

Report for the Southeast Area Social Services Funding Authority



Los Angeles County Economic Development Corporation

Industry Clusters, Employment Forecast, Target Industries and Occupational Analysis

Los Angeles County
and
SASSFA SDA

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This report was prepared by the Economic and Policy Consulting Practice of the Los Angeles County Economic Development Corporation (LAEDC).

As the Southern California region's premier economic development organization, the mission of the LAEDC is to attract, retain and grow businesses and jobs in the regions of Los Angeles County, as well as to identify trends and to effect positive change on the local economy.

The LAEDC Consulting Practice offers unbiased, fee-based custom economic and policy research for public agencies and private firms. The Consulting Practice focuses on economic impact studies, regional industry analyses, economic forecasts and issue studies, particularly in water, transportation, infrastructure and environmental policy. Projects are selected based on their relevance to the *L.A. County Strategic Plan for Economic Development* and the potential for the research to shape policy that supports the LAEDC mission.

Executive Summary

The Southeast Area Social Services Funding Authority (SASSFA) is a community service agency that focuses on community-based workforce and employment development. At its WorkSource Centers, it provides employment and training services to assist area residents to gain skills necessary for job opportunities that are likely to lead to long-term employment.

This report provides an economic overview of Los Angeles County in general and of the SASSFA Service Delivery Area (SDA) in particular to provide a basis upon which the Authority can focus its efforts. We provide an industry cluster analysis of the economic base of the region, highlighting differences between Los Angeles County and the SASSFA SDA, and prepare a five-year employment forecast at the county level, highlighting those industries which are expected to grow.

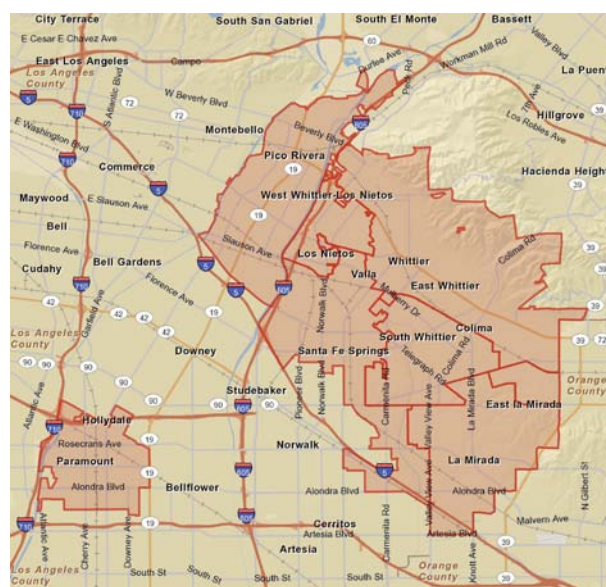
Using the forecast and data on each industry's presence and strength in the SASSFA SDA, we identify those industries which are most promising to target for job retention and expansion efforts. For each identified target industry, we provide detailed occupational data.

The SASSFA Service Delivery Area

The Southeast Area Social Services Funding Authority service delivery area (SASSFA SDA) comprises the cities of La Mirada, East La Mirada, Paramount, Pico Rivera, Santa Fe Springs, Whittier, South Whittier, West Whittier-Los Nietos, and adjacent unincorporated areas of Los Angeles County.

The largest city in the SASSFA SDA is Whittier, followed by Pico Rivera, Paramount and South Whittier.

Household size is on average larger in the SASSFA SDA than in Los Angeles County, and is especially large in Paramount. Median household income is almost 10 percent higher in the SASSFA than in the county, but per capita income is almost twenty percent lower.



Source: ESRI

Population and Income (2009) SASSFA SDA and Los Angeles County					
	Population	Households	Average Household Size	Median Household Income	Per Capita Income
East La Mirada	9,837	3,355	2.92	\$ 64,984	\$ 24,858
La Mirada	48,625	14,840	3.16	76,250	27,294
Paramount	58,766	14,354	4.07	46,762	13,464
Pico Rivera	66,615	16,892	3.92	53,965	15,780
Santa Fe Springs	17,211	4,994	3.41	58,747	19,234
South Whittier	58,129	15,026	3.85	61,329	17,919
West Whittier - Los Nietos	26,119	6,805	3.77	58,298	17,366
Whittier	87,592	28,795	2.97	62,439	26,180
SASSFA SDA	372,894	105,061	3.52	\$ 60,377	\$ 20,203
Los Angeles County	10,266,841	3,294,806	3.06	\$ 55,051	\$ 24,730

Source: 2000 Census of Population; ESRI estimates for 2009

Compared to Los Angeles County, residents in the SASSFA SDA had a somewhat lower level of educational attainment.

Educational Attainment of Population 25 Years and Older (2009) SASSFA SDA and Los Angeles County				
	SASSFA SDA		Los Angeles County	
	Number	% of total	Number	% of total
No High School Diploma	60,183	27.4	1,623,810	25.5
High School Graduate	63,918	29.1	1,394,570	21.9
Some College, No Degree	44,589	20.3	1,158,960	18.2
Associate Degree	14,936	6.8	420,280	6.6
Bachelor's Degree	25,040	11.4	1,165,320	18.3
Graduate / Professional Degree	10,982	5.0	604,950	9.5
Total *	219,648	100.0	6,367,889	100.0

* May not sum due to rounding

Source: 2000 Census of Population; ESRI estimates for 2009

Industry Clusters

We review the overall size, performance and characteristics of the economic base of Los Angeles County by analyzing its industrial structure as organized into industry clusters.

We identify fifteen export-oriented industry clusters that are the key drivers of the regional economy, and six population-serving industry clusters which, while not traditionally considered targets for development, are significant employment generators.

Cluster Employment (2008) Los Angeles County and SASSFA SDA				
	Los Angeles County		SASSFA SDA	
	Number	% of total	Number	% of total
Export-Oriented Industry Clusters				
Health Services and Biomedical	363,964	8.7	10,486	7.9
Professional and Business Services	267,744	6.4	3,794	2.8
Entertainment	261,784	6.3	425	0.3
Wholesale Trade	159,105	3.8	14,240	10.7
Technology	151,032	3.6	2,182	1.6
Higher Education	130,705	3.1	2,120	1.6
Materials and Machinery	120,320	2.9	14,777	11.1
Goods Movement	115,181	2.8	6,863	5.1
Fashion Design, Manufacturing, Wholesaling	104,242	2.5	2,051	1.5
Financial Services	103,981	2.5	1,462	1.1
Tourism and Hospitality	84,435	2.0	449	0.3
Food Products	63,588	1.5	2,654	2.0
Furniture and Home Furnishings	35,711	0.9	4,579	3.4
Automotive Manufacturing and Wholesaling	22,681	0.5	1,743	1.3
Jewelry Manufacturing and Wholesaling	6,562	0.2	14	0.0
Export-Oriented Clusters Total	1,991,038	47.8	67,839	50.9
Population-Serving Industry Clusters				
Retail Trade	418,294	10.0	10,818	8.1
Food Services and Drinking Places	287,049	6.9	6,635	5.0
Construction	145,660	3.5	9,246	6.9
Real Estate	54,194	1.3	719	0.5
Repair and Maintenance	40,936	1.0	2,030	1.5
Waste Management and Remediation Services	9,013	0.2	1,172	0.9
Population-Serving Clusters Total	955,146	22.9	30,620	23.0
Non-classified industries	1,223,245	29.3	34,912	26.2
Total *	4,169,428	100.0	133,371	100.0

* May not sum due to rounding
Source: CA EDD; LAEDC

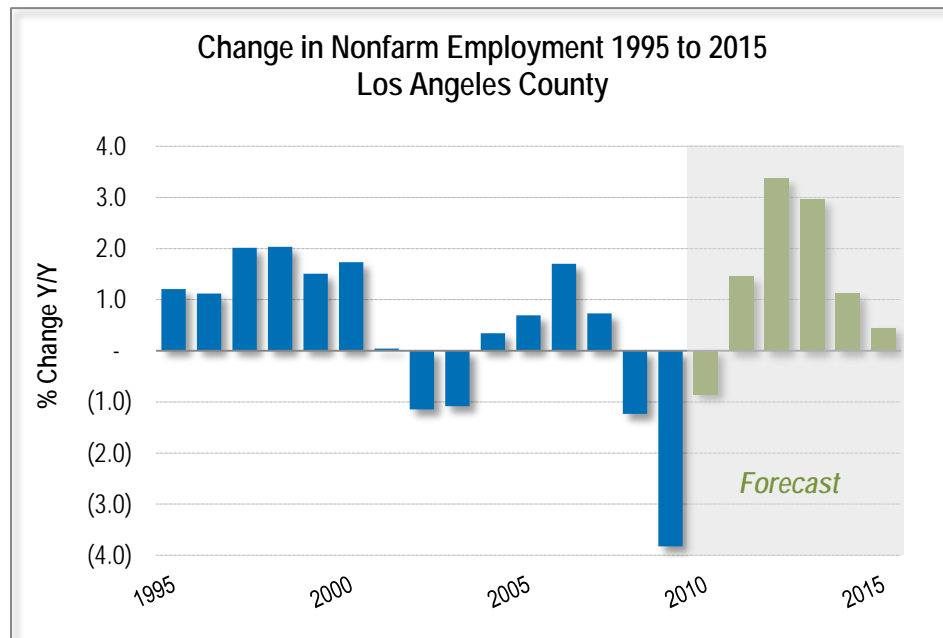
At the county level, the Health Services and Biomedical industry cluster is the largest, employing 363,964 people. In terms of relative size, this was not the largest cluster in the SASSFA SDA, employing 10,486 people. The largest cluster in the SASSFA SDA was the Materials and Machinery Manufacturing cluster, employing 14,777 people.

For each industry cluster, we report the number of establishments, the employment, the total payroll and the total output in Los Angeles County in 2008 (the most recent year for which data is available). We provide a breakdown of employment in the cluster by industry (or sub-industry) and we report the average annual wage by industry (or sub-industry) at the county level. In addition, we report the number of establishments, the total employment and total output in each cluster in the SASSFA SDA, and employment by industry (or sub-industry).

Employment Forecast

In this section, we present population and employment projections for Los Angeles County. Using these projections, we present job creation potentials for the county and for the SASSFA SDA, and discuss the presence of county industry employment in the SASSFA SDA.

Our nonfarm employment forecast for Los Angeles County can be described as follows:



Sources: California Employment Development Department; Moody's Economy.com; LAEDC

- The county's economy entered a severe recession in December of 2007, with an employment decline of 1.2 percent in 2008 and an estimated 3.8 percent decline in 2009. Employment is expected to continue to fall in early 2010 before recovering, with a year-over-year loss of 0.9 percent.
- Employment will recover in 2011 with a growth rate of 1.5 percent, and rebound with 3.4 percent growth in 2012 and 3.0 percent in 2013.
- After 2013, economic growth is forecast to continue to be positive but to decelerate from the rapid pace of the post-recession recovery period. In 2014, the forecast growth in employment is 1.1 percent, falling to 0.4 percent thereafter.
- Over the longer term, the economy in Los Angeles County is forecast to grow at its long-term trend rate of approximately 0.5 percent.

Most industry sectors will follow this general contour of post-recession recovery followed by moderation. However, there are differences among industries that reflect their individual circumstances. Recovery strength in many cases is determined by the magnitude of the industry's decline during the recession. Broadly, Los Angeles County's economic growth

over the forecast period will be powered by the post-recession recovery, led in large part by service-providing industries such as professional and business services, educational and health services, and leisure and hospitality, as well as by construction.

Employment Growth in Los Angeles County by Sector: History and Forecast				
Industry Sector	Annual Average Percent Change			
	1995-00	2000-05	2005-10 ¹	2010-15
Total Nonfarm Payroll	1.7	-0.2	-0.7	1.9
Goods Producing Industries	0.1	-3.5	-4.0	1.5
Natural Resources and Mining	-4.0	1.9	3.6	0.4
Construction	3.1	2.5	-3.9	2.6
Manufacturing - Durable Goods	-0.2	-5.1	-4.4	1.9
Manufacturing - Nondurable Goods	-0.8	-5.1	-3.8	0.3
Service Providing Industries	2.2	0.5	-0.2	2.2
Wholesale Trade	1.3	0.0	0.1	2.2
Retail Trade	1.6	1.1	-1.1	1.4
Transportation, Warehousing, Utilities	2.4	-1.5	-1.3	0.9
Information	5.0	-3.2	-0.8	0.9
Financial Activities	0.1	1.7	-1.4	1.7
Professional and Business Services	2.6	-0.4	-0.8	3.0
Educational and Health Services	2.3	2.5	1.9	2.7
Leisure and Hospitality	2.2	1.8	0.3	2.8
Other Services	1.3	0.6	-0.4	1.5
Government	1.6	0.1	0.2	0.6

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.
Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Service-providing industries are in aggregate expected to grow at an average annual rate of 2.2 percent between 2010 and 2015, higher than goods-producing industries which will grow at an average annual rate of 1.5 percent.

Target Industries

To identify potential target industries in the SASSFA SDA for job retention and expansion efforts, we derive two composite indices: the first composite index is indicative of industry performance in Los Angeles County using four criteria:

- Projected employment growth rate in Los Angeles County from 2010 to 2015
- Industry size in Los Angeles County, as measured by employment level in 2008
- Average wages in Los Angeles County in 2008
- Projected job creation in Los Angeles County from 2010 to 2015

Our second composite index indicative of industry performance in the SASSFA SDA using three criteria:

- Industry size in the SASSFA SDA, as measured by employment level in 2008
- Job creation in the SASSFA SDA from 2001 to 2008

- Relative concentration of the industry in the SASSFA SDA, as measured by the location quotient in 2008

In addition to the composite indices, we look at the recent performance of industries in the SASSFA SDA by the growth of the location quotient since 2001. Each of these measures provides an indication of whether an industry has the potential to be an attractive target for job retention. For the purposes of this exercise, we evaluate only private industries.

Using our three indicators, we identify industries that are most likely to be good targets for job retention activities, including both export-oriented and population-serving industries. Several are large industries with good growth potential, but the list also contains smaller industries with a relatively strong concentration in the SASSFA SDA or those that we believe have growth potential.

Identified Target Industries	
NAICS Industry Sector	NAICS
Professional and Technical Services	541
Ambulatory Health Care Services	621
Hospitals	622
Nursing and Residential Care Facilities	623
Manufacturing: Primary Metal Products	331
Manufacturing: Fabricated Metal Products	332
Manufacturing: Machinery	333
Manufacturing: Computer and Electronic Products	334
Manufacturing: Electrical Equipment and Appliances	335
Wholesalers: Durable Goods	423
Wholesalers: Nondurable Goods	424
Electronic Markets and Agents and Brokers	425
Warehousing and Storage	493
Construction of Buildings	236
Heavy and Civil Engineering Construction	237
Specialty Trade Contractors	238
Administrative and Support Services	561
Waste Management and Remediation	562
Repair and Maintenance	811

Occupational Analysis

For each of these nineteen industries, we examine the occupational composition by major occupational group, including broad descriptive categories such as production occupations, management occupations and business and financial operations occupations. We also report

detailed occupations for those major occupational groups with sufficient employment share. Detailed occupations are differentiated according to the job skills, abilities and work activities required. Education and training requirements are provided, along with the annual median wage in Los Angeles County for each detailed occupation and the total number of people employed in this occupation across all industries in Los Angeles County.

The largest occupational group in Los Angeles County is office and administrative support occupations, making up almost 20 percent of all employment in Los Angeles County in 2008, or more than 810,000 jobs. Sales and related occupations is the second-largest group with ten percent of all jobs. The highest-paid on average were management occupations, followed closely by legal occupations.

Employment by Major Occupational Group (May 2008) Los Angeles County				
SOC	Occupation Group Title	Employment	% of total employment	Annual median wage
11-0000	Management occupations	231,870	5.6	\$ 101,520
13-0000	Business and financial operations occupations	214,890	5.2	63,530
15-0000	Computer and mathematical science occupations	89,590	2.2	75,130
17-0000	Architecture and engineering occupations	76,530	1.8	80,100
19-0000	Life, physical, and social science occupations	33,030	0.8	61,770
21-0000	Community and social services occupations	48,660	1.2	45,120
23-0000	Legal occupations	37,940	0.9	100,720
25-0000	Education, training, and library occupations	268,080	6.4	50,580
27-0000	Arts, design, entertainment, sports, and media occupations	141,310	3.4	49,870
29-0000	Healthcare practitioners and technical occupations	182,570	4.4	69,950
31-0000	Healthcare support occupations	93,390	2.2	25,950
33-0000	Protective service occupations	107,750	2.6	32,030
35-0000	Food preparation and serving related occupations	323,940	7.8	18,800
37-0000	Building and grounds cleaning and maintenance occupations	104,250	2.5	23,190
39-0000	Personal care and service occupations	96,550	2.3	21,480
41-0000	Sales and related occupations	415,400	10.0	26,570
43-0000	Office and administrative support occupations	810,200	19.5	32,270
47-0000	Construction and extraction occupations	139,610	3.4	44,310
49-0000	Installation, maintenance, and repair occupations	127,820	3.1	41,820
51-0000	Production occupations	316,470	7.6	24,250
53-0000	Transportation and material moving occupations	297,860	7.2	25,470

Source: BLS

We report the top 50 detailed occupations in Los Angeles County by employment. Because each detailed occupation may be common to many industries, the exhibit provides a list of those industries which employ this occupation. These industries are listed in order of employment in May of 2008. The annual median wage in Los Angeles County for each occupation is also shown. The top 5 are shown on the following page.

Top 5 Detailed Occupations by Employment (May 2008) Los Angeles County					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
1	41-2031	Retail salespersons	Retail stores; florists; employment services; electronic shopping and mail-order houses; wholesalers; wired telecommunications carriers; museums, parks and historical sites.	126,030	\$ 20,690
2	43-9061	Office clerks, general	Local and state government; colleges and universities; elementary and secondary schools; temporary employment services; hospitals; offices of real estate agents; offices of physicians; accounting services; legal services; insurance agencies; management of companies; electronic markets; insurance carriers; management and technical consulting services; construction; computer systems design services; architectural and engineering services; banks and credit unions; service to buildings.	118,720	26,440
3	41-2011	Cashiers	Retail stores; restaurants; movie theatres; amusement parks and arcades; automotive repair and maintenance; local government; hospitals; spectator sports; performing arts companies.	92,580	19,170
4	53-7062	Laborers and freight, stock, and material movers, hand	Temporary employment agencies; warehousing and storage; couriers; wholesalers; general and specialized freight trucking; building material and supplies dealers; motion picture and video industries; grocery stores; furniture stores; building equipment contractors.	84,090	22,100
5	11-1021	General and operations managers	Management of companies; management and technical consulting services; computer systems design services; local government; architectural and engineering services; grocery stores; electronic markets; construction; administrative services; restaurants; accounting services; retail stores; insurance agencies; advertising services.	68,770	107,470

The single largest detailed occupation is retail salespersons, with over 126,000 employed in Los Angeles County in May of 2008 with a median annual wage of \$20,690. As shown, this occupation is common to many industries. The second largest detailed occupation is general office clerks, with almost 119,000 employed earning a median annual wage of \$26,400.

For each identified target industry, we provide data sheets which report the employment in Los Angeles County and in the SASSFA SDA in 2008, and the average annual wage. We provide a breakdown of the occupational makeup of each industry by major group, and for each major group with a significant share of the industry's employment, we provide a list of the detailed occupations therein, including: the education and training required; the median annual wage in Los Angeles County; and the total number of persons employed in Los Angeles County in that detailed occupational group in 2008.

Table of Contents

1	Introduction	1
	SASSFA Service Delivery Area	2
2	Industry Clusters	7
	Health Services and Biomedical	11
	Professional and Business Services	13
	Entertainment	15
	Wholesale Trade	17
	Technology	19
	Higher Education	21
	Materials and Machinery	23
	Goods Movement	25
	Fashion Design, Manufacturing and Wholesaling	27
	Financial Services	29
	Tourism and Hospitality	31
	Food Products	33
	Furniture and Home Furnishings	35
	Automotive Manufacturing and Wholesaling	37
	Jewelry Manufacturing and Wholesaling	39
	Retail Trade	41
	Food Services and Drinking Places	43
	Construction	45
	Real Estate	47
	Repair and Maintenance	49
	Waste Management and Remediation Services	51
3	Employment Forecast	53
	Population and Demographic Trends	53
	Projections of Industry Employment	57
	Potential for Job Creation in Los Angeles County	66
	Potential for Job Creation in the SASSFA SDA	72

4	Target Industries	79
	Methodology	79
	Results	81
	Discussion	86
5	Occupational Analysis	91
	Occupations in Los Angeles County	92
	Professional, Scientific and Technical Services	103
	Ambulatory Health Care Services	105
	Hospitals	107
	Nursing and Residential Care Facilities	109
	Primary Metal Manufacturing	111
	Fabricated Metal Product Manufacturing	113
	Machinery Manufacturing	115
	Computer and Electronic Product Manufacturing	117
	Electrical Equipment and Appliances Manufacturing	119
	Durable Goods Wholesaling	121
	Nondurable Goods Wholesaling	123
	Wholesale Electronic Markets	125
	Warehousing and Storage	127
	Construction of Buildings	129
	Heavy and Civil Engineering Construction	131
	Specialty Trade Contractors	133
	Administrative and Support Services	135
	Waste Management and Remediation Services	137
	Repair and Maintenance	139

Table of Exhibits

1 Introduction

1-1	The SASSFA Service Delivery Area	2
1-2	Population and Income (2009): SASSFA SDA and Los Angeles County	3
1-3	Households by Income (2009)	4
1-4	Population by Age (2009)	4
1-5	Educational Attainment of Population 25 Years and Older (2009): SASSFA SDA and Los Angeles County	5
1-6	Workers 16 and Older in SASSFA SDA by Occupation	6

2 Industry Clusters

2-1	Cluster Employment (2008): Los Angeles County and SASSFA SDA	7
2-2	Cluster Employment (2008): Los Angeles County and SASSFA SDA	8

3 Employment Forecast

3-1	Population Projections (2005 to 2015)	54
3-2	Population Projections (2005 to 2015): Average Annual Growth Rates (%)	55
3-3	Labor Force (1995-2005): Average Annual Growth Rates (%)	56
3-4	Change in Nonfarm Employment (1995 to 2015): Los Angeles County	58
3-5	Employment Growth in Los Angeles County by Sector: History and Forecast	59
3-6	Annual Employment Growth Projections in Los Angeles County by Sector	60
3-7	Employment Growth by Industry in Los Angeles County: High Growth Industries	63
3-8	Employment Growth by Industry in Los Angeles County: Moderate Growth Industries	64
3-9	Employment Growth by Industry in Los Angeles County: Negative Growth Industries	65
3-10	Industrial Profile Forecast: Los Angeles County	66
3-11	Top 30 Industries by Employment (2008): Los Angeles County	68
3-12	Top 30 Industries by Average Weekly Wage (2008): Los Angeles County	69
3-13	Top 25 Industries by Projected Job Creation (2010 to 2015): Los Angeles County	70
3-14	Industrial Profile (2008): Los Angeles County and SASSFA SDA	72
3-15	Top 25 Industries by Employment (2008): SASSFA SDA	73
3-16	Top 25 Industries by Job Creation (2001 to 2008): SASSFA SDA	74
3-17	Top 25 Industries by Employment location Quotients (2001 and 2008): SASSFA SDA vs. Los Angeles County	76

4 Target Industries

4-1	Top 25 Target Industries Using the Los Angeles County Composite Index	82
4-2	Top 25 Target Industries Using the SASSFA SDA Composite Index	83
4-3	Industries in SASSFA SDA by Growth in Location Quotient (2001 to 2008)	85
4-4	Identified Target Industries	86

5 Occupational Analysis

5-1	Employment by Major Occupational Group (May 2008): Los Angeles County	92
5-2	Top 50 Detailed Occupations by Employment (May 2008): Los Angeles County	94

The Southeast Area Social Services Funding Authority (SASSFA) is a community service agency that focuses on community-based workforce and employment development. At its WorkSource Centers, it provides employment and training services to assist area residents to gain skills necessary for job opportunities that are likely to lead to long-term employment. The Authority is also involved with promoting the growth of business in the region in partnership with other local, regional and state resources.

This report provides an economic overview of Los Angeles County in general and of the SASSFA Service Delivery Area (SDA) in particular to provide a basis upon which the Authority can focus its efforts.

In Section 2, we review the current economic structure of the county by providing an industry cluster analysis of the economic base of the region. This analysis is extended to the SASSFA SDA to highlight differences where appropriate.

Section 3 presents a five-year industry forecast for Los Angeles County which highlights those industries which are expected to grow.

Together with the industrial structure of the region, the forecast and the relative strength of each industry in the SASSFA SDA provide metrics from which we identify those industries which are most promising to target for job retention and expansion efforts. This analysis is presented in Section 4.

Finally, Section 5 provides detailed occupational data for each of the identified industries.

In the following pages, we first review a selection of demographic and socioeconomic data specific to the SASSFA SDA as compared to the county as a whole.

SASSFA Service Delivery Area

The Southeast Area Social Services Funding Authority service delivery area (SASSFA SDA) comprises the cities of La Mirada, East La Mirada, Paramount, Pico Rivera, Santa Fe Springs, Whittier, South Whittier, West Whittier-Los Nietos, and adjacent unincorporated areas of Los Angeles County, as shown in Exhibit 1-1.



Source: ESRI

The total population of the SASSFA SDA in 2009 was 372,894, accounting for approximately 3.6 percent of the population of Los Angeles County. The largest single city in the SASSFA SDA is Whittier, with a population of almost 87,600, followed by Pico Rivera (population 66,615), Paramount (58,766) and South Whittier (58,129).

These data are shown in Exhibit 1-2 on the following page for each of the cities in the SASSFA SDA, for the SASSFA SDA as a whole, and for Los Angeles County.

Exhibit 1-2 Population and Income (2009) SASSFA SDA and Los Angeles County					
	Population	Households	Average Household Size	Median Household Income	Per Capita Income
East La Mirada	9,837	3,355	2.92	\$ 64,984	\$ 24,858
La Mirada	48,625	14,840	3.16	76,250	27,294
Paramount	58,766	14,354	4.07	46,762	13,464
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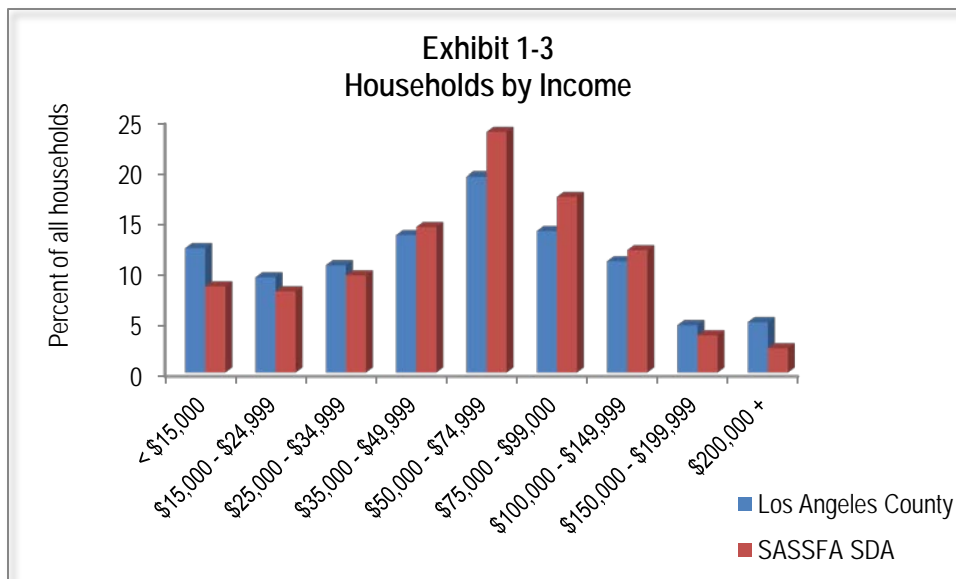
Source: 2000 Census of Population; ESRI estimates for 2009

Household size is on average larger in the SASSFA SDA than in Los Angeles County (3.52 persons compared to 3.06 persons in Los Angeles County). Household size is especially large in Paramount, reaching an average of 4.07 persons.

Median household income in the SASSFA SDA, estimated to be \$60,377, is higher than the average in Los Angeles County, but per capita income is somewhat lower (\$20,203 versus \$24,730). The higher average median household income in the SASSFA SDA results from the high median incomes found in most cities within the area, but a relatively larger average household size than in Los Angeles County in general results in a lower per capita income in the SASSFA SDA.

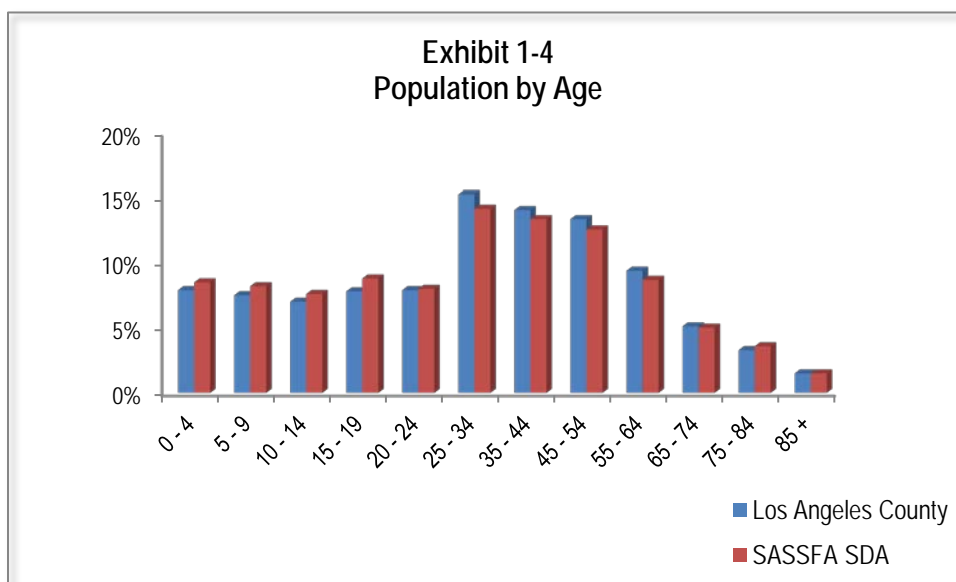
Per capita income is highest in La Mirada (\$27,294), followed by Whittier (\$26,180) and East La Mirada (\$24,858). The lowest per capita income at the city level in the SASSFA SDA is in Paramount, with a per capita income of \$13,464.

The distribution of household income in SASSFA is shown in Exhibit 1-3. Households in the SASSFA SDA have a higher percentage of higher income households than in Los Angeles County as a whole. While 45 percent of households in Los Angeles County earn less than \$50,000 per year, only 40 percent of households in the SASSFA SDA do. The percentage of households in the SASSFA SDA in income brackets \$50,000 to \$75,000, \$75,000 to \$100,000 and \$100,000 to \$150,000 are each relatively more than in Los Angeles County.



Source: 2000 Census of Population; ESRI estimates for 2009

The demographic makeup of the population in the SASSFA SDA is representative of the county as a whole, with just slightly more children. The age distribution is shown in Exhibit 1-4. Approximately 70.5 percent of the population in the SASSFA SDA is over the age of 18 years, compared to 73.2 percent in Los Angeles County.



Source: 2000 Census of Population; ESRI estimates for 2009

The population in the SASSFA SDA is more Hispanic than the county overall. In the SASSFA SDA, 49.4 percentage of the population is white and 73.6 percent is of Hispanic origin, compared to 44.5 percent and 50.7 percent, respectively, in Los Angeles County.

The population of the SASSFA SDA aged 25 and over shows a mixed performance for educational attainment levels compared to Los Angeles County. These data are shown in Exhibit 1-5.

Exhibit 1-5 Educational Attainment of Population 25 Years and Older (2009) SASSFA SDA and Los Angeles County				
	SASSFA SDA		Los Angeles County	
	Number	% of total	Number	% of total
No High School Diploma	60,183	27.4	1,623,810	25.5
High School Graduate	63,918	29.1	1,394,570	21.9
Some College, No Degree	44,589	20.3	1,158,960	18.2
Associate Degree	14,936	6.8	420,280	6.6
Bachelor's Degree	25,040	11.4	1,165,320	18.3
Graduate / Professional Degree	10,982	5.0	604,950	9.5
Total *	219,648	100.0	6,367,889	100.0

* May not sum due to rounding

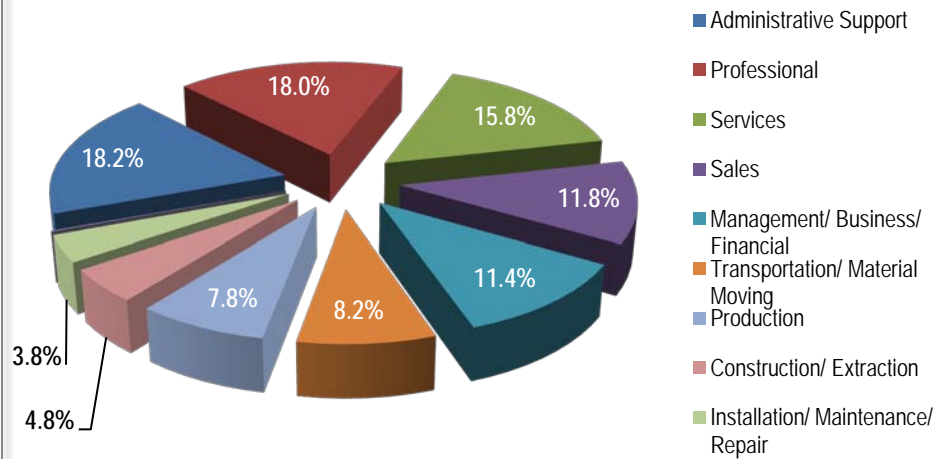
Source: 2000 Census of Population; ESRI estimates for 2009

The share of this population with at least a high school diploma (or higher) is slightly smaller in the SASSFA SDA, with 72.6 percent compared to 74.5 percent in Los Angeles County, and the region has a relatively smaller share with a bachelor's degree or higher (16.4 percent in the SASSFA SDA versus 27.8 percent in Los Angeles County).

The workforce in the SASSFA SDA is mixed, with 59.5 percent employed in white collar occupations, 24.7 percent in blue collar and 15.8 percent in services. The breakdown of employment by occupation is shown in Exhibit 1-6.

About 18.2 percent of the workforce is employed in administrative support occupations, followed by 18 percent in professional occupations and 15.8 percent in service occupations.

Exhibit 1-6
Workers 16 and older in SASSFA SDA by Occupation



Source: 2000 Census of Population; ESRI estimates for 2009

In this section, we review the overall size, performance and characteristics of the economic base of Los Angeles County by analyzing its industrial structure as organized into industry clusters. These industry clusters have been identified as key drivers of the regional economy. We investigate fifteen export-oriented industry clusters, including: Automotive Manufacturing and Wholesaling; Entertainment; Fashion Design, Manufacturing and Wholesaling; Financial Services; Food Products; Furniture and Home Furnishings; Goods Movement; Health Services and Biomedical; Higher Education; Jewelry Manufacturing and Wholesaling; Materials and Machinery; Professional and Business Services; Technology; Tourism and Hospitality; and Wholesale Trade.

In addition, we review six population-serving industry clusters which are significant sources of employment, including: Construction; Food Services and Drinking Places; Real Estate; Repair and Maintenance; Retail Trade; and Waste Management and Remediation Services.

Before our examination of each industry cluster begins, we first summarize cluster employment in Los Angeles County and the SASSFA SDA. Exhibit 2-1 presents the employment and relative size of the two types of industry clusters, export-oriented and population-serving, in Los Angeles County and in the SASSFA SDA.

Exhibit 2-1 Cluster Employment (2008) Los Angeles County and SASSFA SDA				
	Los Angeles County		SASSFA SDA	
	Number	% of total	Number	% of total
Export-oriented clusters	1,991,037	47.8	67,839	50.9
Population-serving clusters	955,146	22.9	30,620	23.0
Non-classified industries	1,223,245	29.3	34,912	26.2
Total *	4,169,428	100.0	133,371	100.0

* May not sum due to rounding
Source: CA EDD; LAEDC

In total, in 2008 there were 4,169,428 jobs in Los Angeles County. Of these, 47.8 percent, or 1,991,037, were employed in export-oriented industry clusters and 22.9 percent were employed in the six population-serving clusters. An additional 29.3 percent of employment was in industries that have not been classified, including state and local government.

Employment in the SASSFA SDA was somewhat more concentrated in export-oriented industry clusters compared to Los Angeles County, accounting for 50.9 percent of

employment, while employment in population-serving industries was comparable to that in Los Angeles County, accounting for 23.0 percent of total employment.

Employment by industry cluster in Los Angeles County and in the SASSFA SDA is summarized in Exhibit 2-2. The industry clusters are shown in descending order of employment in Los Angeles County.

Exhibit 2-2 Cluster Employment (2008) Los Angeles County and SASSFA SDA				
	Los Angeles County		SASSFA SDA	
	Number	% of total	Number	% of total
Export-Oriented Industry Clusters				
Health Services and Biomedical	363,964	8.7	10,486	7.9
Professional and Business Services	267,744	6.4	3,794	2.8
Entertainment	261,784	6.3	425	0.3
Wholesale Trade	159,105	3.8	14,240	10.7
Technology	151,032	3.6	2,182	1.6
Higher Education	130,705	3.1	2,120	1.6
Materials and Machinery	120,320	2.9	14,777	11.1
Goods Movement	115,181	2.8	6,863	5.1
Fashion Design, Manufacturing, Wholesaling	104,242	2.5	2,051	1.5
Financial Services	103,981	2.5	1,462	1.1
Tourism and Hospitality	84,435	2.0	449	0.3
Food Products	63,588	1.5	2,654	2.0
Furniture and Home Furnishings	35,711	0.9	4,579	3.4
Automotive Manufacturing and Wholesaling	22,681	0.5	1,743	1.3
Jewelry Manufacturing and Wholesaling	6,562	0.2	14	0.0
Export-Oriented Clusters Total	1,991,038	47.8	67,839	50.9
Population-Serving Industry Clusters				
Retail Trade	418,294	10.0	10,818	8.1
Food Services and Drinking Places	287,049	6.9	6,635	5.0
Construction	145,660	3.5	9,246	6.9
Real Estate	54,194	1.3	719	0.5
Repair and Maintenance	40,936	1.0	2,030	1.5
Waste Management and Remediation Services	9,013	0.2	1,172	0.9
Population-Serving Clusters Total	955,146	22.9	30,620	23.0
Non-classified industries	1,223,245	29.3	34,912	26.2
Total *	4,169,428	100.0	133,371	100.0

* May not sum due to rounding
Source: CA EDD; LAEDC

At the county level, the Health Services and Biomedical industry cluster is the largest, employing 363,964 people, or 8.7 percent of all employment in Los Angeles County in 2008. In terms of relative size, this was not the largest cluster in the SASSFA SDA, employing 10,486 people, or 7.9 percent of all employed in SASSFA. The largest cluster in the SASSFA

SDA was the Materials and Machinery Manufacturing cluster, employing 14,777 people or 11.1 percent of all employed.

The lower portion of the exhibit displays the population-serving industry clusters. While not traditionally considered targets for development, these industries are clearly significant employment generators and should be included in our analysis.

Individual industry clusters, presented in the same order as in Exhibit 2-2, are reviewed on the following pages. For each industry cluster, we report the number of establishments, the employment, the total payroll and the total output in Los Angeles County in 2008 (the most recent year for which data is available). We provide a breakdown of employment in the cluster by industry (or sub-industry) and we report the average annual wage by industry (or sub-industry) at the county level. In addition, we report the number of establishments, the total employment and total output in each cluster in the SASSFA SDA, and employment by industry (or sub-industry).

Definitions of the clusters are derived from those established by the Kyser Center for Economic Research. For the purposes of our analysis, in particular to adequately account for population-serving clusters, we have made minor adjustments to those original definitions.

Health Services and Biomedical

Los Angeles County (2008)

Establishments



22,201

5.3% of total

Employment



363,964 Jobs

8.7% of total

Annual Payroll



\$19,161 Million

8.9% of total

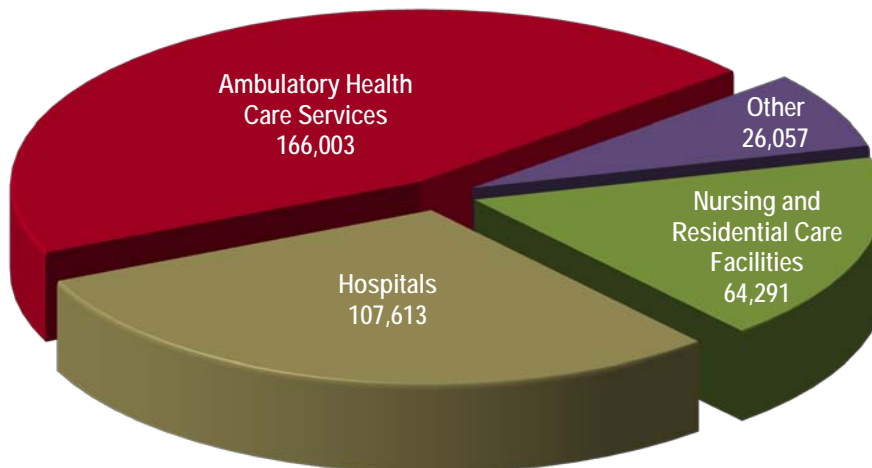
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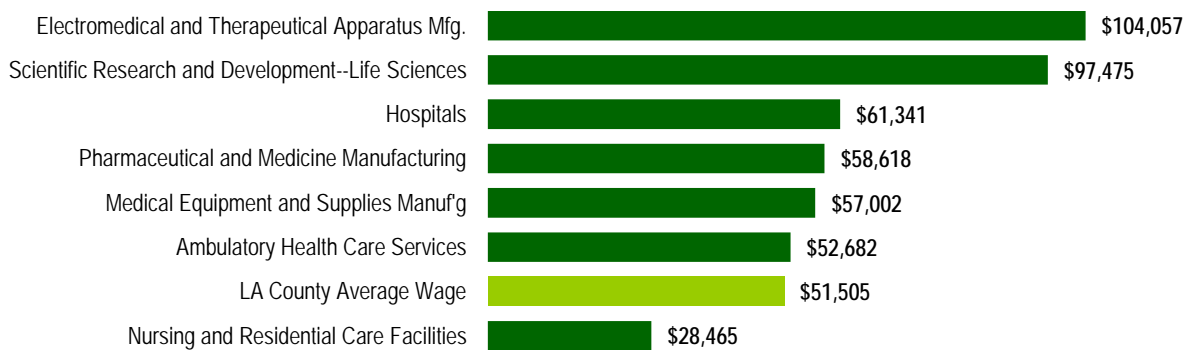
\$57.4 Billion

6.0% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Health Services and Biomedical

SASSFA SDA (2008)

Establishments



508
5.2% of total

Employment



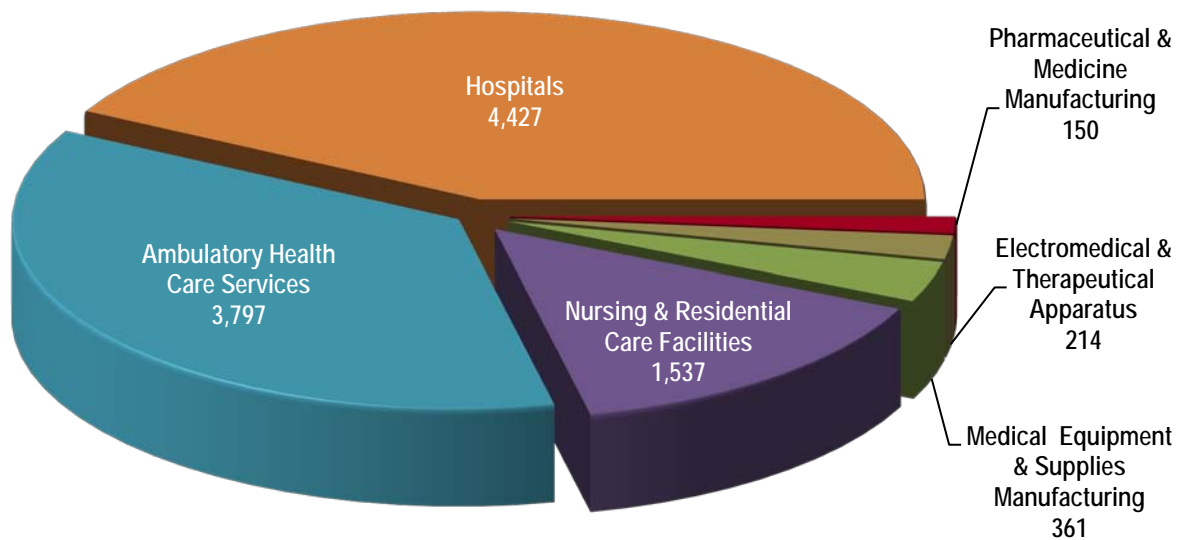
10,486 Jobs
7.9% of total

Output



\$1,456 Million
5.0% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Professional and Business Services

Los Angeles County (2008)

Establishments



28,674
6.8% of total

Employment



267,744 Jobs
6.4% of total

Annual Payroll



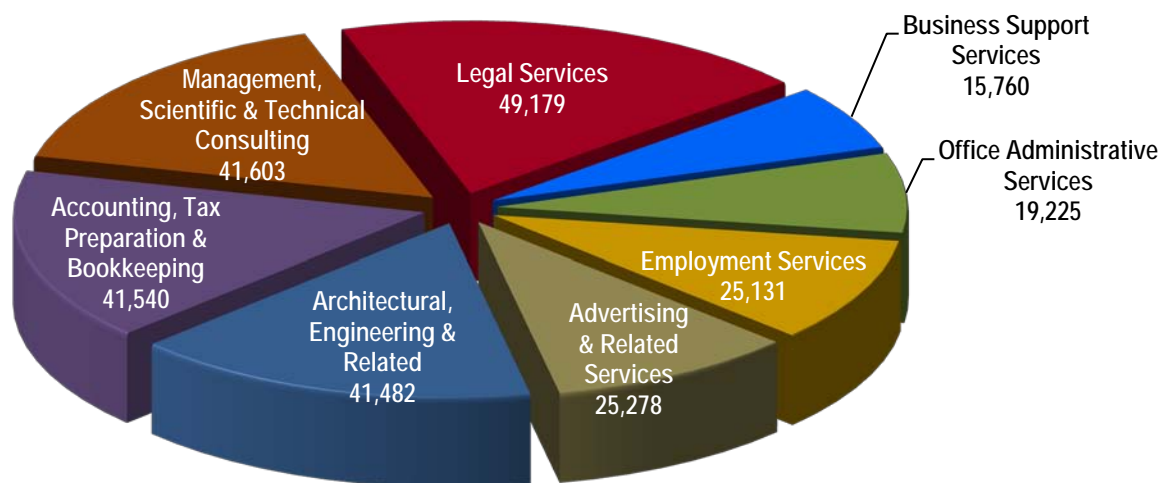
\$19,986 Million
9.3% of total

Output

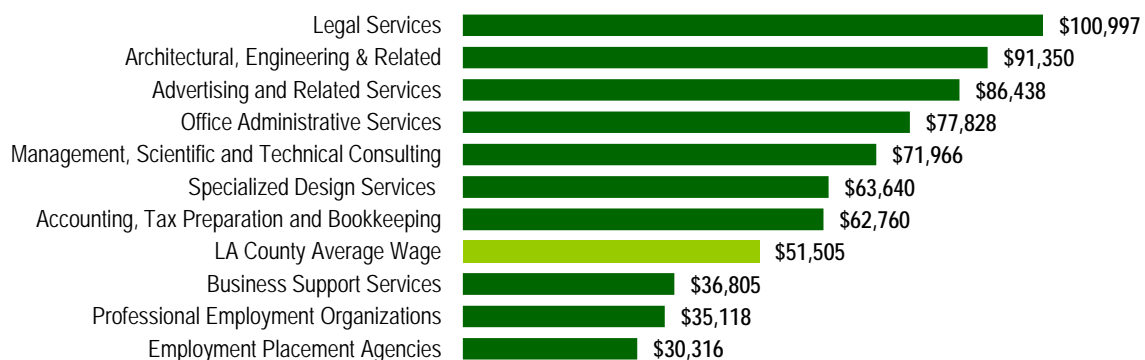


\$63.9 Billion
6.7% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Professional and Business Services

SASSFA SDA (2008)

Establishments



454
4.7% of total

Employment



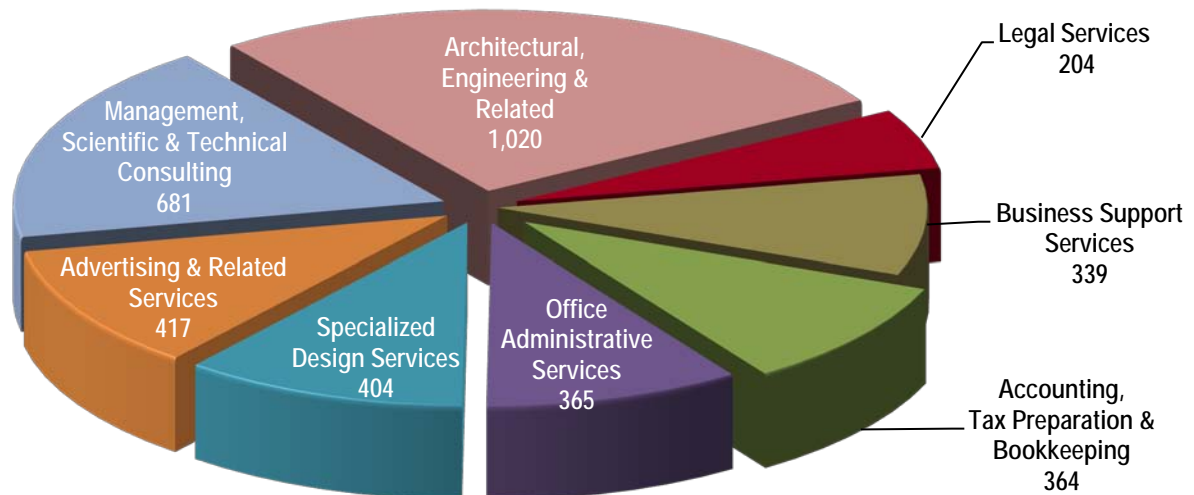
3,794 Jobs
2.8% of total

Output



\$1,205 Million
4.1% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Entertainment

Los Angeles County (2008)

Establishments



14,673
3.5% of total

Employment



261,784 Jobs
6.3% of total

Annual Payroll



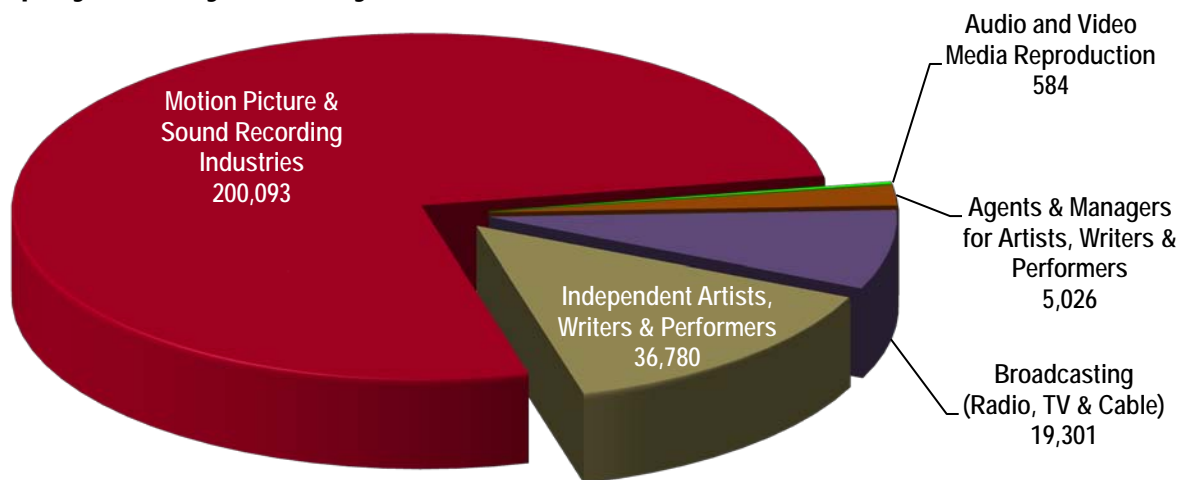
\$32,602 Million
15.2% of total

Output

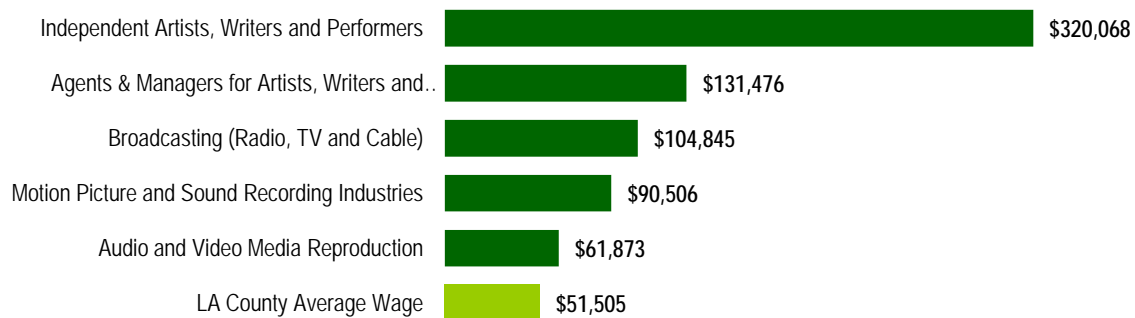


\$102.1 Billion
10.7% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Entertainment

SASSFA SDA (2008)

Establishments



29
0.3% of total

Employment



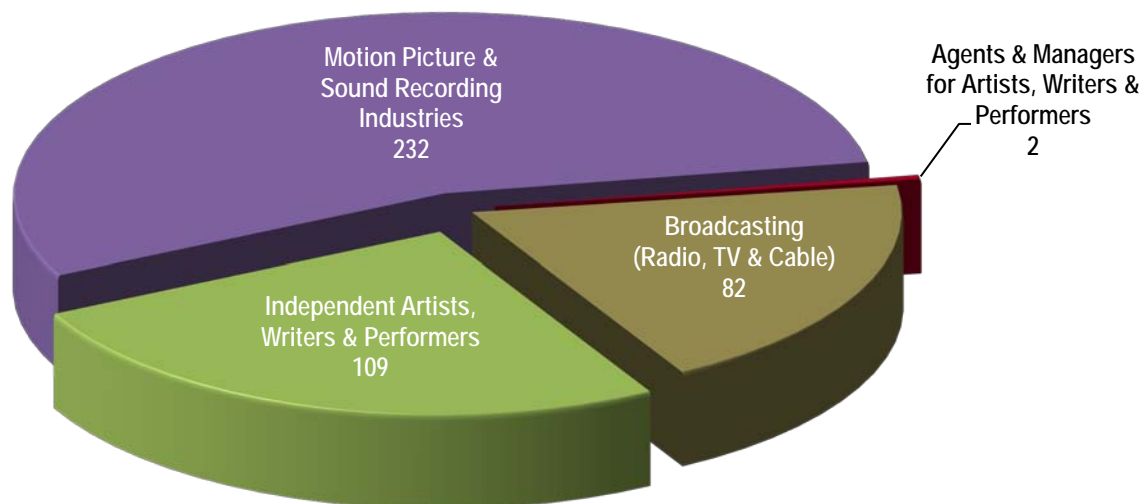
425 Jobs
0.3% of total

Output



\$205 Million
0.7% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Wholesale Trade

Los Angeles County (2008)

Establishments



13,783
3.3% of total

Employment



159,105 Jobs
3.8% of total

Annual Payroll



\$8,683 Million
4.0% of total

Output



\$32.9 Billion
3.4% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Wholesale Trade

SASSFA SDA (2008)

Establishments



731
7.5% of total

Employment



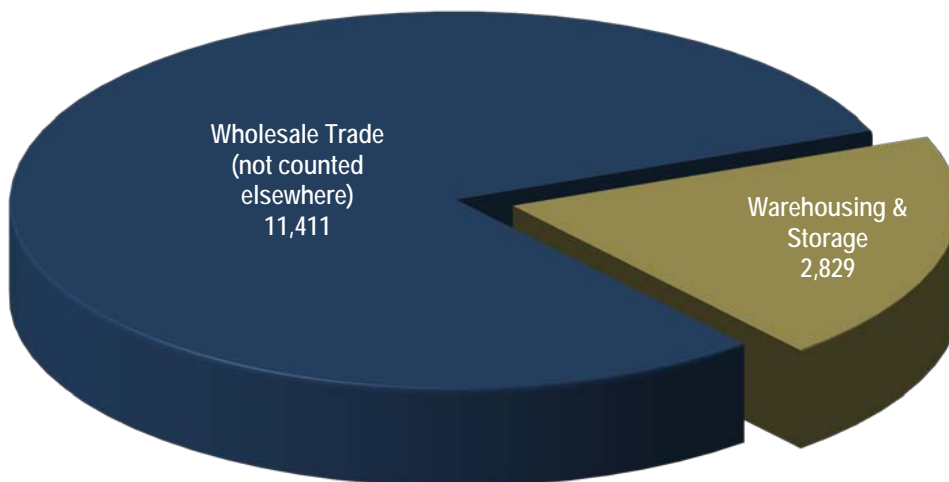
14,240 Jobs
10.7% of total

Output



\$2,959 Million
10.1% of total

Employment by Industry

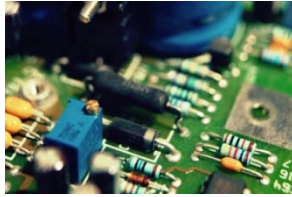


Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Technology

Los Angeles County (2008)

Establishments



5,572
1.3% of total

Employment



151,032 Jobs
3.6% of total

Annual Payroll



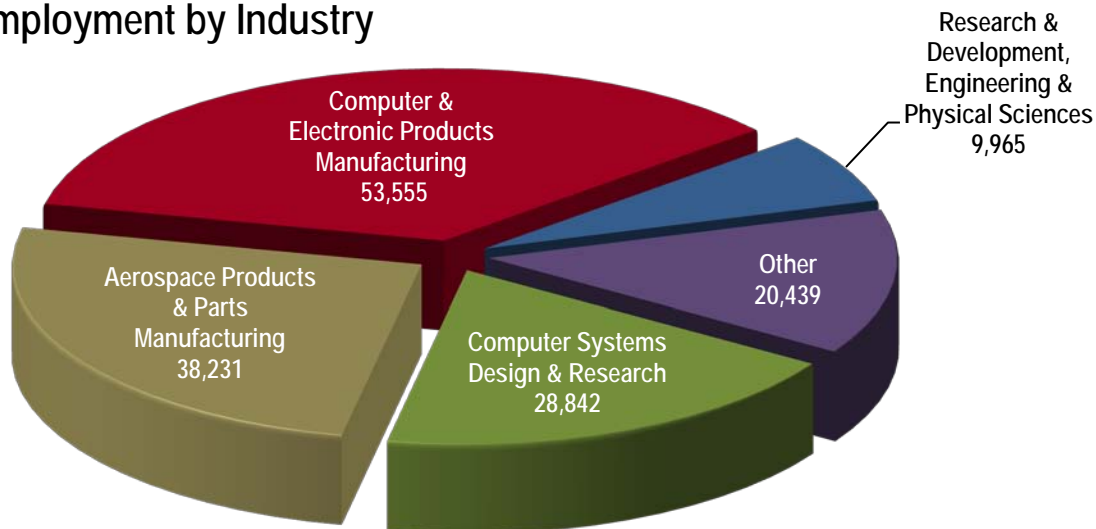
\$13,150 Million
6.1% of total

Output

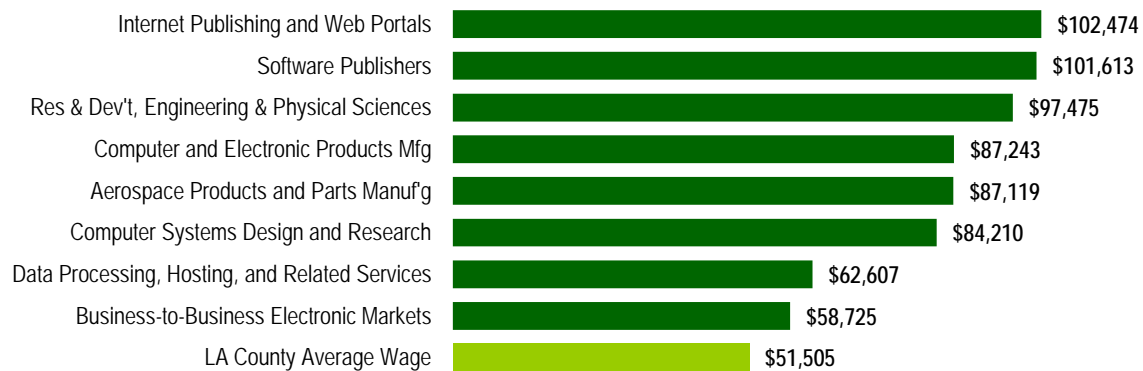


\$73.3 Billion
7.7% of total

Employment by Industry



Average Annual Wages

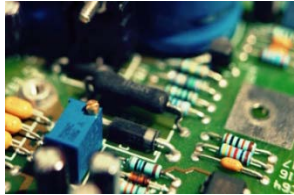


Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Technology

SASSFA SDA (2008)

Establishments



100

1.0% of total

Employment



2,182 Jobs

1.6% of total

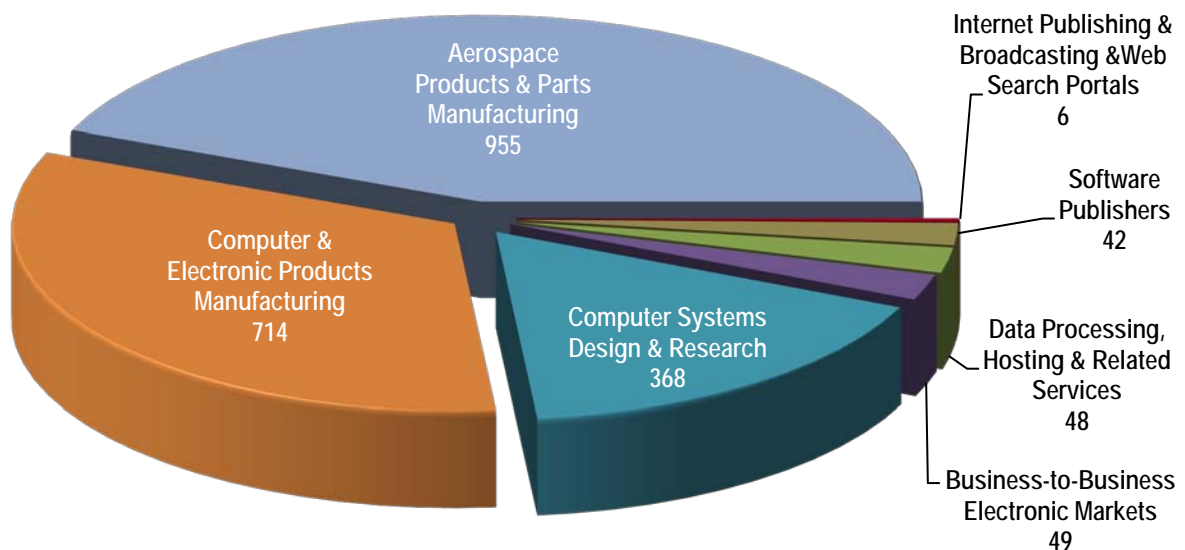
Output



\$918 Million

3.1% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Higher Education

Los Angeles County (2008)

Establishments



1,564
0.4% of total

Employment



130,705 Jobs
3.1% of total

Annual Payroll



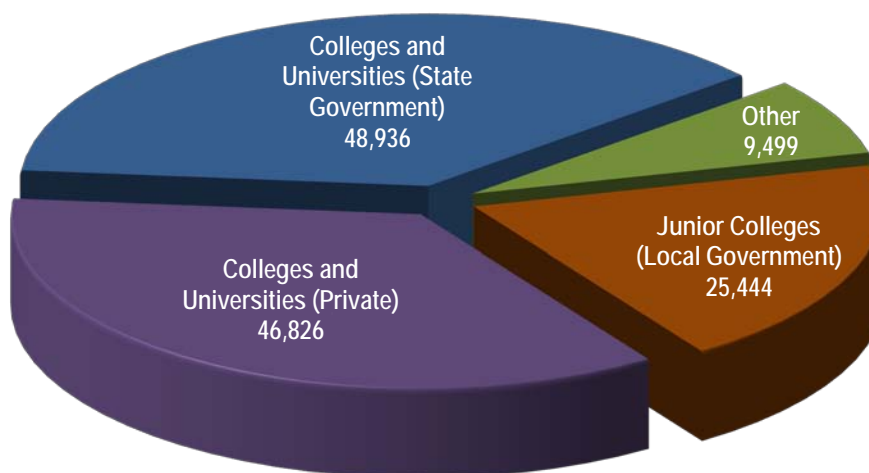
\$6,386 Million
3.0% of total

Output

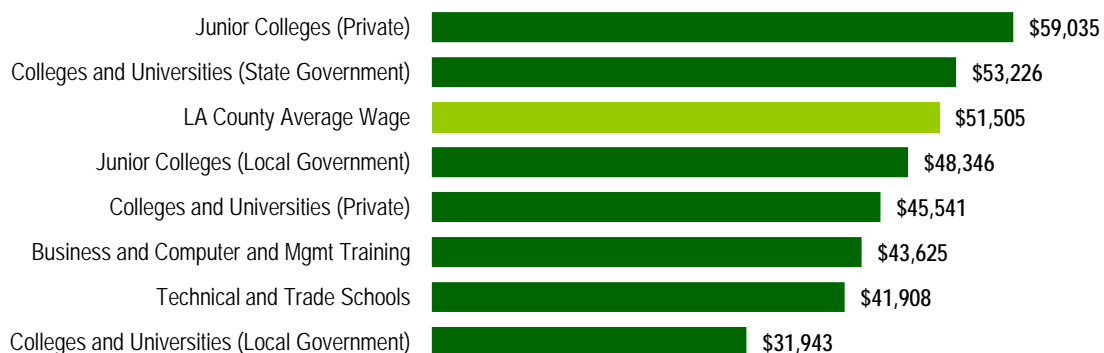


\$12.9 Billion
1.4% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Higher Education

SASSFA SDA (2008)

Establishments



15
0.2% of total

Employment



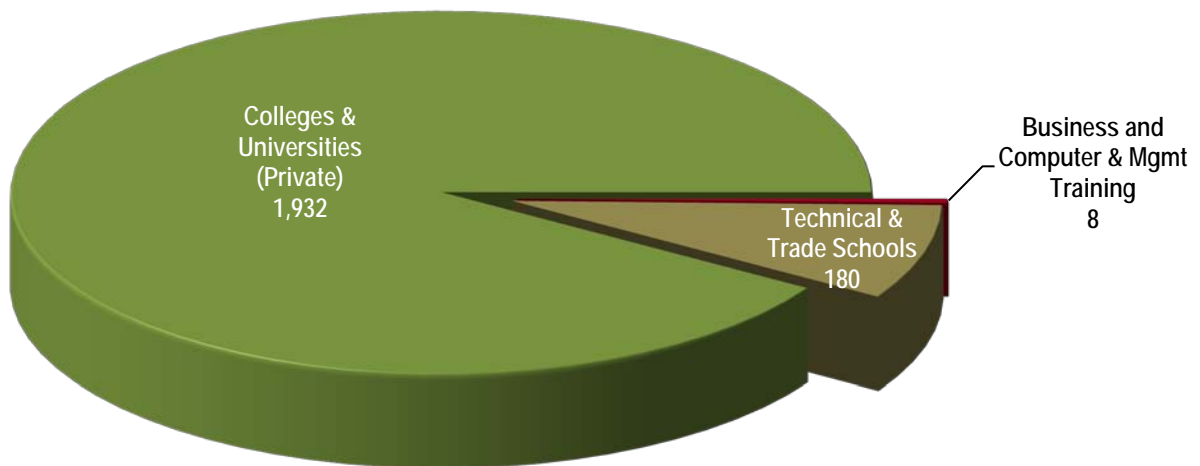
2,120 Jobs
1.6% of total

Output



\$743 Million
2.5% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Materials and Machinery

Los Angeles County (2008)

Establishments



5,086
1.2% of total

Employment



120,320 Jobs
2.9% of total

Annual Payroll



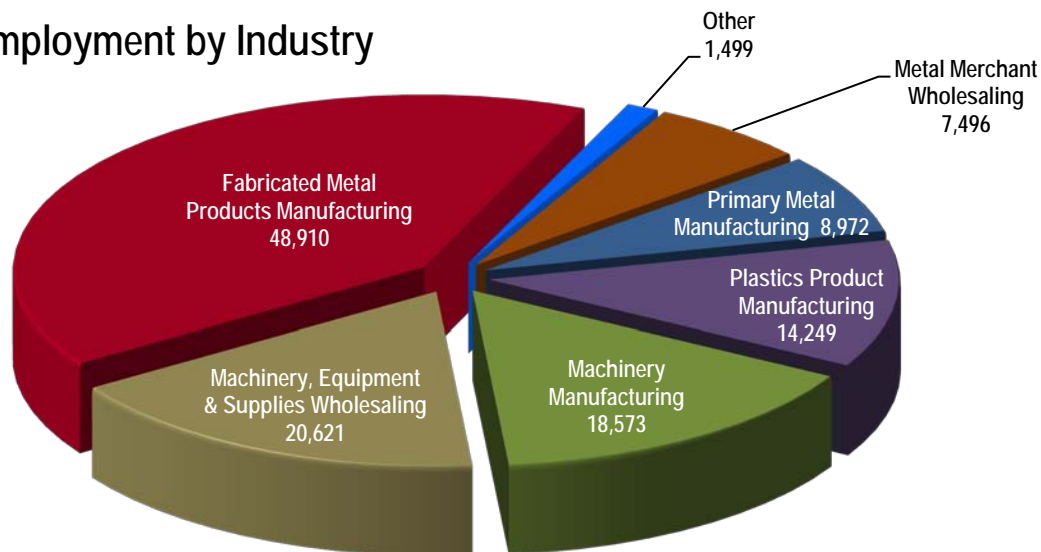
\$6,329 Million
2.9% of total

Output

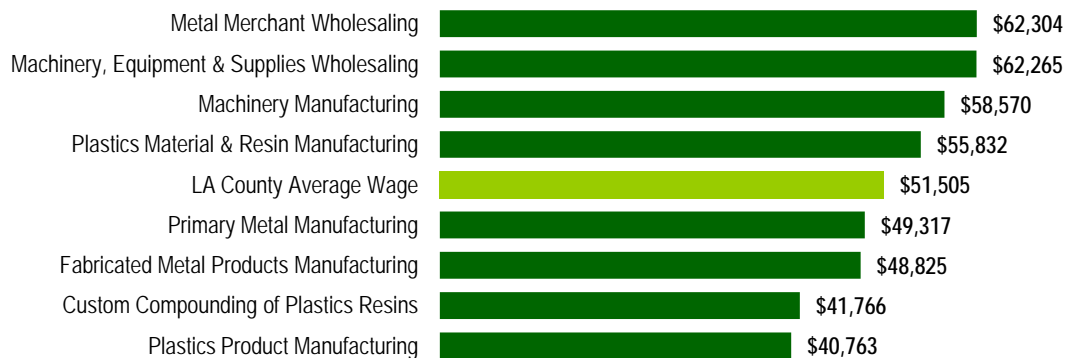


\$35.1 Billion
3.7% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Materials and Machinery

SASSFA SDA (2008)

Establishments



598
6.2% of total

Employment



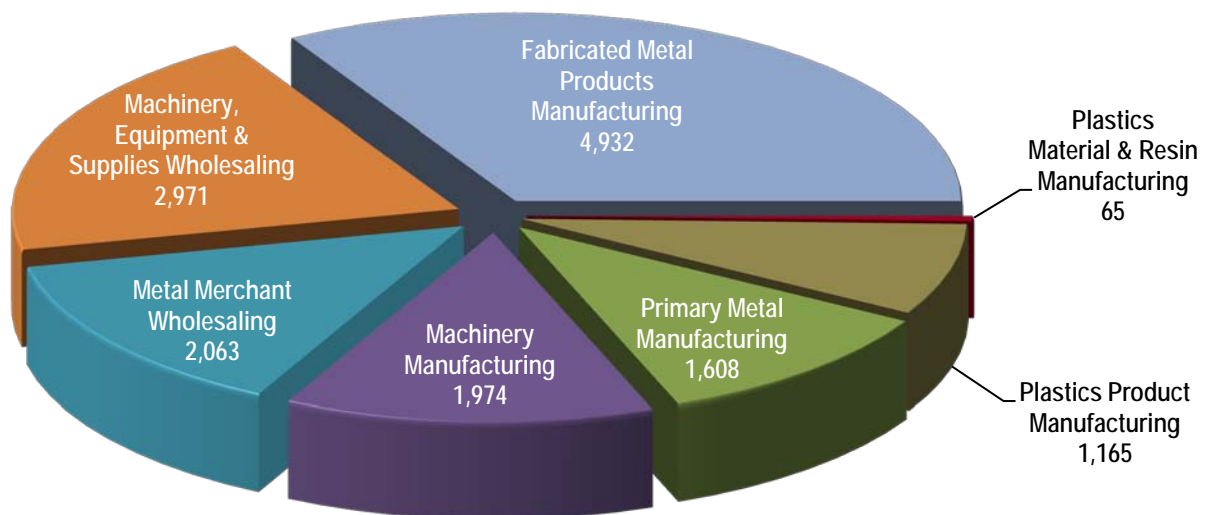
14,777 Jobs
11.1% of total

Output



\$3,802 Million
13.0% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Goods Movement

Los Angeles County (2008)

Establishments



3,385
0.8% of total

Employment



115,181 Jobs
2.8% of total

Annual Payroll



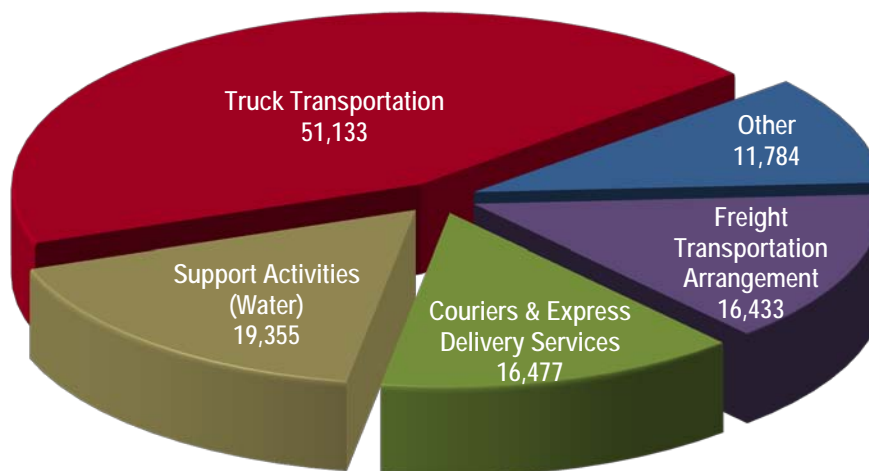
\$6,093 Million
2.8% of total

Output

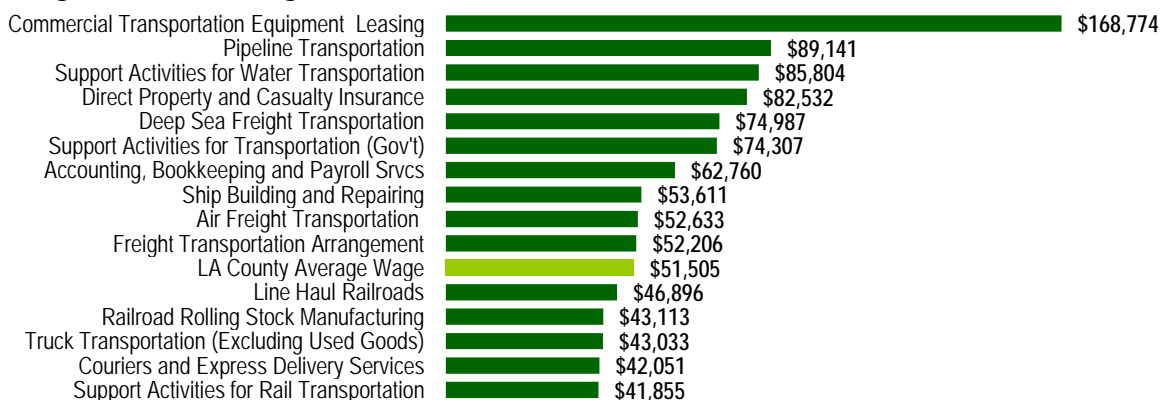


\$16.8 Billion
1.8% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Goods Movement

SASSFA SDA (2008)

Establishments



170
1.7% of total

Employment



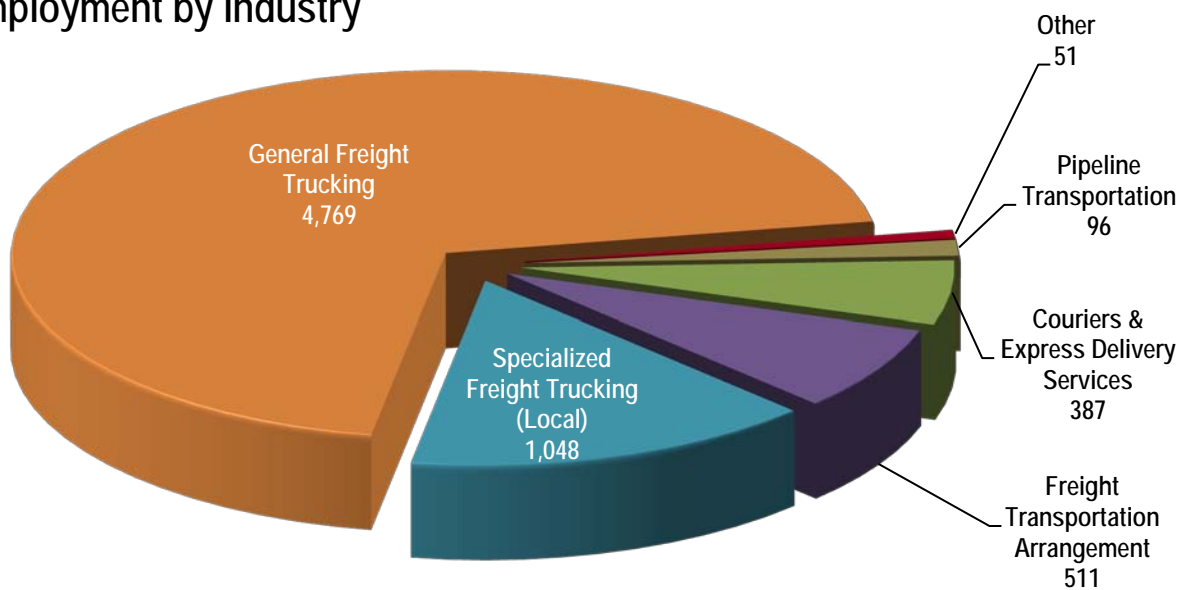
6,863 Jobs
5.1% of total

Output



\$1,020 Million
3.5% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Fashion Design, Manufacturing and Wholesaling

Los Angeles County (2008)

Establishments



5,831
1.4% of total

Employment



104,242 Jobs
2.5% of total

Annual Payroll



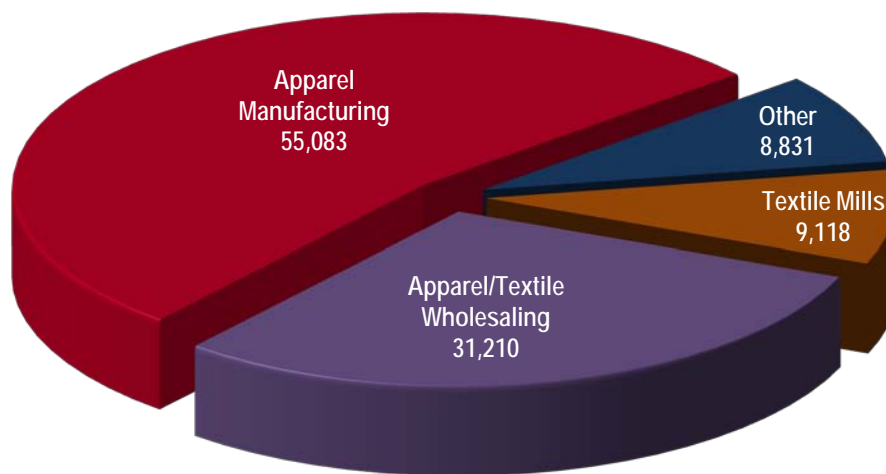
\$3,907 Million
1.8% of total

Output

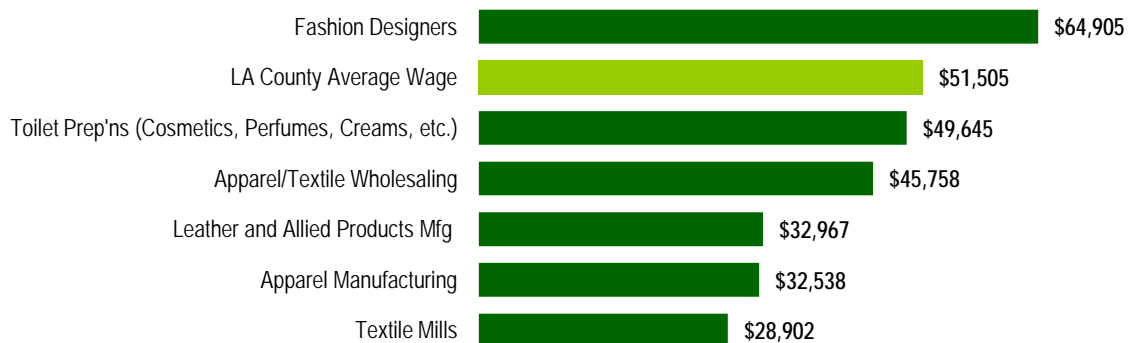


\$22.4 Billion
2.4% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Fashion Design, Manufacturing and Wholesaling

SASSFA SDA (2008)

Establishments



124

1.3% of total

Employment



2,051 Jobs

1.5% of total

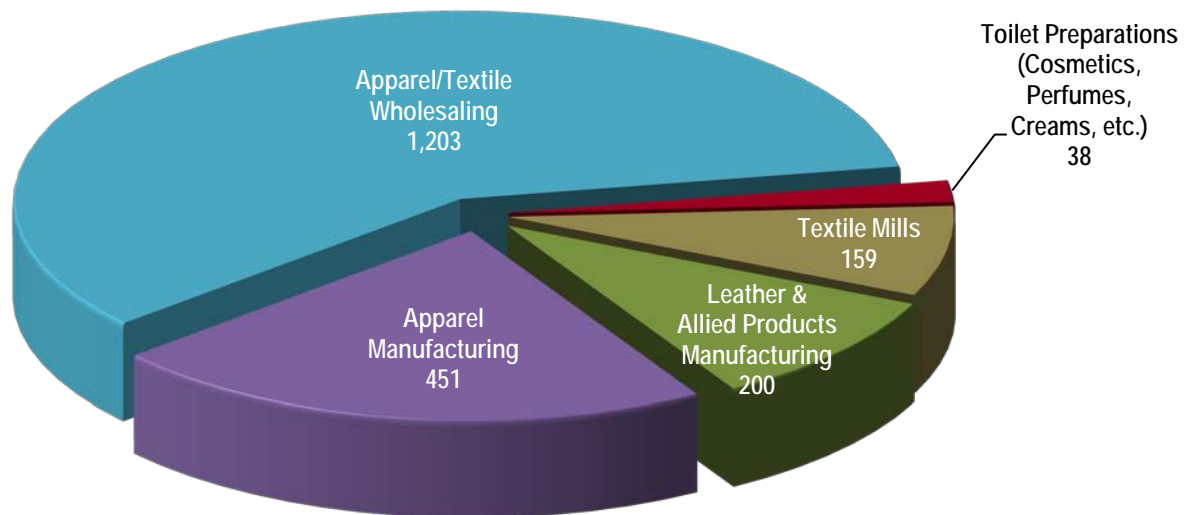
Output



\$623 Million

2.1% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Financial Services

Los Angeles County (2008)

Establishments



8,024
1.9% of total

Employment



103,981 Jobs
2.5% of total

Annual Payroll



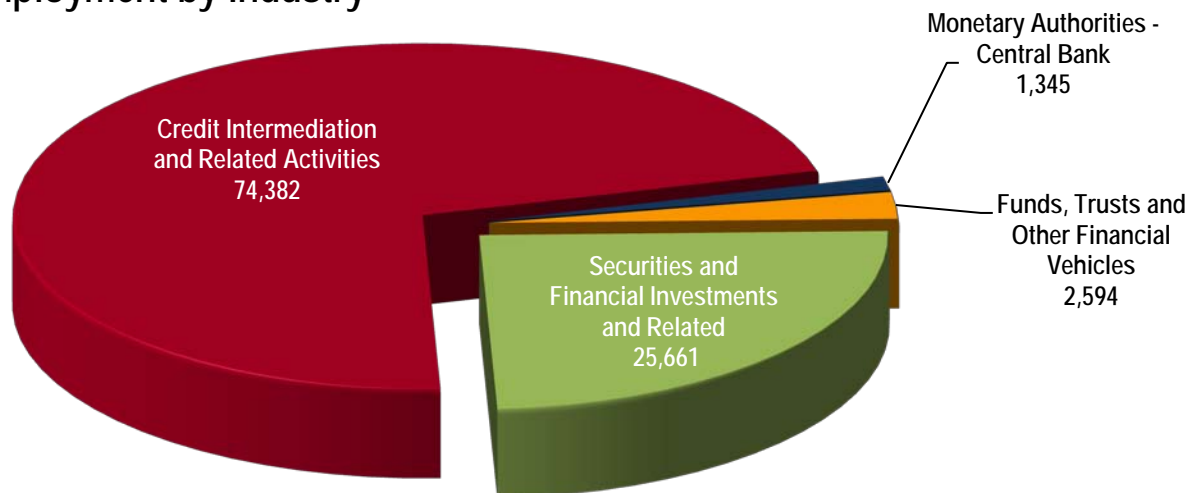
\$10,699 Million
5.0% of total

Output

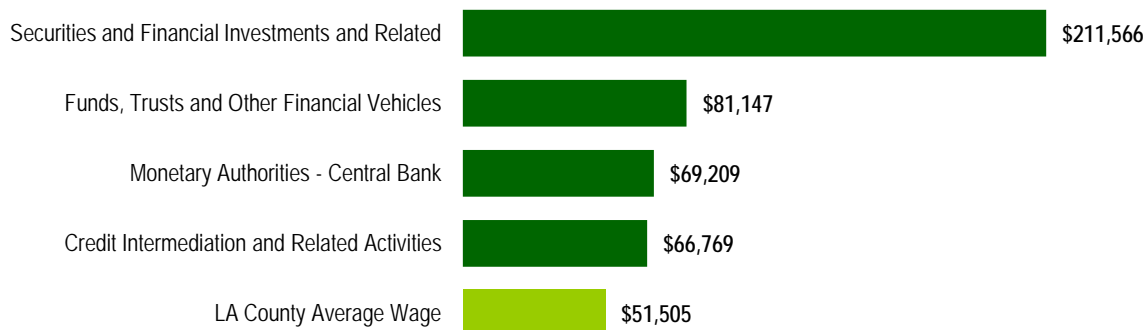


\$41.1 Billion
4.3% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Financial Services

SASSFA SDA (2008)

Establishments



158
1.6% of total

Employment



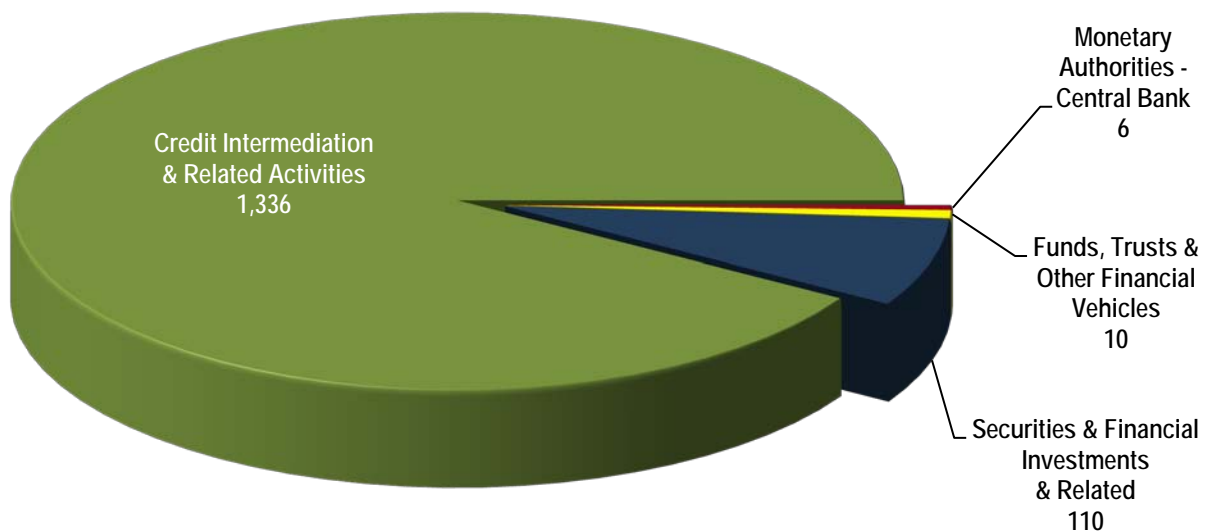
1,462 Jobs
1.1% of total

Output



\$542 Million
1.8% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Tourism and Hospitality

Los Angeles County (2008)

Establishments



2,918
0.7% of total

Employment



84,435 Jobs
2.0% of total

Annual Payroll



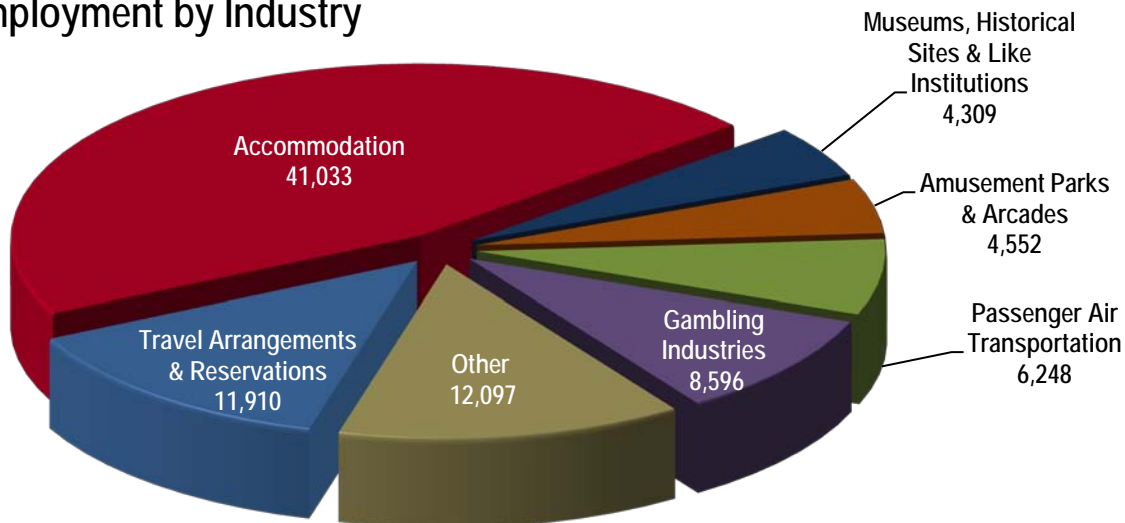
\$3,075 Million
1.4% of total

Output

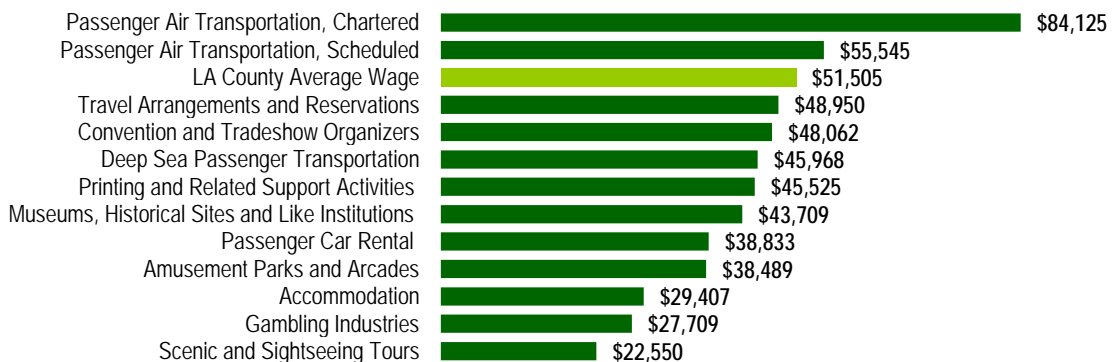


\$15.7 Billion
1.6% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Tourism and Hospitality

SASSFA SDA (2008)

Establishments



40
0.4% of total

Employment



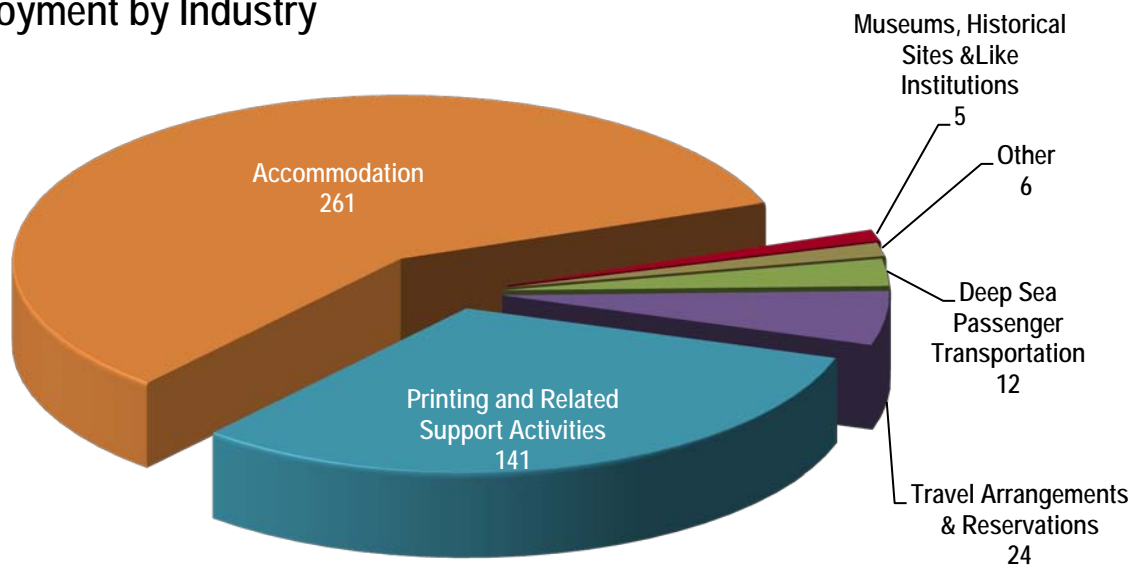
449 Jobs
0.3% of total

Output



\$222 Million
0.8% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Food Products

Los Angeles County (2008)

Establishments



1,800
0.4% of total

Employment



63,588 Jobs
1.5% of total

Annual Payroll



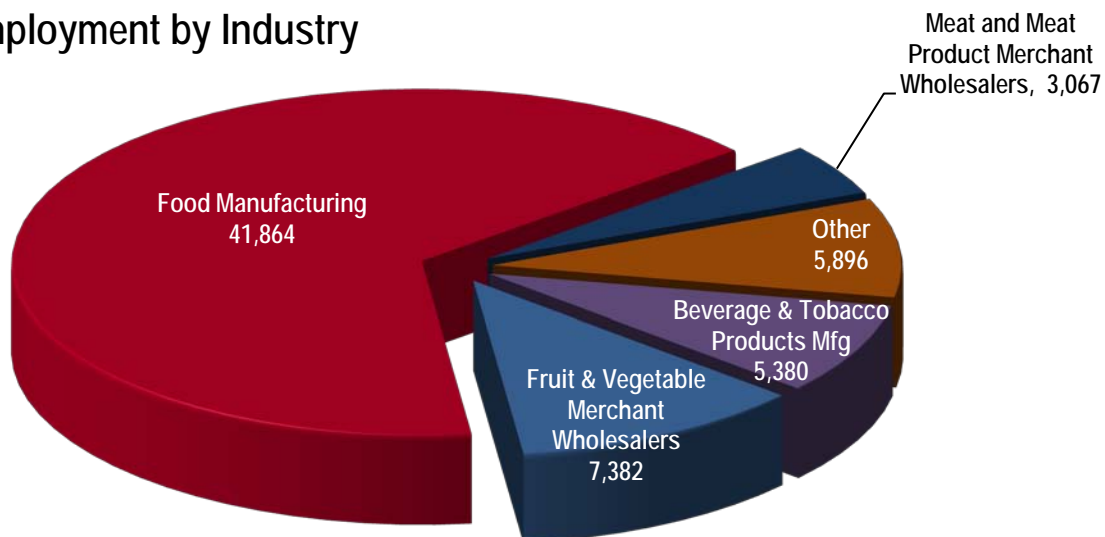
\$2,806 Million
1.3% of total

Output

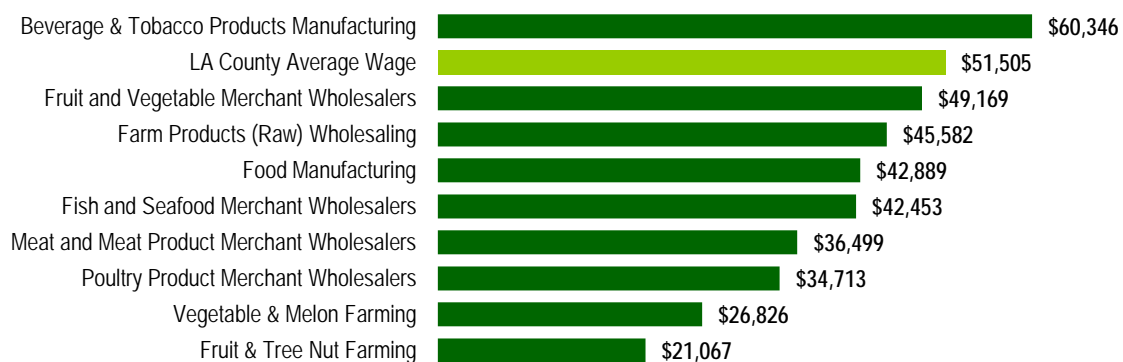


\$27.2 Billion
2.9% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Food Products

SASSFA SDA (2008)

Establishments



49
0.5% of total

Employment



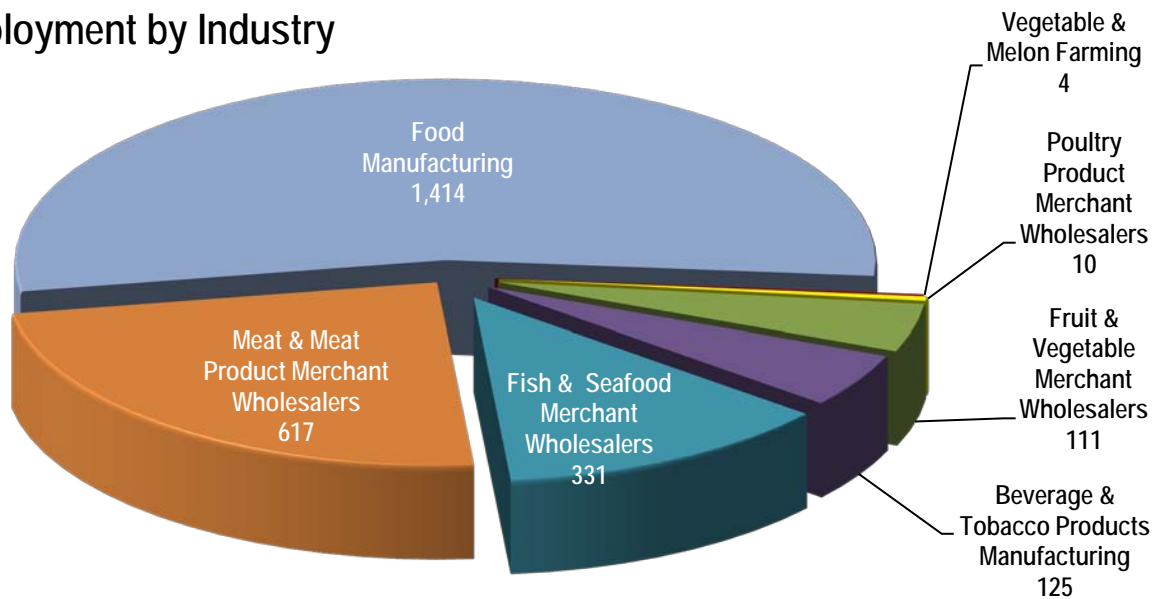
2,654 Jobs
2.0% of total

Output



\$900 Million
3.1% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Furniture and Home Furnishings

Los Angeles County (2008)

Establishments



1,715
0.4% of total

Employment



35,711 Jobs
0.9% of total

Annual Payroll



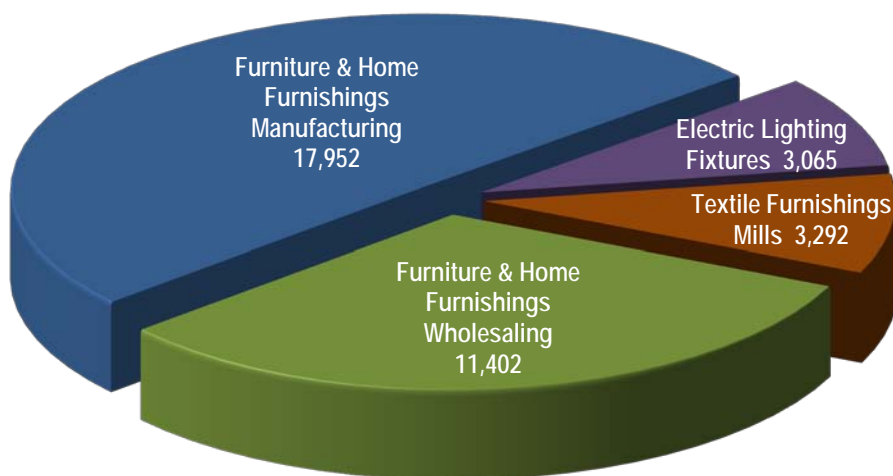
\$1,441 Million
0.7% of total

Output

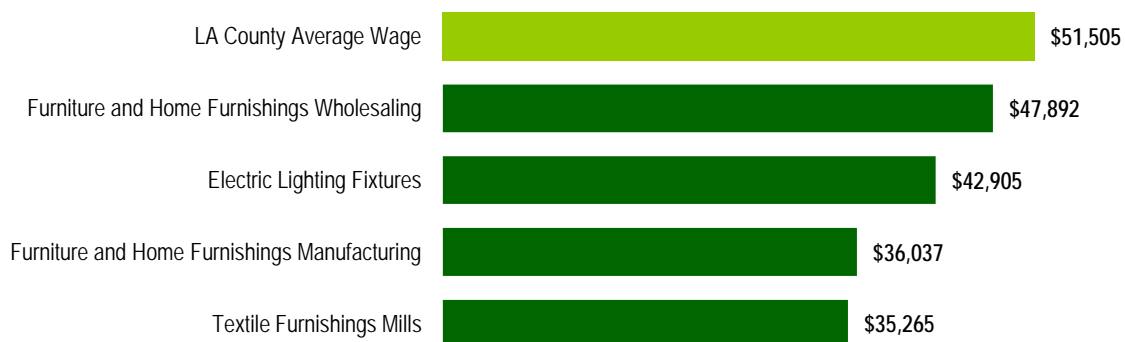


\$7.3 Billion
0.8% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Furniture and Home Furnishings

SASSFA SDA (2008)

Establishments



116
1.2% of total

Employment



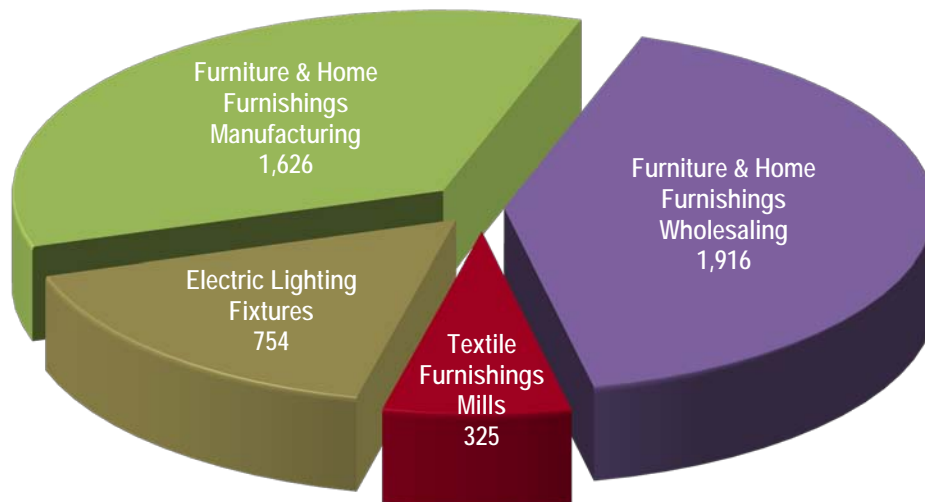
4,579 Jobs
3.4% of total

Output



\$827 Million
2.8% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Automotive Manufacturing and Wholesaling

Los Angeles County (2008)

Establishments



1,109
0.3% of total

Employment



22,681 Jobs
0.5% of total

Annual Payroll



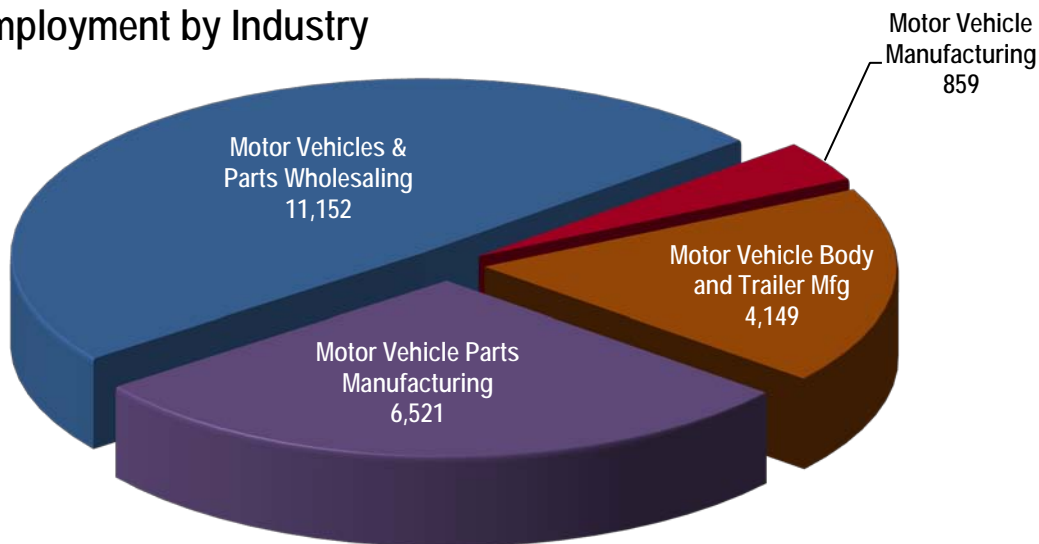
\$1,314 Million
0.6% of total

Output



\$7.4 Billion
0.8% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Automotive Manufacturing and Wholesaling

SASSFA SDA (2008)

Establishments



94
1.0% of total

Employment



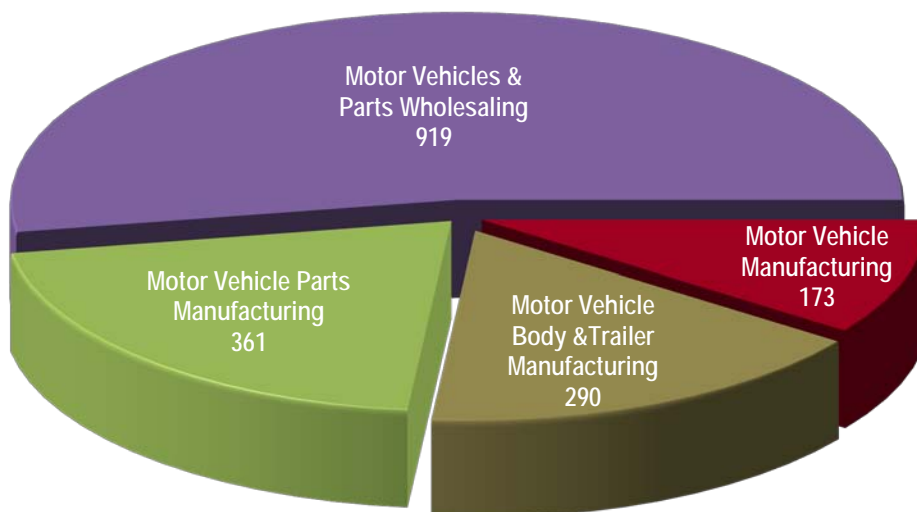
1,743 Jobs
1.3% of total

Output



\$1,148 Million
3.9% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Jewelry Manufacturing and Wholesaling

Los Angeles County (2008)

Establishments



1,070
0.3% of total

Employment



6,562 Jobs
0.2% of total

Annual Payroll



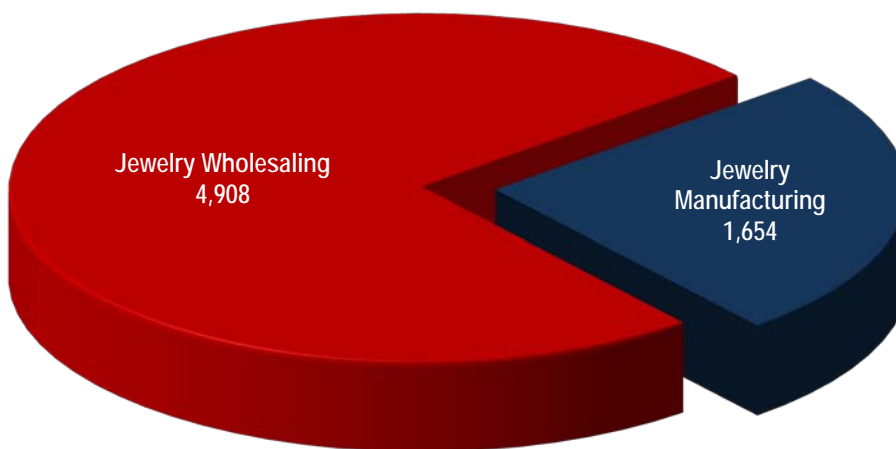
\$281 Million
0.1% of total

Output



\$1.0 Billion
0.1% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Jewelry Manufacturing and Wholesaling

SASSFA SDA (2008)

Establishments



5
0.1% of total

Employment



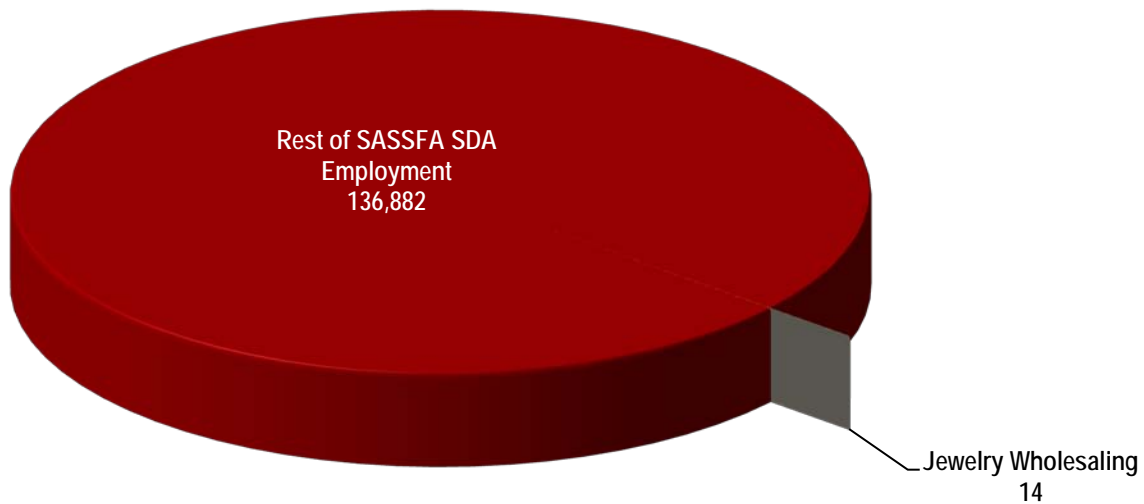
14 Jobs
0.0% of total

Output



\$97 Million
0.3% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Retail Trade

Los Angeles County (2008)

Establishments



27,295
6.5% of total

Employment



418,294 Jobs
10.0% of total

Annual Payroll



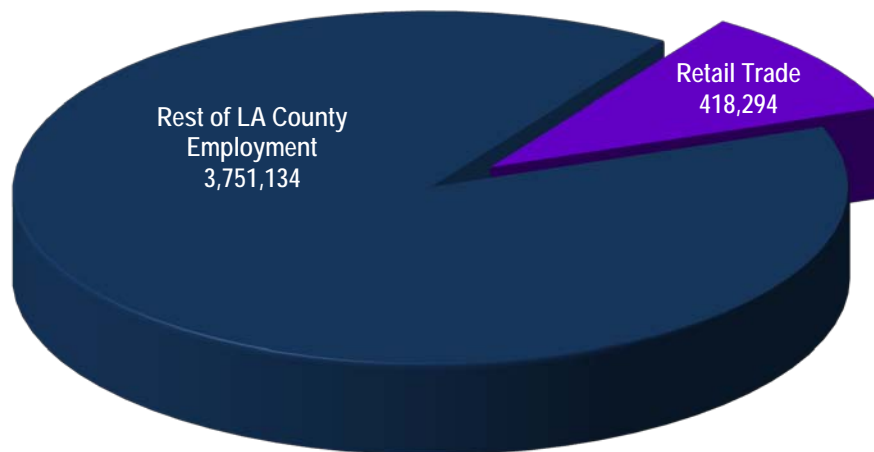
\$12,795 Million
6.0% of total

Output



\$44.9 Billion
4.7% of total

Employment by Industry



Average Annual Wages

LA County Average Wage



\$51,505

Retail Trade



\$30,589

Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Retail Trade

SASSFA SDA (2008)

Establishments



713

7.3% of total

Employment



10,818 Jobs

8.1% of total

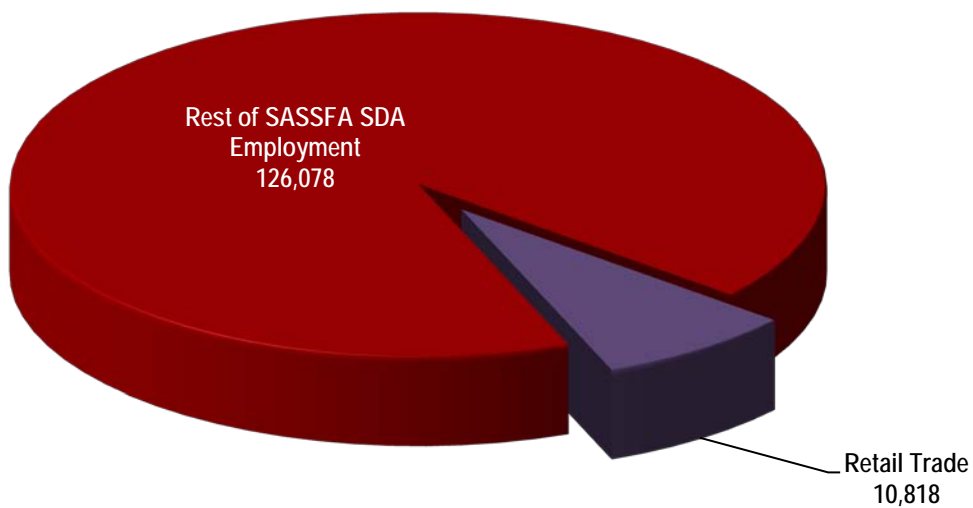
Output



\$1,356 Million

4.6% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Food Services and Drinking Places

Los Angeles County (2008)

Establishments



16,153
3.8% of total

Employment



287,049 Jobs
6.9% of total

Annual Payroll



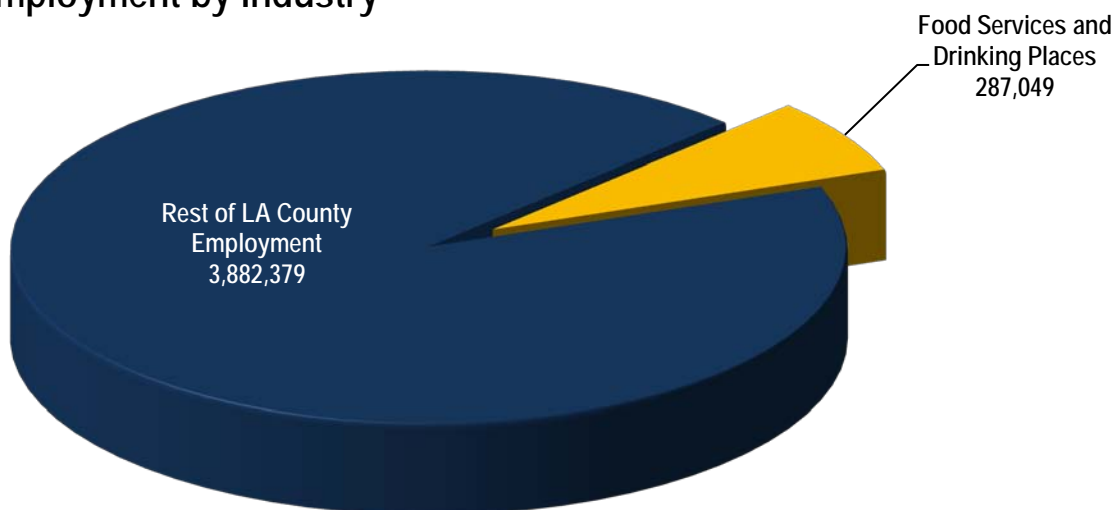
\$5,166 Million
2.4% of total

Output

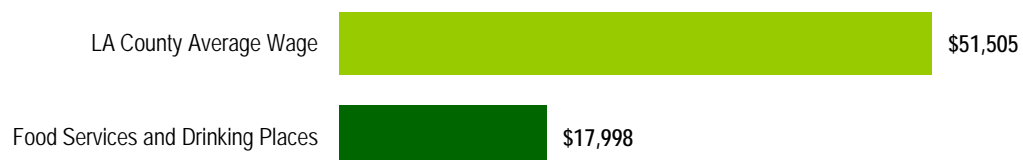


\$20.6 Billion
2.2% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Food Services and Drinking Places

SASSFA SDA (2008)

Establishments



423
4.4% of total

Employment



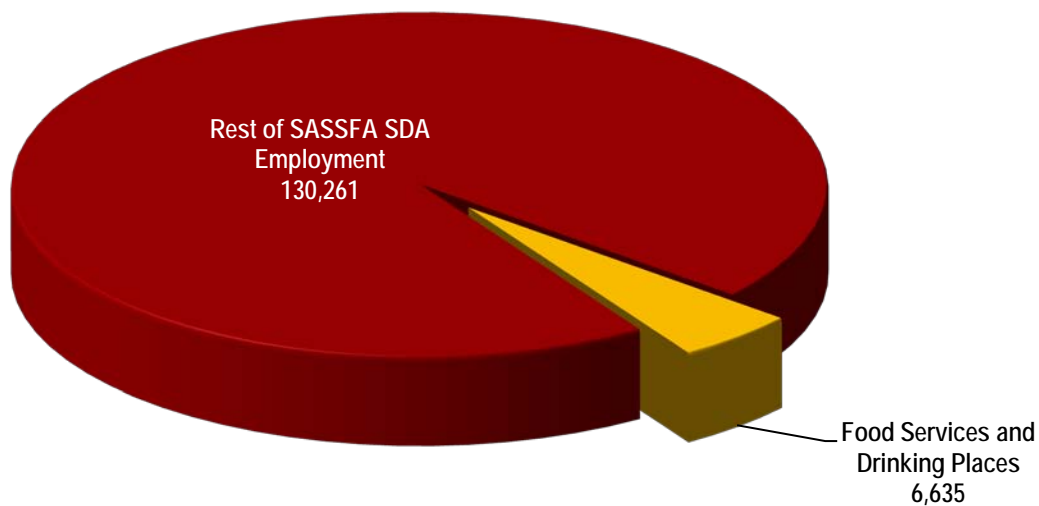
6,635 Jobs
5.0% of total

Output



\$573 Million
2.0% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Construction

Los Angeles County (2008)

Establishments



13,877

3.3% of total

Employment



145,660 Jobs

3.5% of total

Annual Payroll



\$7,739 Million

3.6% of total

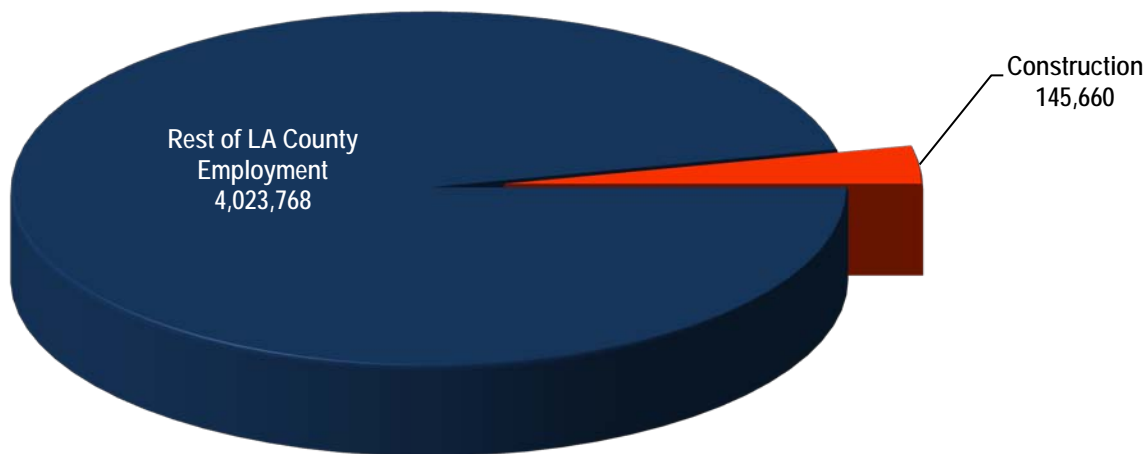
Output



\$32.9 Billion

3.4% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Construction

SASSFA SDA (2008)

Establishments



542
5.6% of total

Employment



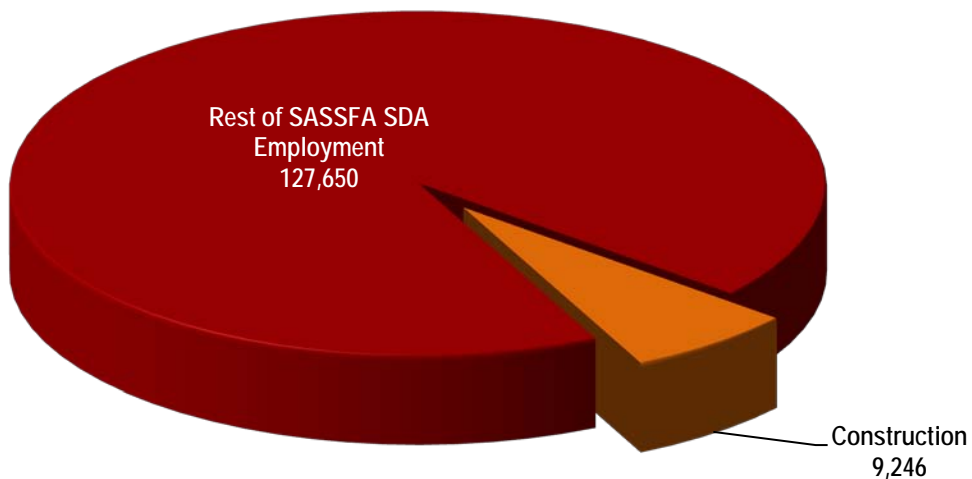
9,246 Jobs
6.9% of total

Output



\$1,715 Million
5.8% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Real Estate

Los Angeles County (2008)

Establishments



10,217
2.4% of total

Employment



54,194 Jobs
1.3% of total

Annual Payroll



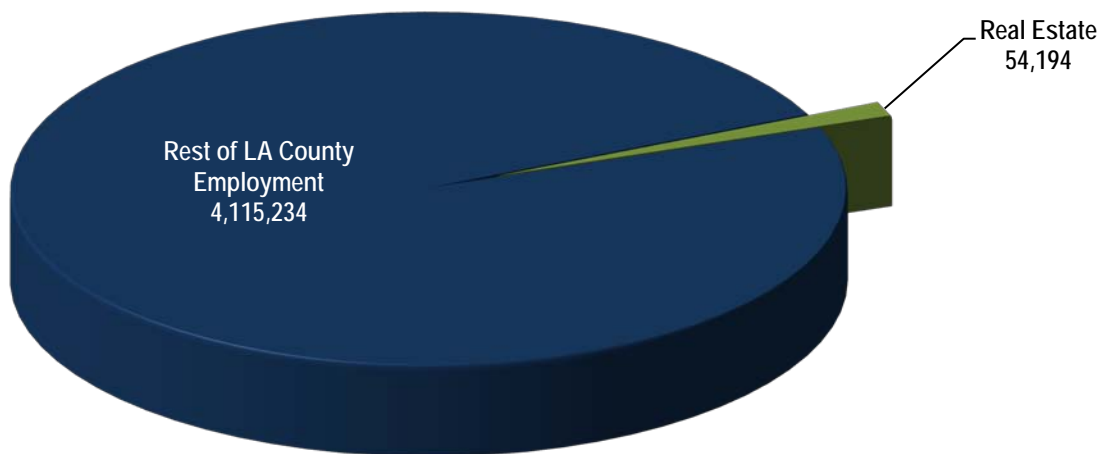
\$3,001 Million
1.4% of total

Output



\$52.1 Billion
5.5% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Real Estate

SASSFA SDA (2008)

Establishments



187
1.9% of total

Employment



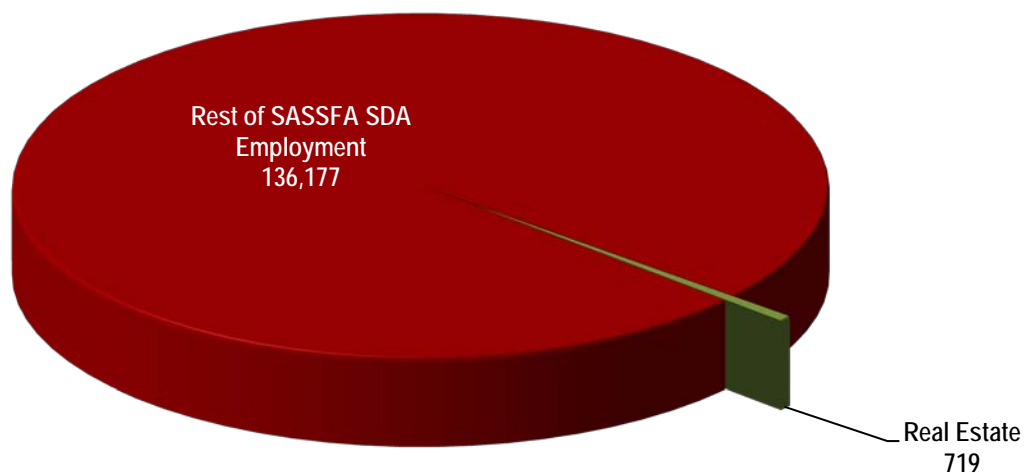
719 Jobs
0.5% of total

Output



\$996 Million
3.4% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Repair and Maintenance

Los Angeles County (2008)

Establishments



6,151
1.5% of total

Employment



40,936 Jobs
1.0% of total

Annual Payroll



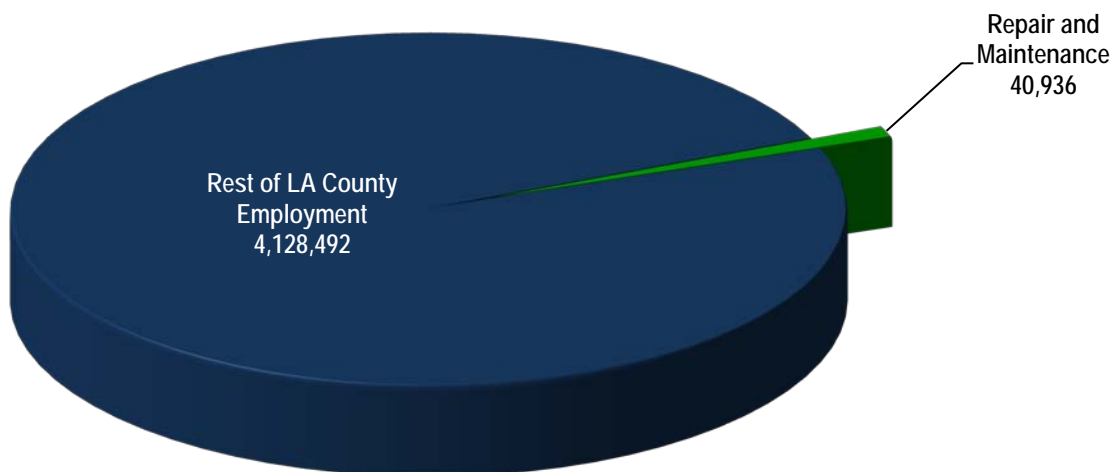
\$1,351 Million
0.6% of total

Output



\$9.6 Billion
1.0% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Repair and Maintenance

SASSFA SDA (2008)

Establishments



259
2.7% of total

Employment



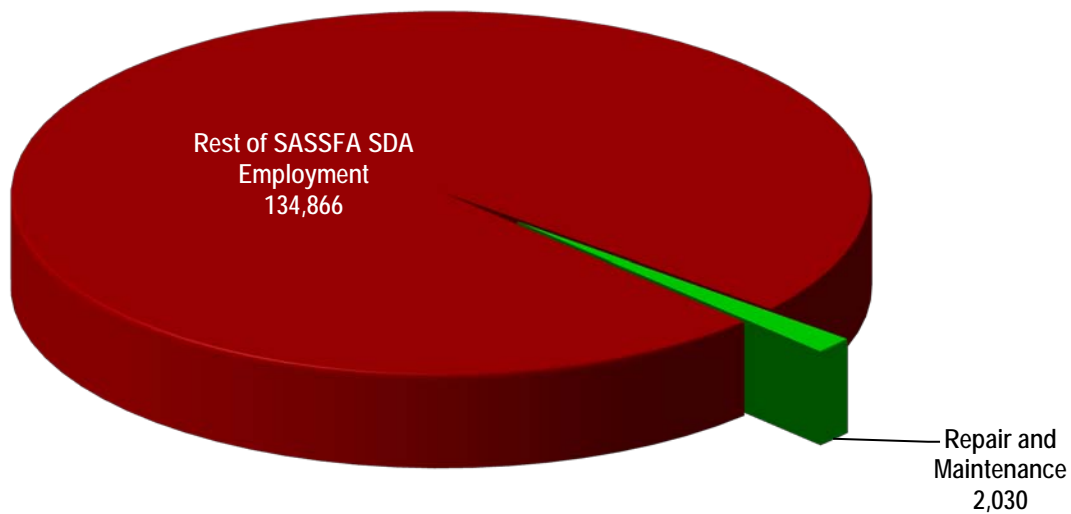
2,030 Jobs
1.5% of total

Output



\$597 Million
2.0% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Waste Management and Remediation Services

Los Angeles County (2008)

Establishments



350
0.1% of total

Employment



9,013 Jobs
0.2% of total

Annual Payroll



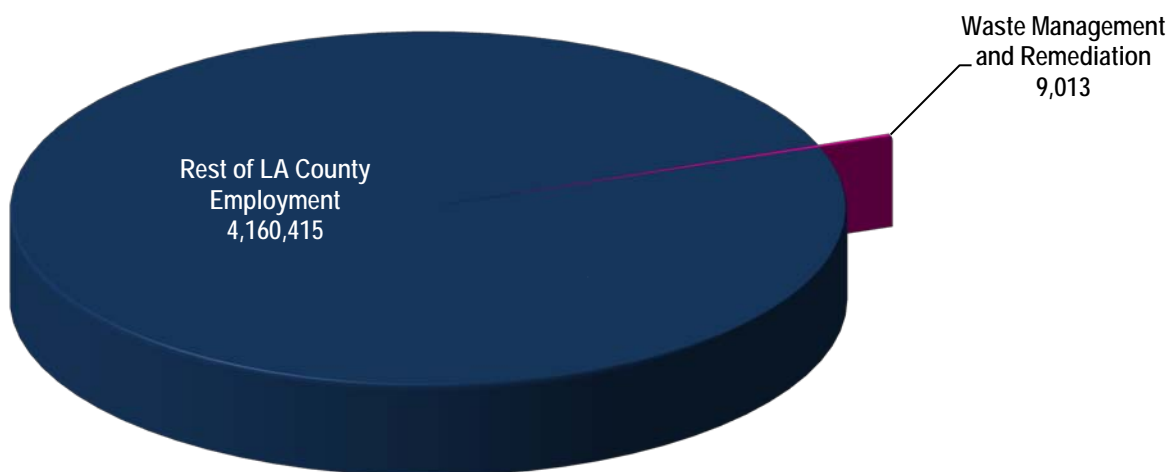
\$467 Million
0.2% of total

Output



\$1.9 Billion
0.2% of total

Employment by Industry



Average Annual Wages



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

Waste Management and Remediation Services

SASSFA SDA (2008)

Establishments



23
0.2% of total

Employment



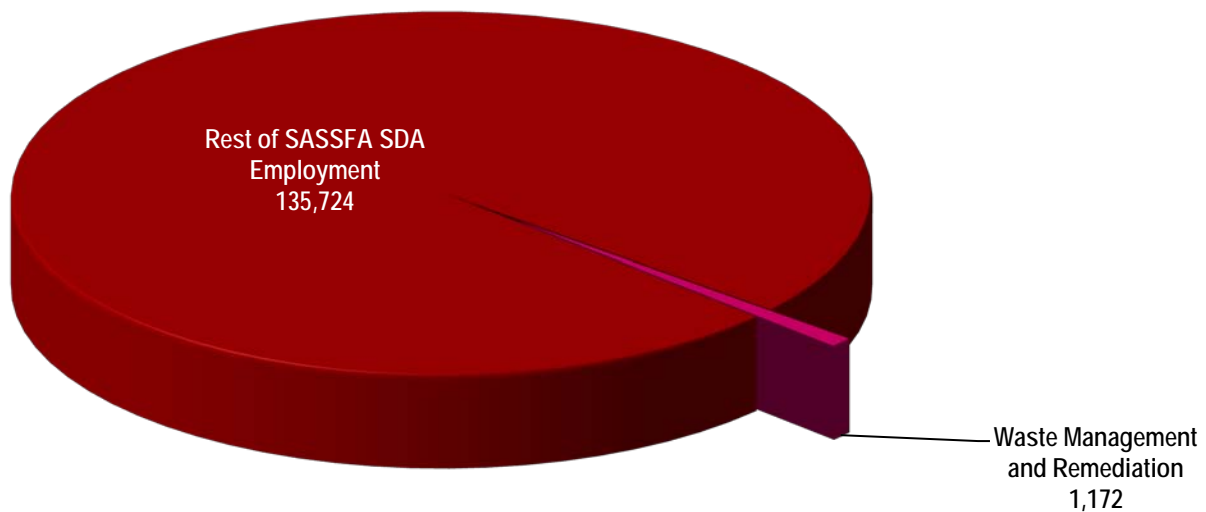
1,172 Jobs
0.9% of total

Output



\$249 Million
0.9% of total

Employment by Industry



Sources: CA EDD; Minnesota IMPLAN Group, Inc.; LAEDC

In this section, we present population and employment projections for Los Angeles County. We begin by reviewing overall demographic trends at the national, state and county levels, and then turn to employment forecasts at the sector level as well as by detailed industry. Using these projections, we present job creation potentials for the county and for the SASSFA SDA, and discuss the presence of county industry employment in the SASSFA SDA.

There are several sources of information on demographics and industry employment trends, including the U.S. Bureau of Labor Statistics (BLS), the Demographic Research Unit of the California Department of Finance, and the California Employment Development Department's Labor Market Information Division (LMID). We also reviewed industry employment estimates obtained from Moody's Economy.com and incorporated these into our own forecast.

We begin with a review of the key demographic trends affecting the growth of the labor force. Since the size of the labor force is the ultimate limiting factor in future output growth, this key variable lays the foundation for our long-term employment projections. Thereafter, we look at the most recently published annual industry employment projections for Los Angeles County.

Population and Demographic Trends

Labor force projections depend upon two variables: population growth and labor force participation rates. Population growth is a function of the natural increase in population (the number of natural births less the number of deaths) and net migration (the number of in-migrants less those migrating out). At the state level, natural population increases account for at least 90 percent of total population growth.

With an average annual growth rate of 1.1 percent over the 2005 to 2015 period, the working-age population in California is projected to reach 27.7 million in 2015.¹ This growth rate has been slowing and is expected to continue falling in spite of increased net migration, from an average annual rate of 1.4 percent during the period 2005 to 2010 to 0.8 percent during the period 2010 to 2015. See Exhibit 3-1 for these projections.

¹ The working-age population includes all persons aged 15 to 64 years.

These rates are somewhat higher than those at the national level. The average annual growth rate in the national labor force was 0.9 percent from 2000 to 2005 and is projected to be 0.6 percent from 2005 to 2050.² The higher trend rates in California are partly due to the larger population share of Hispanics, who tend to have higher population growth rates than other racial or ethnic groups.^{3,4}

Exhibit 3-1 Population Projections (2005 to 2015)			
	2005	2010	2015
Total Population:			
California	36,957,436	39,135,676	41,572,952
Los Angeles County	10,216,326	10,514,563	10,839,873
Working-Age Population:			
California	24,728,749	26,524,408	27,668,406
Los Angeles County	6,752,178	7,152,752	7,329,613

Source: California Department of Finance, Demographic Research Unit
Working-age population = all persons aged 15 to 64 years

In Los Angeles County, there has been negative net migration since 2005, meaning more of the region's population has been migrating out of the county than has arrived. The natural population increase has more than offset this loss of population, but overall growth is slower than at the state level, averaging 0.6 percent annually during 2005-2010 and 2010-2015. By 2015, the working-age population in Los Angeles County is projected to exceed 7.3 million.

This pattern of a slowdown in the growth of working-age population reflects the large-scale demographic shift underway as the baby-boom generation, born between 1946 and 1964, ascends the age ladder and exits the workforce.

Much of the difference in the county-level trend compared to national and statewide trends can be understood by considering migration patterns and examining population compositions. At the state level, the population aged 30 to 39 years has declined during the

² BLS *Monthly Labor Review* (11/06) "A new look at long-term labor force projections to 2050." The comparison is not precise as the California estimate includes the entire population within the age bracket, while the national estimates are based on labor force growth (the labor force includes only the civilian, non-institutional population aged 16 years and older). Still, the two growth rates are approximately comparable. We compare labor force growth rates directly on the following page.

³ According to the BLS, the share of Hispanics in the US labor force was 13.7 percent in 2006. In California, 33.3 percent of the working-age population in 2005 was Hispanic, and is projected to be 36.3 percent in 2010 and 39.3 percent in 2015 (California Department of Finance Demographic Research Unit 2007).

⁴ In California, the average annual population growth rate for Hispanics is projected to be 3.2 percent from 2005 to 2010 and 2.5 percent from 2010 to 2015. This is more than double the projected total population growth rates of 1.2 percent during each period.

2005 to 2010 period, as workers migrate out-of-state in search of better jobs following the bursting of the dot-com bubble and to follow construction jobs in neighboring states.

Exhibit 3-2 Population Projections (2005 to 2015) Average Annual Growth Rates (%)		
	2005-10	2010-15
Total Population:		
California	1.2	1.2
Los Angeles County	0.6	0.6
Working-Age Population:		
California	1.4	0.8
Los Angeles County	1.2	0.5

Source: California Department of Finance, Demographic Research Unit
Working-age population = all persons aged 15 to 64 years

In Los Angeles County, two age groups are expected to shrink over the same period due to out-migration into neighboring counties; one group includes persons aged 25 to 39 years and the other those aged 0 to 9 years. This is evidently a response of young families seeking the affordable housing that Los Angeles County lacks. The loss of these now-young workers and their children can be traced in the demographic projections for Los Angeles County past 2020, when the children reach working age. The loss of both parents and children from the current working-age population results in Los Angeles County experiencing a fall in its working-age population past 2020.

Working-Age Population versus Labor Force

Not everyone in the working-age population will be labor force participants. The discussion above has reviewed the demographics of California and Los Angeles County, but employment and employment growth are based on labor force growth, which is a consequence of both changes in population and in labor force participation rates.⁵

Participation rates are influenced by a number of factors, and differ by age, racial and ethnic composition and gender. For example, the participation rates of older workers (aged 55 and over), while lower than average, has been rising since 1980. The Bureau of Labor Statistics (BLS) mentions several factors behind this increase, but the most important one is the sheer number of baby-boomers reaching this age group.

⁵ The labor force participation rate of a group is the percent of group members who are either working or unemployed and seeking a new job.

It is also worth noting that the participation rates of younger workers, especially men aged 16-19 years, have been declining since 1990 and should continue to decline as school enrollment rates improve.

Thus the overall participation rate in the United States is projected to decline from 66.0 percent in 2008 to 64.5 percent in 2018 and to 60.4 in 2050.⁶ The overall decline is due to the aging of the population; the relatively small size of the baby-bust generation; and lower participation rates for the youngest working-age groups.

The share of older workers in the labor force is expected to continue increasing as future boomers remain longer in the labor force. Consequently, the share of prime-aged workers (24-54) will decrease until 2020, as boomers retire and leave the labor force. The BLS notes that two groups, older and younger workers, hold the most potential to increase their participation rates; they may therefore hold the key to increased growth in the labor force in the future. Given the importance of labor force growth to long-term economic growth, projections of the participation rates of these groups (and in particular that of older workers) will have the largest impact on our projections for economic activity in the region.

Exhibit 3-3 Labor Force (1995-2005) Average Annual Growth Rates (%)			
	1995-2000	2000-2005	1995-2005
United States	1.5	0.9	1.2
California	2.0	0.9	1.5
Los Angeles County	1.8	0.6	1.2

Source: Bureau of Labor Statistics

In California, labor force growth was 2.0 percent between 1995 and 2000, slowing to 0.9 percent from 2000 to 2005. These rates were slightly higher than the national rates of 1.5 percent and 0.9 percent. In Los Angeles County, the average annual growth rate in the labor force was 1.8 percent from 1995 to 2000, falling to 0.6 percent from 2000 to 2005.

Labor force participation rates fell during the recession as discouraged workers and previously marginally-attached workers left the labor force. As the economy improves, these workers will return to the labor force. From the trends discussed above, the general slowing in the growth of the labor force in Los Angeles County will be mediated by an increase early in the recovery period, but it will continue until 2015 coincident with the underlying demographic shift. Thereafter, the pace of growth will increase slowly.

⁶ BLS *Monthly Labor Review* (11/06), *ibid.*, and *Monthly Labor Review* (11/09), "Labor force projections to 2018: older workers staying more active."

Projections of Industry Employment

The recession that began in December of 2007 appears to be over. The BLS projects the national economy returning to a path of long-run growth with average output growth projected at 2.4 percent.⁷ The long-run trend is based primarily on labor force dynamics and slowing productivity growth; however, the recovery period in the short-run is expected to be more robust as the economy compensates for the steep declines in 2008 and 2009.

Employment in consumer-related markets, as well as residential construction, financial services and durable goods manufacturing, will continue to be challenged through mid-2010. Tight credit and high unemployment negatively impact both consumer and business spending, and both goods-producing and service-providing sectors. Weak housing demand will limit new housing starts, and high unemployment will dampen demand for consumer goods. Employment conditions are not expected to improve until mid-2010.

In this section, we present industry employment projections for Los Angeles County. Current and historical data on employment are presented to provide context for the roadmap forward. The most recent data available covers the year 2008. With continuing employment declines into 2009, we instead look forward past the turning point in the economy and base our projections on the five-year period from 2010 to 2015.

The National Outlook

Long-term industry employment projections reflect the historical shift in the United States from goods-producing sectors to service-providing sectors.⁸ Slower growth in productivity and slower labor force growth will contribute to declines in overall growth of employment and output. At the national level, the BLS estimates that employment will grow at an average 1.0 percent annual rate over the 2008 to 2018 decade, compared to the 0.7 percent average rate of the previous decade.⁹

Nearly all employment growth will occur in the service-providing sectors, particularly health care and social assistance, educational services, and professional and business services. Growth in health care and social assistance is driven largely by expected demographic changes and advances in medical technology. Much of the employment growth in

⁷ *Monthly Labor Review* (11/09), “The U.S. economy to 2018: from recession to recovery.” We provide the outlook for the national level produced by the BLS. This is the most recent outlook, covering the ten-year period from 2008 through 2018, which does not precisely match our forecast period for Los Angeles County. However, the comments are nevertheless useful to provide a context for our regional projections.

⁸ The share of employment in service-providing sectors grew from 72.8 percent in 1998 to 77.2 percent in 2008 and is projected to reach 78.8 percent in 2018. The goods-producing sector share was 17.3 percent in 1998, 14.2 percent in 2008 and is projected to be 12.9 percent in 2018. The share of agriculture, forestry, fishing and hunting declined from 1.8 percent in 1998 to 1.4 percent in 2008 and is projected to fall to 1.2 percent in 2018.

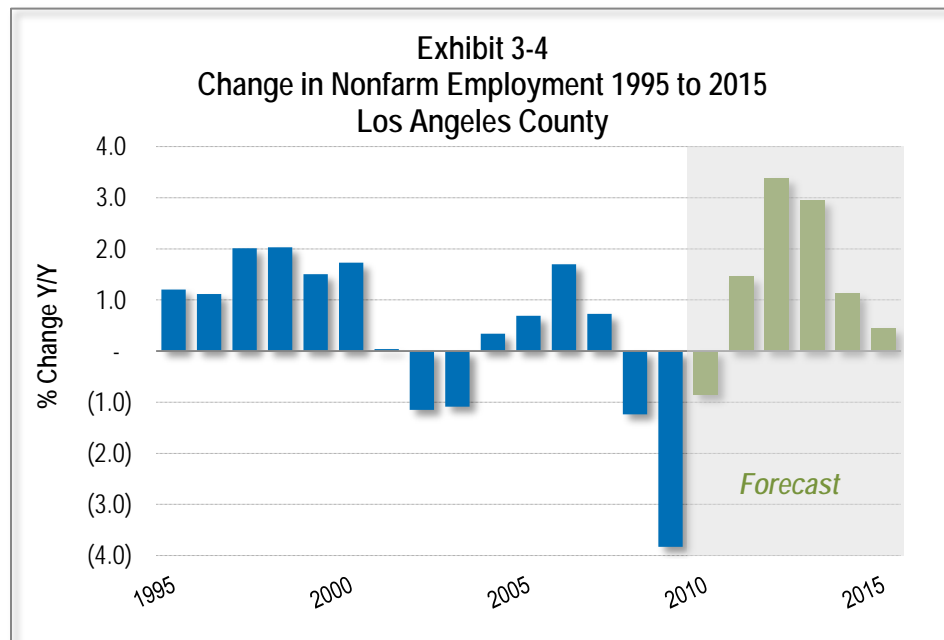
⁹ BLS *Monthly Labor Review* (11/09), “Industry output and employment projections to 2018.”

professional and business services will be due to continued demand for advice on the implementation of new technologies and compliance with tax and environment regulations, as well as firms' increased outsourcing of business activities.

At the national level, construction is the only goods-producing industry projected to see employment growth from 2008 to 2018. Manufacturing employment will fall by 0.9 percent annually, with 69 of the 84 manufacturing industries expected to see employment declines over the decade due to continuing labor-saving techniques. Goods-producing subsectors with the biggest projected employment declines at the national level are computer and electronic product manufacturing and transportation equipment manufacturing. Employment gains over the decade are projected for: construction, medical equipment and supplies manufacturing, and miscellaneous manufacturing.

Los Angeles County Forecast by Sector

The contour of our nonfarm employment forecast for Los Angeles County is shown in Exhibit 3-4, along with the county's historical growth performance since 1995.



Sources: California Employment Development Department; Moody's Economy.com; LAEDC

The shape of this forecast can be described as follows:

- The county's economy entered a severe recession in December of 2007, with an employment decline of 1.2 percent in 2008 and an estimated 3.8 percent decline in 2009. Employment is expected to continue to fall in early 2010 before recovering, with a year-over-year loss of 0.9 percent.

- Employment will recover in 2011 with a growth rate of 1.5 percent, and rebound with 3.4 percent growth in 2012 and 3.0 percent in 2013.
- After 2013, economic growth is forecast to continue positive but to decelerate from the rapid pace of the post-recession recovery period. In 2014, the forecast growth in employment is 1.1 percent, falling to 0.4 percent thereafter.
- Over the longer term, the economy in Los Angeles County is forecast to grow at its trend rate of approximately 0.5 percent.

Most industry sectors will follow this general contour of post-recession recovery followed by moderation. However, there are differences among industries that reflect their individual circumstances. Recovery strength in many cases is determined by the magnitude of the industry's decline during the recession. For example, employment in the construction sector fell by 7.9 percent in 2008 and 13 percent in 2009; its recovery in 2011 is forecast to be at 1.6 percent growth and 4.8 percent growth in 2012, much stronger than the average.

Exhibit 3-5 summarizes the industry forecast by sector over the forecast period and for three historical five-year periods. Broadly, Los Angeles County's economic growth over the forecast period will be powered by the post-recession recovery, led in large part by service-providing industries such as professional and business services, educational and health services, and leisure and hospitality, as well as by construction.

Exhibit 3-5 Employment Growth in Los Angeles County by Sector: History and Forecast				
Industry Sector	Annual Average Percent Change			
	1995-00	2000-05	2005-10 ¹	2010-15
Total Nonfarm Payroll	1.7	-0.2	-0.7	1.9
Goods Producing Industries	0.1	-3.5	-4.0	1.5
Natural Resources and Mining	-4.0	1.9	3.6	0.4
Construction	3.1	2.5	-3.9	2.6
Manufacturing - Durable Goods	-0.2	-5.1	-4.4	1.9
Manufacturing - Nondurable Goods	-0.8	-5.1	-3.8	0.3
Service Providing Industries	2.2	0.5	-0.2	2.2
Wholesale Trade	1.3	0.0	0.1	2.2
Retail Trade	1.6	1.1	-1.1	1.4
Transportation, Warehousing, Utilities	2.4	-1.5	-1.3	0.9
Information	5.0	-3.2	-0.8	0.9
Financial Activities	0.1	1.7	-1.4	1.7
Professional and Business Services	2.6	-0.4	-0.8	3.0
Educational and Health Services	2.3	2.5	1.9	2.7
Leisure and Hospitality	2.2	1.8	0.3	2.8
Other Services	1.3	0.6	-0.4	1.5
Government	1.6	0.1	0.2	0.6

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.
Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Service-providing industries are in aggregate expected to grow at an average annual rate of 2.2 percent between 2010 and 2015, higher than goods-producing industries which will grow at an average annual rate of 1.5 percent.

Looking at year-over-year growth in each sector outlines a more discrete picture of the expected employment growth patterns. The recovery period begins in 2010, where early losses will still outweigh gains experienced later in the year. All sectors will show employment gains by 2011, will grow in 2012 and stay strong into 2013. Thereafter, the recovery will moderate and employment growth will return toward its long term trend.

The year-over-year employment growth estimates are shown in Exhibit 3-6 and discussed below.

Exhibit 3-6 Annual Employment Growth Projections in Los Angeles County by Sector							
Industry Sector	2010	2011	2012	2013	2014	2015	2010-15
Total Nonfarm Payroll	-0.9	1.5	3.4	3.0	1.1	0.4	1.9
Goods Producing Industries	-3.7	0.8	3.4	2.8	0.6	-0.1	1.5
Natural Resources and Mining	2.2	1.6	1.6	0.8	-0.5	-1.7	0.4
Construction	-3.8	1.6	4.8	4.0	1.1	1.5	2.6
Manufacturing - Durable Goods	-4.9	0.8	3.8	3.4	1.3	0.0	1.9
Manufacturing - Nondurable Goods	-2.4	0.2	1.9	1.2	-0.5	-1.4	0.3
Service Providing Industries	-0.1	2.1	3.8	3.3	1.2	0.5	2.2
Wholesale Trade	0.9	2.9	3.5	3.0	1.3	0.5	2.2
Retail Trade	-1.9	1.4	2.7	2.4	0.7	-0.1	1.4
Transportation, Warehousing, Utilities	-0.8	1.8	2.9	1.0	-0.5	-0.7	0.9
Information	0.5	0.3	1.5	1.9	0.5	0.2	0.9
Financial Activities	0.8	0.7	3.0	3.5	1.1	0.1	1.7
Professional and Business Services	-0.4	2.6	5.9	4.8	1.4	0.6	3.0
Educational and Health Services	1.3	2.8	3.7	3.4	2.0	1.4	2.7
Leisure and Hospitality	-0.6	2.7	4.2	4.1	1.9	1.1	2.8
Other Services	-0.4	1.9	3.0	2.7	0.3	-0.5	1.5
Government	-1.8	-1.1	1.4	1.2	0.9	0.4	0.6

Sources: California Employment Development Department; Moody's Economy.com; LAEDC

- Employment growth in *natural resources and mining* industries is expected to be negative after moderate growth during the recovery period. Continued consumer preference shifts in the face of higher prices will reduce the longer term demand for oil, yielding an overall annual average growth of 0.4 percent from 2010 to 2015.
- *Construction* industry employment experienced severe declines through 2009 and will continue to decline overall in 2010, but is forecast to see robust growth early in the recovery period as housing inventory is restored, moderating thereafter to produce an overall annual average growth of 2.6 percent from 2010 through 2015.

- *Manufacturing* employment will continue its long-term decline in Los Angeles County but as an aggregate will show an average annual growth of 1.2 percent between 2010 and 2015. *Durable goods manufacturing* will see moderate to strong growth during the recovery period as a consequence of the construction boom. *Nondurable goods manufacturing* will continue its long-term decline beyond a small recovery in 2012 and 2013. The continued existence of low-cost competition from lower income countries in Asia and Latin America will drive these industries from the area. This is especially true in the *apparel, paper, textiles, and plastics industries*. Moderate employment growth may occur in other manufacturing industries during the initial recovery years of 2011-2013 but the negative long-term factors will dominate in the years thereafter.
- *Wholesale trade* employment, which has been relatively flat since 2000, is forecast to bounce back early in the recovery as consumer spending increases. However, an increasing amount of wholesale activity will occur on-line, where employment growth will be strong, reaching 5.2 percent per year on average from 2010 through 2015. As a result, overall employment in the wholesale trade sector is forecast to grow by 2.2 percent per year on average between 2010 and 2015.
- *Retail trade* activity in Los Angeles will be fairly moderate through the forecast period. Growth during the recovery period will reach a brisk 2.7 percent in 2012, but overall sector employment is forecast to grow by less than 1.4 percent per year on average between 2010 and 2015. Various retail sectors will outperform others, including building material and garden supply stores, health and personal care stores, clothing stores, and general merchandise stores.
- The *transportation, warehousing and utilities sector* will experience little employment growth over the forecast period, registering less than one percent per year on average from 2010 through 2015. Following growth of 1.8 percent in 2011 and 2.9 percent in 2012, employment in the transportation and warehousing industries is forecast to slow and fall to negative growth by 2015.
- Employment in the *information* sector, which includes motion picture production, broadcasting, publishing and the new media industries, is forecast to grow only modestly overall, even through the recovery period. Several industries in this sector will be impacted by changing technology and consumer behavior. Employment declines are expected in the traditional *publishing* industries as demand for print products declines in favor of electronic forms of information. Similarly, demand for *telecommunications* will decline to be replaced by other media types. *Other information*, which essentially encompasses the storage and retrieval of information, will grow robustly through the recovery period. *Motion picture and sound recording* activities are expected to grow more slowly, reflecting changing consumer tastes as consumption of media content shifts to personal media devices. Overall, employment in the information sector is forecast to increase by 0.9 percent per year on average between 2010 and 2015.

- The *financial activities* sector contains the finance, insurance, real estate and leasing industries. After severe declines in employment of 4.3 percent in 2008 and 4.5 percent in 2009, financial activities are expected to grow at a moderate pace of 1.7 percent per year on average between 2010 and 2015. Note, however, that these are cyclical industries and employment will decline during future economic downturns.
- The *professional and business services* sector contains professional, scientific and technical services, company management (headquarters locations), and administrative, support and waste services industries. Most of the firms in this sector provide services to other businesses in Los Angeles County. Already large, the region's business base will continue to grow. Further, the service firms in this sector are beneficiaries of the trend by businesses to outsource activities formerly provided in-house. Although *management* activities are forecast to remain flat over the period, *professional, scientific and technical services* are forecast to grow relatively well at an average annual rate of 2.4 percent. This sector includes the region's architectural, design and engineering firms. Overall employment in the professional and business services sector is forecast to increase by 3.0 percent per year on average between 2010 and 2015, assisted by robust growth of almost 4.7 percent in the *administrative, support and waste management industry* during the post-recession recovery period.
- Industries in the *education and health services* sector are expected to grow at a healthy pace. Private *education* is growing strongly in Los Angeles, led by the region's top-quality universities. In addition, there will be substantial growth in the number of privately-owned technical and industry-specific occupational training institutions. With regard to *health care and social assistance*, the continued growth in the region's population, especially its senior population, means local demands for health care will increase substantially. Most hospitals will be constrained by budget problems, but other providers will gain as more diagnosis and testing activity takes place outside the hospital setting. Employment in the private educational and health services sector will grow by 2.7 percent per year on average between 2010 and 2015.
- The *leisure and hospitality* sector will show better-than-average growth over the forecast period. The county's arts, entertainment and recreation facilities will gain in number and in quality, attracting a wider audience from around the world. Continued development of the downtown area around the convention center and the remake of other tourist areas will boost this industry even more. Overall employment in the leisure and hospitality sector is forecast to increase by 2.8 percent per year on average between 2010 and 2015.
- Finally, *government* employment is forecast to grow at 0.6 percent per year on average between 2010 and 2015, led for the most part by state and local governments, which must deliver the most public services to the county's growing population.

Detailed Industry Forecast for Los Angeles County

Exhibits 3-7 through 3-9 contain the industry details that lie behind the sector forecasts presented in Exhibit 3-5. For the most part, industries are selected at the three-digit NAICS code level. This provides enough specific information to be useful without getting lost in the details. In total, we present employment forecasts for 64 industries.

Industries are ranked by expected employment growth over the next five years. They are sorted into three groups according to their projected growth rates.

Exhibit 3-7 presents high growth industries. Employment in these industries is forecast to grow at a rate at least as great as the average of all non-farm employment over the five year period, which is forecast to be 1.9 percent per year on average. The fastest growing industry will be wholesale electronic markets and agents, employment in which is forecast to grow at an annual average of 5.2 percent between 2010 and 2015.

Exhibit 3-7 Employment Growth by Industry in Los Angeles County High Growth Industries						
Overall Rank	NAICS Industry Sector	NAICS	Annual Average Percent Change			
			1995-00	2000-05	2005-10 ¹	2010-15
1	Wholesale Electronic Markets and Agents	425	-4.1	10.8	-0.2	5.2
2	Administrative, Support, Waste Mgmt Services	56	4.0	-1.3	-1.2	4.1
3	Manufacturing: Computer and Electronic Prods	334	-2.3	-3.0	-3.6	3.1
4	Accommodation and Food Services	72	2.0	1.9	0.2	2.9
5	Manufacturing: Nonmetallic Mineral Products	327	-0.7	-6.5	-9.8	2.9
6	Health Care and Social Assistance	62	1.7	2.5	1.6	2.8
7	Specialty Trade Contractors	238	4.5	2.9	-4.4	2.8
8	Other Information Services ²	519	26.9	-14.4	0.8	2.8
9	Manufacturing: Furniture and Related Products	337	4.0	-5.1	-11.5	2.7
10	Heavy and Civil Engineering Construction	237	-0.9	-1.2	-1.0	2.7
11	Manufacturing: Fabricated Metal Products	332	1.2	-4.7	-2.8	2.6
12	Manufacturing: Electrical Equipmt, Appliances	335	-0.8	-4.7	-2.9	2.6
13	Retail: Health and Personal Care Stores	446	1.8	0.9	0.3	2.5
14	Professional, Scientific, and Technical Services	541	1.7	2.0	0.6	2.4
15	Retail: General Merchandise	452	-0.2	2.4	-1.2	2.3
16	Wholesalers: Nondurable Goods	424	2.3	0.9	1.4	2.2
17	Manufacturing: Primary Metal	331	1.9	-5.5	-3.3	2.1
18	Arts, Entertainment, and Recreation	71	2.9	1.7	0.5	2.1
19	Retail: Building Materials, Garden Equipment	444	2.9	2.7	-3.3	2.1
20	Retail: Clothing and Clothing Accessories	448	0.8	2.5	-0.0	2.1
21	Religious, Civic, Professional Organizations	813	0.7	0.4	0.7	2.0
22	Construction of Buildings	236	1.3	2.7	-3.9	2.0
23	Educational Services	611	4.8	2.5	3.1	2.0

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.

² The definition of this industry was changed in 1997 and 2002, making growth rates between periods non-comparable.

Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Exhibit 3-8 presents moderate growth industries, with growth less than the average for all nonfarm employment but still positive growth over the forecast period.

Exhibit 3-8 Employment Growth by Industry in Los Angeles County Moderate Growth Industries						
Overall Rank	NAICS Industry Sector	NAICS	Annual Average Percent Change			
			1995-00	2000-05	2005-10 ¹	2010-15
24	Finance and Insurance	52	-0.5	2.0	-2.1	1.7
25	Real Estate and Rental and Leasing	53	1.3	1.1	-0.0	1.6
26	Personal and Laundry Services	812	2.4	0.9	-0.7	1.5
27	Wholesalers: Durable Goods	423	1.5	-2.4	-1.0	1.3
28	Retail: Food and Beverages	445	0.7	2.1	0.9	1.2
29	Management of Companies and Enterprises	55	1.1	-4.6	-4.9	1.2
30	Motion Picture and Sound Recording Industries	512	3.6	-1.6	-0.0	1.2
31	Manufacturing: Machinery Manufacturing	333	1.7	-7.4	-3.4	1.1
32	Broadcasting (except Internet)	515	5.5	-0.6	-1.1	1.1
33	Manufacturing: Miscellaneous	339	1.7	-6.5	-2.7	1.0
34	Printing and Related Support Activities	323	-0.3	-4.8	-4.7	1.0
35	Transportation and Warehousing	48-49	3.1	-1.7	-1.6	1.0
36	Retail: Motor Vehicles and Parts	441	2.7	1.1	-3.1	0.9
37	Retail: Sporting Goods, Hobbies, Books, Music	451	0.2	-1.6	-3.4	0.8
38	Manufacturing: Plastics and Rubber Products	326	-2.2	-5.5	-4.8	0.8
39	Manufacturing: Food	311	0.7	-1.0	-2.7	0.8
40	Local Government	93	2.1	0.3	0.3	0.8
41	Manufacturing: Wood Products	321	3.6	-3.0	-7.7	0.7
42	Retail: Nonstore Retailers	454	7.5	0.1	0.3	0.7
43	Manufacturing: Beverage and Tobacco Prods	312	-2.9	-0.2	3.7	0.7
44	Retail: Gasoline Stations	447	-1.0	-1.7	1.3	0.7
45	Retail: Electronics and Appliances	443	5.1	-2.3	-3.8	0.6
46	Repair and Maintenance	811	0.8	0.6	-1.6	0.6
47	Utilities	22	-4.1	0.5	1.8	0.4
48	Mining	21	-4.0	1.9	3.7	0.4
49	Manufacturing: Chemical Manufacturing	325	1.0	-3.0	-2.2	0.3
50	Manufacturing: Leather and Allied Products	316	-2.2	-9.5	2.3	0.3
51	State Government	92	1.8	0.3	0.4	0.3
52	Logging	1133	-4.2	3.1	-89.9	0.2
53	Retail: Furniture and Home Furnishings	442	5.2	1.6	-3.9	0.2
54	Internet Service Providers, Portals ²	518	22.2	-9.7	-1.2	0.1

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.

² The definition of this industry was changed in 1997 and 2002, making growth rates between periods non-comparable.

Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Finally, Exhibit 3-9 lists the remaining industries, which are projected to experience employment declines over the forecast period. In this group are some manufacturing industries and traditional media, which will fail to grow in spite of our expected recovery period.

Exhibit 3-9 Employment Growth by Industry in Los Angeles County Negative Growth Industries						
Overall Rank	NAICS Industry Sector	NAICS	Annual Average Percent Change			
			1995-00	2000-05	2005-10 ¹	2010-15
55	Manufacturing: Textile Mills	313	4.2	-5.2	-5.0	-0.1
56	Manufacturing: Petroleum and Coal Products	324	-6.1	-5.7	-2.0	-0.2
57	Publishing Industries (except Internet)	511	1.9	-4.9	-3.5	-0.3
58	Manufacturing: Apparel	315	-1.7	-7.8	-4.6	-0.3
59	Manufacturing: Transportation Equipment	336	-2.7	-6.0	-4.5	-0.4
60	Retail: Miscellaneous Stores	453	2.6	-1.9	-2.6	-0.4
61	Manufacturing: Paper	322	-1.5	-4.9	-5.6	-0.4
62	Telecommunications	517	4.7	-4.7	-2.8	-0.4
63	Federal Government - Civilian	91	-1.8	-1.6	-1.2	-0.6
64	Manufacturing: Textile Product Mills	314	-0.4	-7.5	-7.4	-0.9

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.
Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Potential for Job Creation in Los Angeles County

Having determined which industries are likely to grow over the next ten years, we now turn to an examination of the industrial profile of Los Angeles County and its employment forecasts. The purpose of looking at the industrial profile is to identify those industries which already have a presence in Los Angeles County, and their relative strength (measured by level of employment). Growth rates may indicate areas of potential employment, but if a *robust* rate of growth is expected in a *small* industry, the absolute number of jobs that may be added can be very small, while a *large* industry with a *slow* rate of growth may nevertheless add many jobs.

We begin by examining employment levels by industry sector, as shown in Exhibit 3-10.¹⁰

Exhibit 3-10 Industrial Profile Forecast Los Angeles County								
Industry Sector	2005		2010		2015		Ave Annual % Change	
	Employed (000)	% of total	Employed (000)	% of total	Employed (000)	% of total	2005-10 ¹	2010-15
Total Nonfarm Payroll	4,024.1		3,881.3		4,256.9		-0.7	1.9
Goods Producing Industries	626.2	15.6	509.5	13.1	548.7	12.9	-4.0	1.5
Natural Resources and Mining	3.7	0.1	4.4	0.1	4.5	0.1	3.6	0.4
Construction	148.7	3.7	121.6	3.1	138.1	3.2	-3.9	2.6
Manufacturing - Durable Goods	265.7	6.6	211.9	5.5	232.3	5.5	-4.4	1.9
Manufacturing - Nondurable Goods	208.1	5.2	171.6	4.4	173.9	4.1	-3.8	0.3
Service Providing Industries	2,814.2	69.9	2,782.7	71.7	3,101.5	72.9	-0.2	2.2
Wholesale Trade	217.1	5.4	218.1	5.6	243.3	5.7	0.1	2.2
Retail Trade	414.4	10.3	391.2	10.1	419.8	9.9	-1.1	1.4
Transportation, Warehousing, Utilities	161.2	4.0	151.5	3.9	158.5	3.7	-1.3	0.9
Information	207.5	5.2	199.3	5.1	208.4	4.9	-0.8	0.9
Financial Activities	244.0	6.1	226.9	5.8	246.5	5.8	-1.4	1.7
Professional and Business Services	576.1	14.3	553.4	14.3	643.0	15.1	-0.8	3.0
Educational and Health Services	471.3	11.7	518.4	13.4	590.9	13.9	1.9	2.7
Leisure and Hospitality	377.8	9.4	382.6	9.9	439.1	10.3	0.3	2.8
Other Services	144.3	3.6	141.3	3.6	152.0	3.6	-0.4	1.5
Government	583.7	14.5	589.2	15.2	606.7	14.3	0.2	0.6

¹ Employment data for 2009 included in this period are estimates; data for 2010 are forecasts.
Sources: California Employment Development Department; Moody's Economy.com; LAEDC

¹⁰ The data on employment, establishments and average weekly wages used in this section are taken from the Quarterly Census of Employment and Wages conducted by the California Employment Development Department and the Bureau of Labor Statistics. These data do not include businesses without employees (such as self-proprietorships) or businesses that hire family members as employees and therefore are likely to understate actual employment.

Overall, the county is expected to experience an average annual decline in non-farm employment of 0.7 percent between 2005 and 2010, reflecting the recession that began in December of 2007 which reversed the employment gains of 2005 through 2007.

Employment levels and industrial shares for three years are displayed: historical data for 2005 and forecast data for 2010 and 2015. Private sector employment accounted for 85.5 percent of total nonfarm employment in 2005 and is forecast to fall to 84.8 percent in 2010 but rise to 85.7 percent by 2015.

The remaining employment shares (of each industry) are shown as percentages of total non-farm employment. For example, employment in goods-producing industries accounted for 15.6 percent of non-farm employment in 2005. This share is on the decline and is forecast to fall to 13.1 percent in 2010 and to 12.9 percent in 2020.

This reflects the changing industrial structure of Los Angeles County, similar to that which is occurring on the national scale, towards a more service-oriented economy. Thus the flip side of the decline in the share of manufacturing employment is the increase in employment in service-providing industries, which employed 69.9 percent of non-farm employment in 2005 and is expected to rise to 71.7 percent in 2010 and 72.9 percent by 2015. The industry sectors that are responsible for this increasing share are professional and business services, education and health services, and leisure and hospitality.

Exhibit 3-11 shows the largest 30 industries in Los Angeles County in 2008, as measured by employment, along with their forecast employment levels for 2015. Local government tops the list with 470,510 employees in 2008, followed by the health care and social assistance industry with 396,520 employees, and the accommodation and food services industry with 327,080 employees. In general, the rankings are not expected to change significantly over the forecast period.

Exhibit 3-11 Top 30 Industries by Employment (2008) Los Angeles County				
Rank	NAICS Industry Sector	NAICS	Employment	
			2008	2015 (forecast)
1	Local Government	93	470,510	477,070
2	Health Care and Social Assistance	62	396,520	465,870
3	Accommodation and Food Services	72	327,080	361,790
4	Professional, Scientific and Technical Services	541	270,460	291,210
5	Administrative, Support, Waste Management	56	257,290	295,830
6	Finance and Insurance	52	156,250	162,560
7	Transportation and Warehousing	48-49	148,580	144,440
8	Motion Picture and Sound Recording Studios	512	131,920	136,030
9	Wholesalers: Durable Goods	423	105,800	107,930
10	Educational Services	611	105,140	125,060
11	Specialty Trade Contractors	238	95,570	91,100
12	Wholesalers: Nondurable Goods	424	91,960	101,510
13	Retail: Food and Beverage Stores	445	90,030	95,790
14	State Government	92	82,390	80,670
15	Real Estate, Rental and Leasing	53	79,270	83,960
16	Arts, Entertainment and Recreation	71	72,560	77,260
17	Retail: General Merchandise Stores	452	65,560	67,730
18	Management of Companies	551	56,560	55,970
19	Religious, Civic and Professional Organizations	813	56,500	62,680
20	Retail: Clothing Stores	448	55,840	57,730
21	Manufacturing: Apparel	315	55,250	47,980
22	Manufacturing: Computer and Electronic Prods	334	54,170	58,800
23	Federal Government (Civilian)	91	51,080	48,950
24	Manufacturing: Transportation Equipment	336	50,640	42,710
25	Manufacturing: Fabricated Metal Products	332	49,140	47,610
26	Personal and Laundry Services	812	48,980	49,150
27	Retail: Motor Vehicle and Parts Dealers	441	48,360	45,850
28	Manufacturing: Food	311	41,700	39,170
29	Repair and Maintenance	811	41,070	40,190
30	Construction of Buildings	236	35,690	32,470

Sources: California Employment Development Department; Moody's Economy.com; LAEDC

Average earnings among industries vary widely. Exhibit 3-12 shows the top 30 industries ranked by average weekly earnings.¹¹

¹¹ The EDD cautions that the average weekly wage figures are affected by the percentage of part-time employees, the number of workers who worked for the full year and the number of highly-paid employees. Industries with high proportions of part-time workers will show average wage levels appreciably less than the pay levels of regular full-time employees in these industries. For example, in an industry such as retail, where a large proportion may be part time, full time employees in these industries will earn more than the average weekly wages shown. Nonetheless, it is helpful to compare relative wages in order to identify attractive industries to target.

The industry with the highest average weekly wage in 2008 was mining, paying \$2,739 per week, followed by: broadcasting (\$2,016 per week); petroleum and coal products manufacturing (\$1,955); and other information services (\$1,835). In twenty-four industries, the average weekly wage exceeded \$990, which is the average weekly wage for all private industries in Los Angeles County.

Exhibit 3-12 Top 30 Industries by Average Weekly Wage (2008) Los Angeles County			
Rank	NAICS Industry Sector	NAICS	Average Weekly Wage
1	Mining	21	\$ 2,739
2	Broadcasting (except Internet)	515	2,016
3	Manufacturing: Petroleum and Coal Products	324	1,955
4	Other Information Services	519	1,835
5	Utilities	221	1,813
6	Finance and Insurance	52	1,806
7	Arts, Entertainment and Recreation	71	1,780
8	Management of Companies	551	1,732
9	Motion Picture and Sound Recording Industries	512	1,685
10	Manufacturing: Computer and Electronic Products	334	1,672
11	Professional, Scientific and Technical Services	541	1,562
12	Manufacturing: Transportation Equipment	336	1,559
13	Publishing Industries	511	1,549
14	Telecommunications	517	1,513
15	Heavy and Civil Engineering Construction	237	1,469
16	Internet Service Providers and Portals	518	1,204
17	Manufacturing: Miscellaneous	339	1,168
18	Manufacturing: Beverage and Tobacco Products	312	1,161
19	Wholesalers: Durable Goods	423	1,130
20	Manufacturing: Machinery	333	1,126
21	Construction of Buildings	236	1,114
22	Wholesale Electronic Markets	425	1,088
23	Manufacturing: Chemicals	325	1,083
24	Real Estate, Rental and Leasing	53	1,015
25	Manufacturing: Paper	322	989
26	Manufacturing: Electrical Equipment and Appliances	335	983
27	Manufacturing: Primary Metal	331	948
28	Retail: Nonstore Retailers	454	941
29	Manufacturing: Fabricated Metal Products	332	939
30	Wholesalers: Nondurable Goods	424	923

Sources: California Employment Development Department; LAEDC

Finally, we examine the job creation potential of industries in Exhibit 3-13. This is consequence of two factors: the size of the industry and its growth potential. A small industry growing quickly may add many jobs but may yet add fewer jobs than a large industry growing slowly.

The exhibit shows forecast data for 2010 and 2015. Industries are ranked by their projected employment gains from during this period. Taken together, these industries are expected to add more than 357,000 jobs during the period from 2010 to 2015.

Exhibit 3-13 Top 25 Industries by Projected Job Creation (2010 to 2015) Los Angeles County						
Rank	NAICS Industry Sector	NAICS	Employment		Change 2010-15	
			2010	2015	Δ Jobs	Annual Ave % Change
1	Health Care and Social Assistance	62	404,890	465,870	60,980	2.8
2	Administrative, Support, Waste Management	56	242,380	295,830	53,450	4.1
3	Accommodation and Food Services	72	313,050	261,790	48,740	2.9
4	Professional, Scientific and Technical Services	541	258,330	291,210	32,880	2.4
5	Local Government	93	459,050	477,070	18,020	0.8
6	Finance and Insurance	52	149,170	162,560	13,390	1.7
7	Specialty Trade Contractors	238	76,410	91,100	11,690	2.8
8	Educational Services	611	113,550	125,060	11,510	2.0
9	Wholesalers: Nondurable Goods	424	90,840	101,510	10,680	2.2
10	Manufacturing: Computer / Electronic Prods	334	50,450	58,800	8,360	3.1
11	Motion Picture and Sound Recording Studios	512	128,190	136,030	7,840	1.2
12	Arts, Entertainment and Recreation	71	69,510	77,260	7,750	2.1
13	Wholesale Electronic Markets	425	26,220	33,860	7,640	5.2
14	Retail: General Merchandise Stores	452	60,450	67,730	7,280	2.3
15	Wholesalers: Durable Goods	423	101,000	107,930	6,940	1.3
16	Transportation and Warehousing	48-49	137,660	144,440	6,770	1.0
17	Real Estate, Rental and Leasing	53	77,740	83,960	6,230	1.6
18	Religious, Civic and Professional Orgs	813	56,740	62,680	5,930	2.0
19	Manufacturing: Fabricated Metal Products	332	41,800	47,610	5,810	2.6
20	Retail: Food and Beverage Stores	445	90,030	95,790	5,750	1.2
21	Retail: Clothing Stores	448	52,070	57,730	5,660	2.1
22	Retail: Health and Personal Care Stores	446	28,900	32,720	3,830	2.5
23	Personal and Laundry Services	812	45,520	49,150	3,620	1.5
24	Management of Companies	551	52,680	55,970	3,280	1.2
25	Construction of Buildings	236	29,450	32,470	3,020	2.0

Sources: California Employment Development Department; Moody's Economy.com; LAEDC

The industry with the largest expected employment gains from 2010 to 2015 is health care and social assistance, which is forecast to add 60,980 jobs. As we saw in Exhibit 3-11, this is the largest private industry in Los Angeles. In Exhibit 3-7 we noted that it is also an industry

with one of the highest expected growth rates, thus it is not surprising to find that its job creation potential tops the list.

The industry with the second largest job creation potential is the administrative, support and waste management industry, expected to add 53,450 jobs between 2010 and 2015, followed by accommodation and food services, which is forecast to add 48,740 jobs during the same period. Both of these are also large, high growth industries.

Fourth on the list is the professional, scientific and technical services industry, another large industry with high growth potential. Also represented in the list, however, are wholesale industries, construction, and several manufacturing industries which may be smaller in scale but which will experience strong growth.

Potential for Job Creation in the SASSFA SDA

Having determined which industries are likely to grow over the next five years in Los Angeles County, we now examine the industrial profile of the SASSFA SDA in comparison to Los Angeles County. Employment by industry sector in 2008 for the two regions is shown in Exhibit 3-14.¹²

Exhibit 3-14 Industrial Profile (2008) Los Angeles County and SASSFA SDA					
Industry Sector	Los Angeles County		SASSFA SDA		SASSFA as % of LAC
	Employed	% of total	Employed	% of total	
Total Nonfarm Payroll	4,070,940		133,371		3.3
Goods Producing Industries	583,560	14.3	33,923	25.4	5.8
Natural Resources and Mining	4,360	0.1	145	0.1	3.3
Construction	145,230	3.6	9,246	6.9	6.4
Manufacturing - Durable Goods	243,050	6.0	15,700	11.8	6.5
Manufacturing - Nondurable Goods	190,930	4.7	8,822	6.6	4.6
Service Providing Industries	2,883,410	70.8	86,266	64.7	3.0
Wholesale Trade	224,610	5.5	19,336	14.5	8.6
Retail Trade	417,760	10.3	10,818	8.1	2.6
Transportation, Warehousing, Utilities	162,090	4.0	7,705	5.8	4.8
Information	211,270	5.2	835	0.6	0.4
Financial Activities	235,520	5.8	3,617	2.7	1.5
Professional and Business Services	584,310	14.4	15,708	11.8	2.7
Educational and Health Services	501,660	12.3	13,838	10.4	2.8
Leisure and Hospitality	399,640	9.8	7,724	5.8	1.9
Other Services	146,540	3.6	6,685	5.0	4.6
Government	603,980	14.8	13,182	9.9	2.2

Sources: California Employment Development Department; LAEDC

Nonfarm payroll employment in the SASSFA SDA accounted for 3.3 percent of employment in Los Angeles County. The industrial structure in the SASSFA SDA is weighted somewhat more heavily towards goods-producing industries, which account for 25.4 percent of the nonfarm employment in SASSFA compared to 14.3 percent in the county as a whole. Consequently, the share of service-providing employment in the SASSFA SDA is much lower than in Los Angeles County (64.7 percent versus 70.8 percent).

In fact, goods-producing employment in the SASSFA SDA measures 5.8 percent of all goods-producing employment in Los Angeles County (compared to 3.3 percent overall).

¹² As with the Los Angeles County data presented earlier, these data are from the Quarterly Census of Employment and Wages and do not include businesses without employees (such as self-proprietorships) or those which hire family members as employees. Hence, actual employment is likely to be understated.

Some sectors are more highly represented in the SASSFA SDA, such as construction, manufacturing of durable goods, manufacturing of nondurable goods, and transportation, warehousing and utilities.

To better examine the industrial performance of the SASSFA SDA, we segment larger industry sectors into their 3-digit NAICS industries. For example, health care and social assistance (NAICS 62) is a sector which includes: ambulatory health care services (NAICS 621), such as physicians' offices; hospitals (NAICS 622); nursing and residential care facilities (NAICS 623); and social assistance (NAICS 624), such as community food services, child day care services and emergency relief services. Breaking larger industry sectors into their component parts allows a clearer picture of industry performance in the SASSFA SDA.

Exhibit 3-15 shows the largest 25 industries in the SASSFA SDA in 2008 as measured by employment. In this exhibit and others below, we focus on the private sector.

Exhibit 3-15 Top 25 Industries by Employment (2008) SASSFA SDA				
Rank	NAICS Industry Sector	NAICS	Employment	
			2008	% of total
1	Wholesalers: Durable Goods	423	11,126	8.3
2	Administrative and Support Services	561	8,774	6.6
3	Food Services and Drinking Places	722	6,635	5.0
4	Specialty Trade Contractors	238	6,087	4.6
5	Wholesalers: Nondurable Goods	424	5,648	4.2
6	Manufacturing: Fabricated Metal Products	332	4,932	3.7
7	Hospitals	622	4,427	3.3
8	Professional and Technical Services	541	3,821	2.9
9	Ambulatory Health Care Services	621	3,797	2.8
10	Truck Transportation	484	3,009	2.3
11	Educational Services	611	2,852	2.1
12	Warehousing and Storages	493	2,829	2.1
13	Electronic Markets and Agents and Brokers	425	2,562	1.9
14	Repair and Maintenance	811	2,030	1.5
15	Manufacturing: Machinery	333	1,974	1.5
16	Management of Companies and Enterprises	551	1,941	1.5
17	Retail: General Merchandise Stores	452	1,909	1.4
18	Manufacturing: Paper	322	1,852	1.4
19	Retail: Food and Beverage Stores	445	1,838	1.4
20	Manufacturing: Transportation Equipment	336	1,818	1.4
21	Construction of Buildings	236	1,750	1.3
22	Retail: Motor Vehicles and Parts	441	1,679	1.3
23	Manufacturing: Furniture and Related Products	337	1,626	1.2
24	Manufacturing: Primary Metal	331	1,608	1.2
25	Manufacturing: Electronic Equipment / Appliances	335	1,557	1.2

Sources: California Employment Development Department; LAEDC

The durable goods wholesaling industry tops the list with 11,126 employees in the SASSFA SDA in 2008, followed by administrative and support services with 8,774 employees and food services and drinking places with 6,635 employees.

Exhibit 3-16 shows the top 30 industries in the SASSFA SDA by actual job creation over the seven year period from 2001 to 2008. The exhibit also shows the employment level in 2008 and the average annual growth rate in the SASSFA SDA for each industry.

Exhibit 3-16 Top 30 Industries by Job Creation (2001 to 2008) SASSFA SDA					
Rank	NAICS Industry Sector	NAICS	Jobs Created 2001 to 2008	Employment in 2008	Ave Annual % Change
1	Administrative and Support Services	561	2,393	8,774	4.7
2	Wholesalers: Nondurable Goods	424	1,614	5,648	4.9
3	Electronic Markets and Agents and Brokers	425	1,145	2,562	8.8
4	Food Services and Drinking Places	722	1,067	6,635	2.5
5	Warehousing and Storage	493	1,044	2,829	6.8
6	Educational Services	611	954	2,852	6.0
7	Ambulatory Health Care Services	621	905	3,797	4.0
8	Specialty Trade Contractors	238	709	6,087	1.8
9	Heavy and Civil Engineering Construction	237	670	1,409	9.7
10	Hospitals	622	633	4,427	2.2
11	Social Assistance	624	604	1,225	10.2
12	Membership Organizations and Associations	813	410	910	8.9
13	Manufacturing: Electric Equipment and Appliances	335	395	1,557	4.3
14	Professional and Technical Services	541	345	3,821	1.4
15	Credit Intermediation	522	339	1,336	4.3
16	Rental and Leasing Services	532	283	954	5.2
17	Retail: Nonstore Retailers	454	259	478	11.8
18	Retail: Building Materials and Garden Supplies	444	239	899	4.5
19	Manufacturing: Primary Metals	331	236	1,608	2.3
20	Transit and Ground Passenger Transportation	485	236	473	10.4
21	Manufacturing: Food	311	196	1,456	2.1
22	Retail: General Merchandise Stores	452	186	1,909	1.5
23	Construction of Buildings	236	171	1,750	1.5
24	Manufacturing: Computer and Electronic Products	334	157	714	3.6
25	Real Estate	531	136	719	3.0
26	Publishing Industries	511	130	223	13.3
27	Retail: Clothing and Accessories	448	127	831	2.4
28	Retail: Sporting Goods, Hobbies, Books, Music	451	116	483	4.0
29	Wholesalers: Durable Goods	423	114	11,126	0.1
30	Retail: Health and Personal Care Stores	446	112	938	1.8

Sources: California Employment Development Department; LAEDC

The industry which recorded the largest number of jobs gained from 2001 to 2008 was administrative and support services, adding 2,393 jobs between 2001 and 2008. The second largest job creation occurred in nondurable goods wholesaling, adding 1,614 jobs.

In addition to the potential for industries to create jobs, which is a function of both their expected growth and their size, we are also interested in the *specialization* of economic activity in the SASSFA SDA. For example, it is possible that an industry has significant job creation potential in Los Angeles County but yet does not maintain a large presence in the SASSFA SDA (or none at all). Without a specific business attraction strategy, the region is unlikely to see employment growth in such an industry.

On the other hand, an industry with a presence in the SASSFA SDA that is larger (as a percentage of total employment in the SASSFA SDA) than its presence in Los Angeles County would indicate that the SASSFA SDA has a concentration of this industry in its region, and thus may have the potential for higher employment creation.

Such relative concentration is measured by *location quotients*. A location quotient for an industry in the SASSFA SDA shows the percentage of its total employment in an industry compared to the percentage in Los Angeles County (or other reference region). For example, if 2 percent of employment in the SASSFA SDA is in the hospitals industry, while in Los Angeles County only 1 percent is employed in the hospitals industry, then the location quotient for the hospitals industry in the SASSFA SDA is 2. This means that the SASSFA SDA is relatively more specialized in hospitals than the county as a whole.¹³ A location quotient of 1 would indicate that the local industry concentration is identical to that of the larger region.

Exhibit 3-17 on the following page shows the top 30 industries in the SASSFA SDA by their 2008 employment location quotients compared to Los Angeles County. The location quotients for 2001 are also shown to provide an indication of the change over time in each industry's employment concentration (which will be discussed further below).

The industry with the highest location quotient in the SASSFA SDA in 2008 was paper manufacturing. This is due to the presence of many packaging materials and paper companies in the region, including Kittrich Corp., Bay Cities Container Co., California Box Company, Temple-Inland Container Corp., Gabriel Container Corp., Montebello Container Corp., and Spicers Paper Inc. Relative to total employment in the SASSFA SDA, this industry is therefore quite significant.

The industry with the second highest location quotient in the SASSFA SDA in 2008 was primary metals manufacturing. Again, the presence of several employers in the SASSFA SDA lends this industry some importance to the region. These employers include Hamrock Inc., Zumar Industries, Ace Clearwater Enterprises, Alegacy Food Service Products, Conquest Industries, and the Kyees Aluminum division of Manitowoc Beverage.

¹³ Of course, the *county's* employment structure is only one reference. We can alternatively use the *state's* employment structure. However, we prefer the county comparison for this analysis given the localized nature of the labor market.

The third most concentrated industry is warehousing and storage. The SDA has many wholesalers who support the trade industry cluster of Los Angeles County and who provide warehousing and storage space.

Exhibit 3-17 Top 30 Industries by Employment Location Quotients (2001 and 2008) SASSFA SDA vs. Los Angeles County				
Rank	NAICS Industry Sector	NAICS	Location Quotient 2008	Location Quotient 2001
1	Manufacturing: Paper	322	5.71	4.85
2	Manufacturing: Primary Metals	331	4.81	3.06
3	Warehousing and Storage	493	4.52	2.76
4	Pipeline Transportation	486	4.23	6.01
5	Manufacturing: Electrical Equipment and Appliances	335	3.76	2.33
6	Waste Management and Remediation	562	3.49	3.47
7	Truck Transportation	484	2.92	2.81
8	Manufacturing: Machinery	333	2.85	3.23
9	Wholesalers: Durable Goods	423	2.83	2.56
10	Manufacturing: Fabricated Metal Products	332	2.71	2.97
11	Heavy and Civil Engineering Construction	237	2.68	1.36
12	Electronic Markets and Agents and Brokers	425	2.55	2.34
13	Manufacturing: Plastics and Rubber Products	326	2.48	2.74
14	Manufacturing: Furniture and Related Products	337	2.43	2.15
15	Manufacturing: Leather and Allied Products	316	2.18	1.39
16	Printing and Related Support Activities	323	1.81	1.35
17	Specialty Trade Contractors	238	1.71	1.66
18	Wholesalers: Nondurable Goods	424	1.66	1.35
19	Manufacturing: Textile Product Mills	314	1.65	2.75
20	Manufacturing: Wood Products	321	1.63	2.15
21	Manufacturing: Petroleum and Coal Products	324	1.55	1.06
22	Manufacturing: Nonmetallic Minerals	327	1.50	1.84
23	Manufacturing: Chemicals	325	1.36	2.02
24	Repair and Maintenance	811	1.33	1.29
25	Construction of Buildings	236	1.31	1.38
26	Retail: Nonstore Retailers	454	1.28	0.70
27	Hospitals	622	1.10	1.04
28	Rental and Leasing Services	532	1.07	0.80
29	Manufacturing: Miscellaneous	339	1.04	0.97
30	Retail: Building Materials and Garden Supplies	444	0.99	0.81

Sources: California Employment Development Department; LAEDC

All three of these industries showed increases in their location quotient between 2001 and 2008, indicating that they became relatively more important from an employment perspective during this time.

Having reviewed the performance of industries in Los Angeles County and in the SASSFA SDA and forecast the employment in the region, we derive a method for identifying the most promising industries to target for job retention efforts in the next section.

In this section, we identify potential target industries in the SASSFA SDA for job retention and expansion efforts. We develop two composite indices reflective of each industry's performance. The first index is indicative of industry performance in Los Angeles County; the second is specific to the SASSFA SDA. Thereafter we examine industries which have been growing in relative strength in the SASSFA SDA. From these three indicators, we identify those industries which are the most promising targets.

Methodology

In the previous section, we reviewed the performance of industries in Los Angeles County along four criteria: projected employment growth rate from 2010 to 2015; industry size, measured by employment level in 2008; employee earnings, measured by average weekly wages paid in 2008; and projected job creation potential from 2010 to 2015. Specific to the SASSFA SDA, we also reported the top industries measured by employment level in the SASSFA SDA, the industries with the greatest number of jobs created in SASSFA since 2001, and the location quotients of industries in the SASSFA SDA using Los Angeles County as our reference region.

Each of these measures provides an indication of whether an industry has the potential to be an attractive target for job retention. For example, the employment growth rate indicates whether an industry has growth potential in the region. While important, this by itself may be insufficient, since a slow-growing industry may yet have the ability to produce many jobs if it has a substantial job base; therefore, we also consider job creation potential. Industries paying high wages are generally attractive. We consider the size of the industry since an industry that maintains a large presence in the region implies that industry-specific factors necessary for success are already present.

For the purposes of this exercise, we evaluate only private industries.

Los Angeles County Composite Index

We derive a composite index of the four Los Angeles County criteria that will allow us to compare industries with varying performance on the individual criteria. The composite index is derived as follows. We first rank all industries for each criterion and separate them into three groups (the top-ranked, the middle-ranked and the lowest-ranked) according to definitions outlined below. The top-ranked industries are given a "1", the middle-ranked a "0" and the lowest-ranked a "-1". The composite index is the sum of the four individual

entries for each industry (and therefore weighs each criterion equally). The groups for each criterion are defined as follows:

- ❖ *Employment growth rate in Los Angeles County:*
 - In the top-ranked group are industries whose projected growth rate exceeds the average of all industries;
 - In the middle-ranked group are industries below the average of all industries but still with positive projected employment growth;
 - Industries with negative projected employment growth are in the lowest-ranked group.
 - Employment growth rates are shown in Exhibits 3-7, 3-8 and 3-9.
- ❖ *Industry Size in Los Angeles County:*
 - In the top-ranked group are industries whose employment levels exceed the average for all industries;
 - In the middle-ranked group are industries below the average but larger than 10 percent of employment in the largest industry;
 - The remaining industries are in the lowest-ranked group.
 - Employment by industry for the top 30 industries in Los Angeles County is shown in Exhibit 3-11.
- ❖ *Average Wages in Los Angeles County:*
 - In the top-ranked group are industries whose average weekly wages exceed the average for all industries;
 - In the middle-ranked group are industries below the average but higher than one-quarter of the top-paying industry;
 - The remaining industries are in the lowest-ranked group.
 - Average wages by industry in Los Angeles County are shown for the top 30 industries in Exhibit 3-12.
- ❖ *Projected Job Creation in Los Angeles County:*
 - In the top-ranked group are industries whose projected job creation from 2010 to 2015 exceed the average for all industries;
 - In the middle-ranked group are industries below the average but still with positive projected job creation;
 - Industries which are projected to see job destruction between 2010 and 2015 are in the lowest-ranked group.
 - Job creation potential for the top 35 industries in Los Angeles County is shown in Exhibit 3-13.

SASSFA SDA Composite Index

We derive a composite index of the three SASSFA SDA criteria using the same procedure as outlined above. The groups for each criterion in the SASSFA SDA Composite Index are defined as follows:

❖ *Industry Size in the SASSFA SDA:*

- In the top-ranked group are industries whose employment levels exceed the average of all industries in the SASSFA SDA;
- In the middle-ranked group are industries below the average of all industries but larger than 5 percent of employment in the largest industry;
- The remaining industries are in the lowest-ranked group.
- Industry capacity is shown for the top 25 industries in the SASSFA SDA in Exhibit 3-15.

❖ *Job Creation in the SASSFA SDA from 2001 to 2008:*

- In the top-ranked group are industries whose historical job creation from 2001 to 2008 exceeded the average for all industries;
- In the middle-ranked group are industries below the average but still with positive historical job creation;
- The remaining industries, those which contracted, are in the lowest-ranked group.
- Job creation from 2001 to 2008 for the top 25 industries in the SASSFA SDA is shown in Exhibit 3-16.

❖ *Location Quotient in 2008:*

- In the top-ranked group are industries with a location quotient of greater than 1.2;
- In the middle-ranked group are industries with a location quotient between 0.9 and 1.2;
- The remaining industries are in the lowest-ranked group.
- Location quotients for the top 25 industries in the SASSFA SDA are shown in Exhibit 3-17.

In addition to the composite index, we look at the recent performance of industries in the SASSFA SDA by the growth in location quotient since 2001.

Results

Exhibit 4-1 lists those industries with a non-negative Los Angeles Composite Index, listed according to their NAICS codes. The individual scores for each criterion are shown along with the composite index. These industries are potential targets given their performance in Los Angeles County. We have shaded rows that are retail industries, since these will not be considered targets.

There are two industries with a composite index of “4”. This means that they are top-ranked industries in all four criteria in Los Angeles County: they are high-growth, large, relatively well-paying and have high job creation potential. These industries are professional, scientific and technical services, and arts, entertainment and recreation.

Exhibit 4-1 Potential Target Industries Using the Los Angeles County Composite Index						
NAICS Industry Sector	NAICS	LAC Criteria				Index
		Growth	Size	Wage	Job Creation	
Professional, Scientific and Technical Services	541	1	1	1	1	4
Arts, Entertainment and Recreation	71	1	1	1	1	4
Specialty Trade Contractors	238	1	1	0	1	3
Manufacturing: Computer /Electronic Products	334	1	0	1	1	3
Wholesalers: Durable Goods	423	0	1	1	1	3
Wholesalers: Nondurable Goods	424	1	1	0	1	3
Motion Picture and Sound Recording Industries	512	0	1	1	1	3
Finance and Insurance	52	0	1	1	1	3
Real Estate and Rental and Leasing	53	0	1	1	1	3
Educational Services	611	1	1	0	1	3
Health Care and Social Assistance	62	1	1	0	1	3
Construction of Buildings	236	1	0	1	0	2
Wholesale Electronic Markets	425	1	-1	1	1	2
Retail: General Merchandise	452	1	1	-1	1	2
Transportation and Warehousing	48-49	0	1	0	1	2
Administrative, Support, Waste Management	56	1	1	-1	1	2
Accommodation and Food Services	72	1	1	-1	1	2
Religious, Civic, Professional Organizations	813	1	0	0	1	2
Heavy and Civil Engineering Construction	237	1	-1	1	0	1
Manufacturing: Fabricated Metal Products	332	1	0	0	0	1
Manufacturing: Electrical Equipment and Appliances	335	1	-1	1	0	1
Other Information Services	519	1	-1	1	0	1
Management of Companies	551	0	0	1	0	1
Mining	21	0	-1	1	0	0
Utilities	221	0	-1	1	0	0
Manufacturing: Food	311	0	0	0	0	0
Manufacturing: Beverage and Tobacco Products	312	0	-1	1	0	0
Manufacturing: Chemicals	325	0	-1	1	0	0
Manufacturing: Nonmetallic Mineral Products	327	1	-1	0	0	0
Manufacturing: Primary Metals	331	1	-1	0	0	0
Manufacturing: Machinery	333	0	-1	1	0	0
Manufacturing: Furniture and Related Products	337	1	-1	0	0	0
Manufacturing: Miscellaneous	339	0	-1	1	0	0
Retail: Motor Vehicles and Parts	441	0	0	0	0	0
Retail: Food and Beverage	445	0	1	-1	0	0
Retail: Clothing and Clothing Accessories	448	1	0	-1	0	0
Broadcasting (except Internet)	515	0	-1	1	0	0
ISPs, Search Portals and Data Processing	518	0	-1	1	0	0

Source: LAEDC

There are nine industries with a composite index of “3”, or top-ranked in three of the four criteria in Los Angeles County. These industries are: specialty trade contractors; computer and electronic products manufacturing; durable goods wholesaling; nondurable goods wholesaling; motion picture and sound recording industries; finance and insurance; real estate and rental and leasing; educational services; and health care and social assistance.

Following these, there are seven industries with a composite index of “2”; five industries with a composite index of “1”; and fifteen industries with a composite index of “0.” We include the latter for reference but these may not make good target industries unless the value of their SASSFA SDA Composite index is favorable.

Exhibit 4-2 below and on the following page presents industries with a non-negative SASSFA SDA Composite Index, listed according to their NAICS codes. There are ten industries with a composite index of “3”, indicating that they are top-ranked in all three criteria in the SASSFA region: they have a relatively large presence in the SASSFA SDA; they have experienced high levels of actual job creation in the SASSFA SDA since 2001; and they have a higher employment concentration in the SASSFA SDA compared to the county as a whole.

These industries include: construction (all three industries); manufacturing of primary metals and of electrical equipment and appliances; wholesaling (all three industries); warehousing and storage; and repair and maintenance. These industries would make promising targets if their Los Angeles County composite index score is acceptable.

Exhibit 4-2 Potential Target Industries Using the SASSFA SDA Composite Index					
NAICS Industry Sector	NAICS	SASSFA SDA Criteria			Index
		Size	Jobs Created	LQ	
Construction of Buildings	236	1	1	1	3
Heavy and Civil Engineering Construction	237	1	1	1	3
Specialty Trade Contractors	238	1	1	1	3
Manufacturing: Primary Metals	331	1	1	1	3
Manufacturing: Electrical Equipment and Appliances	335	1	1	1	3
Wholesalers: Durable Goods	423	1	1	1	3
Wholesalers: Nondurable Goods	424	1	1	1	3
Electronic Markets and Agents and Brokers	425	1	1	1	3
Warehousing and Storage	493	1	1	1	3
Repair and Maintenance	811	1	1	1	3
Manufacturing: Food	311	1	1	0	2
Administrative and Support Services	561	1	1	0	2
Waste Management and Remediation	562	0	1	1	2
Hospitals	622	1	1	0	2
Manufacturing: Paper	322	1	-1	1	1
Manufacturing: Printing and Related Activities	323	1	-1	1	1
Manufacturing: Plastics and Rubber Products	326	1	-1	1	1

Exhibit 4-2 (continued)					
NAICS Industry Sector	NAICS	SASSFA SDA Criteria			Index
		Size	Jobs Created	LQ	
Manufacturing: Fabricated Metal Products	332	1	-1	1	1
Manufacturing: Machinery	333	1	-1	1	1
Manufacturing: Furniture and Related Products	337	1	-1	1	1
Retail: Building Materials and Garden Supply	444	0	1	0	1
Retail: Food and Beverage	445	1	1	-1	1
Retail: General Merchandise	452	1	1	-1	1
Retail: Nonstore Retailers	454	-1	1	1	1
Truck Transportation	484	1	-1	1	1
Credit Intermediation and Related Activity	522	1	1	-1	1
Rental and Leasing Services	532	0	1	0	1
Professional and Technical Services	541	1	1	-1	1
Educational Services	611	1	1	-1	1
Ambulatory Health Care Services	621	1	1	-1	1
Food Services and Drinking Places	722	1	1	-1	1
Manufacturing: Leather and Allied Products	316	-1	0	1	0
Manufacturing: Petroleum and Coal Products	324	-1	0	1	0
Manufacturing: Chemicals	325	0	-1	1	0
Manufacturing: Computer and Electronic Products	334	0	1	-1	0
Manufacturing: Transportation Equipment	336	1	-1	0	0
Retail: Motor Vehicles and Parts	441	1	-1	0	0
Retail: Health and Personal Care	446	0	1	-1	0
Retail: Clothing and Clothing Accessories	448	0	1	-1	0
Transit and Ground Passenger Transportation	485	-1	1	0	0
Real Estate	531	0	1	-1	0
Management of Companies and Enterprises	551	1	-1	0	0
Social Assistance	624	0	1	-1	0
Membership Organizations	813	0	1	-1	0

Source: LAEDC

Exhibit 4-3 lists the industries in the SASSFA SDA in order of the growth in their location quotient since 2001.¹⁴ This provides an indication of how the presence of the industry in the SASSFA SDA has strengthened. A few industries may have strengthened since 2001 from a very small representation. For example, the percent change in the location quotient for water transportation (NAICS 483) between 2001 and 2008 topped the list, but this reflected an increase in the *level* of employment from zero jobs to twelve jobs. Clearly this is a poor target. For this reason, we omit four industries which added only a few jobs during the period and which began with no employment in the SASSFA SDA.¹⁵

¹⁴ Only industries with positive growth in location quotient are shown.

¹⁵ These industries are: water transportation (NAICS 483); lessors of nonfinancial intangible assets (NAICS 533); air transportation (NAICS 481); and other information services (NAICS 519). Together, these four industries added 31 jobs between 2001 and 2008.

Exhibit 4-3 Industries in the SASSFA SDA by Growth in Location Quotient (2001 to 2008)				
Rank	NAICS Industry Sector	NAICS	% Change since 2001	Location Quotient 2008
1	Broadcasting (except Internet)	515	1,856.1	0.1
2	Publishing Industries	511	195.0	0.3
3	Heavy and Civil Engineering Construction	237	96.6	2.7
4	Retail: Nonstore Retailers	454	82.9	1.3
5	Membership Organizations and Associations	813	70.2	0.6
6	Transit and Ground Passenger Transportation	485	64.5	0.9
7	Warehousing and Storage	493	63.8	4.5
8	Social Assistance	624	61.5	0.6
9	Manufacturing: Electrical Equipment and Appliances	335	61.2	3.8
10	Manufacturing: Computer and Electronic Products	334	58.7	0.4
11	Manufacturing: Primary Metal Products	331	57.0	4.8
12	Manufacturing: Leather and Allied Products	316	56.4	2.2
13	Scenic and Sightseeing Transportation	487	54.4	0.2
14	Retail: Sporting Goods/Hobby/Books/Music	451	50.0	0.6
15	Manufacturing: Petroleum and Coal Products	324	45.9	1.6
16	Administrative and Support Services	561	37.8	1.0
17	Printing and Related Support Activities	323	34.2	1.8
18	Rental and Leasing Services	532	34.2	1.1
19	Management of Companies	551	33.0	0.9
20	Telecommunications	517	26.3	0.3
21	Wholesalers: Nondurable Goods	424	22.8	1.7
22	Credit Intermediation and Related Activity	522	22.5	0.5
23	Retail: Building Materials and Garden Supplies	444	22.4	1.0
24	Manufacturing: Food	311	21.7	0.9
25	Educational Services	611	20.6	0.8
26	Manufacturing: Paper	322	17.7	5.7
27	Manufacturing: Furniture and Related Products	337	13.3	2.4
28	Wholesalers: Durable Goods	423	10.5	2.8
29	Real Estate	531	9.4	0.4
30	Electronic Markets and Agents and brokers	425	9.0	2.6
31	Utilities	221	7.5	0.5
32	Manufacturing: Miscellaneous	339	6.7	1.0
33	Hospitals	622	6.5	1.1
34	Truck Transportation	484	4.0	2.9
35	Professional and Technical Services	541	3.1	0.4
36	Repair and Maintenance	811	3.0	1.3
37	Specialty Trade Contractors	238	2.8	1.7
38	Retail: Health and Personal Care Stores	446	1.7	0.8
39	Ambulatory Health Care Services	621	1.2	0.6
40	Waste Management and Remediation Services	562	0.4	3.5

Source: LAEDC

Discussion

We have developed three indicators for industry targeting. First, we have a composite index showing each industry's performance in Los Angeles County. Second, we have a composite index for industry performance in the SASSFA SDA. Lastly, we have a list of industries which have become relatively more important in the SASSFA SDA over the past seven years. From these three indicators, we focus on industries that are most likely to be promising targets for job retention activities, including both export-oriented and population-serving industries. These industries are listed in Exhibit 4-4, and are individually described on the following pages.

Exhibit 4-4 Identified Target Industries	
NAICS Industry Sector	NAICS
Professional and Technical Services	541
Ambulatory Health Care Services	621
Hospitals	622
Nursing and Residential Care Facilities	623
Manufacturing: Primary Metal Products	331
Manufacturing: Fabricated Metal Products	332
Manufacturing: Machinery	333
Manufacturing: Computer and Electronic Products	334
Manufacturing: Electrical Equipment and Appliances	335
Wholesalers: Durable Goods	423
Wholesalers: Nondurable Goods	424
Electronic Markets and Agents and Brokers	425
Warehousing and Storage	493
Construction of Buildings	236
Heavy and Civil Engineering Construction	237
Specialty Trade Contractors	238
Administrative and Support Services	561
Waste Management and Remediation	562
Repair and Maintenance	811

Professional, Scientific and Technical Services

This industry includes sectors which specialize in performing professional, scientific and technical activities for others. These activities typically require a high degree of expertise and training. Included are activities such as legal services, architectural, engineering, interior and industrial design, computer design and programming, management consulting, advertising, market research and environmental consulting.

- This is a large industry which employed over 270,000 people in Los Angeles County in 2008, including more than 49,100 in the legal service subsector; another 41,500 in accounting, tax preparation and payroll services; almost 42,000 in architectural and engineering services; and more than 41,600 in management and technical consulting.
- The industry employed 3,820 people in the SASSFA SDA in 2008.
- The industry is expected to grow at an average rate of 2.4 percent per year in Los Angeles County from 2010 to 2015.
- The average annual wage in this industry in Los Angeles County was \$81,244 in 2008.
- Not only is this a large industry with good growth potential, it also employs a wide variety of relatively high-wage occupations, many of which require a community college degree or technical training, and which provide the opportunity for career advancement through the development of specialized expertise through on-the-job experience.
- This industry forms the backbone of the Professional and Business Services industry cluster; other major components of this cluster are in the administrative and support services industry discussed below.

Health Care (Ambulatory Health Care, Hospitals and Nursing and Residential Care)

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; and nursing and residential care facilities.

- The sector employed almost 338,000 people in 2008 in Los Angeles County, and is forecast to grow at a robust rate of 2.8 percent per year on average from 2010 to 2015.
- In the SASSFA SDA, employment numbered 9,760 in 2008.
- The average annual wage in this industry was \$55,537 in 2008 in Los Angeles County.
- These are large industries with high growth potential given the ongoing demographic shift and the advancement of medical technology. Many of the occupations employed in these industries can be filled with community college education or technical training, and will provide the opportunity for career advancement through on-the-job experience.
- These industries comprise the majority of the Health Services and Biomedical industry cluster. Other components of this cluster are: pharmaceutical and medicine manufacturing; electromedical and therapeutic apparatus manufacturing; and medical equipment and supplies manufacturing. Electromedical and therapeutic apparatus manufacturing is included in the computer and electronic products manufacturing industry discussed below; the other two industries are poor targets in general given our criteria.

Manufacturing (Selected Products)

Manufacturing as a whole has been in decline in Los Angeles County and nationwide. Nevertheless, several manufacturing industries appear to be promising targets for employment growth in the SASSFA SDA based upon their performance on our criteria. These include: primary metal products; fabricated metal products; machinery; computer and electronic products; and electrical equipment and appliances.

- Employment in these five industries was 141,700 people in Los Angeles County in 2008, and almost 10,785 people in the SASSFA SDA.
- The average annual wage in 2008 was \$64,887 in Los Angeles County.
- While manufacturing is in general on a long-term decline in employment at the national level, we believe opportunities remain in these specific industries given current market conditions in the SASSFA SDA. Occupations in these industries can be filled by job seekers with community college degrees or technical training, and can be highly-paid given the requisite skills.
- Two other manufacturing industries appear to have strength in the SASSFA SDA: food manufacturing and papers goods manufacturing. Given their long-term outlook, we do not consider these to be promising targets.

Wholesaling (Durable Goods, Nondurable Goods and Electronic Markets)

Firms engaged in wholesale trade sell merchandise to other businesses and normally operate from a warehouse or office, which typically has little or no display of merchandise. Electronic markets are those in which firms arrange transactions that facilitate wholesale trade using the internet or other electronic means. Warehousing and storage firms provide facilities to store goods and may offer logistics services such as labeling, packaging and ticketing, but do not sell the goods they handle.

- Employment in 2008 was 240,520 in Los Angeles County. Growth in Los Angeles County between 2010 and 2015 is forecast to be 1.3 percent per year on average for durable goods wholesaling, 2.2 percent for nondurable goods wholesaling and 5.2 percent per year for electronic markets.
- In the SASSFA SDA, employment in 2008 was 22,165, of which 2,562 was in electronic markets.
- The average annual wage in 2008 was \$53,439 in Los Angeles County.
- We include these industries because they show promise during the forecast period, with consumer demand expected to improve and with expected growth in electronic markets. Additionally, wholesaling is a large industry. The SASSFA SDA shows particular strength in these industries, and occupations in wholesaling do not require specialized skills, making it a potential target for challenged job entrants.
- These industries define the Wholesale Trade industry cluster.

Construction (Buildings, Heavy and Civil Engineering and Specialty Trades)

Industries in this sector include establishments involved in the construction of buildings or engineering projects such as highways and utility systems, and firms providing specific components of construction projects such as masonry, plumbing and electrical work.

- Employment in 2008 was 145,660 in Los Angeles County; in SASSFA, there were 9,246 employed.
- The average annual wage in 2008 was \$53,131 in Los Angeles County.
- This large industry will experience a robust recovery after the devastating declines in 2008 and 2009. Federal stimulus funds used in construction of many infrastructure projects will employ thousands of workers in highway, transit, infrastructure, water and other projects. Additionally, federal, state and local mandates regarding energy efficiency and greening of existing buildings have the potential to drive employment in retrofitting and efficiency implementations.
- These industries define the Construction industry cluster.

Administrative and Support Services

Establishments in this industry are engaged in activities which support the day-to-day operations of other organizations, such as management, personnel administration, clerical activities and cleaning activities. Activities include: billing and recordkeeping; personnel; travel agents; facilities support; temporary help; telephone call centers; collection agencies; and court reporting.

- Employment in waste management in Los Angeles County was 248,040 in 2008. It is expected to experience strong growth at an average annual rate of 4.1 percent in Los Angeles County from 2010 to 2015.
- In the SASSFA SDA, employment numbered 2,393 in 2008.
- The average annual wage in the industry in Los Angeles County was \$32,883 in 2008.
- The recent trend has been to contract with or purchase services from businesses that specialize in such administrative and support activities, rather than conducting them in-house. This industry will continue to experience robust growth.
- There are a wide variety of occupations in this industry which can be filled with community college degrees or technical training, and which can provide opportunities for career advancement through on-the-job experience.
- Many of the activities in this industry are included in the Professional and Business Services industry cluster.

Waste Management and Remediation

This industry is composed of establishments engaged in the collection, treatment and disposal of waste materials, including: local hauling of waste; materials recovery facilities, such as recyclers; remediation service providers, such as contamination clean-up; and septic

pumping. We anticipate that increased focus on the treatment and recycling of waste materials will provide new opportunities in this industry.

- Employment in waste management in Los Angeles County was 9,013 in 2008
- In the SASSFA SDA, employment numbered 107 in 2008.
- The average annual wage in the industry in Los Angeles County was \$51,784 in 2008.
- This industry defines the population-serving Waste Management and Remediation Services industry cluster.

Repair and Maintenance

This subsector includes industries which restore machinery, equipment and other products to working order. Included are activities such as automotive repair and maintenance, electronic and precision equipment repair and maintenance, and commercial and industrial machinery and equipment repair and maintenance.

- This is a small subsector which employed almost 41,000 people in Los Angeles County in 2008, of which 75 percent were in automotive repair and maintenance.
- The industry employed 2,393 people in the SASSFA SDA in 2008.
- The average annual wage in Los Angeles County was \$33,010 in 2008.
- This industry is not included in any export-oriented or population-serving industry cluster. We anticipate that retrofitting of vehicles and equipment to comply with new environmental regulations and mandates will generate new opportunities in the sub-industries of this subsector.

In this section, we examine the occupational composition of the nineteen most promising industries for job retention and expansion as identified in the previous section.

For each identified industry, we first examine its occupational composition by major occupational group. Major occupational groups are aggregations used to classify workers using the 2000 Standard Occupational Classification (SOC) System. Major groups include broad descriptive categories such as production occupations, management occupations and business and financial operations occupations.

Within these major groups are 821 detailed occupations. Detailed occupations are differentiated according to the job skills, abilities and work activities 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.

For each identified industry, detailed occupations are reported for those major occupational groups with sufficient employment share. Education and training requirements are provided, along with the annual median wage in Los Angeles County for each detailed occupation and the total number of people employed in this occupation across all industries in Los Angeles County.

We begin with a description of the occupational structure of Los Angeles County.

Occupations in Los Angeles County

The occupational employment structure in Los Angeles County by major occupational group is shown in Exhibit 5-1, along with the annual median wage of each group. Major groups are listed in numerical order.

Exhibit 5-1 Employment by Major Occupational Group (May 2008) Los Angeles County				
SOC	Occupation Group Title	Employment	% of total employment	Annual median wage
11-0000	Management occupations	231,870	5.6	\$ 101,520
13-0000	Business and financial operations occupations	214,890	5.2	63,530
15-0000	Computer and mathematical science occupations	89,590	2.2	75,130
17-0000	Architecture and engineering occupations	76,530	1.8	80,100
19-0000	Life, physical, and social science occupations	33,030	0.8	61,770
21-0000	Community and social services occupations	48,660	1.2	45,120
23-0000	Legal occupations	37,940	0.9	100,720
25-0000	Education, training, and library occupations	268,080	6.4	50,580
27-0000	Arts, design, entertainment, sports, and media occupations	141,310	3.4	49,870
29-0000	Healthcare practitioners and technical occupations	182,570	4.4	69,950
31-0000	Healthcare support occupations	93,390	2.2	25,950
33-0000	Protective service occupations	107,750	2.6	32,030
35-0000	Food preparation and serving related occupations	323,940	7.8	18,800
37-0000	Building and grounds cleaning and maintenance occupations	104,250	2.5	23,190
39-0000	Personal care and service occupations	96,550	2.3	21,480
41-0000	Sales and related occupations	415,400	10.0	26,570
43-0000	Office and administrative support occupations	810,200	19.5	32,270
47-0000	Construction and extraction occupations	139,610	3.4	44,310
49-0000	Installation, maintenance, and repair occupations	127,820	3.1	41,820
51-0000	Production occupations	316,470	7.6	24,250
53-0000	Transportation and material moving occupations	297,860	7.2	25,470

Source: BLS

The largest occupational group is office and administrative support occupations, making up almost 20 percent of all employment in Los Angeles County in 2008, or more than 810,000 jobs. Sales and related occupations is the second-largest group with ten percent of all jobs. The highest-paid on average were management occupations, followed closely by legal occupations.

Exhibit 5-2 on the following pages presents the top 50 detailed occupations in Los Angeles County by employment. Because each detailed occupation may be common to many industries, the exhibit provides a list of those industries which employ this occupation. These

industries are listed in order of employment in May of 2008. The annual median wage in Los Angeles County for each occupation is also shown.

The single largest detailed occupation is retail salespersons, with over 126,000 employed in Los Angeles County in May of 2008 with a median annual wage of \$20,690. As shown, this occupation is common to many industries. The second largest detailed occupation is general office clerks, with almost 119,000 employed earning a median annual wage of \$26,400.

Following this exhibit are the occupational data sheets for each identified target industry. These are presented in the same order as in Exhibit 4-4. For each industry, we report the employment in Los Angeles County and in the SASSFA SDA in 2008, and the average annual wage. We provide a breakdown of the occupational makeup of each industry by major group, and for each major group with a significant share of the industry's employment, we provide a list of the detailed occupations therein, including: the education and training required; the median annual wage in Los Angeles County; and the total number of persons employed in Los Angeles County in that detailed occupational group in 2008.

Exhibit 5-2
Top 50 Detailed Occupations by Employment (May 2008)
Los Angeles County

Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
1	41-2031	Retail salespersons	Retail stores such as clothing, building materials, electronics and appliance stores, etc.; motor vehicle dealers; florists; employment services; electronic shopping and mail-order houses; wholesalers; wired telecommunications carriers; museums, parks and historical sites.	126,030	\$ 20,690
2	43-9061	Office clerks, general	Local and state government; colleges and universities; elementary and secondary schools; temporary employment services; hospitals; offices of real estate agents; offices of physicians; accounting and bookkeeping services; legal services; insurance agencies; management of companies; junior colleges; electronic markets; insurance carriers; management and technical consulting services; residential building construction; activities related to real estate; computer systems design services; architectural and engineering services; banks and credit unions; religious organizations; service to buildings.	118,720	26,440
3	41-2011	Cashiers	Retail stores; restaurants; movie theatres; amusement parks and arcades; automotive repair and maintenance; local government; hospitals; spectator sports; performing arts companies.	92,580	19,170
4	53-7062	Laborers and freight, stock, and material movers, hand	Temporary employment agencies; warehousing and storage; couriers; wholesalers; general and specialized freight trucking; building material and supplies dealers; motion picture and video industries; grocery stores; furniture stores; building equipment contractors.	84,090	22,100
5	11-1021	General and operations managers	Management of companies; management and technical consulting services; computer systems design services; local government; architectural and engineering services; grocery stores; electronic markets; residential building construction; office administrative services; restaurants; accounting and bookkeeping services; retail stores; insurance agencies; advertising services.	68,770	107,470

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
6	43-6011	Executive secretaries and administrative assistants	Local government; temporary agencies; elementary and secondary schools; management and technical consulting services; colleges and universities; management of companies; architectural and engineering services; accounting and bookkeeping services; offices of real estate agents and brokers; financial investment activities; residential building construction; hospitals; computer systems design and related services; religious organizations; office administrative services; insurance carriers; scientific research and development services.	65,830	\$ 43,240
7	35-3031	Waiters and waitresses	Restaurants; accommodation; drinking places; caterers; temporary agencies; local government; gambling industries; community care facilities for the elderly; civic and social organizations.	63,810	18,190
8	29-1111	Registered nurses	Hospitals; offices of physicians; temporary employment agencies; local, state and federal government; home health care services; outpatient care centers; nursing care facilities; elementary and secondary schools; psychiatric and substance abuse hospitals; insurance carriers.	63,650	79,240
9	43-4051	Customer service representatives	Insurance carriers; temporary employment agencies; management of companies; banks and credit unions; wireless telecommunication carriers; management and technical consulting services; local government; office administrative services; hospitals; electronic markets; computer systems design; business support services; wholesalers; mail order houses; retail stores; construction.	60,720	32,800
10	35-3021	Combined food preparation and serving workers, including fast food	Restaurants; grocery stores; elementary and secondary schools; special food services; specialty food stores; hospitals; accommodation; amusement parks and arcades; community care facilities for the elderly; motion picture and video industries; nursing care facilities.	59,820	18,050

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
11	43-3031	Bookkeeping, accounting, and auditing clerks	Accounting and bookkeeping services; local government; management of companies; elementary and secondary schools; banks and credit unions; building equipment contractors; hospitals; electronic markets; temporary employment agencies; activities related to real estate; offices of physicians; residential building construction; insurance carriers; office administrative services; legal services; colleges and universities.	57,780	\$ 36,410
12	43-5081	Stock clerks and order fillers	Department stores; grocery stores; warehousing and storage; retail stores; wholesalers; electronic markets; hospitals; temporary employment agencies; local governments; management of companies; advertising.	56,740	20,970
13	37-2011	Janitors and cleaners, except maids and housekeepers	Services to buildings; elementary and secondary schools; local government; management of companies; hospitals; colleges and universities; religious organizations; temporary employment agencies; activities related to real estate.	54,000	21,970
14	25-2021	Elementary school teachers, except special education	Elementary and secondary schools; individual and family services; religious organizations.	53,670	57,310
15	33-9032	Security guards	Investigation and security services; local government; elementary and secondary schools; drinking places; hospitals; lessors of real estate; amusement parks and arcades; management of companies; temporary employment agencies; colleges and universities; spectator sports.	52,850	22,700
16	43-1011	First-line supervisors/managers of office and administrative support workers	Banks and credit unions; local and state government; offices of physicians; retail stores; management of companies; elementary and secondary schools; insurance carriers; offices of dentists; hospitals; legal services; business support services; insurance agencies; management and technical consulting services; temporary employment agencies; colleges and universities; accommodation.	52,680	50,560

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
17	25-9041	Teacher assistants	Elementary and secondary schools; colleges and universities; child day care services; junior colleges; other schools and instruction; religious organizations; local government; individual and family services; civic and social organizations.	48,600	\$ 28,030
18	41-4012	Sales representatives, wholesale / manufacturing, except technical and scientific products	Electronic markets; wholesalers; management of companies; printing and related support activities; beverage and tobacco product manufacturing; building finishing contractors; other manufacturing; software publishers; temporary employment agencies; motion picture and video industries.	47,490	52,800
19	13-1199	Business operations specialists, all other	Local, state and federal government; colleges and universities; hospitals; management of companies; insurance carriers; electronic markets; management and technical consulting services; office administrative services; elementary and secondary schools; banks and credit unions; architectural and engineering services; wholesalers; scientific research services; activities related to real estate; computer systems design services; social advocacy orgs.	42,470	64,420
20	13-2011	Accountants and auditors	Accounting and bookkeeping services; local government; management of companies; computer systems design; activities related to real estate; management and technical consulting services; architectural and engineering services; office administrative services; motion picture and video industries; colleges and universities; federal government; insurance carriers; elementary and secondary schools; hospitals; financial investment activities; legal services.	42,190	64,050
21	25-2031	Secondary school teachers (not special ed or vocational)	Local government; hospitals.	36,360	64,230
22	43-5071	Shipping, receiving, and traffic clerks	Couriers; warehousing and storage; department stores; wholesalers; electronic markets; retail stores; cut and sew apparel manufacturing; management of companies; semiconductor and electronic components manufacturing; medical equipment and supplies manufacturing; motion picture and video industries.	34,360	26,790

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
23	53-7064	Packers and packagers, hand	Grocery stores; plastics product manufacturing; wholesalers; warehousing and storage; bakeries and tortilla manufacturing; animal slaughtering and processing; converted paper product manufacturing; cut and sew apparel manufacturing; fruit, vegetable and specialty foods manufacturing; electronic markets.	34,300	\$ 18,480
24	51-6031	Sewing machine operators	Cut and sew apparel manufacturing; textile product mills; household and institutional furniture manufacturing; accessories and other apparel manufacturing; printing activities; textile mills; apparel knitting mills.	34,170	18,810
25	49-9042	Maintenance and repair workers, general	Lessors of real estate; local government; activities related to real estate; accommodation; elementary and secondary schools; colleges and universities; beverage and tobacco product manufacturing; management of companies; professional organizations; fruit, vegetable and specialty foods manufacturing; plastics product manufacturing; semiconductor and electronic components manufacturing; nonmetallic mineral product manufacturing; warehousing and storage; services to building; federal government; pharmaceutical and medicine manufacturing; facilities support services; nursing care facilities; community care facility for the elderly; commercial machinery repair.	32,020	36,690
26	41-1011	First-line supervisors/managers of retail sales workers	Retail stores; gasoline stations; automobile dealers; consumer goods rental; automotive equipment rental and leasing; lessors of real estate; management of companies; beverage and tobacco product manufacturing; wireless telecommunication carriers.	31,550	36,670
27	43-6014	Secretaries, except legal, medical, and executive	Elementary and secondary schools; local government; religious organizations; colleges and universities; accounting and bookkeeping services; architectural and engineering services; building equipment contractors; activities related to real estate; management and technical consulting services; federal government; residential building construction; offices of real estate agents; management of companies; hospitals; electronic markets; insurance carriers and agencies.	30,920	33,130

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
28	43-4171	Receptionists and information clerks	Offices of physicians; personal care services; legal services; offices of dentists; offices of real estate agents; hospitals; elementary and secondary schools; local government; accounting and bookkeeping services; religious organizations; insurance agencies; activities related to real estate; building equipment contractors; management and technical consulting services; management of companies; colleges and universities; banks and credit unions; outpatient care centers; automobile dealers; architectural and engineering services; motion picture and video industries; office administrative services.	30,890	\$ 25,950
29	31-1012	Nursing aides, orderlies, and attendants	Nursing care facilities; hospitals; community care facility for the elderly; local government; office of physicians; home health care services; state and federal government; outpatient care centers.	30,840	24,060
30	53-3032	Truck drivers, heavy and tractor-trailer	Freight trucking (general and specialized); nonmetallic mineral product manufacturing; wholesalers; support activities for road transportation; warehousing and storage; waste management and remediation service; couriers; building material and supplies dealers; freight transportation arrangement; management of companies; electronic markets; machinery and equipment rental and leasing; utility system construction; dairy product manufacturing; highway, street and bridge construction; building foundation and exterior contractors.	30,400	39,620
31	35-2011	Cooks, fast food	Limited-service restaurants; full-service restaurant; amusement parks and arcades; grocery stores; gasoline stations; accommodation.	30,280	17,950
32	47-2061	Construction laborers	Residential building construction; specialty trade contractors; building foundation and exterior contractors; nonresidential building construction; utility system construction; highway, street and bridge construction; building contractors; local government; services to buildings and dwellings; architectural and engineering services; land subdivision; waste management and remediation services; management of companies.	29,250	35,190

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
33	53-3033	Truck drivers, light or delivery services	Couriers; wholesalers; retail stores; automobile dealers; building material and supplies dealers; freight trucking; local messengers; warehousing and storage; electronic markets; consumer goods rental; florists; bakeries and tortilla manufacturing; management of companies.	29,220	\$ 28,490
34	35-2021	Food preparation workers	Limited-service restaurants; full-service restaurants; grocery stores; elementary and secondary schools; special food services; nursing care facilities; local government; hospitals; community care facility for the elderly; religious organizations; bakeries and tortilla manufacturing; colleges and universities.	28,430	18,790
35	35-2014	Cooks, restaurant	Full-service restaurants; accommodation; limited-service restaurants; other amusements and recreation industries; local government; gambling industries.	26,460	23,260
36	41-3099	Sales representatives, services, all other	Management and technical consulting services; computer systems design services; banks and credit unions; telecommunications resellers; ASPs and web search portals; advertising and related services; building equipment contractors; services to buildings and dwellings; wireless telecommunications carriers; insurance carriers; management of companies; accommodation; residential building construction; insurance agencies; wired telecommunications carriers; cable and other subscription programming; business supports services.	25,720	52,100
37	23-1011	Lawyers	Legal services; local, state and federal government; management of companies; insurance carriers; computer systems design services.	23,900	137,380
38	51-2092	Team assemblers	Medical equipment and supplies manufacturing; semiconductor and electronic components manufacturing; electrical equipment and appliances manufacturing; motor vehicle parts manufacturing; plastics product manufacturing; architectural and structural metals manufacturing; electronic instrument manufacturing; household and institutional furniture manufacturing; nonmetallic mineral product manufacturing; commercial and service industry machinery manufacturing; aerospace product and parts manufacturing.	22,880	21,280

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
39	43-6013	Medical secretaries	Offices of physicians; offices of dentists; hospitals; offices of other health practitioners; outpatient care centers; medical and diagnostic laboratories; home health care services; nursing care facilities.	22,730	\$ 29,890
40	43-9199	Office and administrative support workers, all other	Colleges and universities; local government; junior colleges; hospitals; management of companies; accounting and bookkeeping services; federal government; newspaper, book and directory publishers; office administrative services; insurance carriers; state government.	22,390	26,890
41	35-3022	Counter attendants: cafeteria, concessions, coffee shops	Limited-service restaurants; elementary and secondary schools; special food services; grocery stores; full-service restaurants; accommodation; specialty food stores; local government; junior colleges.	22,250	18,580
42	35-1012	First-line supervisors/managers of food prep and serving	Limited-service restaurants; full-service restaurants; elementary and secondary schools; grocery stores; special food services; drinking places; specialty food stores; local government; nursing care facilities; community care facility for the elderly; hospitals; amusement parks and arcades.	22,130	26,910
43	37-2012	Maids and housekeeping cleaners	Accommodation; hospitals; private households; services to buildings and dwellings; nursing care facilities; community care facility for the elderly; activities related to real estate; religious organizations; lessors of real estate; residential mental health facilities.	21,400	21,060
44	33-3051	Police and sheriff's patrol officers	Local, state and federal government; colleges and universities; junior colleges.	20,770	77,670
45	31-9092	Medical assistants	Offices of physicians; hospitals; outpatient care centers; offices of other health practitioners; state government; other ambulatory health care services; local government.	20,760	29,600

Exhibit 5-2 (continued)					
Rank	SOC	Occupation title	Employing industries	Total employment in LAC	Annual median wage
46	29-2061	Licensed practical and licensed vocational nurses	Hospitals; nursing care facilities; home health care services; offices of physicians; local government; community care facility for the elderly; outpatient care centers; federal government; residential mental health facilities; psychiatric and substance abuse hospitals; other hospitals.	20,720	\$ 45,770
47	25-1199	Postsecondary teachers, all other	Colleges and universities; junior colleges.	19,840	61,400
48	53-7051	Industrial truck and tractor operators	Warehousing and storage; wholesalers; general freight trucking; agriculture; state government; fruit, vegetable and specialty foods manufacturing; beverage and tobacco product manufacturing; converted paper product manufacturing; nonmetallic mineral product manufacturing; plastics product manufacturing; management of companies; dairy product manufacturing.	19,460	31,610
49	43-3021	Billing and posting clerks and machine operators	Offices of physicians; accounting and bookkeeping services; management of companies; hospitals; offices of dentists; wholesalers; offices of other health practitioners; legal services; medical and diagnostic laboratories; office administrative services; insurance carriers; insurance agencies; local government; electronic markets; outpatient care centers; medical equipment and supplies manufacturing.	18,910	32,570
50	37-3011	Landscaping and grounds-keeping workers	Services to buildings and dwellings; local government; other amusement and recreation industries; elementary and secondary schools; lessors of real estate; state government; activities related to real estate; architectural and engineering services; colleges and universities; professional organizations; management and technical consulting services; death care services; religious organizations.	18,890	24,740

Source: BLS

Professional, Scientific and Technical Services

NAICS 541

Employment



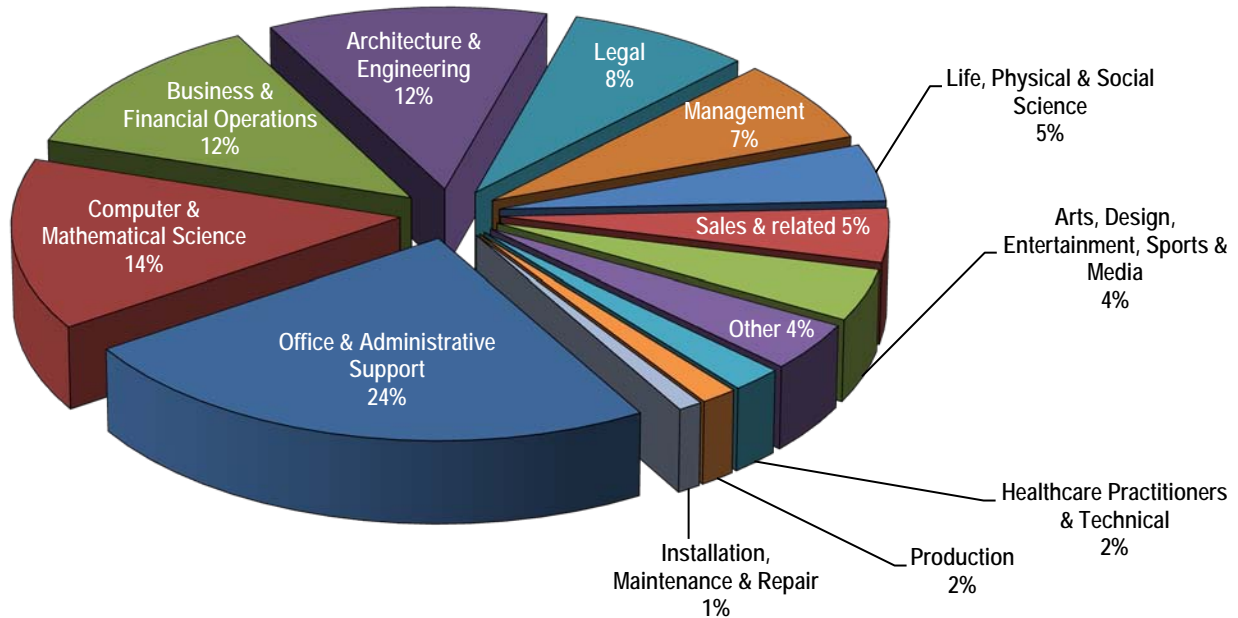
LA County 270,697 Jobs
SASSFA 3,794 Jobs

Average Annual Wage



LA County \$81,244

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office and administrative support workers	Work Experience	\$50,560	52,680
43-3031	Bookkeeping, accounting, and auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-4171	Receptionists and information clerks	Short-Term On-the-Job Training	25,950	30,890
43-6011	Executive secretaries and administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6012	Legal secretaries	Post-Secondary Vocational Education	49,240	11,460
43-6014	Secretaries, except legal, medical, and executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Computer and mathematical science occupations		Education/Training	Annual Median Wage	Total Employment in LAC
15-1021	Computer programmers	Bachelor's Degree	\$77,430	7,720
15-1031	Computer software engineers, applications	Bachelor's Degree	87,520	13,610
15-1032	Computer software engineers, systems software	Bachelor's Degree	97,560	13,710
15-1041	Computer support specialists	Associate Degree	44,090	15,200
15-1051	Computer systems analysts	Bachelor's Degree	77,960	11,660
15-1071	Network and computer systems administrators	Bachelor's Degree	69,890	8,240
Business and financial operations occupations		Education/Training	Annual Median Wage	Total Employment in LAC
13-1111	Management analysts	Work Experience, Plus a Bachelor's or Higher	\$76,370	18,590
13-1199	Business operations specialists, all other	Bachelor's Degree	64,420	42,470
13-2011	Accountants and auditors	Bachelor's Degree	64,050	42,190
Architecture and engineering occupations		Education/Training	Annual Median Wage	Total Employment in LAC
17-1011	Architects, except landscape and naval	Bachelor's Degree	\$83,000	3,010
17-2051	Civil engineers	Bachelor's Degree	83,770	7,900
17-3011	Architectural and civil drafters	Post-Secondary Vocational Education	52,870	5,060
Legal occupations		Education/Training	Annual Median Wage	Total Employment in LAC
23-1011	Lawyers	First Professional Degree	\$137,380	23,900
23-2011	Paralegals and legal assistants	Associate Degree	54,810	8,580

Ambulatory Health Care Services

NAICS 621

Employment



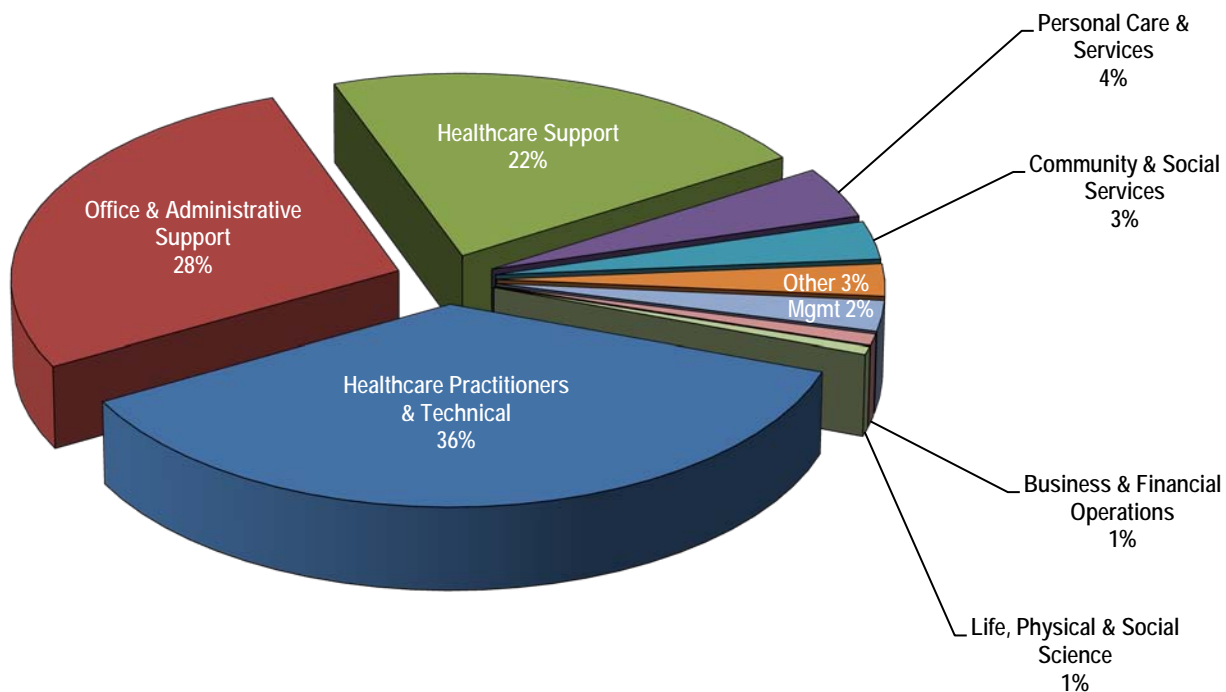
LA County 166,003 Jobs
SASSFA 3,797 Jobs

Average Annual Wage



LA County \$52,682

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Healthcare practitioners and technical occupations		Education/Training	Annual Median Wage	Total Employment in LAC
29-1021	Dentists, general	First Professional Degree	\$108,890	3,440
29-1062	Family and general practitioners	First Professional Degree	113,300	3,650
29-1069	Physicians and surgeons, all other	First Professional Degree	-	6,650
29-1111	Registered nurses	Associates Degree	79,240	63,650
29-1123	Physical therapists	Master's Degree	77,440	4,130
29-2012	Medical and clinical laboratory technicians	Associate Degree	36,410	4,760
29-2021	Dental hygienists	Associate Degree	82,990	3,840
29-2034	Radiologic technologists and technicians	Associate Degree	59,080	4,070
29-2041	Emergency medical technicians and paramedics	Post-Secondary Vocational Education	25,830	3,010
29-2061	Licensed practical and licensed vocational nurses	Post-Secondary Vocational Education	45,770	20,720
29-2071	Medical records and health information technicians	Associates Degree	32,910	4,280
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office and administrative support workers	Work Experience	\$50,560	52,680
43-3021	Billing and posting clerks and machine operators	Moderate-Term On-the-Job Training	50,410	6,670
43-3031	Bookkeeping, accounting, and auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4171	Receptionists and information clerks	Short-Term On-the-Job Training	25,950	30,890
43-6011	Executive secretaries and administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6013	Medical secretaries	Post-Secondary Vocational Education	29,890	22,730
43-6014	Secretaries, except legal, medical, and executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Healthcare support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
31-1011	Home health aides	Short-Term On-the-Job Training	\$20,410	12,000
31-1012	Nursing aides, orderlies, and attendants	Short-Term On-the-Job Training	24,060	30,840
31-9091	Dental assistants	Moderate-Term On-the-Job Training	29,030	11,340
31-9092	Medical assistants	Moderate-Term On-the-Job Training	29,600	20,760

Hospitals

NAICS 622

Employment



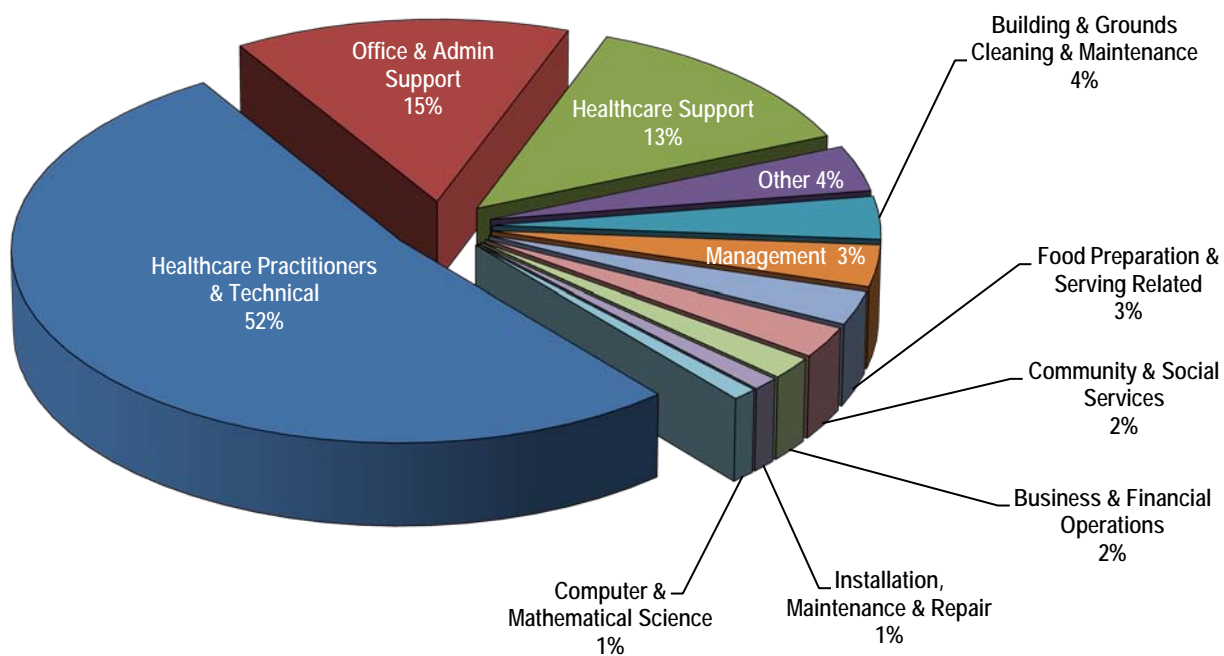
LA County 107,613 Jobs
SASSFA 4,427 Jobs

Average Annual Wage



LA County \$61,341

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Healthcare practitioners and technical occupations		Education/Training	Annual Median Wage	Total Employment in LAC
29-1051	Pharmacists	First Professional Degree	\$119,430	6,930
29-1069	Physicians & surgeons, all other	First Professional Degree	-	6,650
29-1111	Registered nurses	Associates Degree	79,240	63,650
29-1123	Physical therapists	Master's Degree	77,440	4,130
29-1126	Respiratory therapists	Associates Degree	64,210	3,580
29-2011	Medical & clinical laboratory technologists	Bachelor's Degree	73,720	4,960
29-2012	Medical & clinical laboratory technicians	Associate Degree	36,410	4,760
29-2034	Radiologic technologists & technicians	Associate Degree	59,080	4,070
29-2052	Pharmacy technicians	Moderate-Term On-the-Job Training	34,860	6,780
29-2055	Surgical technologists	Post-Secondary Vocational Education	44,900	2,450
29-2061	Licensed practical & licensed vocational nurses	Post-Secondary Vocational Education	45,770	20,720
29-2071	Medical records & health information technicians	Associate Degree	32,910	4,280
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-4111	Interviewers, except eligibility & loan	Short-Term On-the-Job Training	\$29,170	9,620
43-6013	Medical secretaries	Post-Secondary Vocational Education	29,890	22,730
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Healthcare support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
31-1012	Nursing aides, orderlies, & attendants	Short-Term On-the-Job Training	\$24,060	30,840
31-9092	Medical assistants	Moderate-Term On-the-Job Training	29,600	20,760

Nursing and Residential Care Facilities

NAICS 623

Employment



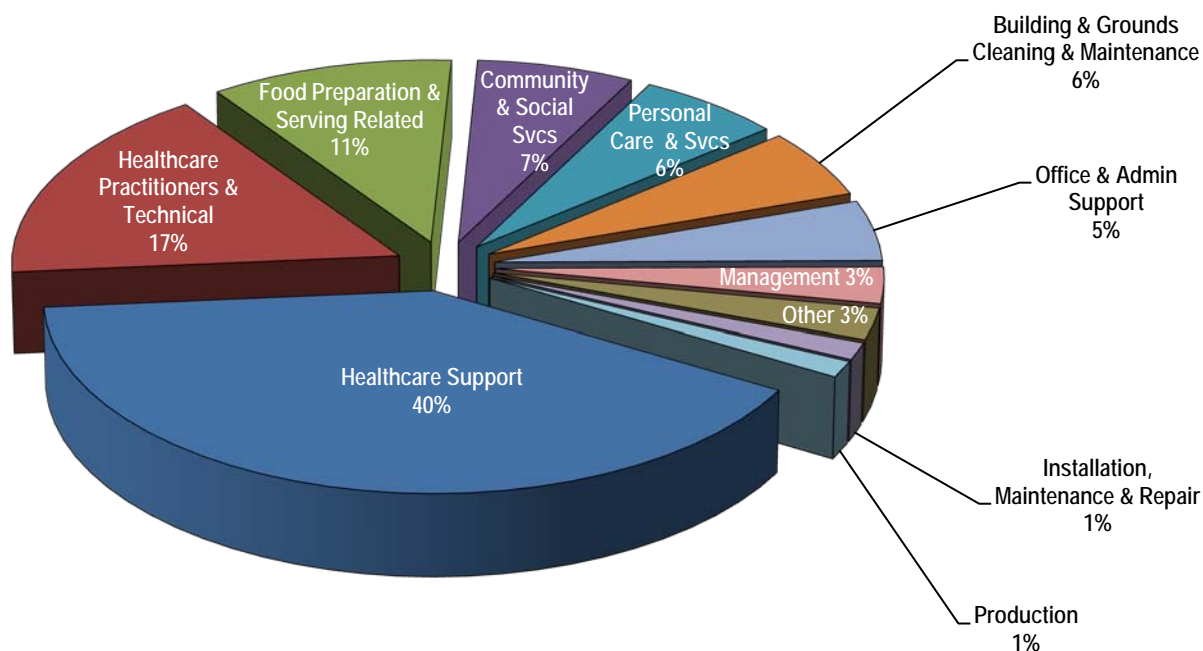
LA County 64,291 Jobs
SASSFA 1,537 Jobs

Average Annual Wage



LA County \$28,465

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Healthcare support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
31-1011	Home health aides	Short-Term On-the-Job Training	\$20,410	12,000
31-1012	Nursing aides, orderlies, & attendants	Moderate-Term On-the-Job Training	29,600	20,760
Healthcare practitioners and technical occupations		Education/Training	Annual Median Wage	Total Employment in LAC
29-1111	Registered nurses	Associates Degree	\$79,240	63,650
29-2061	Licensed practical & licensed vocational nurses	Post-Secondary Vocational Education	45,770	20,720
Food preparation and serving related occupations		Education/Training	Annual Median Wage	Total Employment in LAC
35-2012	Cooks, institution & cafeteria	Moderate-Term On-the-Job Training	\$25,200	5,580
35-2021	Food preparation workers	Short-Term On-the-Job Training	18,790	28,430
35-3021	Combined food preparation & serving workers, including fast food	Short-Term On-the-Job Training	18,050	59,820
35-3041	Food servers, nonrestaurant	Short-Term On-the-Job Training	20,990	3,200
Community and social services occupations		Education/Training	Annual Median Wage	Total Employment in LAC
21-1093	Social & human service assistants	Moderate-Term On-the-Job Training	\$31,510	6,690
Personal care and service occupations		Education/Training	Annual Median Wage	Total Employment in LAC
39-9011	Child care workers	Short-Term On-the-Job Training	\$20,570	14,470
39-9032	Recreation workers	Bachelor's Degree	23,160	9,320
Building and grounds cleaning and maintenance occupations		Education/Training	Annual Median Wage	Total Employment in LAC
37-2011	Janitors & cleaners, except maids & housekeeping cleaners	Short-Term On-the-Job Training	\$21,970	54,000
37-2012	Maids & housekeeping cleaners	Short-Term On-the-Job Training	21,060	21,400

Primary Metal Manufacturing

NAICS 331

Employment



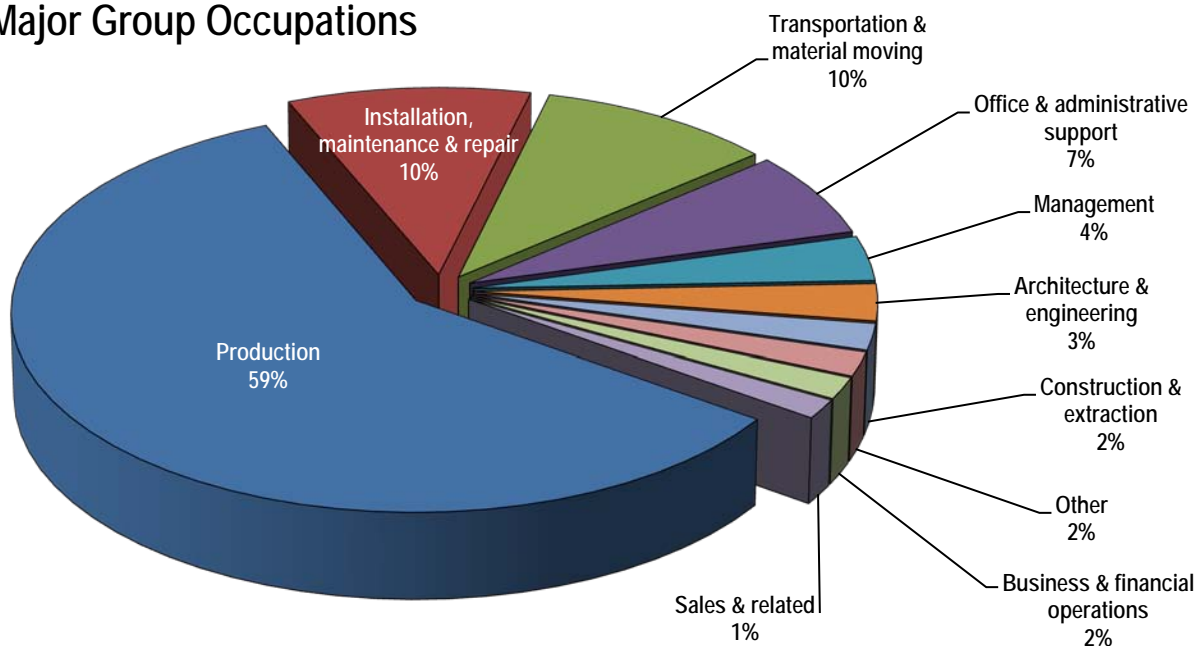
LA County 8,972 Jobs
SASSFA 1,608 Jobs

Average Annual Wage



LA County \$49,317

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-1011	First-line supervisors/managers of production & operating workers	Work Experience	\$49,400	18,810
51-2092	Team assemblers	Moderate-Term On-the-Job Training	21,280	22,880
51-4011	Computer-controlled machine tool operators, metal & plastic	Moderate-Term On-the-Job Training	29,850	3,820
51-4021	Extruding & drawing machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	26,720	1,560
51-4023	Rolling machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	26,660	960
51-4031	Cutting, punching, & press machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,390	7,130
51-4033	Grinding, lapping, polishing, & buffing machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,690	4,070
51-4041	Machinists	Long-Term On-the-Job Training	33,120	10,890
51-4051	Metal-refining furnace operators & tenders	Moderate-Term On-the-Job Training	29,710	260
51-4052	Pourers & casters, metal	Moderate-Term On-the-Job Training	24,830	530
51-4071	Foundry mold & coremakers		25,890	450
51-4072	Molding, coremaking, & casting machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	20,780	3,010
51-4081	Multiple machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,820	1,210
51-4121	Welders, cutters, solderers, & brazers	Post-Secondary Vocational Education	29,880	7,740
51-4191	Heat treating equipment setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,890	580
51-9022	Grinding & polishing workers	Moderate-Term On-the-Job Training	22,100	2,350
51-9061	Inspectors, testers, sorters, samplers, & weighers	Moderate-Term On-the-Job Training	29,320	15,200
51-9198	Helpers--production workers	Short-Term On-the-Job Training	19,900	14,600
51-9199	Production workers, all other	Moderate-Term On-the-Job Training	24,280	6,620
Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Employment in LAC
49-9041	Industrial machinery mechanics	Long-Term On-the-Job Training	\$48,120	3,870
49-9042	Maintenance & repair workers, general	Long-Term On-the-Job Training	36,690	32,020
Transportation and material moving occupations		Education/Training	Annual Median Wage	Employment in LAC
53-7021	Crane & tower operators	Moderate-Term On-the-Job Training	\$39,770	1,110
53-7051	Industrial truck & tractor operators	Short-Term On-the-Job Training	31,610	19,460
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090

Fabricated Metal Product Manufacturing

NAICS 332

Employment



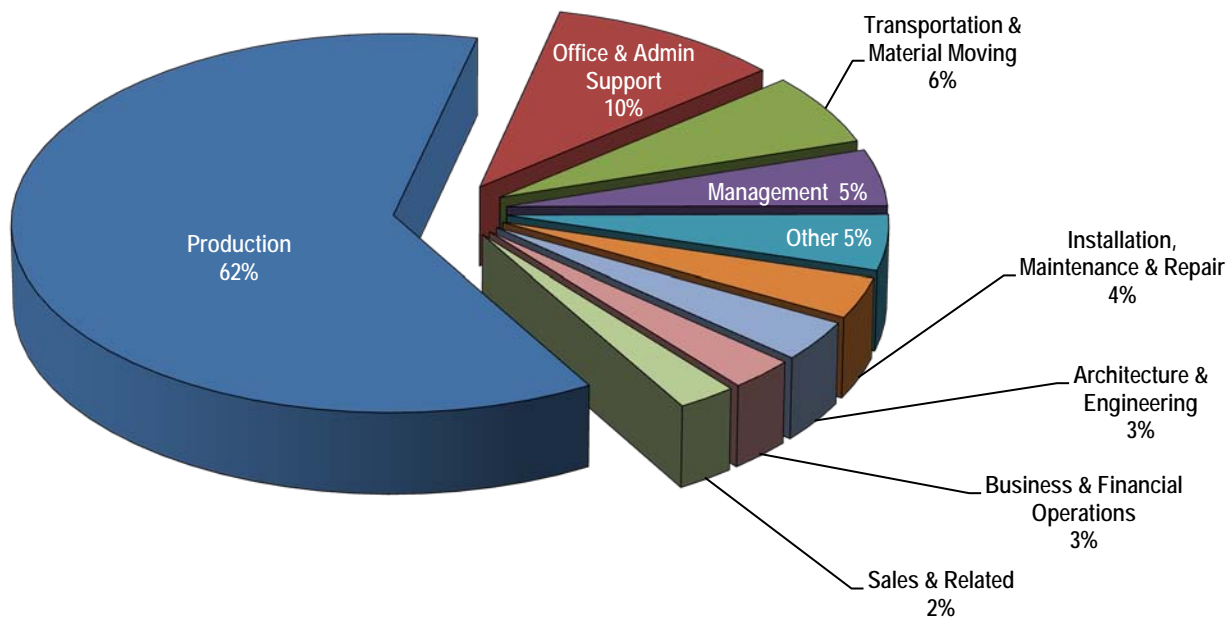
LA County 48,910 Jobs
SASSFA 4,932 Jobs

Average Annual Wage



LA County \$48,825

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-1011	First-line supervisors/managers of production & operating workers	Work Experience	\$49,400	18,810
51-2041	Structural metal fabricators & fitters	Moderate-Term On-the-Job Training	33,980	1,810
51-2092	Team assemblers	Moderate-Term On-the-Job Training	21,280	22,880
51-2099	Assemblers & fabricators, all other	Moderate-Term On-the-Job Training	23,030	7,030
51-4011	Computer-controlled machine tool operators, metal & plastic	Moderate-Term On-the-Job Training	29,850	3,820
51-4031	Cutting, punching, & press machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,390	7,130
51-4033	Grind, lapp, polish, & buff mach tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,690	4,070
51-4034	Lathe & turning machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,080	2,230
51-4041	Machinists	Long-Term On-the-Job Training	33,120	10,890
51-4081	Multiple machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,820	1,210
51-4111	Tool & die makers	Long-Term On-the-Job Training	48,190	1,580
51-4121	Welders, cutters, solderers, & brazers	Post-Secondary Vocational Education	29,880	7,740
51-4193	Plating & coating machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	23,960	1,950
51-9061	Inspectors, testers, sorters, samplers, & weighers	Moderate-Term On-the-Job Training	29,320	15,200
51-9121	Coating, painting, & spraying machine setters, operators, & tenders	Moderate-Term On-the-Job Training	23,670	2,670
51-9198	Helpers--production workers	Short-Term On-the-Job Training	19,900	14,600
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-7051	Industrial truck & tractor operators	Short-Term On-the-Job Training	\$31,610	19,460
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090
53-7064	Packers & packagers	Short-Term On-the-Job Training	18,480	34,300
Management occupations		Education/Training	Annual Median Wage	Total Employment in LAC
11-3051	Industrial production managers	Bachelor's Degree	\$84,900	5,350
11-1021	General & operations managers	Work Experience, Plus a Bachelor's or Higher	107,470	68,770

Machinery Manufacturing

NAICS 333

Employment



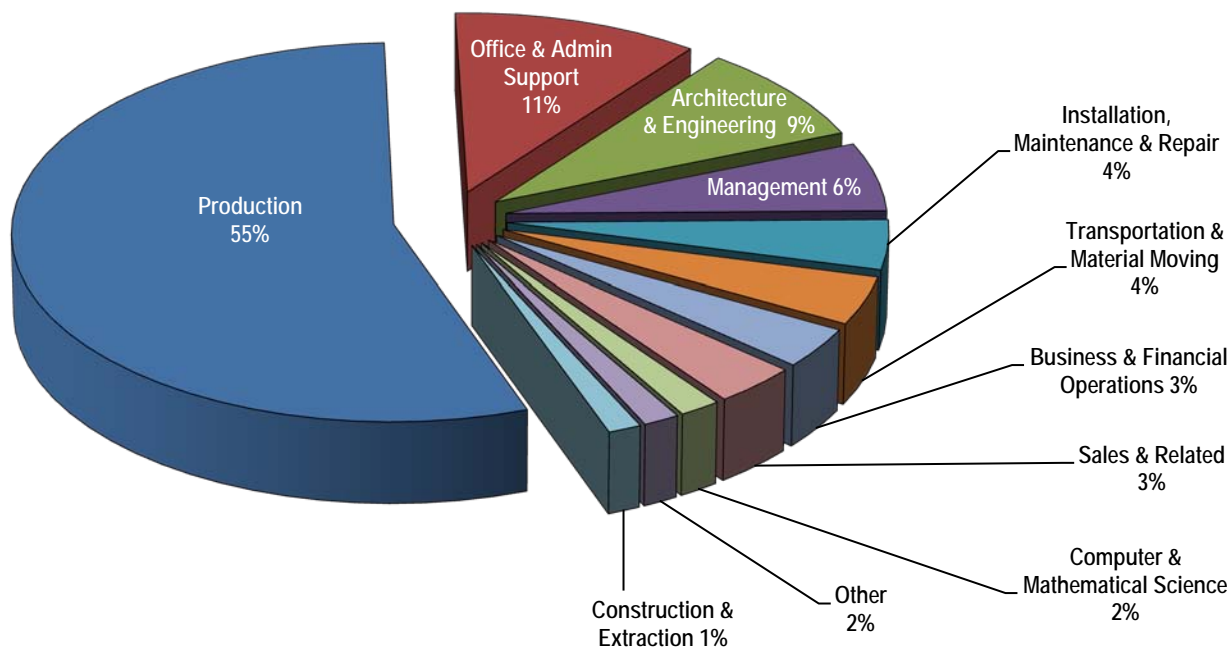
LA County 18,573 Jobs
SASSFA 1,974 Jobs

Average Annual Wage



LA County \$58,570

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-1011	First-line supervisors/managers of production & operating workers	Work Experience	\$49,400	18,810
51-2022	Electrical & electronic equipment assemblers	Short-Term On-the-Job Training	23,160	5,750
51-2023	Electromechanical equipment assemblers	Short-Term On-the-Job Training	24,410	2,330
51-2031	Engine & other machine assemblers	Short-Term On-the-Job Training	25,500	410
51-2041	Structural metal fabricators & fitters	Moderate-Term On-the-Job Training	33,980	1,810
51-2092	Team assemblers	Moderate-Term On-the-Job Training	21,280	22,880
51-2099	Assemblers & fabricators, all other	Moderate-Term On-the-Job Training	23,030	7,030
51-4011	Computer-controlled machine tool operators, metal & plastic	Moderate-Term On-the-Job Training	29,850	3,820
51-4031	Cutting, punching, & press machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,390	7,130
51-4033	Grind, lapp, polish, & buff machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,690	4,070
51-4034	Lathe & turning machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,080	2,230
51-4041	Machinists	Long-Term On-the-Job Training	33,120	10,890
51-4072	Molding, coremaking, & cast machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	20,780	3,010
51-4081	Multiple machine tool setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	30,820	1,210
51-4111	Tool & die makers	Long-Term On-the-Job Training	48,190	1,580
51-4121	Welders, cutters, solderers, & brazers	Post-Secondary Vocational Education	29,880	7,740
51-9061	Inspectors, testers, sorters, samplers, & weighers	Moderate-Term On-the-Job Training	29,320	15,200
51-9121	Coating, painting, & spraying machine setters, operators, & tenders	Moderate-Term On-the-Job Training	23,670	2,670
51-9198	Helpers--production workers	Short-Term On-the-Job Training	19,900	14,600
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-5061	Production, planning, & expediting clerks	Short-Term On-the-Job Training	43,960	14,380
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Architecture and engineering occupations		Education/Training	Annual Median Wage	Total Employment in LAC
17-2112	Industrial engineers	Bachelor's Degree	\$79,720	5,790
17-2141	Mechanical engineers	Bachelor's Degree	87,600	5,550
17-3013	Mechanical drafters	Post-Secondary Vocational Education	49,890	980

Computer and Electronic Product Manufacturing

NAICS 334

Employment



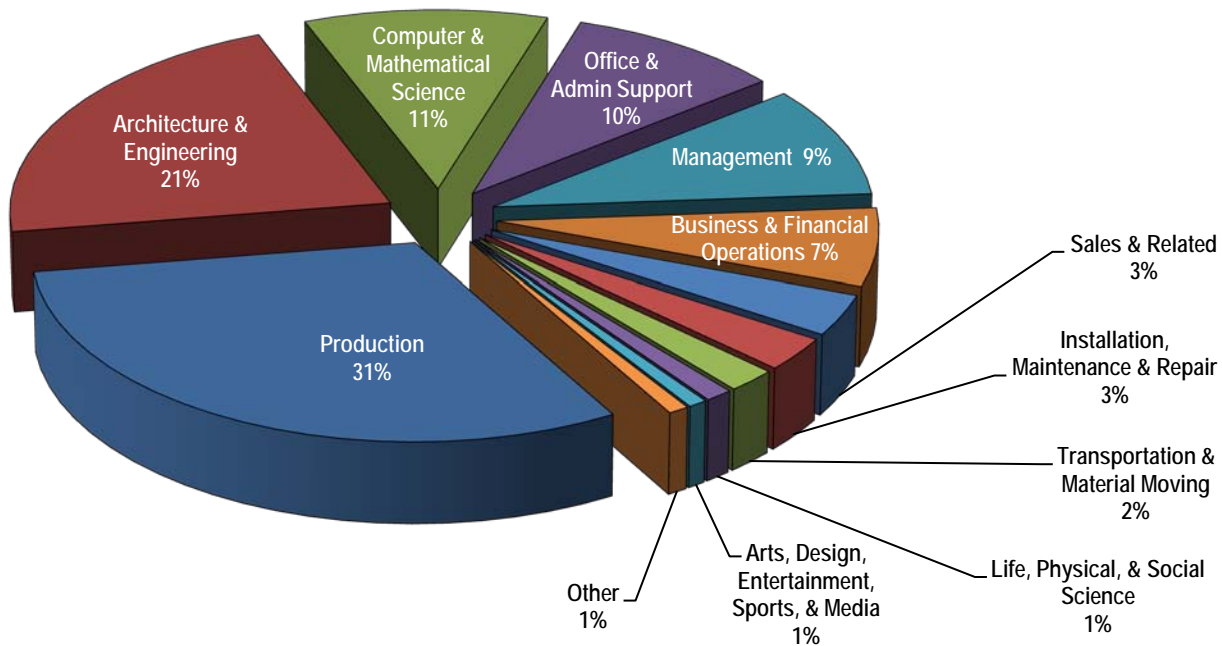
LA County 54,139 Jobs
SASSFA 714 Jobs

Average Annual Wage



LA County \$86,969

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

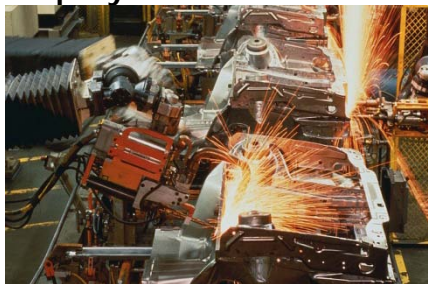
Detailed Occupations

Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-1011	First-line supervisors/managers of production & operating workers	Work Experience	\$49,400	18,810
51-2022	Electrical & electronic equipment assemblers	Short-Term On-the-Job Training	23,160	5,750
51-2023	Electromechanical equipment assemblers	Short-Term On-the-Job Training	24,410	2,330
51-2092	Team assemblers	Moderate-Term On-the-Job Training	21,280	22,880
51-4041	Machinists	Long-Term On-the-Job Training	33,120	10,890
51-9061	Inspectors, testers, sorters, samplers, & weighers	Moderate-Term On-the-Job Training	29,320	15,200
51-9141	Semiconductor processors	Associate Degree	31,960	550
Architecture and engineering occupations		Education/Training	Annual Median Wage	Total Employment in LAC
17-2061	Computer hardware engineers	Bachelor's Degree	\$101,270	1,350
17-2071	Electrical engineers	Bachelor's Degree	88,810	4,460
17-2072	Electronics engineers, except computer	Bachelor's Degree	94,760	6,010
17-2112	Industrial engineers	Bachelor's Degree	79,720	5,790
17-2141	Mechanical engineers	Bachelor's Degree	87,600	5,550
17-2199	Engineers, all other	Bachelor's Degree	98,480	11,720
17-3023	Electrical & electronic engineering technicians	Associate Degree	55,180	4,190
17-3026	Industrial engineering technicians	Associate Degree	42,900	1,110
Computer and mathematical science occupations		Education/Training	Annual Median Wage	Total Employment in LAC
15-1031	Computer software engineers, applications	Bachelor's Degree	\$87,520	13,610
15-1032	Computer software engineers, systems software	Bachelor's Degree	97,560	13,710
15-1041	Computer support specialists	Associate Degree	44,090	15,200
15-1051	Computer systems analysts	Bachelor's Degree	77,960	11,660
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	\$32,800	60,720
43-5061	Production, planning, & expediting clerks	Short-Term On-the-Job Training	43,960	14,380
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830

Electrical Equipment and Appliances Manufacturing

NAICS 335

Employment



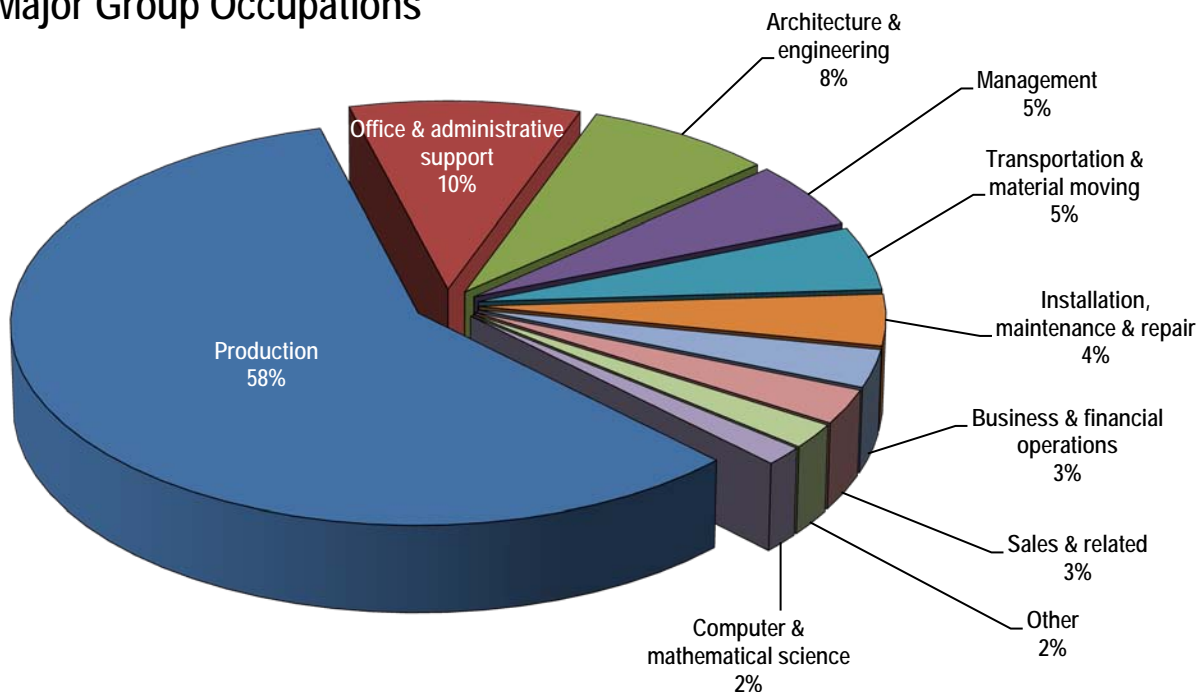
LA County 11,108 Jobs
SASSFA 1,557 Jobs

Average Annual Wage



LA County \$51,116

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-1011	First-line supervisors/managers of production & operating workers	Work Experience	\$49,400	18,810
51-2021	Coil winders, tapers, & finishers	Short-Term On-the-Job Training	23,380	540
51-2022	Electrical & electronic equipment assemblers	Short-Term On-the-Job Training	23,160	5,750
51-2023	Electromechanical equipment assemblers	Short-Term On-the-Job Training	24,410	2,330
51-2092	Team assemblers	Moderate-Term On-the-Job Training	21,280	22,880
51-2099	Assemblers & fabricators, all other	Moderate-Term On-the-Job Training	23,030	7,030
51-4011	Computer-controlled machine tool operators, metal & plastic	Moderate-Term On-the-Job Training	29,850	3,820
51-4021	Extruding & drawing machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	26,720	1,560
51-4031	Cutting, punching, & press machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	25,390	7,130
51-4041	Machinists	Long-Term On-the-Job Training	33,120	10,890
51-4072	Molding, coremaking, & casting machine setters, operators, & tenders, metal & plastic	Moderate-Term On-the-Job Training	20,780	3,010
51-4121	Welders, cutters, solderers, & brazers	Post-Secondary Vocational Education	29,880	7,740
51-4199	Metal workers & plastic workers, all other	Moderate-Term On-the-Job Training	29,110	1,430
51-9061	Inspectors, testers, sorters, samplers, & weighers	Moderate-Term On-the-Job Training	29,320	15,200
51-9198	Helpers--production workers	Short-Term On-the-Job Training	19,900	14,600
Office and administrative support occupations		Education/Training	Annual Median Wage	Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
Architectural and engineering occupations		Education/Training	Annual Median Wage	Employment in LAC
17-2071	Electrical engineers	Bachelor's Degree	\$88,810	4,460
17-2112	Industrial engineers	Bachelor's Degree	79,720	5,790
17-2141	Mechanical engineers	Bachelor's Degree	87,600	5,550
17-3023	Electrical & electronic engineering technicians	Associate Degree	55,180	4,190

Durable Goods Wholesaling

NAICS 423

Employment



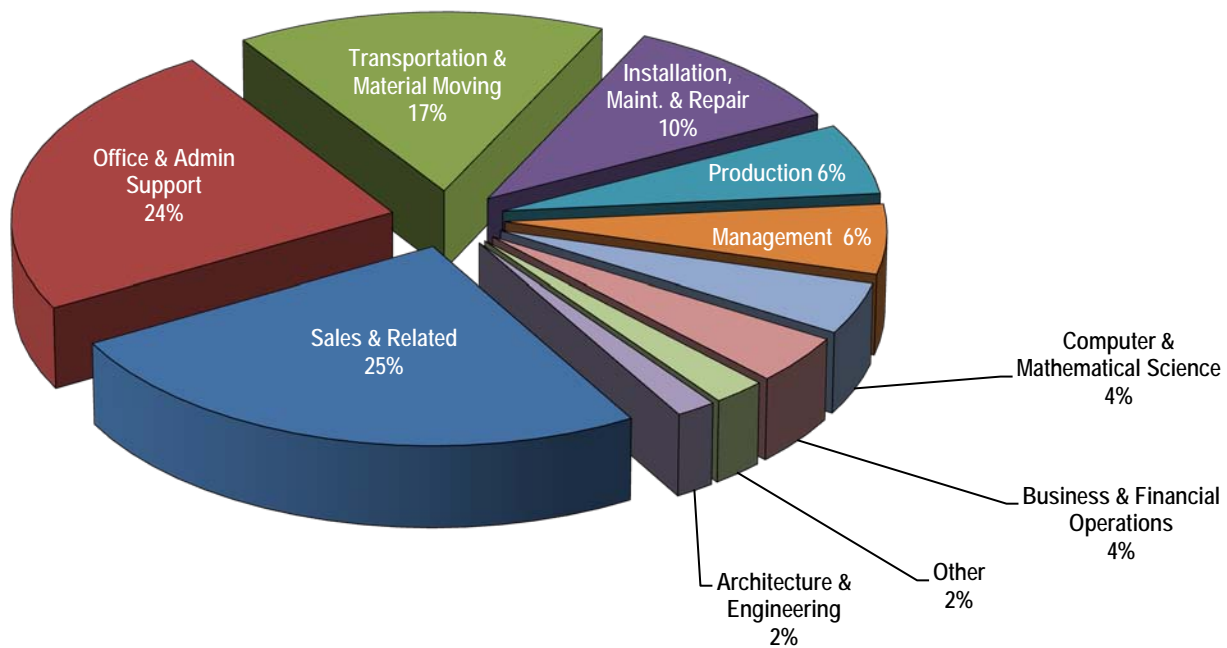
LA County 105,581 Jobs
SASSFA 11,126 Jobs

Average Annual Wage



LA County \$58,749

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Sales and related occupations		Education/Training	Annual Median Wage	Total Employment in LAC
41-1012	First-line supervisors/managers of non-retail sales workers	Work Experience	\$67,810	8,270
41-2022	Parts salespersons	Moderate-Term On-the-Job Training	29,620	5,260
41-2031	Retail salespersons	Short-Term On-the-Job Training	20,690	126,030
41-4011	Sales representatives, wholesale & manufacturing, technical & scientific products	Moderate-Term On-the-Job Training	68,030	10,890
41-4012	Sales representatives, wholesale & manufacturing, except technical & scientific products	Moderate-Term On-the-Job Training	52,800	47,490
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office & administrative support workers	Work Experience	\$50,560	52,680
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-4151	Order clerks	Short-Term On-the-Job Training	27,740	12,950
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-5081	Stock clerks & order fillers	Short-Term On-the-Job Training	20,970	56,740
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	\$39,620	30,400
53-3033	Truck drivers, light or delivery services	Short-Term On-the-Job Training	28,490	29,220
53-7051	Industrial truck & tractor operators	Short-Term On-the-Job Training	31,610	19,460
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090
Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Total Employment in LAC
49-2011	Computer, automated teller, & office machine repairers	Post-Secondary Vocational Education	\$35,280	3,300
49-3031	Bus & truck mechanics & diesel engine specialists	Post-Secondary Vocational Education	46,290	5,590
49-3042	Mobile heavy equipment mechanics, except engines	Post-Secondary Vocational Education	64,180	3,440

Nondurable Goods Wholesaling

NAICS 424

Employment



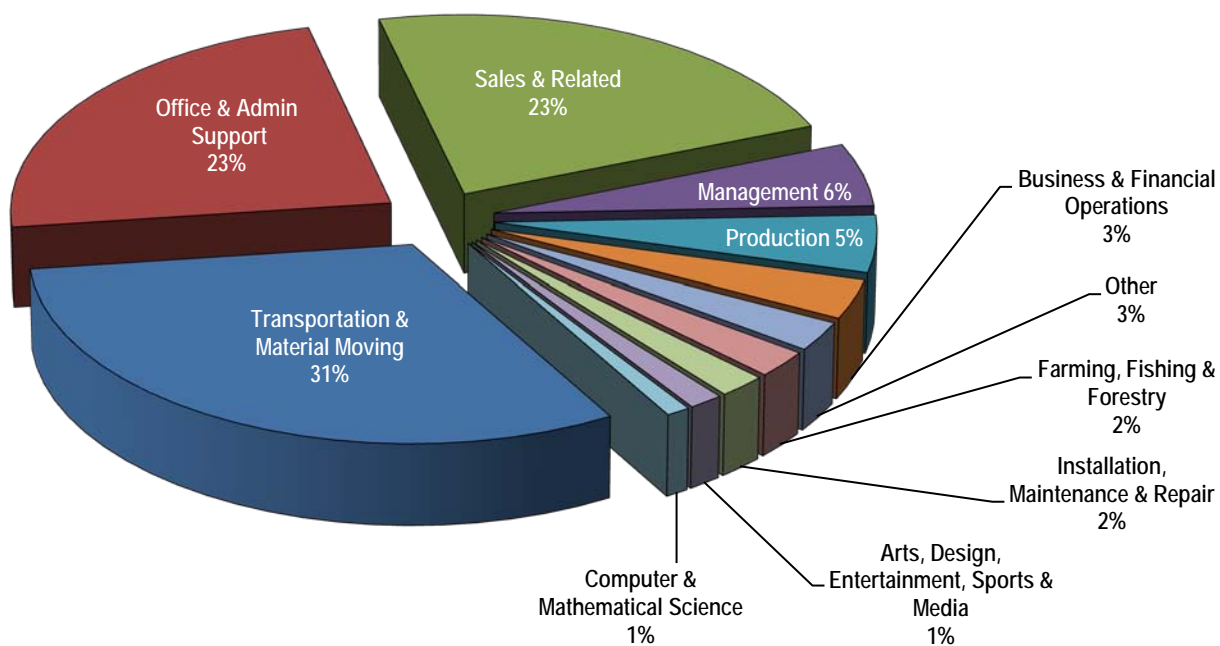
LA County 91,163 Jobs
SASSFA 5,648 Jobs

Average Annual Wage



LA County \$47,997

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-3031	Driver/sales workers	Short-Term On-the-Job Training	\$21,210	8,900
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	39,620	30,400
53-3033	Truck drivers, light or delivery services	Short-Term On-the-Job Training	28,490	29,220
53-7051	Industrial truck & tractor operators	Short-Term On-the-Job Training	31,610	19,460
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090
53-7064	Packers & packagers	Short-Term On-the-Job Training	18,480	34,300
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office & administrative support workers	Work Experience	\$50,560	52,680
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-4151	Order clerks	Short-Term On-the-Job Training	27,740	12,950
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-5081	Stock clerks & order fillers	Short-Term On-the-Job Training	20,970	56,740
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Sales and related occupations		Education/Training	Annual Median Wage	Total Employment in LAC
41-1012	First-line supervisors/managers of non-retail sales workers	Work Experience	\$67,810	8,270
41-2031	Retail salespersons	Short-Term On-the-Job Training	20,690	126,030
41-4011	Sales representatives, wholesale & manufacturing, technical & scientific products	Moderate-Term On-the-Job Training	68,030	10,890
41-4012	Sales representatives, wholesale & manufacturing, except technical & scientific products	Moderate-Term On-the-Job Training	52,800	47,490
Management occupations		Education/Training	Annual Median Wage	Total Employment in LAC
11-2022	Sales managers	Work Experience, Plus a Bachelor's or Higher	\$102,700	16,100
11-1021	General & operations managers	Work Experience, Plus a Bachelor's or Higher	107,470	68,770

Wholesale Electronic Markets

NAICS 425

Employment



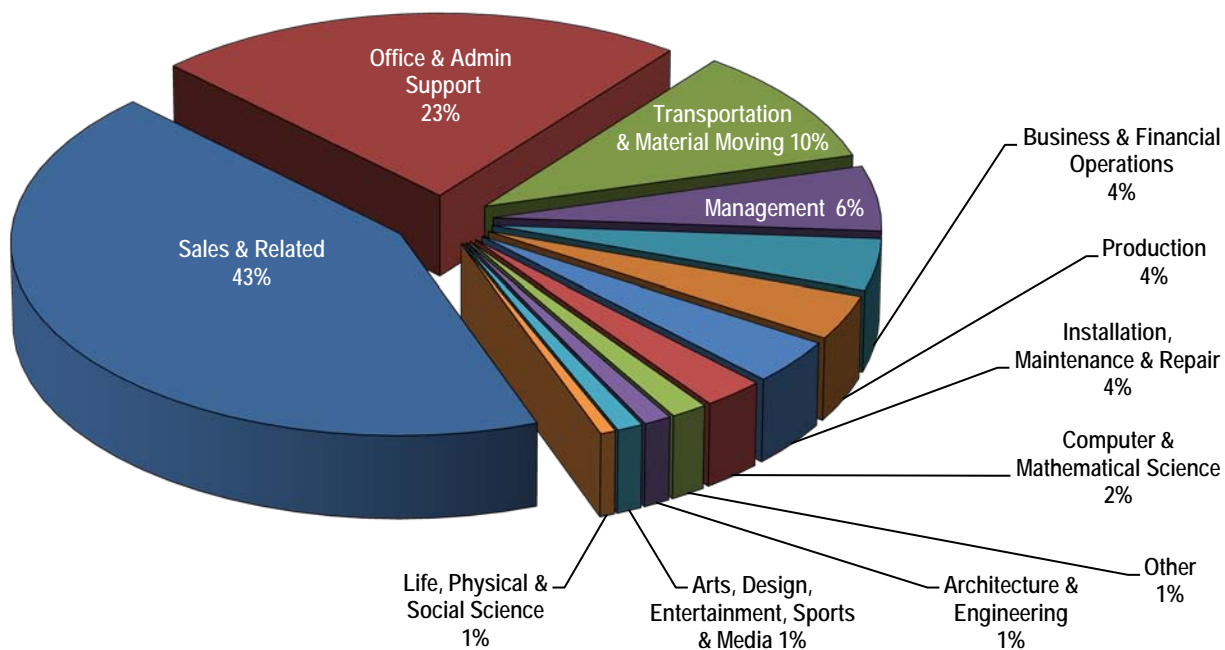
LA County 26,963 Jobs
SASSFA 2,562 Jobs

Average Annual Wage



LA County \$56,569

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

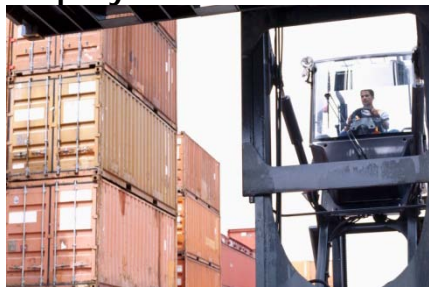
Detailed Occupations

Sales and related occupations		Education/Training	Annual Median Wage	Total Employment in LAC
41-1012	First-line supervisors/managers of non-retail sales workers	Work Experience	\$67,810	8,270
41-2031	Retail salespersons	Short-Term On-the-Job Training	20,690	126,030
41-4011	Sales representatives, wholesale & manufacturing, technical & scientific products	Moderate-Term On-the-Job Training	68,030	10,890
41-4012	Sales representatives, wholesale & manufacturing, except technical & scientific products	Moderate-Term On-the-Job Training	52,800	47,490
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office & administrative support workers	Work Experience	\$50,560	52,680
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-4151	Order clerks	Short-Term On-the-Job Training	27,740	12,950
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-5081	Stock clerks & order fillers	Short-Term On-the-Job Training	20,970	56,740
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training		
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	\$39,620	30,400
53-3033	Truck drivers, light or delivery services	Short-Term On-the-Job Training	28,490	29,220
53-7062	Laborers & freight, stock, & material movers, h&	Short-Term On-the-Job Training	22,100	84,090
Management occupations		Education/Training	Annual Median Wage	Total Employment in LAC
11-2022	Sales managers	Work Experience, Plus a Bachelor's or Higher	\$102,700	16,100
11-1021	General & operations managers	Work Experience, Plus a Bachelor's or Higher	107,470	68,770

Warehousing and Storage

NAICS 493

Employment



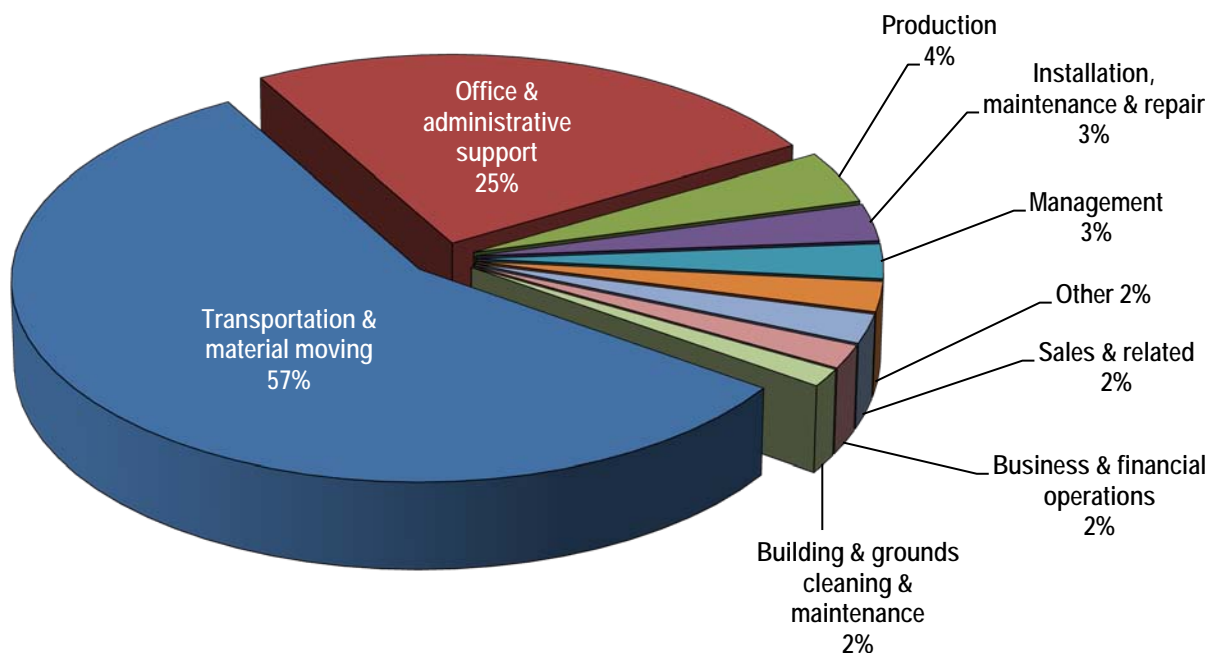
LA County 16,813 Jobs
SASSFA 2,829 Jobs

Average Annual Wage



LA County \$44,586

Major Group Occupations



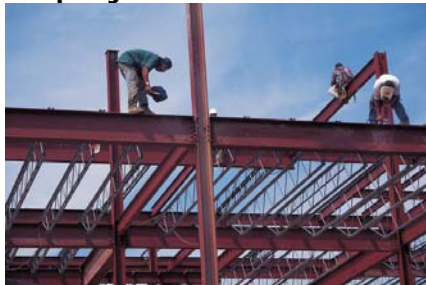
Detailed Occupations

Transportation and material moving operations		Education/Training	Annual Median Wage	Total Employment in LAC
53-1021	First-line supervisors/managers of helpers, laborers, & material movers	Work Experience	\$42,290	8,170
53-1031	First-line supervisors/managers of transportation & material-moving machine & vehicle operators	Work Experience	57,990	7,540
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	39,620	30,400
53-3033	Truck drivers, light or delivery services	Short-Term On-the-Job Training	28,490	29,220
53-7051	Industrial truck & tractor operators	Short-Term On-the-Job Training	31,610	19,460
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090
53-7064	Packers & packagers	Short-Term On-the-Job Training	18,480	34,300
Office and administrative support occupations		Education/Training	Annual Median Wage	Employment in LAC
43-1011	First-line supervisors/managers of office & administrative support workers	Work Experience	\$50,560	52,680
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-5071	Shipping, receiving, & traffic clerks	Short-Term On-the-Job Training	26,790	34,360
43-5081	Stock clerks & order fillers	Short-Term On-the-Job Training	20,970	56,740
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720

Construction of Buildings

NAICS 236

Employment



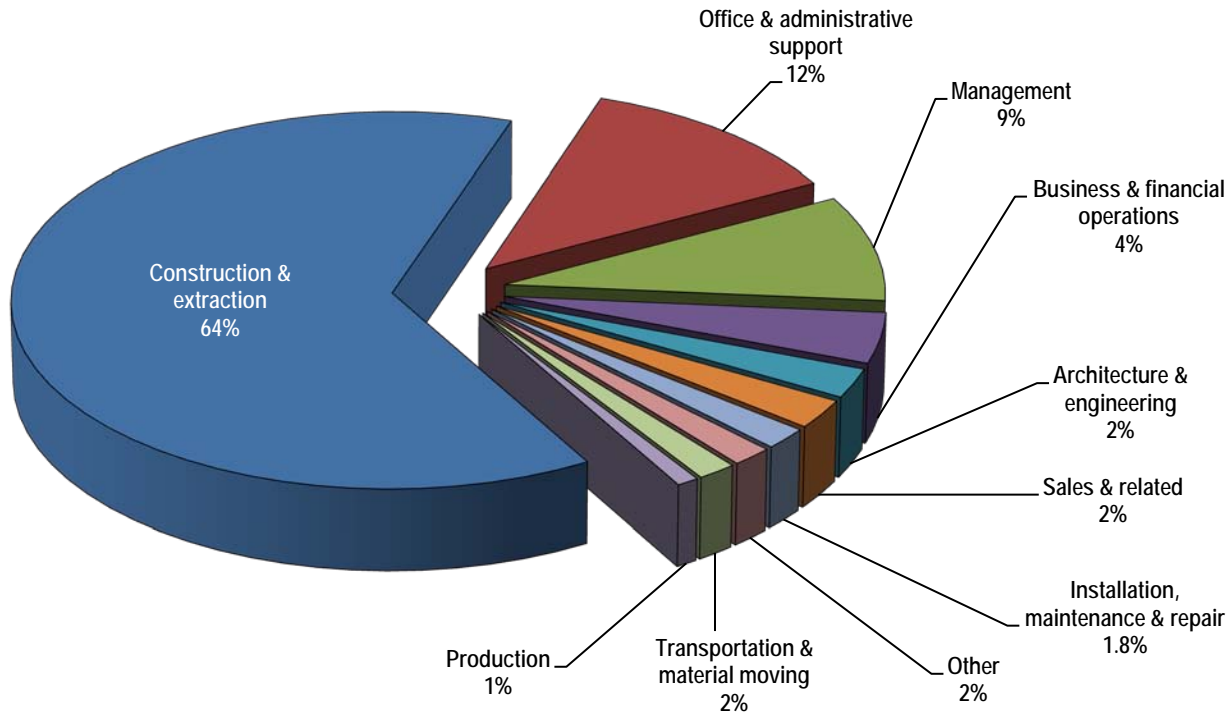
LA County 35,946 Jobs
SASSFA 1,750 Jobs

Average Annual Wage



LA County \$57,928

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Construction and extraction occupations		Education/Training	Annual Median Wage	Total Employment in LAC
47-1011	First-line supervisors/managers of construction trades & extraction workers	Work Experience	\$67,450	11,810
47-2031	Carpenters	Long-Term On-the-Job Training	46,560	17,610
47-2051	Cement masons & concrete finishers	Long-Term On-the-Job Training	47,210	4,120
47-2061	Construction laborers	Moderate-Term On-the-Job Training	35,190	29,250
47-2073	Operating engineers & other construction equipment operators	Moderate-Term On-the-Job Training	69,720	4,590
47-2141	Painters, construction & maintenance	Moderate-Term On-the-Job Training	36,290	7,290
47-2152	Plumbers, pipefitters, & steamfitters	Long-Term On-the-Job Training	48,340	9,080
47-3012	Helpers--carpenters	Short-Term On-the-Job Training	24,100	750
Office and administrative support occupations		Education/Training	Annual Median Wage	Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Management occupations		Education/Training	Annual Median Wage	Employment in LAC
11-1021	General & operations managers	Work Experience, Plus a Bachelor's or Higher	\$107,470	68,770
11-9021	Construction managers	Bachelor's Degree	99,090	4,860
Business and financial operations		Education/Training	Annual Median Wage	Employment in LAC
13-1051	Cost estimators	Bachelor's Degree	\$62,270	5,710
Architecture and engineering occupations		Education/Training	Annual Median Wage	Employment in LAC
17-2051	Civil engineers	Bachelor's Degree	\$83,770	7,900

Heavy and Civil Engineering Construction

NAICS 237

Employment



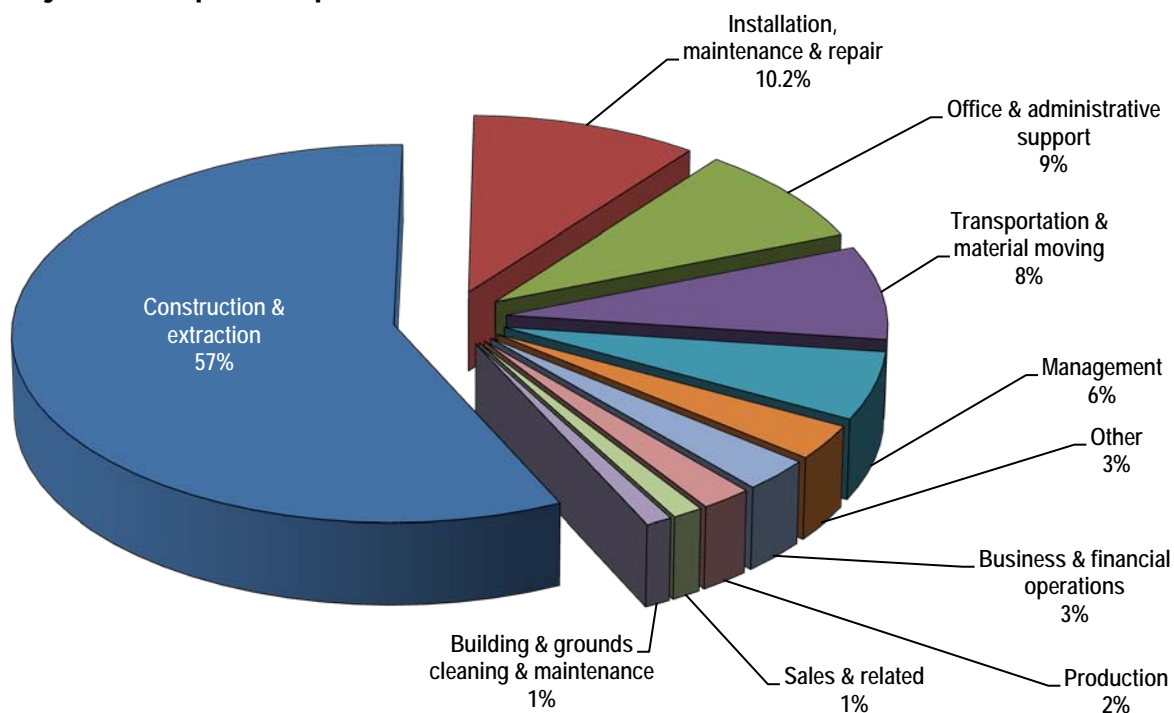
LA County 14,093 Jobs
SASSFA 1,409 Jobs

Average Annual Wage



LA County \$76,386

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Construction and extraction occupations		Education/Training	Annual Median Wage	Total Employment in LAC
47-1011	First-line supervisors/managers of construction trades & extraction workers	Work Experience	\$67,450	11,810
47-2031	Carpenters	Long-Term On-the-Job Training	46,560	17,610
47-2051	Cement masons & concrete finishers	Long-Term On-the-Job Training	47,210	4,120
47-2061	Construction laborers	Moderate-Term On-the-Job Training	35,190	29,250
47-2071	Paving, surfacing, & tamping equipment operators	Moderate-Term On-the-Job Training	45,660	610
47-2073	Operating engineers & other construction equipment operators	Moderate-Term On-the-Job Training	69,720	4,590
47-2151	Pipelayers	Moderate-Term On-the-Job Training	44,180	600
47-2152	Plumbers, pipefitters, & steamfitters	Long-Term On-the-Job Training	48,340	9,080
Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Employment in LAC
49-3042	Mobile heavy equipment mechanics, except engines	Post-Secondary Vocational Education	\$64,180	3,440
49-9042	Maintenance & repair workers, general	Long-Term On-the-Job Training	36,690	32,020
49-9051	Electrical power-line installers & repairers	Long-Term On-the-Job Training	73,060	1,330
49-9052	Telecommunications line installers & repairers	Long-Term On-the-Job Training	51,880	5,700
Office and administrative support occupations		Education/Training	Annual Median Wage	Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Transportation and material moving occupations		Education/Training	Annual Median Wage	Employment in LAC
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	\$39,620	30,400
53-7032	Excavating & loading machine & dragline operators	Moderate-Term On-the-Job Training	42,640	300
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	22,100	84,090
Management occupations		Education/Training	Annual Median Wage	Employment in LAC
11-9021	Construction managers	Bachelor's Degree	\$99,090	4,860
11-1021	General & operations managers	Work Experience, Plus a Bachelor's or Higher	107,470	68,770

Specialty Trade Contractors

NAICS 238

Employment



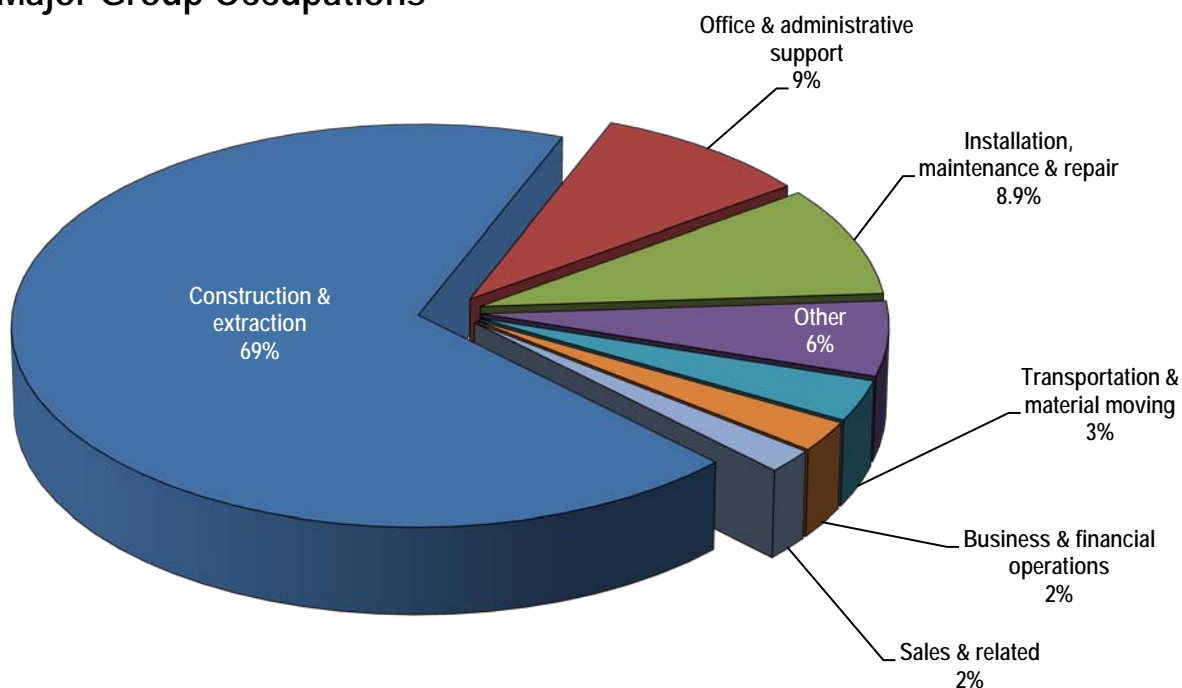
LA County 95,622 Jobs
SASSFA 6,087 Jobs

Average Annual Wage



LA County \$47,901

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

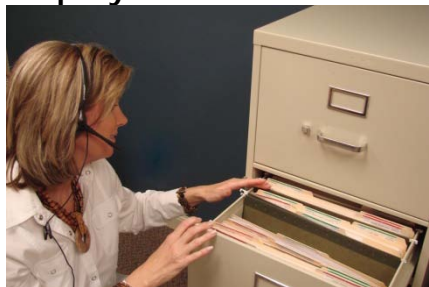
Detailed Occupations

Construction and extraction occupations		Education/Training	Annual Median Wage	Total Employment in LAC
47-1011	First-line supervisors/managers of construction trades & extraction workers	Work Experience	\$67,450	11,810
47-2021	Brickmasons & blockmasons	Long-Term On-the-Job Training	50,920	1,100
47-2031	Carpenters	Long-Term On-the-Job Training	46,560	17,610
47-2051	Cement masons & concrete finishers	Long-Term On-the-Job Training	47,210	4,120
47-2061	Construction laborers	Moderate-Term On-the-Job Training	35,190	29,250
47-2073	Operating engineers & other construction equipment operators	Moderate-Term On-the-Job Training	69,720	4,590
47-2081	Drywall & ceiling tile installers	Moderate-Term On-the-Job Training	46,410	6,190
47-2111	Electricians	Long-Term On-the-Job Training	48,820	11,850
47-2141	Painters, construction & maintenance	Moderate-Term On-the-Job Training	36,290	7,290
47-2152	Plumbers, pipefitters, & steamfitters	Long-Term On-the-Job Training	48,340	9,080
47-2181	Roofers	Moderate-Term On-the-Job Training	50,610	2,560
47-2211	Sheet metal workers	Moderate-Term On-the-Job Training	50,440	2,760
47-3011	Helpers--brickmasons, blockmasons, stonemasons, & tile & marble setters	Short-Term On-the-Job Training	24,880	1,080
47-3013	Helpers--electricians	Short-Term On-the-Job Training	-	1,500
47-3015	Helpers--pipelayers, plumbers, pipefitters, & steamfitters	Short-Term On-the-Job Training	28,560	2,050
Office and administrative support occupations		Education/Training	Annual Median Wage	Employment in LAC
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Employment in LAC
49-9021	Heating, air conditioning, & refrigeration mechanics & installers	Long-Term On-the-Job Training	\$41,830	3,830
Transportation and material moving occupations		Education/Training	Annual Median Wage	Employment in LAC
53-3032	Truck drivers, heavy & tractor-trailer	Moderate-Term On-the-Job Training	\$39,620	30,400

Administrative and Support Services

NAICS 561

Employment



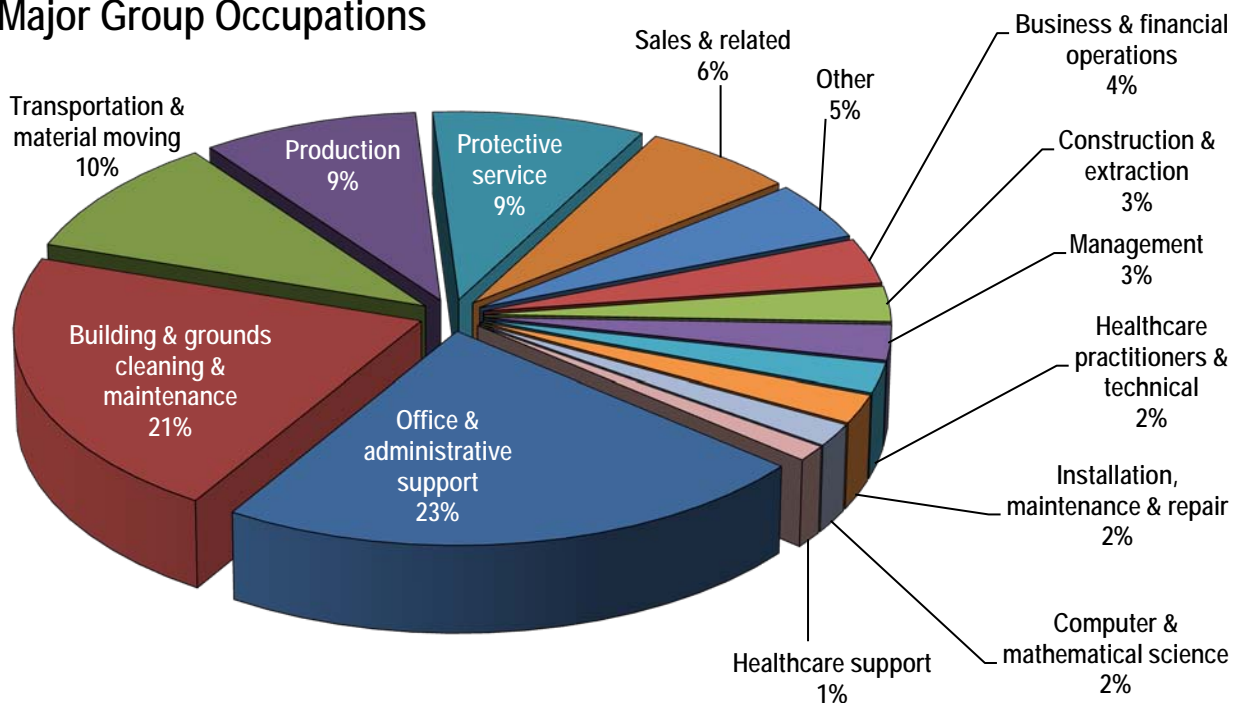
LA County 248,040 Jobs
SASSFA 2,393 Jobs

Average Annual Wage



LA County \$32,883

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-1011	First-line supervisors/managers of office & administrative support workers	Work Experience	\$50,560	52,680
43-3011	Bill & account collectors	Short-Term On-the-Job Training	43,910	4,310
43-3031	Bookkeeping, accounting, & auditing clerks	Moderate-Term On-the-Job Training	36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-6011	Executive secretaries & administrative assistants	Moderate-Term On-the-Job Training	43,240	65,830
43-6014	Secretaries, except legal, medical, & executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Building and grounds cleaning and maintenance occupations		Education/Training	Annual Median Wage	Employment in LAC
37-2011	Janitors & cleaners, except maids & housekeeping cleaners	Short-Term On-the-Job Training	\$21,970	54,000
37-2012	Maids & housekeeping cleaners	Short-Term On-the-Job Training	21,060	21,400
37-3011	Landscaping & groundskeeping workers	Short-Term On-the-Job Training	24,740	18,890
Transportation and material moving occupations		Education/Training	Annual Median Wage	Employment in LAC
53-7062	Laborers & freight, stock, & material movers	Short-Term On-the-Job Training	\$22,100	84,090
53-7064	Packers & packagers	Short-Term On-the-Job Training	18,480	34,300
Production occupations		Education/Training	Annual Median Wage	Employment in LAC
51-2092	Team assemblers	Moderate-Term On-the-Job Training	\$21,280	22,880
51-9198	Helpers--production workers	Short-Term On-the-Job Training	19,900	14,600
Protective service occupations		Education/Training	Annual Median Wage	Employment in LAC
33-9032	Security guards	Short-Term On-the-Job Training	\$22,700	52,850
Sales and related occupations		Education/Training	Annual Median Wage	Employment in LAC
41-3041	Travel agents	Post-Secondary Vocational Education	\$30,470	3,850
41-9041	Telemarketers	Short-Term On-the-Job Training	24,400	8,290

Waste Management and Remediation Services

NAICS 562

Employment



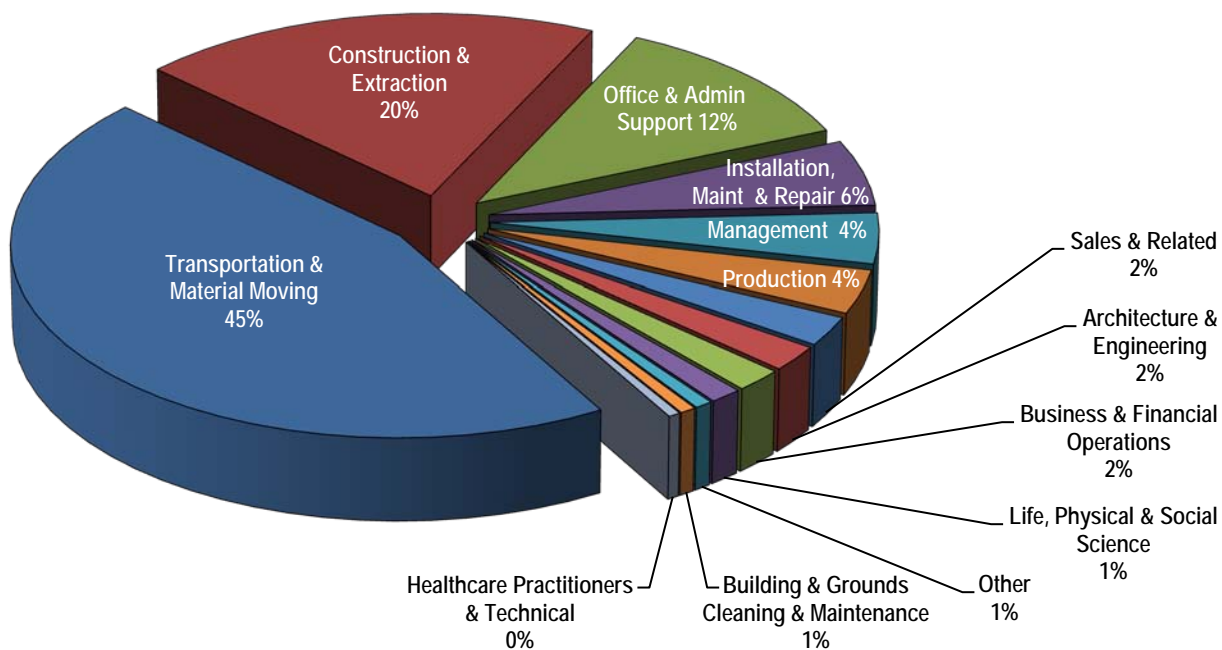
LA County 9,013 Jobs
SASSFA 1,172 Jobs

Average Annual Wage



LA County \$51,784

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	Work Experience	\$57,990	7,540
53-3032	Truck drivers, heavy and tractor-trailer	Moderate-Term On-the-Job Training	39,620	30,400
53-3033	Truck drivers, light or delivery services	Short-Term On-the-Job Training	28,490	29,220
53-7032	Excavating and loading machine and dragline operators	Moderate-Term On-the-Job Training	42,640	300
53-7051	Industrial truck and tractor operators	Short-Term On-the-Job Training	31,610	19,460
53-7062	Laborers and freight, stock, and material movers, hand	Short-Term On-the-Job Training	22,100	84,090
53-7081	Refuse and recyclable material collectors	Short-Term On-the-Job Training	37,480	3,990
Construction and extraction occupations		Education/Training	Annual Median Wage	Total Employment in LAC
47-1011	First-line supervisors/managers of construction trades and extraction workers	Work Experience	\$67,450	11,810
47-2061	Construction laborers	Moderate-Term On-the-Job Training	35,190	29,250
47-2073	Operating engineers and other construction equipment operators	Moderate-Term On-the-Job Training	69,720	4,590
47-4041	Hazardous materials removal workers	Moderate-Term On-the-Job Training	38,410	1,260
47-4071	Septic tank servicers and sewer pipe cleaners	Moderate-Term On-the-Job Training	38,450	170
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-3031	Bookkeeping, accounting, and auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-4051	Customer service representatives	Moderate-Term On-the-Job Training	32,800	60,720
43-6014	Secretaries, except legal, medical, and executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Total Employment in LAC
49-3031	Bus and truck mechanics and diesel engine specialists	Post-Secondary Vocational Education	\$46,290	5,590
49-9042	Maintenance and repair workers, general	Long-Term On-the-Job Training	36,690	32,020

Repair and Maintenance

NAICS 811

Employment



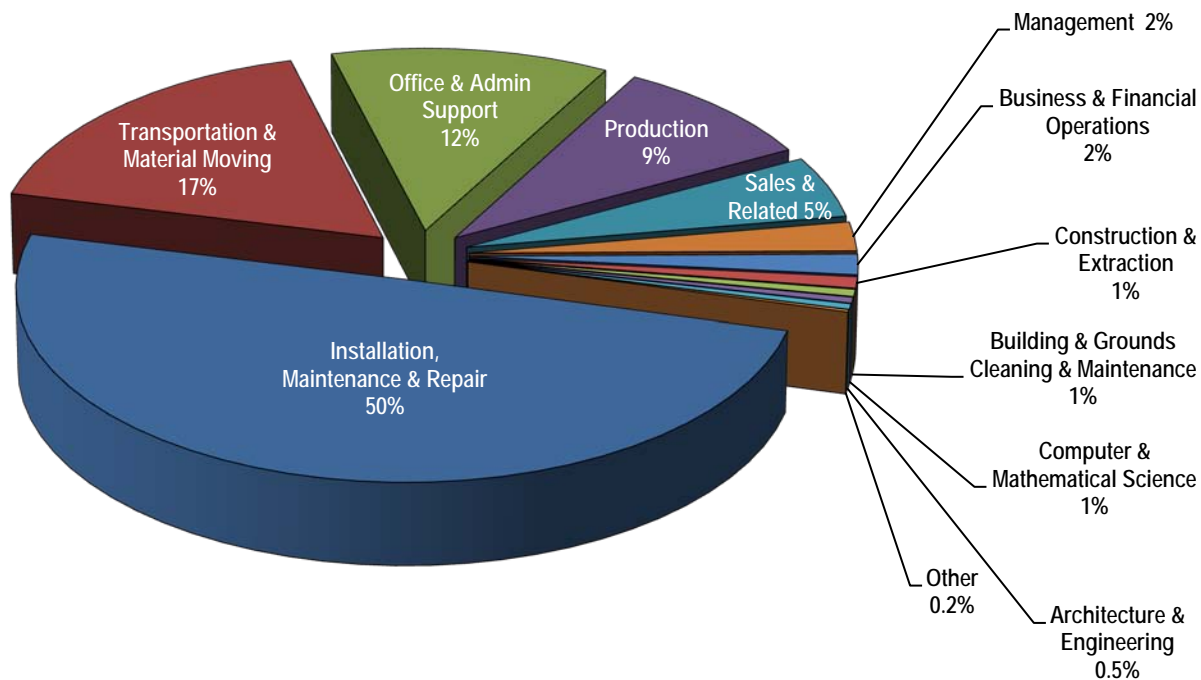
LA County 40,936 Jobs
SASSFA 111Jobs

Average Annual Wage



LA County \$33,010

Major Group Occupations



Sources: CA EDD; BLS; LAEDC

Detailed Occupations

Installation, maintenance and repair occupations		Education/Training	Annual Median Wage	Total Employment in LAC
49-1011	First-line supervisors/managers of mechanics, installers, and repairers	Work Experience	\$63,680	10,700
49-2011	Computer, automated teller, and office machine repairers	Post-Secondary Vocational Education	35,280	3,300
49-3021	Automotive body and related repairers	Long-Term On-the-Job Training	34,220	3,270
49-3022	Automotive glass installers and repairers	Long-Term On-the-Job Training	30,570	430
49-3023	Automotive service technicians and mechanics	Post-Secondary Vocational Education	35,300	15,280
49-3031	Bus and truck mechanics and diesel engine specialists	Post-Secondary Vocational Education	46,290	5,590
49-9031	Home appliance repairers	Long-Term On-the-Job Training	36,140	580
49-9041	Industrial machinery mechanics	Long-Term On-the-Job Training	48,120	3,870
49-9042	Maintenance and repair workers, general	Long-Term On-the-Job Training	36,690	32,020
49-9098	Helpers--installation, maintenance, and repair workers	Short-Term On-the-Job Training	24,410	4,770
Transportation and material moving occupations		Education/Training	Annual Median Wage	Total Employment in LAC
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	Work Experience	\$42,290	8,170
53-6031	Service station attendants	Short-Term On-the-Job Training	19,400	-
53-7061	Cleaners of vehicles and equipment	Short-Term On-the-Job Training	19,170	16,720
Office and administrative support occupations		Education/Training	Annual Median Wage	Total Employment in LAC
43-3031	Bookkeeping, accounting, and auditing clerks	Moderate-Term On-the-Job Training	\$36,410	57,780
43-6014	Secretaries, except legal, medical, and executive	Moderate-Term On-the-Job Training	33,130	30,920
43-9061	Office clerks, general	Short-Term On-the-Job Training	26,440	118,720
Production occupations		Education/Training	Annual Median Wage	Total Employment in LAC
51-4121	Welders, cutters, solderers, & brazers	Work Experience	\$29,880	7,740
51-6093	Upholsterers	Short-Term On-the-Job Training	24,610	2,460
51-9122	Painters, transportation equipment	Short-Term On-the-Job Training	37,950	1,520