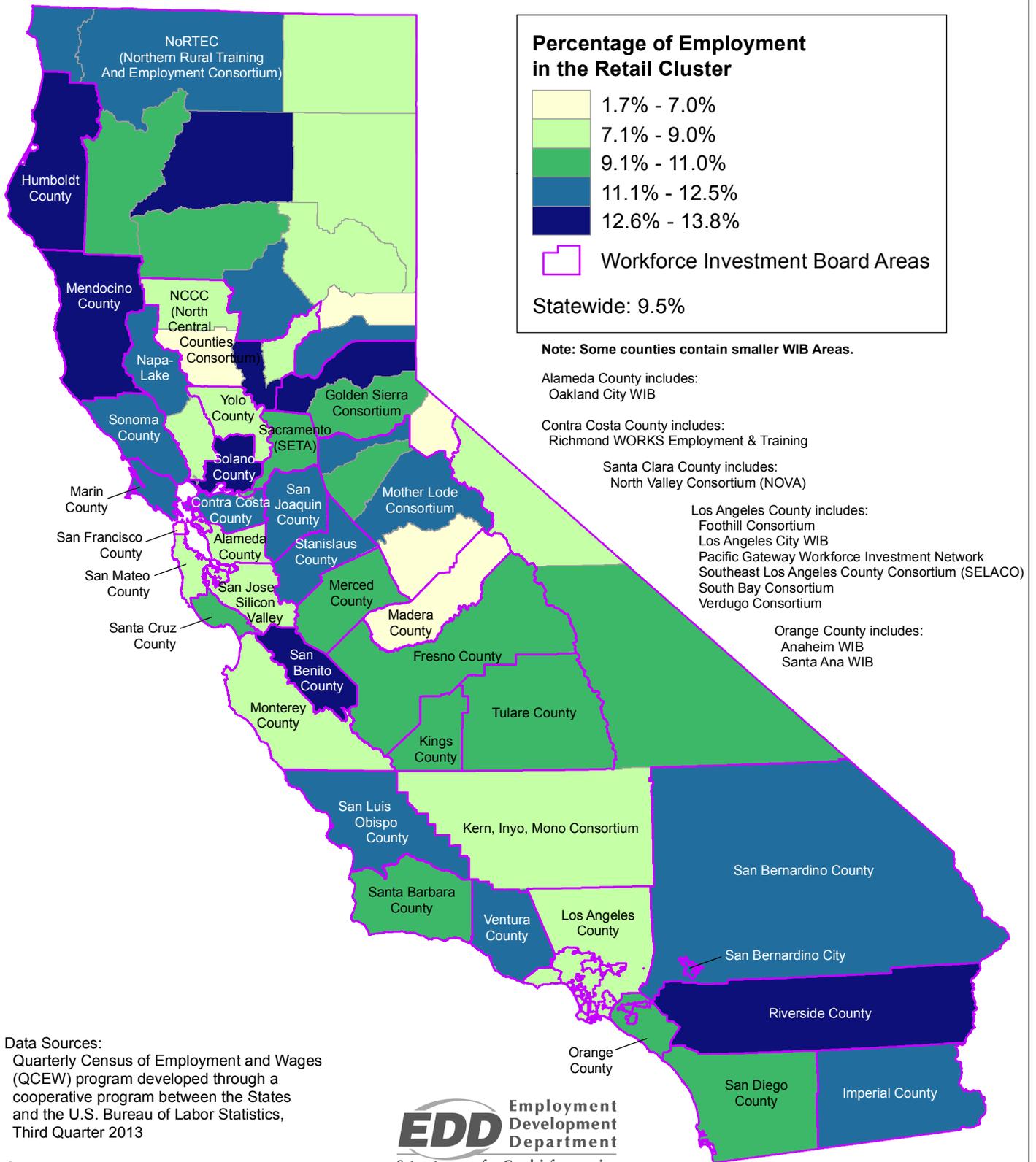
Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014



California Retail Cluster

Percentage of Total County Employment, 2013



Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014





Occupational Analysis: Health Care Services Cluster

Southern Economic Sub-Market

Los Angeles County

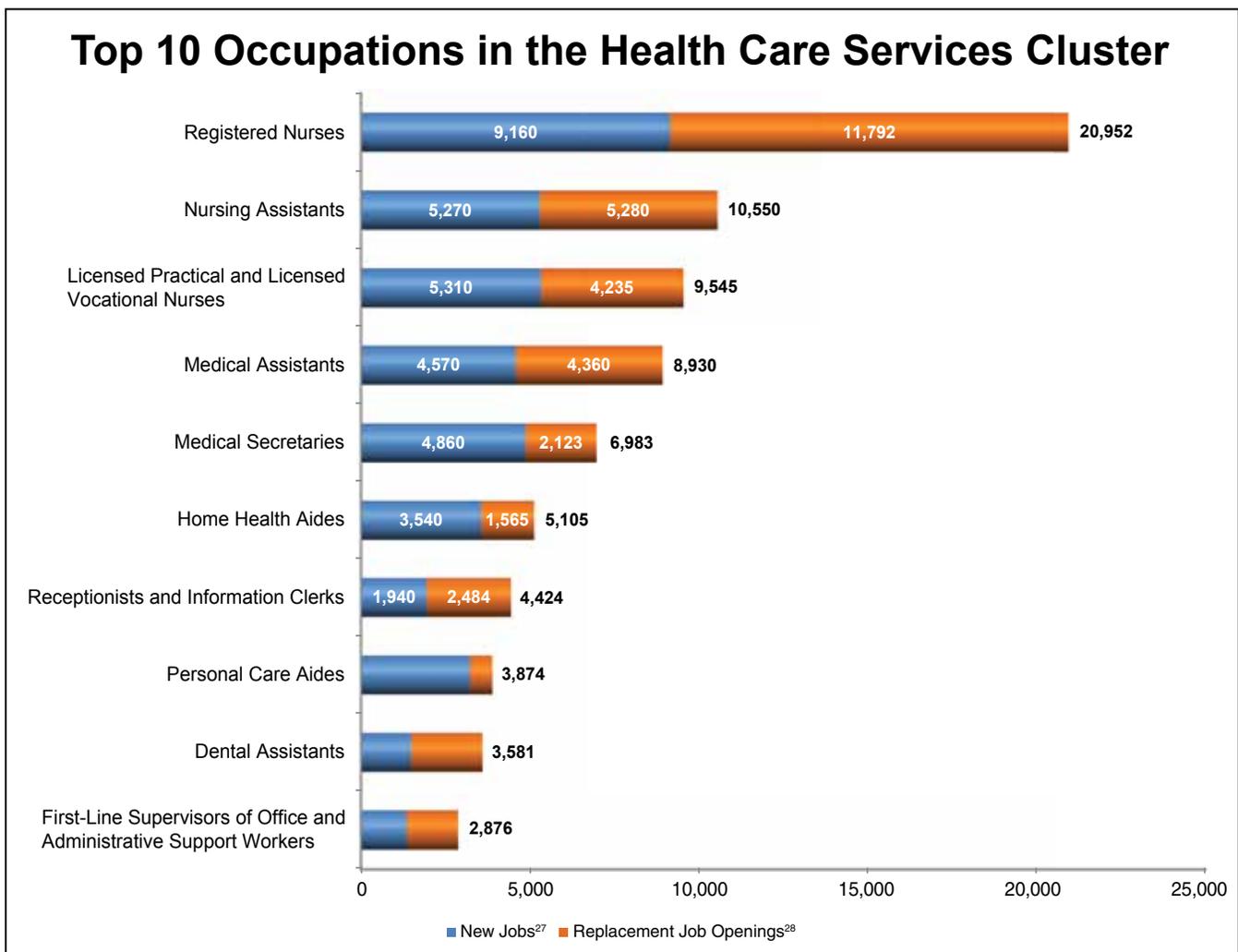
April 2015

What is the Health Care Services Cluster?

The Health Care Services cluster is comprised of 14 industries that include hospitals and doctors' offices, diagnostic laboratories, continuing care retirement communities, home health care services, and other activities related to health care. The workers employed within this cluster span all skill levels and share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Health Care Services Cluster

The graph below identifies the top 10 occupations in the Health Care Services cluster, based on the Los Angeles County Economic Sub-Market's new job growth plus replacement openings. In sum, these 10 occupations represent almost half of the 159,376 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active listening, critical thinking, reading comprehension, and speaking.²⁶



Source: California Employment Development Department, *Projections of Employment 2012-2022*. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

²⁶ U.S. Department of Labor's *Occupational Information Network (O*NET)* at www.onetonline.org.

²⁷ New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.

²⁸ Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Health Care Services Cluster

The table below further profiles the Los Angeles County Economic Sub-Market's top 10 occupations in the Health Care Services cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a recent 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBSSM (www.caljobs.ca.gov), California's online job listing system.

| Occupations | Total Job Openings ²⁹ (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | Entry Level Education ³⁰ | HWOL Job Ads ³¹ (120 days) |
|---|---|------------------------------|------------------------------|-------------------------------------|--|
| Registered Nurses | 20,952 | \$45.56 | \$94,777 | Associate's degree | 11,280 |
| Nursing Assistants | 10,550 | \$13.49 | \$28,049 | Postsecondary non-degree award | 622 |
| Licensed Practical and Licensed Vocational Nurses | 9,545 | \$25.36 | \$52,753 | Postsecondary non-degree award | 1,411 |
| Medical Assistants | 8,930 | \$15.36 | \$31,951 | Postsecondary non-degree award | 1,441 |
| Medical Secretaries | 6,983 | \$17.73 | \$36,894 | High school diploma or equivalent | 2,412 |
| Home Health Aides | 5,105 | \$12.13 | \$25,226 | Less than high school | 753 |
| Receptionists and Information Clerks | 4,424 | \$13.93 | \$28,989 | High school diploma or equivalent | 2,048 |
| Personal Care Aides | 3,874 | \$10.29 | \$21,421 | Less than high school | 1,897 |
| Dental Assistants | 3,581 | \$17.77 | \$36,956 | Postsecondary non-degree award | 1,060 |
| First-Line Supervisors of Office and Administrative Support Workers | 2,876 | \$27.34 | \$56,865 | High school diploma or equivalent | 4,925 |

Source: California Employment Development Department, *Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending March 11, 2015.*

²⁹ Total job openings are the sum of new jobs and replacement job openings.

³⁰ U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.

³¹ Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Health Care Services Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Health Care Services cluster. The table includes the Los Angeles County Economic Sub-Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

| Occupations | Total Job Openings ³² (2012-2022) | Median Hourly Wage (2014) | Median Annual Wage (2014) | HWOL Job Ads (120 days) |
|---|---|------------------------------|------------------------------|----------------------------|
| Requires a Bachelor's Degree or Higher | | | | |
| Medical and Health Services Managers | 2,634 | \$53.67 | \$111,622 | 3,038 |
| Physical Therapists | 2,137 | \$43.26 | \$89,980 | 1,049 |
| Family and General Practitioners | 1,224 | >\$90.00 | >\$187,200 | 412 |
| General and Operations Managers | 1,208 | \$52.29 | \$108,756 | 1,806 |
| Dentists, General | 1,154 | \$63.05 | \$131,158 | 469 |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | |
| Registered Nurses | 20,952 | \$45.56 | \$94,777 | 11,280 |
| Nursing Assistants | 10,550 | \$13.49 | \$28,049 | 622 |
| Licensed Practical and Licensed Vocational Nurses | 9,545 | \$25.36 | \$52,753 | 1,411 |
| Medical Assistants | 8,930 | \$15.36 | \$31,951 | 1,441 |
| Dental Assistants | 3,581 | \$17.77 | \$36,956 | 1,060 |
| Requires a High School Diploma or Equivalent or Less | | | | |
| Medical Secretaries | 6,983 | \$17.73 | \$36,894 | 2,412 |
| Home Health Aides | 5,105 | \$12.13 | \$25,226 | 753 |
| Receptionists and Information Clerks | 4,424 | \$13.93 | \$28,989 | 2,048 |
| Personal Care Aides | 3,874 | \$10.29 | \$21,421 | 1,897 |
| First-Line Supervisors of Office and Administrative Support Workers | 2,876 | \$27.34 | \$56,865 | 4,925 |

Source: California Employment Development Department, *Projections of Employment 2012-2022*; *Occupational Employment Statistics Wage Survey*, updated to 4th Q, 2014; *The Conference Board Help Wanted OnLine™ (HWOL) Data Series*, 120-day period ending period ending March 11, 2015.

³² Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Health Care Services Cluster

The table below lists the 10 top skills required for top occupations in the Health Care Services cluster, categorized by entry-level education requirements. Active listening, critical thinking, reading comprehension and speaking are the most commonly shared skills. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

| Occupations | Skills | | | | | | | | | | | | | | | | | |
|---|-----------------|------------------|-------------------------|--------------|-------------------|-------------|------------------------------|---------------------|-----------------------------------|------------|---------------------|-----------------------|---------|---------------------|-----------------------|----------|-----------------|---------|
| | Active Learning | Active Listening | Complex Problem Solving | Coordination | Critical Thinking | Instructing | Judgment and Decision Making | Learning Strategies | Management of Personnel Resources | Monitoring | Operations Analysis | Reading Comprehension | Science | Service Orientation | Social Perceptiveness | Speaking | Time Management | Writing |
| Requires a Bachelor's Degree or Higher | | | | | | | | | | | | | | | | | | |
| Medical and Health Services Managers | | ● | | ● | ● | | ● | | | ● | ● | ● | | | ● | ● | ● | |
| Physical Therapists | | ● | | ● | ● | | ● | | | ● | | ● | | ● | ● | ● | | ● |
| Family and General Practitioners | ● | ● | ● | | ● | | ● | | | | ● | ● | | | ● | ● | | ● |
| General and Operations Managers | ● | ● | | ● | ● | | | ● | ● | | ● | | | | ● | ● | | ● |
| Dentists, General | ● | ● | ● | ● | ● | | ● | | ● | | ● | | | | | ● | | ● |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | | | | | | | | | | | | | | | |
| Registered Nurses | ● | ● | | ● | ● | | | ● | | ● | | ● | | ● | ● | ● | | |
| Nursing Assistants | ● | ● | | ● | ● | | | | | ● | | ● | | ● | ● | ● | | ● |
| Licensed Practical and Licensed Vocational Nurses | | ● | | ● | ● | | | | | ● | | ● | | ● | ● | ● | ● | ● |
| Medical Assistants | ● | ● | | ● | ● | | | | | ● | | ● | | ● | ● | ● | | ● |
| Dental Assistants | ● | ● | | | ● | ● | | | | ● | | ● | | ● | ● | ● | | ● |
| Requires a High School Diploma or Equivalent or Less | | | | | | | | | | | | | | | | | | |
| Medical Secretaries | | ● | | ● | ● | | | | | ● | | ● | | ● | ● | ● | ● | ● |
| Home Health Aides | ● | ● | | ● | ● | | | ● | | ● | | ● | | ● | ● | ● | | |
| Receptionists and Information Clerks | | ● | ● | ● | ● | | | | | | ● | | | ● | ● | ● | ● | ● |
| Personal Care Aides | ● | ● | | ● | ● | | | | | ● | | ● | | ● | ● | ● | | ● |
| First-Line Supervisors of Office and Administrative Support Workers | | ● | | ● | ● | | | ● | | ● | | ● | | | ● | ● | ● | ● |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

Work Activities in the Health Care Services Cluster

The table below lists the 10 top work activities required for top occupations in the Health Care Services cluster, categorized by entry-level education requirements. The most common include establishing and maintaining interpersonal relationships; assisting and caring for others; identifying objects, actions, and events; and organizing, planning, and prioritizing work.

| Occupations | Work Activities | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------|---------------------------------|--------------------------------|---|--|------------------------------------|--|-----------------------------------|--|---|---------------------|---|-----------------------------|--|---------------------------------------|---|--------------------------------------|---|--------------------------------------|--|--|------------------------|---|---|--------------------------------|---------------------|---------------------------------------|
| | Analyzing Data or Information | Assisting and Caring for Others | Coaching and Developing Others | Communicating with Persons Outside Organization | Communicating with Supervisors, Peers, or Subordinates | Controlling Machines and Processes | Coordinating the Work and Activities of Others | Documenting/Recording Information | Establishing and Maintaining Interpersonal Relationships | Evaluating Information to Determine Compliance with Standards | Getting Information | Guiding, Directing, and Motivating Subordinates | Handling and Moving Objects | Identifying Objects, Actions, and Events | Making Decisions and Solving Problems | Monitor Processes, Materials, or Surroundings | Monitoring and Controlling Resources | Organizing, Planning, and Prioritizing Work | Performing Administrative Activities | Performing for or Working Directly with the Public | Performing General Physical Activities | Processing Information | Provide Consultation and Advice to Others | Resolving Conflicts and Negotiating with Others | Scheduling Work and Activities | Thinking Creatively | Updating and Using Relevant Knowledge |
| Requires a Bachelor's Degree or Higher | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Medical and Health Services Managers | | | ● | | ● | | ● | | ● | | ● | | | ● | | ● | | ● | | | | | ● | ● | | | |
| Physical Therapists | | ● | | | | | | ● | ● | | | ● | ● | ● | ● | | | | | ● | | | | | | ● | ● |
| Family and General Practitioners | ● | ● | | | | | | ● | ● | ● | | | ● | ● | ● | | | | | | ● | | | | | | ● |
| General and Operations Managers | | | | ● | ● | | ● | | ● | | | | | ● | | ● | ● | | | | | | | ● | ● | ● | |
| Dentists, General | | ● | | | | ● | | ● | ● | ● | | | ● | ● | | | ● | | ● | | | | | | | | ● |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Registered Nurses | | ● | | | ● | | | ● | ● | | | | ● | ● | ● | | ● | | | | ● | | | | | | ● |
| Nursing Assistants | | ● | | | ● | | | ● | ● | | | ● | ● | ● | ● | | ● | | | | ● | | | | | | |
| Licensed Practical and Licensed Vocational Nurses | | ● | | | ● | | | ● | ● | | | ● | ● | ● | ● | | ● | | | | | | | | | | ● |
| Medical Assistants | | ● | | | ● | | | ● | ● | ● | | | ● | | ● | | ● | | ● | | | | | | | | ● |
| Dental Assistants | | ● | | | | | | ● | ● | ● | | ● | ● | ● | ● | | ● | | | | | | | | | | ● |
| Requires a High School Diploma or Equivalent or Less | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Medical Secretaries | | ● | | ● | ● | | | ● | ● | | | | ● | ● | | | ● | | | | ● | | | | | | ● |
| Home Health Aides | | ● | | | ● | | | ● | ● | | | ● | ● | | ● | | ● | | | | ● | | | | | | ● |
| Receptionists and Information Clerks | | ● | | | | | | ● | ● | ● | | | ● | | ● | | | | ● | ● | | | | | | | ● |
| Personal Care Aides | | ● | | | ● | | | ● | ● | | | ● | ● | ● | ● | | ● | | ● | | | | | | | | |
| First-Line Supervisors of Office and Administrative Support Workers | | | ● | ● | ● | | ● | | ● | ● | | | | | | | ● | | | | | | ● | | | | ● |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

Related Occupations for the Health Care Services Cluster

The table below lists top occupations in the Health Care Services cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Health Care Services cluster occupations.

| Health Care Services Occupations | Related Occupations |
|---|--|
| Requires a Bachelor's Degree or Higher | |
| Medical and Health Services Managers | <ul style="list-style-type: none"> • Management Analysts • Chief Executives • Human Resources Managers |
| Physical Therapists | <ul style="list-style-type: none"> • Occupational Therapists • Health Specialties Teachers, Postsecondary • Nursing Instructors and Teachers, Postsecondary |
| Family and General Practitioners | <ul style="list-style-type: none"> • Physician Assistants • Clinical Nurse Specialists • Preventive Medicine Physicians |
| General and Operations Managers | <ul style="list-style-type: none"> • First-Line Supervisors of Office and Administrative Support Workers • Logistics Managers • Wholesale and Retail Buyers, Except Farm Products |
| Dentists, General | <ul style="list-style-type: none"> • Pharmacists • Anesthesiologists • Nurse Anesthetists |
| Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree | |
| Registered Nurses | <ul style="list-style-type: none"> • Licensed Practical and Licensed Vocational Nurses • Acute Care Nurses • Critical Care Nurses |
| Nursing Assistants ³³ | <ul style="list-style-type: none"> • N/A |
| Licensed Practical and Licensed Vocational Nurses | <ul style="list-style-type: none"> • Physical Therapist Assistants • Radiologic Technicians • Social and Human Service Assistants |
| Medical Assistants | <ul style="list-style-type: none"> • Pharmacy Technicians • Occupational Therapy Assistants • Dental Assistants |
| Dental Assistants | <ul style="list-style-type: none"> • Endoscopy Technicians • Dental Hygienists • Surgical Technologists |
| Requires a High School Diploma or Equivalent or Less | |
| Medical Secretaries | <ul style="list-style-type: none"> • Receptionists and Information Clerks • Medical Records and Health Information Technicians • Bill and Account Collectors |
| Home Health Aides | <ul style="list-style-type: none"> • Personal Care Aides • Medical Assistants • Childcare Workers |
| Receptionists and Information Clerks | <ul style="list-style-type: none"> • Office Clerks, General • Customer Service Representatives • Medical records and Health Information Technicians |
| Personal Care Aides | <ul style="list-style-type: none"> • Home Health Aides • Occupational Therapy Aides • Physical Therapist Aides |
| First-Line Supervisors of Office and Administrative Support Workers | <ul style="list-style-type: none"> • General and Operations Managers • Human Resources Specialists • First-Line Supervisors on Non-Retail Sales Workers |

Source: U.S. Department of Labor's [Occupational Information Network \(O*NET\)](http://www.onetonline.org) at www.onetonline.org.

³³ Currently no related occupations reported by O*NET.

Employer Demand for the Health Care Services Cluster

The following table lists the Los Angeles County Economic Sub-Market employers in the Health Care Services cluster who posted the most job advertisements during the 120-day period ending March 11, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

| Health Care Services Cluster Employers | Recent Job Advertisements ³⁴ (120-day period) | Prior Year Job Advertisements (120-day period) | Numerical Change | Year-Over Percent Change (HWOL Job Advertisements) |
|--|---|---|------------------|---|
| Providence Health & Services | 2,071 | 731 | 1,340 | 183.3% |
| Kaiser Permanente | 1,172 | 590 | 582 | 98.6% |
| City Of Hope | 394 | 370 | 24 | 6.5% |
| Molina Healthcare, Inc. | 359 | 154 | 205 | 133.1% |
| HealthPartners | 348 | 347 | 1 | 0.3% |
| Onward Healthcare | 216 | 62 | 154 | 248.4% |
| American Mobile Healthcare | 210 | 229 | -19 | -8.3% |
| DaVita, Inc. | 160 | 227 | -67 | -29.5% |
| Brookdale Senior Living | 158 | 82 | 76 | 92.7% |
| Tenet Healthcare Corporation | 146 | 84 | 62 | 73.8% |
| Cedars-Sinai | 145 | 129 | 16 | 12.4% |
| PIH Health | 145 | 27 | 118 | 437.0% |
| Dignity Health | 132 | 285 | -153 | -53.7% |
| Huntington Hospital | 111 | 82 | 29 | 35.4% |
| Genesis HealthCare | 102 | 34 | 68 | 200.0% |
| Adventist HealthCare | 102 | 86 | 16 | 18.6% |
| Valley Presbyterian Hospital | 99 | 29 | 70 | 241.4% |
| Sunrise Senior Living, Inc. | 96 | 76 | 20 | 26.3% |
| Fresenius Medical Care | 93 | 69 | 24 | 34.8% |
| Saint Francis Medical Center | 93 | 98 | -5 | -5.1% |

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending March 11, 2015.

³⁴ Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Health Care Services Cluster Occupations

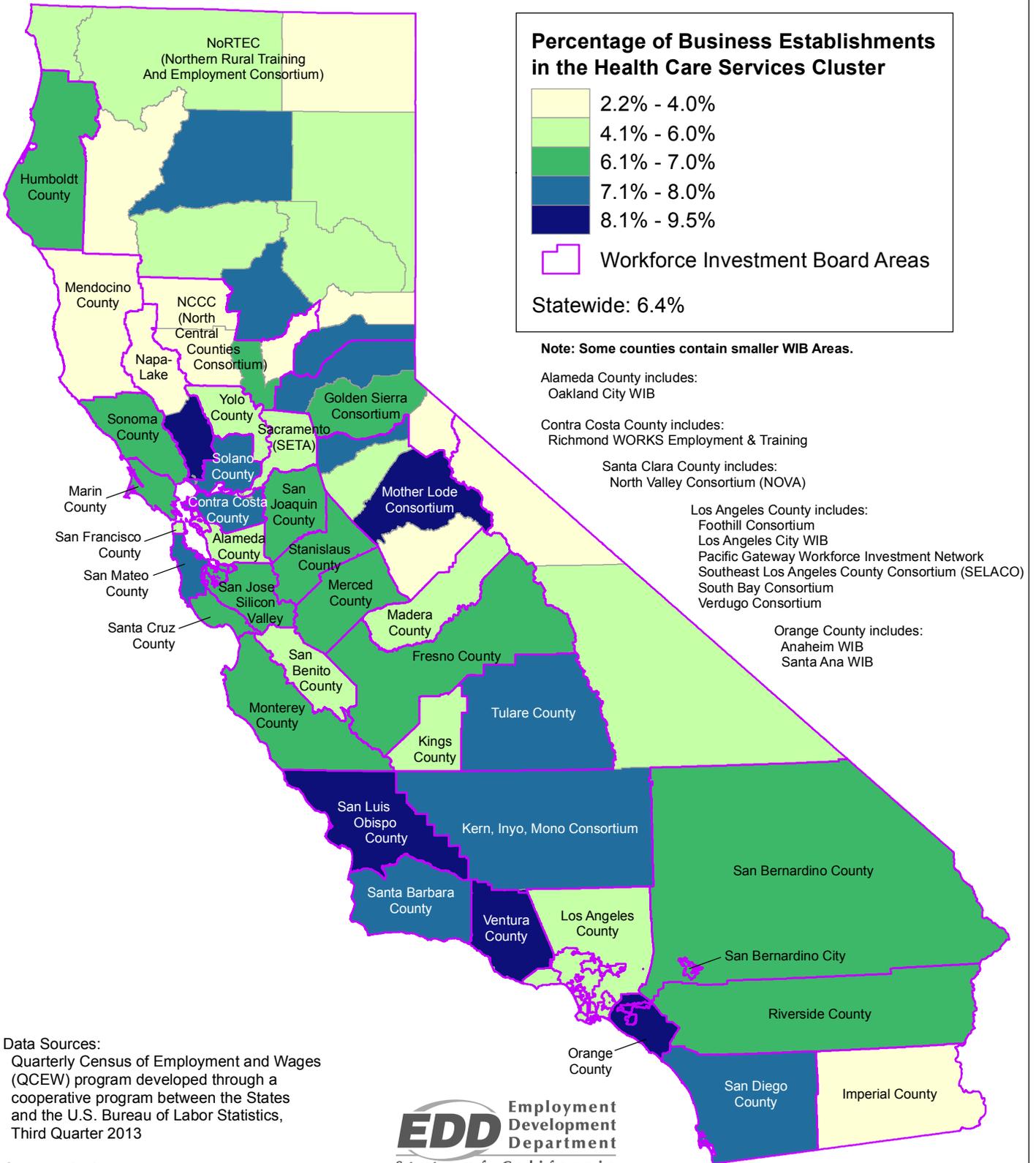
The table below provides examples of instructional programs related to some of the top occupations in the Health Care Services cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Health Care Services cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

| Occupations | Classification of Instructional Program (CIP) | | Taxonomy of Programs (TOP) | |
|---|---|---|----------------------------|--|
| | CIP Code | CIP Title | TOP Code | TOP Title |
| Registered Nurses | 51.3801 | Registered Nursing/Registered Nurse | 123000 | Nursing |
| | 51.3808 | Nursing Science | 123010 | Registered Nursing |
| | 51.3813 | Clinical Nurse Specialist | | |
| Nursing Assistants | 51.2601 | Health Aide | 123030 | Certified Nurse Assistant |
| | 51.3902 | Nursing Assistant/Aide and Patient Care Assistant/Aide | | |
| | 51.3999 | Practical Nursing, Vocational Nursing and Nursing Assistants, Other | | |
| Licensed Practical and Licensed Vocational Nurses | 51.3901 | Licensed Practical/Vocational Nurse Training | 123020 | Licensed Vocational Nursing |
| | 51.3999 | Practical Nursing, Vocational Nursing and Nursing Assistants, Other | | |
| Medical Assistants | 51.0710 | Medical Office Assistant/Specialist | 120800 | Medical Assisting |
| | 51.0712 | Medical Reception/Receptionist | 120810 | Clinical Medical Assisting |
| | 51.0716 | Medical Administrative/Executive Assistant and Medical Secretary | 120820 | Administrative Medical Assisting |
| Dental Assistants | 51.0601 | Dental Assisting/Assistant | 124010 | Dental Assistant |
| Medical Secretaries | 51.0710 | Medical Office Assistant/Specialist | 051420 | Medical Office Technology |
| | 51.0714 | Medical Insurance Specialist/Medical Biller | | |
| | 51.0716 | Medical Administrative/Executive Assistant and Medical Secretary | | |
| Home Health Aides | 51.2602 | Home Health Aide/Home Attendant | 123080 | Home Health Aide |
| Receptionists and Information Clerks | 52.0406 | Receptionist | N/A | N/A |
| Personal Care Aides | 51.2602 | Home Health Aide/Home Attendant | 123080 | Home Health Aide |
| First-Line Supervisors of Office and Administrative Support Workers | 51.0705 | Medical Office Management/Administration | 050630 | Management Development and Supervision |
| | 51.0711 | Medical/Health Management and Clinical Assistant/Specialist | 050970 | E-Commerce (business emphasis) |
| | 52.0207 | Customer Service Management | 051440 | Office Management |

Source: U.S. Department of Education [Integrated Postsecondary Education Data System \(IPEDS\)](http://www.nces.ed.gov) at www.nces.ed.gov; [California Community Colleges TOP-to-CIP Crosswalk 7th Edition \(2010\)](http://www.cccco.edu), www.cccco.edu.

California Health Care Services Cluster

Percentage of Total County Establishments, 2013



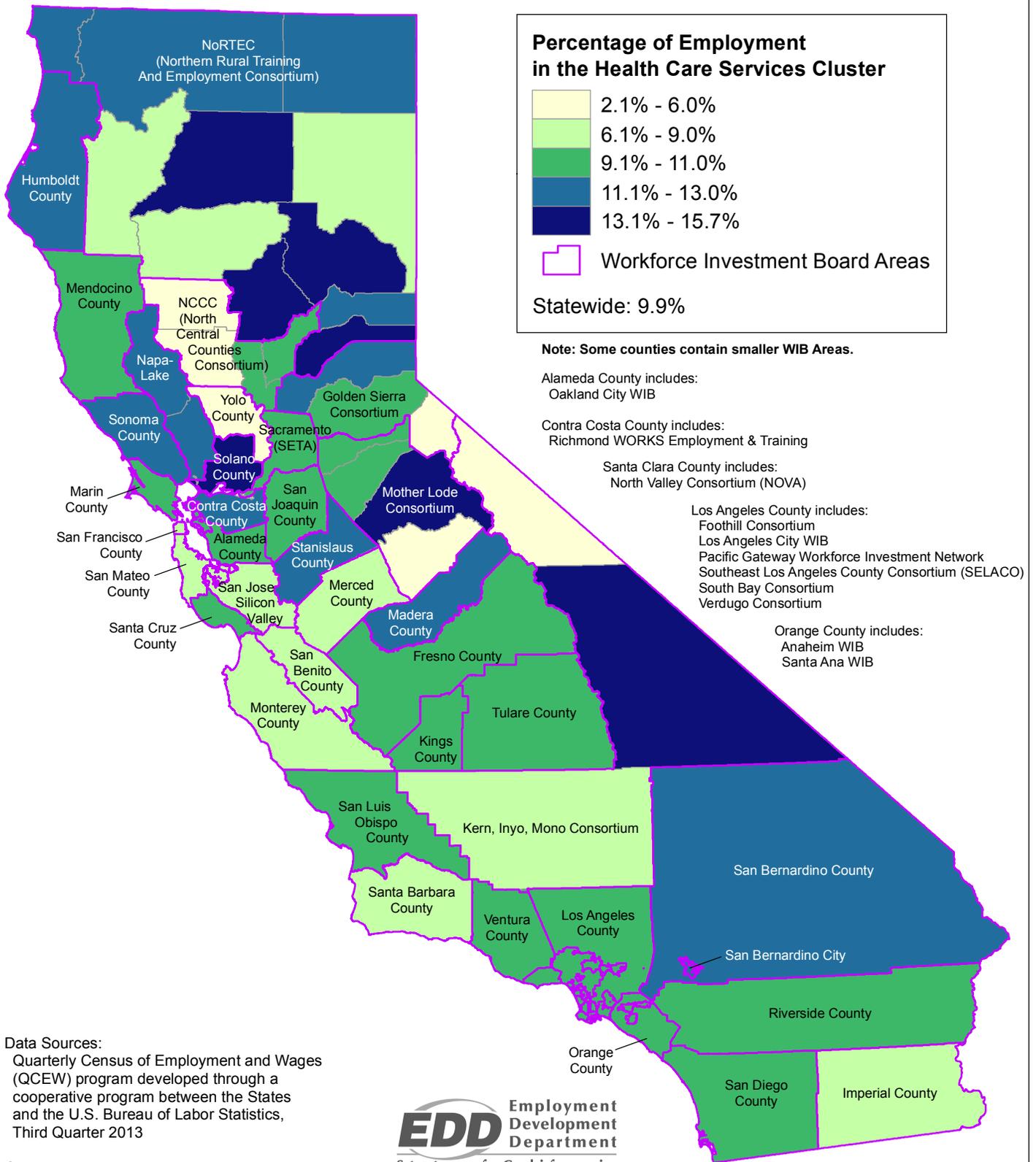
Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014



California Health Care Services Cluster

Percentage of Total County Employment, 2013



Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
<http://www.labormarketinfo.edd.ca.gov>
July 2014



Los Angeles Regional Planning Unit
List of Regional Planning Public Input Forums Held in 2016
Dates, Topics, Locations

Nov. 15, 2016

Verdugo WDB Forum #1

Topic: Pathways to the Middle Class

Verdugo Jobs Center - America's Job Center of California (AJCC)

1255 S. Central Ave., Glendale, CA 91204

9AM - 11AM

South Bay WDB Forum

Topics: Workforce System Accessibility and Workforce and Education Resources

Hawthorne Memorial Center

3901 El Segundo Blvd.,

Hawthorne, CA 90250

(2PM - 5PM)

Nov. 16, 2016

City of LA WDB Qtrly Meeting and Forum #1

Topic: Pathways to the Middle Class

Goodwill Community Enrichment Center -Fletcher Square

3150 N. San Fernando Rd., LA, CA 90065

(10AM – Noon)

Foothill WDB Forum

Topic: Workforce and Education Resources

Foothill One Stop Career Center

1207 E. Green Street, Pasadena, CA 91106

(2PM – 5PM)

Nov. 29, 2016

LA County WDB Forum #1

Topic: System Accessibility

Gateway Cities West

South Gate Auditorium, 4900 Southern Ave, South Gate, CA 90280

(9:30AM – 11:30AM)

Nov. 30, 2016

LA County WDB Forum #2

Gateway Cities East

Topic: Pathways to the Middle Class

City of Santa Fe Springs Town Center Hall

11740 Telegraph Road

Santa Fe Springs, CA 90670

(9:30AM - 11:30AM)

**Los Angeles Regional Planning Unit
List of Regional Planning Public Input Forums Held in 2016
*Dates, Topics, Locations***

Dec. 1, 2016

LA County WDB Forum #3

Topic: Pathways to the Middle Class

San Gabriel Valley West - Centro Maravilla Service Center

4716 East Cesar E Chavez Ave

Los Angeles, CA 90022

(9:30AM - 11:30AM)

City of LA WDB Forum #2

Topic: Career Pathways

Boyle Heights Tech Center YouthSource

1600 E 4th St, Los Angeles, CA 90033

(4PM – 6PM)

Dec. 5, 2016

Verdugo WDB Forum #2

Topic: Career Pathways

Verdugo Jobs Center - America's Job Center of California (AJCC)

1255 S. Central Ave., Glendale, CA 91204

(9AM – 11AM)

Dec. 6, 2016

LA County WDB forum #4

Topic: Career Pathways

Santa Clarita City, The Centre

20880 Centre Point Parkway

Santa Clarita, CA 91351

(9:30AM - 11:30AM)

City of LA WDB Forum #3

Topic: System Accessibility

Expo Center, Multi-Purpose Room

3980 Bill Robertson Lane

Los Angeles, CA 90037

(2PM – 4PM)

Dec. 7, 2016

SELACO WDB Forum

Topic: Career Pathways

Downey Adult School Bldg. HPEC

12340 Woodruff Ave.

Downey, CA 90241

Los Angeles Regional Planning Unit
List of Regional Planning Public Input Forums Held in 2016
Dates, Topics, Locations

L.A. County WDB Quarterly Board Meeting
 Richard Slawson Southeast Occupational Center of LAUSD
 5500 Rickenbacker Rd
 Bell, CA 90201
 (11:30 AM – 1:30 PM)

Dec. 8, 2016

Verdugo WDB Forum #3
Topic: Industry Valued Credentials
 Verdugo Jobs Center
 1255 S. Central Avenue, Glendale, 91204
 (9AM – 11AM)

**Foothill WDB Quarterly Board Meeting
 & Forum**
Topic: Industry Valued Credentials
 Foothill One Stop Career Center
 1207 E. Green Street, Pasadena, CA 91106
 (1PM – 2PM)

City of LA WDB Forum #4
Topic: Workforce and Education Resources
 Los Angeles LGBT Youth Center on Highland
 1220 Highland Ave, Los Angeles, CA 90038
 (3PM - 5PM)

Dec. 9, 2016

LA County WDB forum #5
Topic: Workforce and Education Resources
 San Gabriel Valley East
 Hacienda La Puente Adult Education School
 14101 Nelson Ave, La Puente, CA 91746
 (9:30AM - 11:30AM)

Dec. 13, 2016

LA County WDB forum #6
Topic: Industry-Valued Credentials
 Antelope Valley
 Palmdale City Hall
 Chimbole Cultural Center
 38350 Sierra Hwy, Palmdale, CA 93550
 (9:30AM - 11:30AM)

Los Angeles Regional Planning Unit
List of Regional Planning Public Input Forums Held in 2016
Dates, Topics, Locations

**City of LA WDB Forum #5 and
Workforce Development Board Business Services & Marketing Committee Meeting**
Topic: Industry-Valued Credentials – Certifying Worker Skills and Competencies
Los Angeles Valley College
Presidents Conference Room
5817 Ethel Ave, Sherman Oaks, CA 91401
(2PM - 4PM)

A total of 19 regional planning public input forums were conducted in locations throughout the Los Angeles County

Los Angeles Regional Planning Unit

Draft Regional Plan

List of Individuals/Organizations Invited to Forums

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*The final Regional Plan will contain a complete list of invited
individuals and organizations.*

Los Angeles Regional Planning Unit

Draft Regional Plan

**List of Individuals/Organizations that Attended the Regional Planning
Public Input Forums**

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*The final Regional Plan will contain a complete list of
individuals and organizations that attended the regional planning
public input forums.*

**Los Angeles Basin Regional Plan Challenges and Opportunities for
Disconnected Youth**

| Key Challenges Identified from Interviews with Regional Stakeholders | Proposed Next Steps and Opportunities: |
|--|---|
| <p>Priority in Engaging Disconnected Youth: Challenges include mixed levels of commitment, attention, resources and supportive service for recovering and reengaging out of school disconnected youth across the Los Angeles Basin, along with the need to restructure Workforce Development Board contracts that are more responsive to the needs of disconnected youth.</p> | <p>Recovery and Reengagement: Replicate and expand local and regional efforts to create innovative and comprehensive recovery and reengagement strategies for disconnected youth who are out of school by reintegrating them back into the educational system and encouraging multiple pathways to prepare them for college and career success.</p> <p>Contracting Opportunity: Share examples from Workforce Development Board’s that have restructured contracts to reduce contractual requirements that are excessively burdensome or may not serve their intended purpose and create incentives for potential contractors to address the real needs of disconnected youth and reflect youth development best practices.</p> |
| <p>Systemic Barriers: Skill development and credentials will be insufficient for disconnected youth to achieve equitable employment across race and ethnicity without successful efforts to overcome systemic barriers to employment, such as disparities in skill development, program participation, exclusionary hiring policies, implicit bias, hostile work climates, and lack of robust availability of transportation and childcare.</p> | <p>Reduce Systemic Barriers: Replicate and expand effective regional strategies for reaching out to, engaging, and successfully serving out of school disconnected youth with significant employment barriers and connecting them to sector pathway that expand opportunities to return to school, enroll in training programs, and find paid employment this could include the development of local agreements that recruit and serve this population.</p> |
| <p>Disconnected Data Systems: Interoperability among multiple education, workforce, social services and other data systems that inhibit coordination and alignment across the multiple systems that serve disconnected youth along with fragmented data systems that constrain the flow of information to improve results and finally the administrative requirements that impede holistic approaches in serving disconnected youth.</p> | <p>Data Sharing Agreements and Collective Performance Measures: Replicate and expand opportunities to capture lessons learned from existing data sharing agreements among the Workforce Development Board’s that are addressing interoperability between multiple systems (education, health and mental health, workforce development, job training, housing, social services and criminal justice) and are focused on assembling data from various systems that set priorities, goals, and benchmarks, data analysis of the need for multi-pronged interventions, managing and linking data, maintaining data quality, and protecting privacy.</p> <p>Consider supporting a regional process to create a common set of shared performance measures that could provide better information and tools that would enable Workforce Development Board’s to collectively track progress, direct resources to strategies that work and to measure and evaluate successful practices that would guide policies and support innovative approaches that</p> |

| | |
|---|--|
| | improve service delivery for disconnected youth. |
| <p>Challenges in Sharing Best Practice: No regional portal to capture and share effective approaches and “lift up” best practices in supporting disconnected youth has resulted in limited evidence about effective models and strategies that support positive outcomes for disconnected youth and a wide-ranging level of awareness and knowledge about the evidence that does exist.</p> | <p>Build a Community of Practice: Support the development of a regional platform that could drive innovation, share lessons learned and best practices that effectively coordinate multiple systems and programs serving disconnected youth and disseminate practitioner’s tools for measuring and evaluating outcomes along with key findings to inform practitioner’s and policymakers.</p> |
| <p>Cross-Sector Partnerships: Strengthen local and regional cross-sector partnerships that increase coordination between multiple public agencies and service providers in providing an innovative service delivery system change strategies that is seamless, integrated and can meet the education, employment, housing, health and other needs of disconnected youth.</p> | <p>Multi-System Approaches: Replicate and enhance cross-sector collaborations that are currently being led by the Workforce Development Board’s and are surfacing innovative new solutions that are achieving better outcomes and producing demonstrated results for disconnected youth.</p> |
| <p>Limited Employment Opportunities: Structural shifts in the regions job market have resulted in the lack of job creation and supply along with increasingly scarce career on-ramps and heightened competition for jobs has led to high levels of unemployment, hidden unemployment and underemployment for disconnected youth.</p> | <p>Labor Market Engagement: Replicate, enhance and scale up current innovative approaches that focus on the development of multiple diverse pathways, job training programs that are employer driven and linked to specific career pathways, supportive services that reduce barriers to employment for disconnected youth from achieving success in jobs and careers.</p> |
| <p>Enhance Regional Coordination and Communication: The necessity for increased coordination and communication across the region between the Workforce Development Board’s that would strengthen and connect comprehensive approaches that meet the multi-faceted needs of disconnected youth.</p> | <p>Support Ongoing Coordination and Communication: Replicate and enhance current partnerships and shared initiatives between Workforce Development Board’s that has effectively addressed communication barriers, connected data systems, implemented a governance structure that has effectively manages diverse partners, aligned public systems and increased coordination in reconnecting disconnected youth to education, employment, housing and career attainment.</p> |
| <p>Increase Capacity for Partnership Development: Build and enhance coordinating capacity between the Workforce Development Board’s and civic and private-sector partnerships that would result in the efficient and effective delivery of locally designed strategies and solutions that improve outcomes for disconnected youth in achieving success in meeting educational, employment, and other key lifelong development goals.</p> | <p>Enhance Partnership Development: Create a “gateway” for the Workforce Development Board’s to strengthen and advance current innovative partnerships between local governments, non-profits, businesses and philanthropy that would propel evidence-based practices and interventions and enable partners to focus on what works and the strengthen the capacity of the region in providing wraparound services to improve education, employment, and social outcomes for disconnected youth.</p> |

Executive Summary of the Regional Workforce Plan for the Los Angeles Basin

The Workforce Innovation and Opportunity Act of 2014 (“WIOA”) mandates regional workforce planning as does the State of California. The Los Angeles Basin regional workforce plan (the “Plan”) covers the entire County including its seven local Workforce Development Boards, eighty-eight cities and unincorporated areas stretching from the ocean to the Mojave Desert. The Plan’s purpose is to:

1. Identify critical business sectors and specific entry and mid-level jobs in each sector where there is a high demand for workers and skill gaps among current and potential job applicants;
2. Create new and improved “career pathways” leading to these jobs which are more accessible to individuals who have major barriers to employment, particularly non-English speakers (a clearer and enhanced “pathway to the middle-class”); and,
3. Align the efforts of educational and workforce agencies County-wide to achieve better results.

Based upon LAEDC’s research and substantial community input, the priority sectors are: 1) advanced manufacturing – including “bio-tech”; 2) construction; 3) information and communications technology including the entertainment and recording industry; 4) healthcare; 5) hospitality and tourism; and 6) transportation and logistics.

The regional workforce planning process began this September. Nineteen highly interactive public forums - in which over five hundred stakeholders participated - were held throughout the length and breadth of Los Angeles County. In addition, there were individual meetings with staff from each of the seven Workforce Development Boards, with organized labor representatives, with adult education providers and their consortia, with business leaders and local elected officials, with community-based nonprofit organizations and with economic development agencies. The planning work was further informed by the identification of “best practices” throughout the County which could be expanded and replicated.

The Plan identified fourteen “work tasks” and eight strategic goals. The value of the Plan will be determined by whether the seven Workforce Development Boards and their workforce system partners can prioritize, fine tune and complete these tasks and goals.

Work Tasks

Task-1: Review and evaluate stakeholder recommendations for improving training effectiveness.

Task-2: Work with education partners to develop a plan of action for the system-wide delivery of basic skills and English language skills at levels reflecting need across the region.

Task-3: Engage industry leaders in each priority sector to identify skill needs, review training content, determine the value of credentials and recommend programs to address skill needs.

Task-4: Adopt a regional definition of “industry-valued” to support credential efforts.

Task-5: Adopt a definition and guidelines for a “quality job.”

Task-6: Adopt a slate of agreed upon regional sector pathway programs and regularly update.

Task-7: Once determined, develop a list of industry-valued credentials in the region.

Task-8: Convene stakeholders to develop a plan to achieve the region’s share of the statewide goal “1 million new credentials.”

Task-9: Work with education partners to identify ways to contextualize basic skills and English language skills into regional sector pathway programs.

Task-10: Determine the need to streamline services to avoid delays in participants' accessing basic services, and develop an action plan.

Task-11: Examine opportunities for regional coordination of support services and develop an action plan.

Task-12: Examine opportunities to expand the use of the resources and talents of community-based organizations to support the workforce development system throughout the region.

Task-13: Organize a workgroup, including education partners, to determine how to capture training-related placement data for all partner and programs.

Task-14: Examine opportunities to collaborate on administrative functions.

Strategic Goals

Goal-1: Develop a plan to expand services and outcomes for the region's disconnected youth and young adults, building upon the outstanding results currently being achieved for this group.

Goal-2: Develop a regional framework for delivering demand-driven services to guide planning and program development across the network of system stakeholders.

Goal-3: Develop a framework for determining the scalability and replication potential of career pathway programs developed at the local and/or stakeholder level and a protocol for bringing such programs to scale as regional sector pathway programs.

Goal-4: Adopt a regional protocol for incumbent worker training (IWT), including strategies for using IWT to increase worker productivity and upward mobility.

Goal-5: Develop a framework for supporting workers engaged in the "gig-based" economy.

Goal-6: Develop a communications platform for the region to promote the sharing of information throughout the workforce system.

Goal-7: Develop a common message and marketing strategy directed at youth, job seekers and businesses.

Goal-8: Implement a system-wide approach to industry engagement to support the efforts of the seven boards and all system stakeholders.

Next Steps

The regional workforce plan is now ready for release for a 30-day public comment period, must be received by the State by March 15th (along with all seven local workforce plans) and takes effect July 1, 2017 through June 30, 2021. The Plan does not impact the seven local workforce area's Federal allocations or their ability to manage and direct local workforce resources.