

UPDATE

THE
ECONOMIC
BENEFITS
of HOUSING
IN CALIFORNIA

SEPTEMBER 2014

Prepared by



Funded through a grant from



THE
ECONOMIC
BENEFITS
of HOUSING
IN CALIFORNIA

SEPTEMBER 2014

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Center for Strategic Economic Research (CSER) is an economic research and consulting group specializing in applied research and strategy development in the regional economics and economic development fields. CSER provides a full range of objective economic and demographic research services to government entities, businesses, non-profit organizations, and educational institutions throughout the country.

Executive Summary

New housing construction is one of the most visible and widely dispersed industries in California. Taking into account the full range of economic impacts, new housing construction contributes more than \$38.6 billion per year to the California economy and supports over 209,000 jobs statewide on an annual basis, based on 2013 new housing unit permit numbers. Almost one-half of the economic output (about \$18.3 billion) is directly the result of new housing construction. The balance (around \$20.3 billion) is generated by those sectors which supply goods and services to the residential construction industry as well as the spending activities of the employees of the construction industry and its supplier sectors. Every dollar spent on new housing construction in California generates another \$1.10 in total economic activity, while each job created through residential construction supports an additional 1.4 jobs.

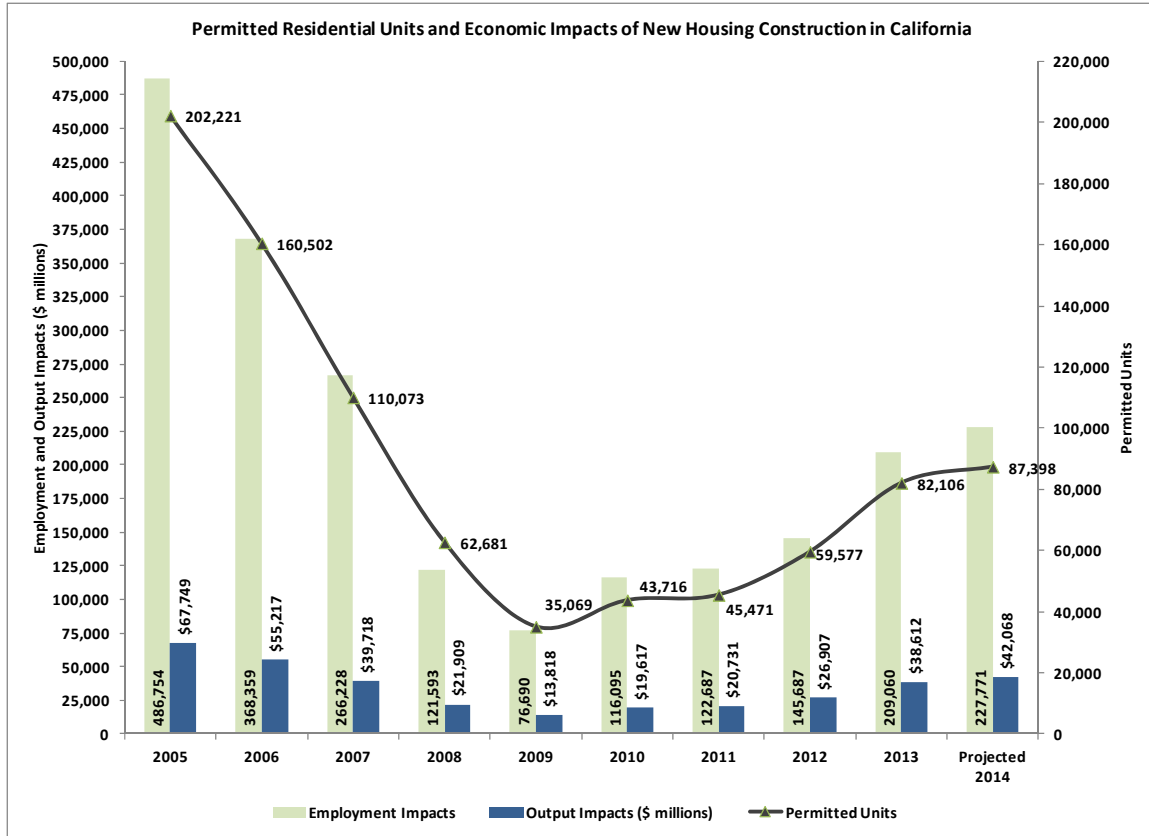
New housing construction:

- Contributes more than \$38.6 billion to the California economy
- Supports over 209,000 jobs per year
- Constitutes 1.1 percent of the state's output

New housing construction is an important industry for the state's economy, accounting for 1.1 percent of California's total output and ranking among the top 10 percent of all industries. While new housing construction remains a key contributor to the California economy, its potential economic benefits are much greater. According to the California Department of Housing and Community Development, the expected population growth and household formation in California demands housing unit production levels around 220,000 per annum. New housing construction has lagged behind the estimated demand since the late 1990s and permit levels have fallen well short in recent years. An annual production level closer to the statewide need would significantly increase the economic benefits of new housing construction in California.

With a drop in residential permit activity of 60 percent between 2005 and 2013, the economic benefits of new housing construction in California have decreased considerably. In 2005, a period around the most recent peak, permit levels topped 202,000 units, generating an economic impact of over \$67.7 billion and nearly 487,000 jobs. At that time, building levels were much closer to the anticipated annual demand and the full range of economic benefits of new housing construction accounted for close to 3 percent of the state's total output. Housing construction declined each year from 2005 until bottoming out in 2009 with economic impacts totaling \$13.8 billion of output and 77,000 jobs. From 2010 through 2013, the number of building permits issued increased which led to greater total employment and output impacts. Thus, while the economic downturn has had a dramatic effect on the contributions of new housing construction in previous years, the current trend suggests, that with the increase in building activity, 2014 impacts could potentially reach almost 228,000 jobs and around \$42.1 billion of output. However, the forecast for 2014 still shows new housing activity well below the long-term average.

EXECUTIVE SUMMARY



In all of the state’s counties, new housing construction is an important economic contributor with total output benefits capturing a notable portion of overall output. Los Angeles, Orange, and San Diego Counties have seen the greatest economic benefits from new housing construction, based on 2013 housing unit permit data each with total impacts measuring between around \$3.0 and \$5.5 billion of output and 17,000 and 31,000 jobs.

The entire housing industry:

- Generates over \$320.9 billion of output
- Supports about 909,000 jobs
- Accounts for about 9.0 percent of all economic activity in California

The larger picture of the housing industry’s influence in California includes not only the construction of new housing units, but also a wide range of related activities such as remodeling, repair, brokerage, property management, and financing. Accounting for all facets of the housing industry shows that it generates over \$320.9 billion of output and supports about 909,000 jobs throughout the state. Around 9.0 percent of California’s total

economic output is encompassed within the entire housing industry, ranking it second among the state’s leading industries in terms of output. Even when accounting for the effects of the housing downturn, the industry’s output places ahead of some of the state’s most notable sectors including Professional, Scientific, & Technical Services; Finance and Insurance; and Information.

EXECUTIVE SUMMARY

The entire housing industry creates a notable contribution to all of the state's counties. The economic contributions of the housing industry are highest in California's largest and most mature counties where the accumulation of housing assets over many years, along with ongoing construction, has resulted in a large inventory with high value. The highest levels of output fall within Los Angeles, Orange, and San Diego Counties where the entire housing industry encompasses between about \$29.9 and \$79.1 billion of output and 88,000 and 214,000 jobs.

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Introduction

The housing industry is one of California's most visible and far-reaching industries. On the most basic level, the state's housing stock provides shelter for its current and future residents and offers a variety of real estate ownership and investment options, while construction of new housing units supports jobs and expands the housing stock. The general public typically recognizes these basic benefits, but the full economic impacts of new housing construction and the housing industry in its entirety are not readily apparent. The complete influence of housing in the California economy includes not only the construction of new single- and multi-family units, but also a wide range of related activities such as remodeling, repair, brokerage, property management, and financing. Despite the fact that the housing market is still recovering from the recent downturn, the industry is still an important sector and contributor to the state's economy.

Study Background

In order to fully understand and keep track of the economic benefits of California's housing industry, the California Building Industry Association, through a grant provided by the California Homebuilding Foundation (CHF), commissioned the Center for Strategic Economic Research (CSER), formerly known as the Sacramento Regional Research Institute (SRRI), to generate a sixth update to the 2003 report also titled *The Economic Benefits of Housing in California*.

This study is designed to provide an economic perspective of the housing industry on California's economy and its individual counties. The report presents two views of the importance of housing in terms of economic activity and job creation:

1. The full range of economic impacts of new housing construction, including the support industries and consumption expenditures, which are generated through the multiplier or "ripple" effect.
2. The greater importance of the entire housing industry, broadly defined, to include residential real estate and financing, maintenance and repair, additions and alterations, construction, homeowner expenditures, property management, and all other aspects of the entire stock of owner- and renter-occupied housing.

This report employs similar methodology as the 2008, 2010, and 2012 updates and analyzes the most recent residential construction data for 2012 and 2013 by means of the newest database and structural matrices for the econometric model utilized to calculate economic impacts. This update continues to demonstrate the effects of the housing downturn and provides a more comprehensive accounting of county-level activities. At the statewide level, this update examines forecasts for 2014 from the California Homebuilding Foundation | Construction Industry Research Board (CHF|CIRB) and provides historical information on new housing construction back to 2005.

The report is presented in two main sections. The first section examines the economic contributions of California's housing industry including new housing construction and the broader housing industry. This section also touches on the untapped potential of residential construction based on projected demand. The second section analyzes the economic contributions of new housing construction and the entire housing industry within the state's 58 counties. In addition to the two main sections, three appendices are provided—Appendix A presents detailed sector impacts of new housing construction, Appendix B shows sub-sector detail for California's leading industries, and Appendix C shows a map of the county population distribution in the state.

Research Methodology

Data for residential permit activity in 2012 and 2013 were gathered from the U.S. Census Bureau Building Permit series, which covers privately-owned housing units authorized by building permit for new residential construction. Information on the number of single- and multi-family buildings and units are available in this series along with valuation, which is an estimate of the cost of construction including materials, labor, profit, architecture/engineering, and other overhead costs. CHF|CIRB's 2014 forecasts for similar measures were used in this analysis. Construction valuation was used as the primary determinant of the direct impacts of new housing construction.

The IMPLAN input-output model was used to further define the direct impacts of new housing construction as well as the indirect and induced impacts. This model is widely used in economic analysis to estimate multiplier effects and quantify the full range of economic impacts. Input-output models, including IMPLAN, evaluate the effects of industries on each other based on final demand for goods and services. Most typical measures of economic activity examine only the total output or employment of an industry or the amount of final consumption demand provided by a given industry. The use of an input-output model provides a much more comprehensive view of the inter-related economic impacts. Specifically, new housing construction directly creates output and employment throughout California's economy; however, the economic benefits do not end with these general construction activities. The multiplier or "ripple" effect generates further benefits through the purchase of goods and services in addition to employee consumption activities.

The full range of economic impacts produced by new housing construction includes direct, indirect, and induced benefits.

- *Direct Benefits* consist of economic activity related exclusively to new housing construction. This includes all employees who work for homebuilders and all expenditures made by those companies in the state. These are often the most visible and recognizable activities of new housing construction.
- *Indirect Benefits* define the creation of additional economic activity that results from linked businesses, suppliers of goods and services, and provision of

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operating inputs. Examples of indirect activity include wholesale trade where builders purchase lumber, roofing, electrical, and plumbing materials; motor freight services that deliver materials to the wholesaler and construction sites; and engineering and architectural services which participate in the design and planning of housing units and subdivisions.

- *Induced Benefits* measure the consumption expenditures of direct and indirect sector employees. Examples of induced benefits include employees' expenditures on items such as retail purchases, housing, medical services, banking, and insurance.

These benefits also illustrate the multiplier effect that quantifies the incremental indirect and induced impact of each additional direct job or dollar of output related to new housing construction within the state.

In this analysis, the total direct, indirect, and induced benefits are presented in two ways:

- *Employment* demonstrates the number of jobs generated on an annual basis.
- *Output* accounts for total revenues including all sources of income; the total value of production generated by an industry for a given time period; or the total value of contributions to the overall supply of a specific service or creation of a good. This is the best overall measure of business and economic activity because it is the measure most establishments use to determine current activity levels.

All economic activities within the IMPLAN model contain data on study area employment and output (value of production) among many other factors. This background information was used to derive output per employee ratios for the residential construction industry. The IMPLAN model was then used to quantify the indirect and induced effects of the construction valuation and related jobs. Models for the state and each county were created and calibrated using 2012 data parameters and imports and leakages were accounted for using study area boundaries and regional purchasing coefficients. For the county-level analysis, each county's individual economic attributes (productivity, structure, output, etc.) are captured in the modeling with limited comparisons and linkages to other counties. As such, housing's economic activities and related relationships stop at each county's border. Depending on the related attributes, larger areas like a metropolitan statistical area or state capture other interrelated economic activity. This occurrence contributes to discrepancies between the sum of all 58 counties' economic impacts and the total statewide impacts. While the analysis of the economic impacts associated with new housing construction in this update is based on IMPLAN's 2012 snapshot of the economy containing unique economic activity, industry structure, and sector relationships, general comparisons are applicable between this report and the previous updates, making allowances for the model differences.

In order to create an accounting of the entire housing industry, employment and output data for detailed economic activities from the most recent IMPLAN were allocated into broad categories based on similarity of activities as well as reviews of construction,

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brokerage, and labor market data. One particular area of interest in this analysis was the Real Estate sector, which captures both residential and non-residential activity. In order to disaggregate this sector and allocate the residential portion to the housing industry, CSER reviewed detailed employment data, major real estate brokerage activities, and residential and commercial valuation measures. This review showed that, on average at the statewide level, 70 percent of the Real Estate sector's employment and output is focused on residential property transactions, management, and leasing while the remaining 30 percent is related to commercial property. A similar approach was employed for all 58 counties in the state (focusing on the average mix from 2003-2013)—a more complete set of information was generally available for the larger counties while only a few data points were used for the smaller counties. This estimation methodology creates the small variation between the sum of the entire housing industry in all counties and the statewide total. It is important to note that the Real Estate sector was not included in the county-level estimates for the entire housing industry presented in earlier reports (2010 and prior), which eliminates the ability to compare across updates.

By taking into account the multiplier effect, direct, indirect, and induced benefits, and other housing-related activities, this study provides a measurement of the full range of economic impacts and offers insight into how the housing sector, beginning with new housing construction, produces a wide range of economic benefits to the California economy.

Economic Contributions of California's Housing Industry

The housing industry, one of California's largest and important industries, is comprised of activities related to new home construction, remodeling, repair, brokerage, property management, and financing. A detailed look at the impacts of new housing construction and a discussion on the untapped potential of residential construction will be provided within this section, followed by an examination of the broader housing industry's economic contributions to California.

New Housing Construction

According to the United States Census Bureau residential building permit data, as shown in Figure 1 (on the following page), authorization was provided for about 60,000 and 82,000 new privately-owned housing units throughout California in 2012 and 2013, respectively. CHF\CIRB forecasts for 2014 reflect an uptick to over 87,000 permitted units in the state. Single-family units accounted for approximately 47 percent of the permits granted in 2012 with the remaining 53 percent for multi-family construction. In 2013, the proportion shifted slightly with 45 percent of permits for single-family units and 55 percent issued for multi-family units. The 2014 forecast shows a very minimal decrease in the percentage of single-family units, as the percentage of single-family units is projected to be 44 percent. Construction costs for the housing units permitted amounted to around \$12.7 billion in 2012 and \$18.3 billion in 2013—these costs account for labor, materials, profits, and other related expenses. This equates to an average construction valuation per unit of nearly \$214,000 in 2012 and \$222,000 in 2013. Valuation is forecast at almost \$19.9 billion for 2014 with the average cost per unit to increase to approximately \$228,000.

In general, permit activity in California has dropped off substantially with the housing market downturn and recent recession, but there has been a notable improvement in recent years. In 2005, around the most recent peak, permits were issued for over 205,000 units and construction costs were valued at approximately \$38.4 billion. However, while the most current levels remain well below the recent peak period and only a little above the state's long-term annual average, the current levels do show a trend of recovery as the past four years saw increases in the number of permitted units. There was a 134 percent increase in the number of permitted units since the recent low in 2009 to current levels and 2013 saw a year-over-year increase of approximately 38 percent. Permitted units are forecast to increase at a lower year-over-year rate, around 6 percent, in 2014.

FIGURE 1
RESIDENTIAL BUILDING
PERMITS IN CALIFORNIA
(VALUATION IN THOUSANDS)

<i>Year</i>	<i>Units</i>	<i>Valuation</i>
Projected 2014	87,398	\$19,897,739
2013	82,106	\$18,263,212
2012	59,577	\$12,727,006
<hr/>		
2011	45,471	\$9,638,517
2010	43,716	\$9,120,591
2009	35,069	\$7,758,484
2008	62,681	\$12,301,095
2007	110,073	\$21,335,308
2006	160,502	\$29,614,392
2005	202,221	\$37,158,906

Center for Strategic Economic Research, August 2014
 Data Source: U.S. Census Bureau and CHFCIRB

The benefits of new residential construction to the state's economy do not end with those activities directly related to building housing units. New housing construction produces a ripple effect in California's economy as a result of the linkages that occur between construction activities, suppliers of goods and services, and employee spending. As shown in Figure 2 (on the following page), overall, based on 2013 values, the economic benefits of new housing construction in California equate to around \$38.6 billion of output and over 209,000 jobs on an annual basis. These total economic impacts are a result of the following three effects: 1) new housing construction *directly* provides about \$18.3 billion of output and 86,000 jobs to the state's economy, 2) housing construction *indirectly* supports about \$11.3 billion of output and 65,000 employees through its demand on suppliers of goods and services, and 3) spending activities of those employed directly and indirectly through new home construction generate an *induced* impact of approximately \$9.0 billion of output and 58,000 jobs.

Residential permit levels are still far below the peak in 2005 which is reflected in the decrease of new housing construction's economic benefits since that point. In 2005, economic impacts of residential construction reached nearly \$68.0 billion of output and 487,000 jobs—economic benefits fell every year following before bottoming out in 2009 with output impacts at about 20 percent of the 2005 level and employment impacts falling

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to close to 16 percent of this value. Output and employment impact levels increased in 2010 starting a trend of higher impacts in subsequent years through 2013. It is forecasted that by 2014 impacts could potentially reach approximately 228,000 jobs and \$42.1 billion of output. In terms of contribution to the state's economy, the full range of economic activities associated with the construction of new privately-owned housing units has dropped from nearly 3.0 percent of California's total output in 2005 to about 1.1 percent of state output in 2013. Nonetheless, at over \$38.6 billion, the 2013 contribution is still a notable value for one specific economic activity in the state, ranking among the top 10 percent of sectors in California in terms of output.

FIGURE 2
TOTAL ECONOMIC IMPACTS OF NEW
HOUSING CONSTRUCTION IN CALIFORNIA
(OUTPUT IN THOUSANDS)

<i>Year/Impact</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>	<i>Yr. % Change</i>
Projected 2014 Employment	93,404	71,229	63,138	227,771	8.9%
Projected 2014 Output	\$19,897,739	\$12,349,462	\$9,820,659	\$42,067,860	8.9%
2013 Employment	85,731	65,378	57,951	209,060	43.5%
2013 Output	\$18,263,212	\$11,334,998	\$9,013,928	\$38,612,138	43.5%
2012 Employment	59,743	45,559	40,384	145,687	18.7%
2012 Output	\$12,727,006	\$7,898,972	\$6,281,497	\$26,907,474	29.8%
2011 Employment	50,413	30,567	41,707	122,687	5.7%
2011 Output	\$9,638,517	\$4,898,731	\$6,194,209	\$20,731,456	5.7%
2010 Employment	47,704	28,925	39,466	116,095	51.4%
2010 Output	\$9,120,591	\$4,635,498	\$5,861,361	\$19,617,450	42.0%
2009 Employment	35,041	23,484	18,164	76,690	-36.9%
2009 Output	\$7,758,484	\$3,442,435	\$2,617,364	\$13,818,284	-36.9%
2008 Employment	55,558	37,236	28,799	121,593	-54.3%
2008 Output	\$12,301,095	\$5,457,990	\$4,149,837	\$21,908,922	-44.8%
2007 Employment	130,556	63,084	72,588	266,228	-27.7%
2007 Output	\$21,335,308	\$8,537,544	\$9,845,384	\$39,718,236	-28.1%
2006 Employment	179,294	88,717	100,348	368,359	-24.3%
2006 Output	\$29,614,392	\$11,992,084	\$13,610,057	\$55,216,532	-18.5%
2005 Employment	219,884	129,360	137,510	486,754	3.0%
2005 Output	\$37,158,906	\$15,115,100	\$15,475,289	\$67,749,296	3.0%

Center for Strategic Economic Research, August 2014

Data Sources: IMPLAN, years 2012-2014 based on 2012 Coefficients, 2010-2012 based on 2010 Coefficients, years 2008-2009 based on 2007 Coefficients, years 2006-2007 based on 2006 Coefficients, year 2005 based on 2003 Coefficients; United States Census Bureau; and CHF/CIRB

Note: Differences due to rounding.

The multiplier effect of new housing construction shows that, on average, for each additional dollar of construction valuation, the state will see another \$1.10 of output and for every employee created directly as a result of constructing new housing units, California will gain another 1.4 jobs through indirect and induced activity. The economic employment and output multiplier effects did shift significantly starting in 2010 from its previous yearly averages of approximately 1.1 jobs and \$0.80 of output. Total economic impacts of new housing construction have varied on an annual basis mainly as a result of residential permit levels, the mix of single- and multi-family units authorized, and the associated construction costs. In both the peak and current downturn periods, California's economy has been able to internalize construction activity as well as a notable amount of supplier activities and worker spending.

Figure 3 (on the following page) illustrates, that in addition to housing construction activities, the Wholesale Trade; Petroleum Refineries; Monetary Authorities & Depository Credit Intermediation Activities; and Architectural, Engineering, & Related Services sectors benefit the most from the total output impacts created through new housing construction (based on the 2013 economic impact values). The largest indirect output gains are concentrated in the Wholesale Trade; Petroleum Refineries; Architectural, Engineering, & Related Services; and Monetary Authorities & Depository Credit Intermediation Activities sectors as a result of their role as linked and service-providing sectors. Aside from the owner-occupied dwelling activities (capturing the expenses of homeownership), the Real Estate Establishments; Wholesale Trade; Food Services & Drinking Places; and Offices of Physicians, Dentists, & Other Health Practitioners sectors see the greatest induced impacts due to the direct and indirect employees' spending within these sectors. Appendix A provides additional details on the output impacts of new housing construction on the full range of sectors within California's economy.

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FIGURE 3
DETAILED OUTPUT IMPACTS OF NEW HOUSING CONSTRUCTION IN CALIFORNIA (IN THOUSANDS)

<i>Sector</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Construction of new residential permanent site single- and multi-family structures	\$18,263,212	-	-	\$18,263,212
Wholesale trade businesses	-	\$762,067	\$439,878	\$1,201,945
Imputed rental activity for owner-occupied dwellings	-	-	\$963,226	\$963,226
Petroleum refineries	-	\$627,909	\$215,216	\$843,126
Monetary authorities and depository credit intermediation activities	-	\$441,536	\$318,156	\$759,692
Real estate establishments	-	\$255,994	\$450,066	\$706,060
Architectural, engineering, and related services	-	\$586,001	\$18,958	\$604,959
Securities, commodity contracts, investments, and related activities	-	\$345,496	\$252,654	\$598,150
Food services and drinking places	-	\$90,609	\$435,702	\$526,311
Telecommunications	-	\$280,202	\$188,959	\$469,162
Transport by truck	-	\$367,918	\$80,997	\$448,916
Offices of physicians, dentists, and other health practitioners	-	\$1	\$431,853	\$431,854
Private hospitals	-	\$1	\$376,366	\$376,368
Retail Stores - Motor vehicle and parts	-	\$256,535	\$117,119	\$373,654
Ready-mix concrete manufacturing	-	\$364,047	\$1,539	\$365,586
Legal services	-	\$232,788	\$122,314	\$355,101
Retail Stores - Food and beverage	-	\$219,264	\$125,505	\$344,770
Retail Stores - General merchandise	-	\$207,301	\$123,418	\$330,719
Accounting, tax preparation, bookkeeping, and payroll services	-	\$197,054	\$53,257	\$250,311
Management of companies and enterprises	-	\$162,327	\$80,461	\$242,788
Ornamental and architectural metal products manufacturing	-	\$227,174	\$3,199	\$230,374
Insurance carriers	-	\$34,997	\$182,700	\$217,697
Retail Stores - Clothing and clothing accessories	-	\$121,442	\$76,568	\$198,010
Retail Stores - Building material and garden supply	-	\$149,829	\$47,901	\$197,730
Employment services	-	\$142,451	\$53,588	\$196,039
Retail Nonstores - Direct and electronic sales	-	\$83,372	\$105,632	\$189,004
Services to buildings and dwellings	-	\$121,349	\$55,129	\$176,478
Retail Stores - Health and personal care	-	\$103,588	\$59,631	\$163,219
Maintenance and repair construction of nonresidential structures	-	\$103,829	\$48,919	\$152,747
Electric power generation, transmission, and distribution	-	\$70,095	\$75,657	\$145,752
Retail Stores - Miscellaneous	-	\$88,911	\$53,564	\$142,475
Pharmaceutical preparation manufacturing	-	\$459	\$140,136	\$140,595
All other miscellaneous professional, scientific, and technical services	-	\$116,897	\$22,528	\$139,425
Medical and diagnostic labs and outpatient and other ambulatory care services	-	\$76	\$139,230	\$139,305
Advertising and related services	-	\$86,239	\$50,914	\$137,153
Civic, social, professional, and similar organizations	-	\$88,653	\$44,127	\$132,780
Management, scientific, and technical consulting services	-	\$85,319	\$43,697	\$129,016
Insurance agencies, brokerages, and related activities	-	\$32,876	\$91,566	\$124,441
Funds, trusts, and other financial vehicles	-	\$5,824	\$116,996	\$122,821
Nondepository credit intermediation and related activities	-	\$42,373	\$79,445	\$121,818
Other plastics product manufacturing	-	\$111,036	\$8,951	\$119,987
Natural gas distribution	-	\$65,944	\$52,040	\$117,984
Extraction of oil and natural gas	-	\$84,316	\$33,306	\$117,621
Wood windows and doors and millwork manufacturing	-	\$113,852	\$1,761	\$115,612
Saw mills and wood preservation	-	\$113,509	\$1,535	\$115,044
Wood kitchen cabinet and countertop manufacturing	-	\$108,562	\$2,460	\$111,021
Retail Stores - Gasoline stations	-	\$66,702	\$43,812	\$110,514
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	-	\$109,549	\$424	\$109,973
Nursing and residential care facilities	-	-	\$109,149	\$109,149
Commercial and industrial machinery and equipment rental and leasing	-	\$98,760	\$8,702	\$107,462

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 Coefficients based on United States Census Bureau information

Notes: Figure only includes the 50 sectors with the largest total impacts based on the 2013 impact values. Differences due to rounding.

As Figure 4 (on the next page) demonstrates, Food Services & Drinking Places; Wholesale Trade; and General Merchandise Retail Stores are the non-housing-related sectors that capture the largest employment gains in the state resulting from new housing construction (using the 2013 economic impact values). The Architectural, Engineering, & Related Services; Wholesale Trade; and Food & Beverage Retail Stores sectors experience the largest indirect gains because of their linkages to new housing construction activities. Additionally, the Food Services & Drinking Places; Offices of Physicians, Dentists, & Other Health Practitioners; and Real Estate Establishments sectors see the greatest induced benefits, demonstrating the demand for goods and services from these sectors that are generated by spending activity from the direct and indirect employees. Additional sector-level details for new housing construction's employment impacts are provided in Appendix A.

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FIGURE 4
DETAILED EMPLOYMENT IMPACTS OF NEW
HOUSING CONSTRUCTION IN CALIFORNIA

<i>Sector</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Construction of new residential permanent site single- and multi-family structures	85,731	-	-	85,731
Food services and drinking places	-	1,384	6,655	8,039
Wholesale trade businesses	-	3,391	1,958	5,349
Retail Stores - General merchandise	-	2,934	1,746	4,680
Retail Stores - Food and beverage	-	2,954	1,691	4,644
Architectural, engineering, and related services	-	4,383	142	4,525
Employment services	-	2,920	1,099	4,019
Real estate establishments	-	1,262	2,218	3,480
Retail Stores - Motor vehicle and parts	-	2,371	1,082	3,453
Securities, commodity contracts, investments, and related activities	-	1,985	1,451	3,436
Offices of physicians, dentists, and other health practitioners	-	-	3,300	3,300
Transport by truck	-	2,593	571	3,164
Services to buildings and dwellings	-	1,919	872	2,791
Retail Stores - Miscellaneous	-	1,586	956	2,542
Retail Stores - Clothing and clothing accessories	-	1,497	944	2,441
Private hospitals	-	-	2,183	2,183
Retail Stores - Building material and garden supply	-	1,609	514	2,124
Civic, social, professional, and similar organizations	-	1,400	697	2,096
Accounting, tax preparation, bookkeeping, and payroll services	-	1,612	436	2,047
Monetary authorities and depository credit intermediation activities	-	1,109	799	1,907
Retail Stores - Health and personal care	-	1,175	676	1,851
Legal services	-	1,180	620	1,800
Nursing and residential care facilities	-	-	1,643	1,643
Private household operations	-	-	1,521	1,521
Retail Nonstores - Direct and electronic sales	-	650	823	1,473
Ready-mix concrete manufacturing	-	1,217	5	1,222
Individual and family services	-	-	1,219	1,219
Automotive repair and maintenance, except car washes	-	606	564	1,170
Retail Stores - Sporting goods, hobby, book and music	-	668	424	1,092
Management of companies and enterprises	-	702	348	1,049
Ornamental and architectural metal products manufacturing	-	1,011	14	1,025
Management, scientific, and technical consulting services	-	659	337	996
Private junior colleges, colleges, universities, and professional schools	-	26	967	993
Investigation and security services	-	634	354	988
Maintenance and repair construction of nonresidential structures	-	666	314	979
Retail Stores - Furniture and home furnishings	-	664	292	957
Insurance agencies, brokerages, and related activities	-	231	644	875
Telecommunications	-	512	346	858
Insurance carriers	-	137	716	854
Other private educational services	-	47	774	822
Retail Stores - Gasoline stations	-	487	320	807
Business support services	-	553	194	748
Private elementary and secondary schools	-	-	741	741
Personal care services	-	-	737	737
Medical and diagnostic labs and outpatient and other ambulatory care services	-	-	736	737
Wood kitchen cabinet and countertop manufacturing	-	703	16	719
Nondepository credit intermediation and related activities	-	245	460	705
Commercial and industrial machinery and equipment repair and maintenance	-	595	81	677
Child day care services	-	-	669	669
Retail Stores - Electronics and appliances	-	414	250	664

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 Coefficients based on United States Census Bureau information

Notes: Figure only includes the 50 sectors with the largest total impacts based on the 2013 impact values.
Differences due to rounding.

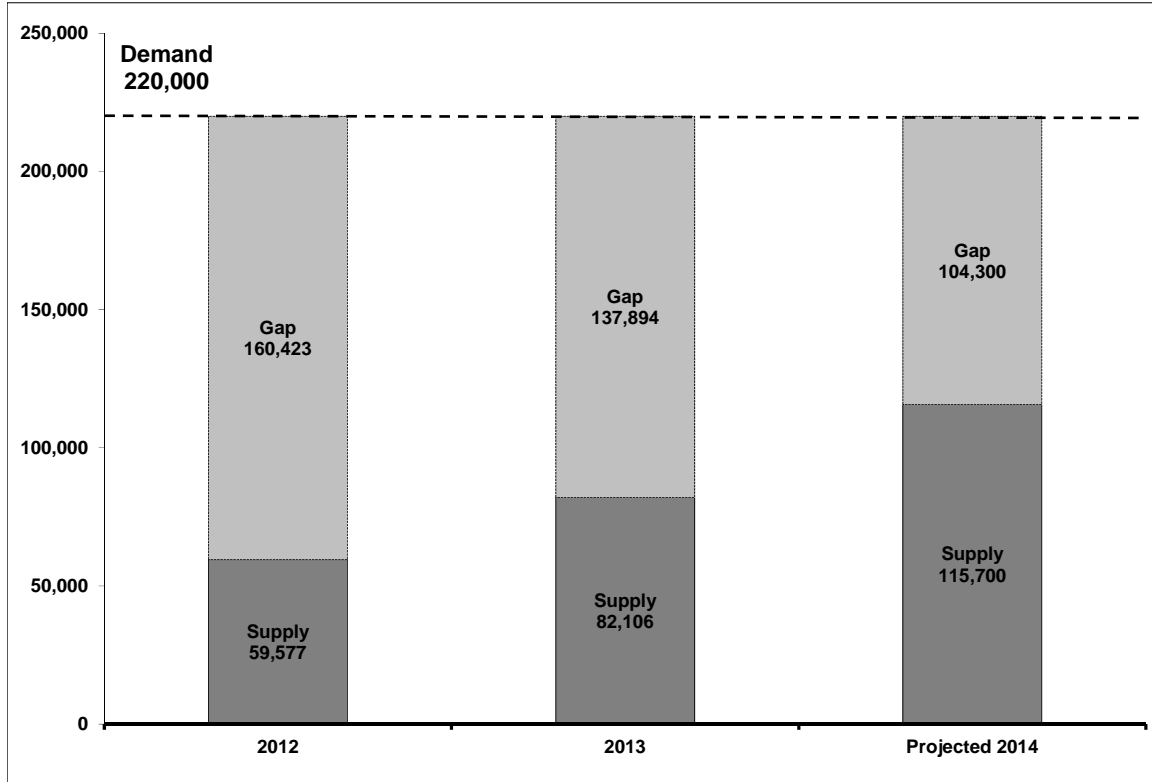
New Housing Construction's Untapped Potential

As overall housing production has been at much lower levels than 2005, the gap between supply and projected demand has expanded in the years following. Based on California Department of Housing and Community Development analysis, California's housing stock would have to expand by 220,000 units every year between 1997 and 2020 to meet the needs of the expected population growth and household formation in the state.¹ The Department's assessment shows that new home construction has been lagging behind the projected demand since the late 1990s. Even with the relatively high production levels seen in 2004 and 2005, the supply of housing did not reach the projected demand. As shown in Figure 5 (on the following page), supply fell short of demand by over 160,000 units in 2012 with the gap shrinking slightly to about 138,000 in 2013 (only about 37 percent of the projected need was permitted). Permit level forecasts for 2014 expect a difference of roughly 104,000 units between supply and estimated demand.

While the economic downturn has taken the state further off pace, an annual production level closer to the projected demand would significantly increase the economic benefits of new housing construction in California. If the residential permit level in 2013 met the estimated 220,000 housing unit need, the state would see an incremental increase in the total output impact of another \$64.8 billion and an additional employment impact of over 351,000 jobs. This reflects the difference in economic impact created by the actual 2013 construction of approximately 82,000 units and projected demand. Similarly, if housing construction in 2012 reached the 220,000-unit demand rather than the approximately 60,000 permitted, California would have seen an additional economic benefit of about \$72.5 billion of output and over 392,000 jobs including direct, indirect, and induced impacts. The gap in the 2014 permit projection and estimated demand shows a potential incremental economic impact increase of around \$48.7 billion of output and 297,000 jobs if the additional 104,000 demanded units were authorized.

¹ *Raising the Roof—California Housing Development Projections and Constraints 1997-2020*

FIGURE 5
HOUSING SUPPLY AND DEMAND



Center for Strategic Economic Research, August 2014
Data Sources: United States Census Bureau and California Department of Housing and Community Development

Entire Housing Industry

The housing industry’s influence in California includes a wide range of activities such as remodeling, repair, brokerage, property management, and financing, in addition to the construction of new housing units. The industry is driven by building and selling housing units as well as activities related directly to home ownership, which tend to increase as the housing stock grows. As described within the Research Methodology section of this report, 70 percent of the Real Estate sector’s employment and output is allocated to the housing industry grouping to account for residential real estate activities.

Figure 6 (on the following page) shows that, overall, the housing industry generates over \$320.9 billion in output and supports almost 909,000 jobs throughout the state. This reflects a decrease over the previous estimate. There are a few pieces of the industry that kept the sector from shrinking substantially with the housing market downturn and recent recession. These include general escalations in output values and costs over time (across the activities encompassed in the housing industry and other sectors) as well as increases in the housing stock and associated ownership (leading to a greater aggregate of homeownership costs and linked expenditures).

CALIFORNIA'S HOUSING INDUSTRY

A comparison of the economic contributions of the housing industry with other leading sectors in the state demonstrates the importance of housing in California's economy. With about 9.4 percent of total state output (\$320.9 billion), housing is California's 2nd largest industry, ranking above some of the state's most recognized industries, but just below Wholesale and Retail Trade with around \$327.5 billion of output. The top three industries following housing in the ranking include Professional, Scientific, & Technical Services (\$283.1 billion of output); Finance and Insurance (\$225.1 billion of output); and Information (\$208.0 billion of output). Additional sector-level details for California's leading industry groupings are provided in Appendix B.

FIGURE 6
COMPARISON OF CALIFORNIA'S LEADING INDUSTRIES
(OUTPUT IN THOUSANDS)

<i>Leading Industry Sectors</i>	<i>Output</i>	<i>Employment</i>	<i>% of Total</i>
			<i>Output</i>
Wholesale and Retail Trade	\$327,459,561	2,669,268	9.5%
Housing*	\$320,935,603	908,885	9.4%
Professional, Scientific, and Technical Services	\$283,075,150	1,834,785	8.3%
Finance and Insurance	\$225,129,368	988,193	6.6%
Information	\$208,004,071	503,309	6.1%
Health Care and Social Assistance	\$206,274,565	1,915,859	6.0%
Computer and Electronic Product Manufacturing	\$197,482,902	252,701	5.8%
State and Local Government	\$179,857,503	2,176,480	5.2%
Agriculture and Food Processing	\$166,407,061	622,704	4.9%
Non-Residential Construction*	\$162,090,939	945,310	4.7%
Leisure and Hospitality	\$145,468,709	1,993,420	4.2%
Management and Support	\$137,556,290	1,542,620	4.0%
Transportation and Warehousing	\$88,728,755	649,626	2.6%
Other Services	\$84,115,353	1,267,770	2.5%
Medical Manufacturing	\$82,270,086	116,600	2.4%
Federal Government	\$59,823,591	377,993	1.7%
Utilities	\$56,923,484	60,720	1.7%
Transportation Equipment Manufacturing	\$48,528,817	102,773	1.4%
California Total	\$3,430,334,448	20,195,330	-

Center for Strategic Economic Research, August 2014

Data Source: CSER estimates based on IMPLAN, 2012 coefficients

* Housing industry includes an allocation of 70 percent of the Real Estate sector; Non-Residential Real Estate Activities includes 30 percent of the Real Estate sector.

County-Level Economic Contributions of the Housing Industry

Each of California's 58 counties is characterized by unique economic trends and development patterns. The counties range from very small, such as Alpine and Sierra Counties with respective populations of approximately 1,100 to 3,100 people, to very large, in particular, Los Angeles with around 10 million residents and San Diego and Orange Counties, each with populations of around 3 million people. Some counties are within metropolitan areas that have been experiencing significant population and related housing gains in the past decade, namely, Riverside-San Bernardino-Ontario, Los Angeles-Long Beach-Glendale, Sacramento-Arden Arcade-Roseville, and San Diego-Carlsbad-San Marcos. Appendix C includes a map of California and its counties shaded by population size.

This section will cover the impacts of new housing construction within all of California's counties in addition to each county's entire housing industry output and employment.

New Housing Construction

As shown in Figure 7 (on the following page), in both 2012 and 2013, the largest number of residential units permitted and highest construction valuations (based on data from the United States Census Bureau) were generally in the southern portion of the state. Los Angeles, Orange, and San Diego Counties comprised about 38 percent (2012) and 40 percent (2013) of total units permitted statewide and 39 percent (2012) and 40 percent (2013) of total construction valuation. Counties in Southern California have topped the list of units permitted in the state for a number of years, primarily as a result of market size and regional growth.

COUNTY-LEVEL HOUSING INDUSTRY

FIGURE 7
RESIDENTIAL BUILDING PERMITS IN
CALIFORNIA'S COUNTIES
(VALUATION IN THOUSANDS)

County	Units		Valuation	
	2012	2013	2012	2013
Alameda	2,697	2,895	\$758,613	\$796,598
Alpine	1	0	\$296	\$0
Amador	110	14	\$16,235	\$4,868
Butte	351	520	\$61,207	\$90,741
Calaveras	29	43	\$7,481	\$11,735
Colusa	4	38	\$3,523	\$12,626
Contra Costa	2,150	1,899	\$369,168	\$459,776
Del Norte	32	18	\$6,103	\$4,063
El Dorado	261	205	\$79,919	\$87,834
Fresno	1,491	2,341	\$356,591	\$630,303
Glenn	39	28	\$7,464	\$4,985
Humboldt	174	170	\$22,392	\$25,447
Imperial	287	247	\$44,062	\$57,004
Inyo	0	6	\$3,868	\$1,228
Kern	1,586	1,138	\$326,274	\$396,333
Kings	206	255	\$41,832	\$38,764
Lake	88	48	\$14,191	\$7,940
Lassen	12	7	\$2,369	\$1,251
Los Angeles	11,101	14,113	\$2,520,864	\$3,251,297
Madera	157	219	\$24,841	\$52,231
Marin	43	275	\$65,415	\$127,830
Mariposa	28	24	\$5,619	\$6,012
Mendocino	72	111	\$10,827	\$12,937
Merced	137	148	\$24,552	\$36,128
Modoc	4	8	\$552	\$1,489
Mono	5	6	\$6,744	\$7,596
Monterey	244	425	\$46,807	\$82,090
Napa	111	214	\$52,198	\$44,537
Nevada	92	174	\$22,068	\$43,519
Orange	6,044	10,346	\$1,143,571	\$2,288,094
Placer	1,297	1,269	\$348,190	\$394,415
Plumas	23	27	\$3,396	\$4,022
Riverside	4,042	5,815	\$838,053	\$1,232,897
Sacramento	1,531	1,881	\$337,300	\$505,729
San Benito	41	143	\$10,070	\$32,984
San Bernardino	1,837	3,336	\$370,351	\$603,189
San Diego	5,666	8,264	\$1,284,504	\$1,788,442
San Francisco	3,089	4,474	\$918,874	\$1,458,156
San Joaquin	982	1,130	\$240,620	\$274,373
San Luis Obispo	355	605	\$119,148	\$189,142
San Mateo	820	877	\$353,668	\$379,661
Santa Barbara	458	401	\$123,386	\$123,427
Santa Clara	5,479	7,621	\$1,052,186	\$1,613,258
Santa Cruz	180	107	\$46,858	\$55,477
Shasta	205	204	\$36,044	\$39,876
Sierra	3	0	\$459	\$0
Siskiyou	1	27	\$11,572	\$3,808
Solano	538	775	\$98,045	\$133,207
Sonoma	556	1,046	\$124,948	\$184,763
Stanislaus	268	311	\$44,470	\$63,367
Sutter	38	55	\$8,504	\$14,726
Tehama	58	49	\$10,185	\$11,182
Trinity	5	14	\$800	\$1,919
Tulare	633	898	\$102,372	\$185,624
Tuolumne	37	34	\$5,691	\$6,879
Ventura	264	624	\$112,704	\$213,378
Yolo	293	813	\$67,406	\$141,312
Yuba	78	147	\$11,556	\$22,742

Center for Strategic Economic Research, August 2014
 Data Source: United States Census Bureau

COUNTY-LEVEL HOUSING INDUSTRY

Like at the statewide level, the local benefits of new housing construction extend well beyond the economic activities directly related to building new single- and multi-family housing units. Throughout each county, the multiplier effect generates additional output and jobs within linked suppliers of goods and services and sectors that support employees' consumption activities within the county boundaries. As a result, housing construction provides considerable economic benefits to virtually every county in the state, even those counties which do not have significant levels of economic activities in manufacturing, financial services, or other high-value sectors.

Figures 8 and 9 (on pages 18 through 21) demonstrate that the largest economic impacts in 2013 occurred within the counties with the highest levels of units permitted and construction valuation—Los Angeles, Orange, and San Diego. Based on 2013 values and including direct, indirect and induced impacts, the economic contributions of new housing construction in Los Angeles County reach nearly \$5.5 billion of output and almost 31,000 jobs; about \$3.6 billion of output and 19,000 jobs in Orange County; and around \$3.0 billion of output and 17,000 jobs in San Diego County. New housing construction is important even in the state's smallest counties like Lassen, Inyo, and Modoc where 2013 residential building activities generated a total of between approximately \$1.6 and \$1.9 million of output and 9 and 10 jobs.

COUNTY-LEVEL HOUSING INDUSTRY

FIGURE 8
TOTAL OUTPUT IMPACTS OF NEW HOUSING CONSTRUCTION IN CALIFORNIA'S COUNTIES (IN THOUSANDS)

County	2012				2013			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Alameda	\$758,613	\$218,025	\$210,468	\$1,187,106	\$796,598	\$228,942	\$221,007	\$1,246,546
Alpine	\$296	\$20	\$21	\$337	-	-	-	-
Amador	\$16,235	\$3,385	\$1,666	\$21,286	\$4,868	\$1,015	\$500	\$6,383
Butte	\$61,207	\$18,611	\$13,865	\$93,683	\$90,741	\$27,592	\$20,555	\$138,887
Calaveras	\$7,481	\$1,735	\$792	\$10,007	\$11,735	\$2,721	\$1,242	\$15,698
Colusa	\$3,523	\$533	\$436	\$4,491	\$12,626	\$1,910	\$1,562	\$16,098
Contra Costa	\$369,168	\$122,617	\$93,423	\$585,207	\$459,776	\$152,712	\$116,353	\$728,841
Del Norte	\$6,103	\$1,243	\$655	\$8,002	\$4,063	\$828	\$436	\$5,326
El Dorado	\$79,919	\$19,679	\$12,994	\$112,591	\$87,834	\$21,628	\$14,281	\$123,742
Fresno	\$356,591	\$87,058	\$81,331	\$524,980	\$630,303	\$153,883	\$143,759	\$927,945
Glenn	\$7,464	\$1,572	\$644	\$9,680	\$4,985	\$1,050	\$430	\$6,465
Humboldt	\$22,392	\$7,733	\$4,397	\$34,522	\$25,447	\$8,788	\$4,997	\$39,232
Imperial	\$44,062	\$8,718	\$4,031	\$56,810	\$57,004	\$11,278	\$5,214	\$73,497
Inyo	\$3,868	\$639	\$468	\$4,975	\$1,228	\$203	\$149	\$1,579
Kern	\$326,274	\$73,260	\$60,417	\$459,951	\$396,333	\$88,991	\$73,390	\$558,714
Kings	\$41,832	\$5,638	\$5,178	\$52,647	\$38,764	\$5,224	\$4,798	\$48,786
Lake	\$14,191	\$3,113	\$1,561	\$18,865	\$7,940	\$1,742	\$873	\$10,555
Lassen	\$2,369	\$392	\$198	\$2,959	\$1,251	\$207	\$105	\$1,563
Los Angeles	\$2,520,864	\$970,570	\$771,470	\$4,262,904	\$3,251,297	\$1,251,797	\$995,007	\$5,498,101
Madera	\$24,841	\$3,836	\$3,058	\$31,735	\$52,231	\$8,066	\$6,429	\$66,726
Marin	\$65,415	\$15,970	\$10,696	\$92,081	\$127,830	\$31,209	\$20,901	\$179,940
Mariposa	\$5,619	\$948	\$483	\$7,050	\$6,012	\$1,014	\$516	\$7,543
Mendocino	\$10,827	\$3,542	\$1,556	\$15,925	\$12,937	\$4,232	\$1,859	\$19,028
Merced	\$24,552	\$4,178	\$3,602	\$32,332	\$36,128	\$6,149	\$5,301	\$47,578
Modoc	\$552	\$91	\$56	\$698	\$1,489	\$244	\$150	\$1,883
Mono	\$6,744	\$1,093	\$667	\$8,504	\$7,596	\$1,231	\$752	\$9,578
Monterey	\$46,807	\$10,833	\$8,484	\$66,123	\$82,090	\$18,998	\$14,878	\$115,967
Napa	\$52,198	\$12,761	\$9,548	\$74,507	\$44,537	\$10,888	\$8,147	\$63,572
Nevada	\$22,068	\$5,664	\$3,561	\$31,294	\$43,519	\$11,171	\$7,023	\$61,713
Orange	\$1,143,571	\$352,075	\$307,863	\$1,803,509	\$2,288,094	\$704,443	\$615,982	\$3,608,519
Placer	\$348,190	\$97,838	\$89,926	\$535,954	\$394,415	\$110,827	\$101,864	\$607,106
Plumas	\$3,396	\$641	\$320	\$4,358	\$4,022	\$759	\$379	\$5,161
Riverside	\$838,053	\$213,281	\$157,121	\$1,208,455	\$1,232,897	\$313,767	\$231,147	\$1,777,811
Sacramento	\$337,300	\$104,628	\$82,252	\$524,180	\$505,729	\$156,872	\$123,324	\$785,926
San Benito	\$10,070	\$1,550	\$765	\$12,385	\$32,984	\$5,076	\$2,507	\$40,567
San Bernardino	\$370,351	\$68,279	\$60,749	\$499,378	\$603,189	\$111,206	\$98,941	\$813,336
San Diego	\$1,284,504	\$455,196	\$383,187	\$2,122,887	\$1,788,442	\$633,779	\$533,519	\$2,955,740
San Francisco	\$918,873	\$280,701	\$185,786	\$1,385,361	\$1,458,156	\$445,444	\$294,824	\$2,198,424
San Joaquin	\$240,620	\$57,719	\$53,620	\$351,959	\$274,373	\$65,815	\$61,141	\$401,330
San Luis Obispo	\$119,148	\$39,807	\$27,848	\$186,803	\$189,142	\$63,192	\$44,207	\$296,541
San Mateo	\$353,668	\$74,529	\$49,222	\$477,419	\$379,661	\$80,006	\$52,839	\$512,507
Santa Barbara	\$123,386	\$38,009	\$28,059	\$189,455	\$123,427	\$38,021	\$28,069	\$189,516
Santa Clara	\$1,052,186	\$291,926	\$183,657	\$1,527,769	\$1,613,258	\$447,594	\$281,591	\$2,342,444
Santa Cruz	\$46,858	\$11,804	\$10,299	\$68,961	\$55,477	\$13,975	\$12,193	\$81,645
Shasta	\$36,044	\$11,260	\$8,726	\$56,030	\$39,876	\$12,456	\$9,653	\$61,985
Sierra	\$459	\$47	\$27	\$533	-	-	-	-
Siskiyou	\$11,572	\$2,614	\$1,226	\$15,412	\$3,808	\$860	\$404	\$5,071
Solano	\$98,045	\$23,554	\$20,544	\$142,143	\$133,207	\$32,001	\$27,912	\$193,119
Sonoma	\$124,948	\$39,920	\$31,657	\$196,524	\$184,763	\$59,030	\$46,812	\$290,604
Stanislaus	\$44,470	\$11,209	\$9,398	\$65,077	\$63,367	\$15,972	\$13,392	\$92,731

COUNTY-LEVEL HOUSING INDUSTRY

FIGURE 8—CONTINUED
 TOTAL OUTPUT IMPACTS OF NEW HOUSING CONSTRUCTION IN
 CALIFORNIA’S COUNTIES
 (IN THOUSANDS)

County	2012				2013			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Sutter	\$8,504	\$2,361	\$1,468	\$12,333	\$14,726	\$4,089	\$2,543	\$21,358
Tehama	\$10,185	\$1,491	\$982	\$12,658	\$11,182	\$1,637	\$1,078	\$13,897
Trinity	\$800	\$170	\$58	\$1,027	\$1,919	\$407	\$139	\$2,464
Tulare	\$102,372	\$19,824	\$13,721	\$135,917	\$185,624	\$35,945	\$24,880	\$246,449
Tuolumne	\$5,691	\$1,409	\$774	\$7,873	\$6,879	\$1,703	\$935	\$9,517
Ventura	\$112,704	\$34,103	\$22,080	\$168,887	\$213,378	\$64,565	\$41,803	\$319,746
Yolo	\$67,406	\$17,710	\$11,088	\$96,204	\$141,312	\$37,128	\$23,246	\$201,686
Yuba	\$11,556	\$2,350	\$1,047	\$14,952	\$22,742	\$4,625	\$2,060	\$29,427

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 Coefficients based on United States Census Bureau information

Note: Differences due to rounding.

COUNTY-LEVEL HOUSING INDUSTRY

FIGURE 9
TOTAL EMPLOYMENT IMPACTS OF NEW HOUSING
CONSTRUCTION IN CALIFORNIA'S COUNTIES

County	2012				2013			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Alameda	3,340	1,609	1,501	6,450	3,507	1,690	1,576	6,773
Alpine	1	0	0	2	-	-	-	-
Amador	92	32	13	137	28	10	4	41
Butte	323	172	119	613	478	255	176	909
Calaveras	41	17	6	64	64	26	10	100
Colusa	16	5	3	24	56	17	12	86
Contra Costa	1,621	812	629	3,061	2,019	1,011	783	3,813
Del Norte	35	11	5	51	23	7	4	34
El Dorado	397	176	101	673	436	193	111	740
Fresno	1,725	796	647	3,168	3,048	1,407	1,143	5,599
Glenn	41	13	5	59	27	9	3	39
Humboldt	123	62	36	220	139	70	41	250
Imperial	242	86	35	362	313	111	45	469
Inyo	20	6	4	29	6	2	1	9
Kern	1,566	662	483	2,711	1,902	804	587	3,293
Kings	209	55	40	305	194	51	37	283
Lake	79	28	12	119	44	16	7	67
Lassen	13	4	2	19	7	2	1	10
Los Angeles	12,138	6,415	5,390	23,943	15,655	8,274	6,951	30,881
Madera	127	38	24	188	266	80	50	395
Marin	290	123	74	487	566	241	145	952
Mariposa	31	10	4	45	33	11	4	48
Mendocino	61	31	13	105	73	37	16	126
Merced	118	40	29	187	174	58	43	275
Modoc	3	1	0	4	7	2	1	10
Mono	35	11	5	51	39	12	6	57
Monterey	223	92	66	381	391	162	116	668
Napa	247	114	72	432	210	97	62	369
Nevada	115	56	29	201	227	111	58	396
Orange	4,938	2,495	2,174	9,606	9,880	4,991	4,349	19,221
Placer	1,585	828	669	3,083	1,796	938	758	3,492
Plumas	19	6	3	27	22	7	3	32
Riverside	4,255	1,979	1,298	7,532	6,259	2,911	1,910	11,080
Sacramento	1,624	826	596	3,046	2,435	1,238	893	4,566
San Benito	54	14	6	74	176	46	20	242
San Bernardino	1,863	726	517	3,106	3,034	1,183	842	5,059
San Diego	5,961	3,384	2,846	12,191	8,300	4,712	3,962	16,974
San Francisco	3,733	1,549	1,079	6,361	5,924	2,458	1,712	10,094
San Joaquin	1,142	505	421	2,068	1,302	576	480	2,358
San Luis Obispo	574	303	217	1,094	911	481	344	1,737
San Mateo	1,455	525	325	2,304	1,562	563	349	2,474
Santa Barbara	583	299	216	1,098	583	299	216	1,098
Santa Clara	4,639	2,006	1,225	7,870	7,113	3,075	1,878	12,066
Santa Cruz	209	101	84	394	248	120	99	466
Shasta	184	101	73	358	204	112	81	397
Sierra	3	1	0	3	-	-	-	-
Siskiyou	66	25	10	101	22	8	3	33
Solano	453	195	157	805	616	264	213	1,094
Sonoma	588	325	248	1,161	870	481	366	1,717
Stanislaus	224	100	75	400	319	143	108	570

COUNTY-LEVEL HOUSING INDUSTRY

FIGURE 9—CONTINUED
TOTAL EMPLOYMENT IMPACTS OF NEW HOUSING
CONSTRUCTION IN CALIFORNIA’S COUNTIES

County	2012				2013			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Sutter	45	22	13	80	79	38	22	139
Tehama	54	15	8	77	60	16	9	85
Trinity	5	1	0	6	11	3	1	15
Tulare	519	210	118	848	942	381	215	1,538
Tuolumne	32	13	6	52	39	16	7	62
Ventura	561	286	172	1,018	1,062	541	325	1,928
Yolo	320	142	84	547	672	298	177	1,146
Yuba	63	18	7	89	125	35	14	174

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 Coefficients based on United States Census Bureau information

Note: Differences due to rounding.

New housing construction makes a notable contribution to the local economy within each of the state’s 58 counties as total output impacts associated with residential building activities generally account for a similar or greater proportion of total economic output compared to the statewide level. Total output impacts measure in the hundreds of millions or billions for 26 counties in the state and job creation reaches in the thousands for 22 counties.

In general, the industry sectors in each of California’s counties experience a similar distribution of benefits of new home construction as the statewide average due to existing inter-industry linkages. In addition to homebuilding-related sectors, the Real Estate; Wholesale Trade; Monetary Authorities & Depository Credit Intermediation Activities; and Architectural, Engineering, & Related Services sectors benefit the most from the total output impacts created through new housing construction while the Food Services & Drinking Places; Wholesale Trade; Real Estate; and Food & Beverage Retail Stores sectors capture the largest employment gains.

Entire Housing Industry

The broader housing industry is a considerable factor in the local economies within California’s counties. The industry measures in the tens of billions of dollars of output and at least tens of thousands of total jobs in 10 of California’s counties. Even the smaller counties see at least \$15 million of output and 54 jobs from the entire housing industry. Figure 10 (on pages 22 and 23) displays the housing industry’s output and employment within these local economies. Similar to the statewide totals, these figures represent activities of the broader definition of the housing industry which also includes residential real estate sales, financing, brokerage, repairs, and the maintenance and operation of existing housing units, in addition to new home construction.

The economic contributions of the entire housing industry are highest in California’s largest and most mature areas of Los Angeles, Orange, and San Diego Counties, with

COUNTY-LEVEL HOUSING INDUSTRY

respective outputs of about \$76.1, \$30.3, and \$29.9 billion (a combined total of about 42 percent of the state's total housing industry output). Other areas with relatively large housing industry output totals include Riverside, Santa Clara, and Alameda Counties, all contributing between \$14.0 and \$19.0 billion of output. In these leading counties, employment related to the entire housing industry ranges from around 40,000 to 199,000 (larger than the entire economy of many individual counties in the state).

FIGURE 10
ENTIRE HOUSING INDUSTRY
TOTAL OUTPUT AND
EMPLOYMENT IN
CALIFORNIA'S COUNTIES
(OUTPUT IN THOUSANDS)

<i>County</i>	<i>Output</i>	<i>Employment</i>
Alameda	\$14,217,982	40,298
Alpine	\$15,753	54
Amador	\$279,738	594
Butte	\$1,606,648	3,277
Calaveras	\$393,201	1,070
Colusa	\$112,880	166
Contra Costa	\$11,144,997	35,306
Del Norte	\$194,800	388
El Dorado	\$2,350,436	8,588
Fresno	\$7,375,756	21,774
Glenn	\$165,106	320
Humboldt	\$1,262,754	3,485
Imperial	\$763,379	1,002
Inyo	\$129,239	204
Kern	\$5,690,064	14,427
Kings	\$673,510	761
Lake	\$442,463	829
Lassen	\$190,587	232
Los Angeles	\$76,114,439	198,820
Madera	\$724,303	1,121
Marin	\$4,166,450	15,497
Mariposa	\$153,583	379
Mendocino	\$686,286	1,721
Merced	\$1,247,532	1,930
Modoc	\$58,164	69
Mono	\$164,302	513
Monterey	\$3,141,876	8,722
Napa	\$1,099,259	2,767
Nevada	\$1,396,235	5,103
Orange	\$30,349,348	92,357
Placer	\$3,611,931	10,688
Plumas	\$153,981	327
Riverside	\$18,856,146	59,749
Sacramento	\$13,416,325	40,092
San Benito	\$313,879	682
San Bernardino	\$14,013,133	37,966
San Diego	\$29,878,630	88,026
San Francisco	\$10,725,950	31,847
San Joaquin	\$5,065,581	13,759
San Luis Obispo	\$3,066,168	9,930
San Mateo	\$8,942,159	30,390
Santa Barbara	\$4,164,372	13,267
Santa Clara	\$18,224,412	57,870
Santa Cruz	\$2,189,630	5,436

COUNTY-LEVEL HOUSING INDUSTRY

**FIGURE 10—CONTINUED
COUNTY-LEVEL ECONOMIC
OUTPUT AND EMPLOYMENT
OF THE HOUSING INDUSTRY
(OUTPUT IN THOUSANDS)**

<i>County</i>	<i>Output</i>	<i>Employment</i>
Shasta	\$1,364,879	3,102
Sierra	\$21,250	71
Siskiyou	\$313,596	576
Solano	\$2,761,714	5,819
Sonoma	\$5,410,801	17,442
Stanislaus	\$3,773,679	10,325
Sutter	\$612,785	1,426
Tehama	\$347,595	446
Trinity	\$89,007	120
Tulare	\$2,073,351	3,114
Tuolumne	\$444,165	1,064
Ventura	\$6,832,274	20,331
Yolo	\$1,338,214	2,636
Yuba	\$364,311	505

Center for Strategic Economic Research,
August 2014

Data Source: CSER estimates based on
IMPLAN, 2012 Coefficients

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Appendix A—2013 Detailed Economic Impacts of New Housing Construction in California

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
California Total Impacts	\$18,263,212	\$11,334,998	\$9,013,928	\$38,612,138	85,731	65,378	57,951	209,060
Construction of new residential permanent site single- and multi-family structures	\$18,263,212	-	-	\$18,263,212	85,731	-	-	85,731
Wholesale trade businesses	-	\$762,067	\$439,878	\$1,201,945	-	3,391	1,958	5,349
Imputed rental activity for owner-occupied dwellings	-	-	\$963,226	\$963,226	-	-	-	-
Petroleum refineries	-	\$627,909	\$215,216	\$843,126	-	55	19	74
Monetary authorities and depository credit intermediation activities	-	\$441,536	\$318,156	\$759,692	-	1,109	799	1,907
Real estate establishments	-	\$255,994	\$450,066	\$706,060	-	1,262	2,218	3,480
Architectural, engineering, and related services	-	\$586,001	\$18,958	\$604,959	-	4,383	142	4,525
Securities, commodity contracts, investments, and related activities	-	\$345,496	\$252,654	\$598,150	-	1,985	1,451	3,436
Food services and drinking places	-	\$90,609	\$435,702	\$526,311	-	1,384	6,655	8,039
Telecommunications	-	\$280,202	\$188,959	\$469,162	-	512	346	858
Transport by truck	-	\$367,918	\$80,997	\$448,916	-	2,593	571	3,164
Offices of physicians, dentists, and other health practitioners	-	\$1	\$431,853	\$431,854	-	-	3,300	3,300
Private hospitals	-	\$1	\$376,366	\$376,368	-	-	2,183	2,183
Retail Stores - Motor vehicle and parts	-	\$256,535	\$117,119	\$373,654	-	2,371	1,082	3,453
Ready-mix concrete manufacturing	-	\$364,047	\$1,539	\$365,586	-	1,217	5	1,222
Legal services	-	\$232,788	\$122,314	\$355,101	-	1,180	620	1,800
Retail Stores - Food and beverage	-	\$219,264	\$125,505	\$344,770	-	2,954	1,691	4,644
Retail Stores - General merchandise	-	\$207,301	\$123,418	\$330,719	-	2,934	1,746	4,680
Accounting, tax preparation, bookkeeping, and payroll services	-	\$197,054	\$53,257	\$250,311	-	1,612	436	2,047
Management of companies and enterprises	-	\$162,327	\$80,461	\$242,788	-	702	348	1,049
Ornamental and architectural metal products manufacturing	-	\$227,174	\$3,199	\$230,374	-	1,011	14	1,025
Insurance carriers	-	\$34,997	\$182,700	\$217,697	-	137	716	854
Retail Stores - Clothing and clothing accessories	-	\$121,442	\$76,568	\$198,010	-	1,497	944	2,441
Retail Stores - Building material and garden supply	-	\$149,829	\$47,901	\$197,730	-	1,609	514	2,124
Employment services	-	\$142,451	\$53,588	\$196,039	-	2,920	1,099	4,019
Retail Nonstores - Direct and electronic sales	-	\$83,372	\$105,632	\$189,004	-	650	823	1,473
Services to buildings and dwellings	-	\$121,349	\$55,129	\$176,478	-	1,919	872	2,791
Retail Stores - Health and personal care	-	\$103,588	\$59,631	\$163,219	-	1,175	676	1,851
Maintenance and repair construction of nonresidential structures	-	\$103,829	\$48,919	\$152,747	-	666	314	979
Electric power generation, transmission, and distribution	-	\$70,095	\$75,657	\$145,752	-	78	84	163
Retail Stores - Miscellaneous	-	\$88,911	\$53,564	\$142,475	-	1,586	956	2,542
Pharmaceutical preparation manufacturing	-	\$459	\$140,136	\$140,595	-	-	88	88
All other miscellaneous professional, scientific, and technical services	-	\$116,897	\$22,528	\$139,425	-	479	92	571
Medical and diagnostic labs and outpatient and other ambulatory care services	-	\$76	\$139,230	\$139,305	-	-	736	737
Advertising and related services	-	\$86,239	\$50,914	\$137,153	-	414	245	659
Civic, social, professional, and similar organizations	-	\$88,653	\$44,127	\$132,780	-	1,400	697	2,096
Management, scientific, and technical consulting services	-	\$85,319	\$43,697	\$129,016	-	659	337	996

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Insurance agencies, brokerages, and related activities	-	\$32,876	\$91,566	\$124,441	-	231	644	875
Funds, trusts, and other financial vehicles	-	\$5,824	\$116,996	\$122,821	-	16	325	341
Nondepository credit intermediation and related activities	-	\$42,373	\$79,445	\$121,818	-	245	460	705
Other plastics product manufacturing	-	\$111,036	\$8,951	\$119,987	-	401	32	433
Natural gas distribution	-	\$65,944	\$52,040	\$117,984	-	57	45	103
Extraction of oil and natural gas	-	\$84,316	\$33,306	\$117,621	-	152	60	211
Wood windows and doors and millwork manufacturing	-	\$113,852	\$1,761	\$115,612	-	629	10	639
Sawmills and wood preservation	-	\$113,509	\$1,535	\$115,044	-	403	5	408
Wood kitchen cabinet and countertop manufacturing	-	\$108,562	\$2,460	\$111,021	-	703	16	719
Retail Stores - Gasoline stations	-	\$66,702	\$43,812	\$110,514	-	487	320	807
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	-	\$109,549	\$424	\$109,973	-	573	2	575
Nursing and residential care facilities	-	-	\$109,149	\$109,149	-	-	1,643	1,643
Commercial and industrial machinery and equipment rental and leasing	-	\$98,760	\$8,702	\$107,462	-	362	32	394
Paint and coating manufacturing	-	\$105,284	\$2,047	\$107,330	-	142	3	145
Retail Stores - Electronics and appliances	-	\$65,935	\$39,751	\$105,686	-	414	250	664
Automotive repair and maintenance, except car washes	-	\$54,481	\$50,762	\$105,243	-	606	564	1,170
Mineral wool manufacturing	-	\$99,074	\$392	\$99,465	-	263	1	264
Private junior colleges, colleges, universities, and professional schools	-	\$2,609	\$95,981	\$98,590	-	26	967	993
Retail Stores - Furniture and home furnishings	-	\$68,401	\$30,092	\$98,493	-	664	292	957
Commercial and industrial machinery and equipment repair and maintenance	-	\$83,736	\$11,451	\$95,187	-	595	81	677
Asphalt paving mixture and block manufacturing	-	\$92,688	\$675	\$93,363	-	38	-	38
Other state and local government enterprises	-	\$21,605	\$68,268	\$89,873	-	107	340	447
Data processing, hosting, ISP, web search portals and related services	-	\$26,104	\$55,554	\$81,658	-	33	70	103
Transport by air	-	\$30,296	\$49,442	\$79,738	-	83	135	218
Waste management and remediation services	-	\$47,410	\$25,391	\$72,800	-	198	106	304
Office administrative services	-	\$54,753	\$17,171	\$71,923	-	479	150	630
Scenic and sightseeing transportation and support activities for transportation	-	\$49,428	\$21,594	\$71,023	-	398	174	573
Computer systems design services	-	\$56,086	\$14,922	\$71,009	-	351	93	445
Scientific research and development services	-	\$34,232	\$32,994	\$67,226	-	149	143	292
Couriers and messengers	-	\$44,113	\$22,992	\$67,105	-	413	215	628
Other computer related services, including facilities management	-	\$53,143	\$11,530	\$64,672	-	132	29	161
Fertilizer manufacturing	-	\$62,581	\$1,847	\$64,427	-	40	1	41
Lessors of nonfinancial intangible assets	-	\$46,931	\$17,434	\$64,365	-	20	7	27
Retail Stores - Sporting goods, hobby, book and music	-	\$38,750	\$24,573	\$63,323	-	668	424	1,092
Plastics pipe and pipe fitting manufacturing	-	\$60,140	\$1,491	\$61,631	-	116	3	119
Religious organizations	-	-	\$58,813	\$58,813	-	-	288	288
Mining and quarrying stone	-	\$57,235	\$604	\$57,839	-	176	2	178
Transport by rail	-	\$48,739	\$8,959	\$57,698	-	140	26	165
Cable and other subscription programming	-	\$33,333	\$24,285	\$57,618	-	59	43	103
Wiring device manufacturing	-	\$56,446	\$641	\$57,087	-	166	2	168

APPENDIX A—DETAILED CALIFORNIA IMPACTS

<i>Sector Name</i>	<i>Output Impacts (in thousands)</i>				<i>Employment Impacts</i>			
	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Business support services	-	\$41,424	\$14,557	\$55,981	-	553	194	748
Iron and steel mills and ferroalloy manufacturing	-	\$52,704	\$2,930	\$55,634	-	45	3	48
Amusement parks, arcades, and gambling industries	-	\$21	\$55,118	\$55,140	-	-	575	575
Motion picture and video industries	-	\$15,227	\$39,563	\$54,790	-	51	132	183
Warehousing and storage	-	\$35,313	\$17,963	\$53,276	-	374	190	564
Private elementary and secondary schools	-	-	\$51,366	\$51,366	-	-	741	741
Concrete pipe, brick, and block manufacturing	-	\$50,538	\$548	\$51,086	-	176	2	178
Individual and family services	-	-	\$51,044	\$51,044	-	-	1,219	1,219
Radio and television broadcasting	-	\$30,796	\$19,740	\$50,536	-	103	66	169
Personal care services	-	\$1	\$50,126	\$50,127	-	-	737	737
Other private educational services	-	\$2,873	\$46,975	\$49,848	-	47	774	822
Soft drink and ice manufacturing	-	\$679	\$49,074	\$49,753	-	1	61	62
Grantmaking, giving, and social advocacy organizations	-	\$30	\$49,436	\$49,467	-	-	556	556
All other crop farming	-	\$44,300	\$4,234	\$48,534	-	123	12	134
Lime and gypsum product manufacturing	-	\$47,622	\$737	\$48,359	-	103	2	104
Engineered wood member and truss manufacturing	-	\$46,920	\$452	\$47,372	-	231	2	234
Cement manufacturing	-	\$46,063	\$319	\$46,382	-	100	1	101
Investigation and security services	-	\$28,518	\$15,921	\$44,439	-	634	354	988
Fluid milk and butter manufacturing	-	\$619	\$42,896	\$43,515	-	-	33	33
Other support services	-	\$29,431	\$12,955	\$42,386	-	192	85	277
Paperboard container manufacturing	-	\$26,698	\$15,453	\$42,151	-	61	35	96
Other concrete product manufacturing	-	\$40,903	\$1,094	\$41,997	-	214	6	220
Lighting fixture manufacturing	-	\$40,007	\$1,522	\$41,529	-	120	5	124
Motor vehicle parts manufacturing	-	\$32,698	\$8,682	\$41,380	-	67	18	84
Other personal services	-	\$2,304	\$38,708	\$41,012	-	17	279	295
Software publishers	-	\$24,084	\$16,600	\$40,684	-	40	28	68
Internet publishing and broadcasting	-	\$22,723	\$17,627	\$40,351	-	74	57	131
Specialized design services	-	\$35,075	\$5,070	\$40,144	-	234	34	268
US Postal Service	-	\$20,429	\$19,682	\$40,111	-	207	200	407
Plate work and fabricated structural product manufacturing	-	\$38,133	\$1,115	\$39,248	-	133	4	136
Semiconductor and related device manufacturing	-	\$27,704	\$9,729	\$37,434	-	28	10	38
Coating, engraving, heat treating and allied activities	-	\$34,415	\$2,507	\$36,922	-	148	11	159
Automotive equipment rental and leasing	-	\$15,406	\$21,479	\$36,885	-	74	102	176
Environmental and other technical consulting services	-	\$26,313	\$9,635	\$35,948	-	286	105	390
Miscellaneous nonmetallic mineral product manufacturing	-	\$34,032	\$141	\$34,173	-	87	-	87
Asphalt shingle and coating materials manufacturing	-	\$32,563	\$1,521	\$34,084	-	16	1	17
Adhesive manufacturing	-	\$31,741	\$1,748	\$33,488	-	41	2	44
Machine shops	-	\$30,542	\$2,615	\$33,157	-	178	15	194
Home health care services	-	-	\$32,844	\$32,844	-	-	529	529
Printing	-	\$17,598	\$14,984	\$32,583	-	109	93	202

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Plastics material and resin manufacturing	-	\$28,574	\$3,580	\$32,154	-	17	2	19
Steel product manufacturing from purchased steel	-	\$28,909	\$1,481	\$30,390	-	38	2	40
Child day care services	-	-	\$29,056	\$29,056	-	-	669	669
Fabricated pipe and pipe fitting manufacturing	-	\$28,582	\$212	\$28,794	-	112	1	113
State and local government electric utilities	-	\$13,502	\$14,563	\$28,065	-	41	44	85
Brick, tile, and other structural clay product manufacturing	-	\$27,159	\$402	\$27,562	-	114	2	116
Spectator sports companies	-	\$8,826	\$18,289	\$27,115	-	135	279	414
Promoters of performing arts and sports and agents for public figures	-	\$9,601	\$17,436	\$27,037	-	131	238	369
Travel arrangement and reservation services	-	\$11,557	\$14,916	\$26,472	-	64	83	148
Hotels and motels, including casino hotels	-	\$9,158	\$17,231	\$26,388	-	75	141	216
Fruit and vegetable canning, pickling, and drying	-	\$587	\$25,686	\$26,273	-	1	49	51
Electronic and precision equipment repair and maintenance	-	\$14,544	\$10,917	\$25,461	-	69	52	122
Independent artists, writers, and performers	-	\$14,998	\$10,311	\$25,309	-	67	46	114
Transit and ground passenger transportation	-	\$6,274	\$18,368	\$24,642	-	94	274	367
Community food, housing, and other relief services, including rehabilitation services	-	-	\$23,235	\$23,235	-	-	484	484
Plumbing fixture fitting and trim manufacturing	-	\$22,549	\$314	\$22,863	-	71	1	72
Electronic computer manufacturing	-	\$4,300	\$18,485	\$22,785	-	3	13	17
Soap and cleaning compound manufacturing	-	\$5,992	\$16,397	\$22,390	-	4	10	14
Plastics packaging materials and unlaminated film and sheet manufacturing	-	\$17,431	\$4,679	\$22,110	-	41	11	52
Personal and household goods repair and maintenance	-	\$14,980	\$7,124	\$22,104	-	102	48	150
Other fabricated metal manufacturing	-	\$19,897	\$2,046	\$21,943	-	69	7	76
Bread and bakery product manufacturing	-	\$478	\$21,306	\$21,784	-	3	116	119
Other commercial and service industry machinery manufacturing	-	\$21,191	\$493	\$21,684	-	49	1	50
Air conditioning, refrigeration, and warm air heating equipment manufacturing	-	\$20,814	\$545	\$21,358	-	81	2	84
Communication and energy wire and cable manufacturing	-	\$20,478	\$540	\$21,017	-	34	1	35
Cheese manufacturing	-	\$1,167	\$19,812	\$20,980	-	1	19	20
Poultry processing	-	\$424	\$20,376	\$20,799	-	1	47	48
Periodical publishers	-	\$8,281	\$11,804	\$20,085	-	26	37	62
Snack food manufacturing	-	\$260	\$19,747	\$20,007	-	-	28	28
Dairy cattle and milk production	-	\$608	\$19,084	\$19,692	-	2	74	77
Other amusement and recreation industries	-	\$2,473	\$16,843	\$19,316	-	42	285	327
Maintenance and repair construction of residential structures	-	\$446	\$18,803	\$19,249	-	3	106	108
Petroleum lubricating oil and grease manufacturing	-	\$13,536	\$5,530	\$19,066	-	5	2	7
Breweries	-	\$93	\$18,967	\$19,060	-	-	18	18
Custom computer programming services	-	\$14,872	\$4,034	\$18,905	-	87	24	111
Switchgear and switchboard apparatus manufacturing	-	\$18,330	\$324	\$18,653	-	51	1	52
Animal (except poultry) slaughtering, rendering, and processing	-	\$540	\$17,420	\$17,959	-	2	50	52
Fitness and recreational sports centers	-	\$2,625	\$15,183	\$17,808	-	66	380	445
Other communications equipment manufacturing	-	\$16,293	\$828	\$17,121	-	36	2	37
Frozen food manufacturing	-	\$209	\$16,855	\$17,064	-	1	48	49

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Dry-cleaning and laundry services	-	\$2,768	\$14,254	\$17,022	-	45	231	275
Polystyrene foam product manufacturing	-	\$14,800	\$1,779	\$16,579	-	39	5	43
Valve and fittings other than plumbing manufacturing	-	\$15,068	\$1,330	\$16,398	-	25	2	28
Commercial logging	-	\$15,433	\$264	\$15,696	-	121	2	123
Hardware manufacturing	-	\$14,744	\$601	\$15,345	-	43	2	45
Toilet preparation manufacturing	-	\$654	\$14,609	\$15,262	-	1	19	20
Veneer and plywood manufacturing	-	\$14,310	\$148	\$14,459	-	58	1	59
Newspaper publishers	-	\$6,333	\$8,017	\$14,350	-	47	59	106
Custom architectural woodwork and millwork manufacturing	-	\$14,069	\$11	\$14,080	-	81	-	81
Other animal food manufacturing	-	\$1,078	\$12,929	\$14,007	-	1	9	10
Coated and laminated paper, packaging paper and plastics film manufacturing	-	\$12,252	\$1,502	\$13,754	-	29	4	33
Performing arts companies	-	\$1,381	\$12,150	\$13,531	-	30	266	296
Veterinary services	-	\$23	\$13,259	\$13,282	-	-	206	206
Museums, historical sites, zoos, and parks	-	-	\$12,926	\$12,926	-	-	83	83
Death care services	-	-	\$12,884	\$12,884	-	-	110	110
General and consumer goods rental except video tapes and discs	-	\$2,356	\$10,448	\$12,804	-	31	139	171
Wineries	-	\$384	\$12,177	\$12,561	-	1	29	30
Support activities for agriculture and forestry	-	\$8,055	\$4,332	\$12,387	-	186	100	286
Greenhouse, nursery, and floriculture production	-	\$4,885	\$7,184	\$12,069	-	20	29	49
Metal tank (heavy gauge) manufacturing	-	\$11,896	\$141	\$12,038	-	41	-	42
Cattle ranching and farming	-	\$460	\$11,478	\$11,938	-	2	50	52
Transport by water	-	\$5,026	\$6,837	\$11,863	-	9	12	21
Private household operations	-	-	\$11,860	\$11,860	-	-	1,521	1,521
Book publishers	-	\$665	\$10,908	\$11,572	-	2	30	31
All other chemical product and preparation manufacturing	-	\$8,507	\$2,722	\$11,228	-	14	4	18
Urethane and other foam product (except polystyrene) manufacturing	-	\$8,527	\$2,505	\$11,032	-	23	7	30
Heating equipment (except warm air furnaces) manufacturing	-	\$10,159	\$741	\$10,900	-	37	3	40
Forestry, forest products, and timber tract production	-	\$10,445	\$405	\$10,850	-	30	1	32
Turned product and screw, nut, and bolt manufacturing	-	\$9,805	\$923	\$10,728	-	39	4	43
Aluminum product manufacturing from purchased aluminum	-	\$7,679	\$2,944	\$10,623	-	12	5	16
Other Federal Government enterprises	-	\$5,344	\$5,231	\$10,575	-	32	31	63
Prefabricated wood building manufacturing	-	\$10,452	\$60	\$10,512	-	64	-	64
Vegetable and melon farming	-	\$78	\$10,405	\$10,483	-	-	28	29
Surgical appliance and supplies manufacturing	-	\$749	\$9,708	\$10,457	-	2	28	30
Spring and wire product manufacturing	-	\$9,502	\$710	\$10,212	-	39	3	42
Cookie, cracker, and pasta manufacturing	-	\$178	\$9,856	\$10,034	-	-	23	24
Facilities support services	-	\$6,373	\$3,507	\$9,881	-	30	17	46
All other food manufacturing	-	\$292	\$9,262	\$9,554	-	1	29	30
Handtool manufacturing	-	\$9,180	\$366	\$9,546	-	42	2	44
Copper rolling, drawing, extruding and alloying	-	\$8,961	\$416	\$9,378	-	7	-	8

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Other basic organic chemical manufacturing	-	\$6,666	\$2,513	\$9,179	-	4	1	5
Car washes	-	\$3,476	\$5,702	\$9,178	-	78	128	207
Fats and oils refining and blending	-	\$437	\$8,679	\$9,116	-	-	2	2
Reconstituted wood product manufacturing	-	\$8,884	\$69	\$8,953	-	39	-	39
Sound recording industries	-	\$468	\$8,463	\$8,931	-	1	10	10
Fruit farming	-	\$225	\$8,454	\$8,680	-	1	25	26
In-vitro diagnostic substance manufacturing	-	\$2,155	\$6,364	\$8,519	-	3	9	12
Flavoring syrup and concentrate manufacturing	-	\$301	\$8,114	\$8,415	-	-	5	5
Seasoning and dressing manufacturing	-	\$381	\$8,027	\$8,408	-	1	13	14
Surgical and medical instrument, laboratory and medical instrument manufacturing	-	\$4,722	\$3,678	\$8,400	-	12	9	21
Womens and girls cut and sew apparel manufacturing	-	\$892	\$7,471	\$8,363	-	4	29	33
Water, sewerage and other treatment and delivery systems	-	\$2,074	\$6,121	\$8,195	-	8	23	31
Metal can, box, and other metal container (light gauge) manufacturing	-	\$3,082	\$4,897	\$7,979	-	5	7	12
Cut stone and stone product manufacturing	-	\$7,223	\$557	\$7,780	-	52	4	56
Flour milling and malt manufacturing	-	\$171	\$7,435	\$7,606	-	-	6	6
Crown and closure manufacturing and metal stamping	-	\$5,842	\$1,549	\$7,391	-	16	4	20
Directory, mailing list, and other publishers	-	\$3,742	\$3,578	\$7,319	-	11	11	22
Transport by pipeline	-	\$4,420	\$2,844	\$7,264	-	8	5	13
All other miscellaneous manufacturing	-	\$610	\$6,591	\$7,201	-	3	27	30
Ground or treated mineral and earth manufacturing	-	\$6,950	\$184	\$7,134	-	11	-	11
Dog and cat food manufacturing	-	\$1	\$7,123	\$7,125	-	-	6	6
State and local government passenger transit	-	\$1,775	\$5,197	\$6,972	-	45	131	176
Motor and generator manufacturing	-	\$6,439	\$265	\$6,704	-	17	1	17
Automobile manufacturing	-	\$90	\$6,418	\$6,509	-	-	3	4
Upholstered household furniture manufacturing	-	\$695	\$5,754	\$6,449	-	4	32	36
Plastics bottle manufacturing	-	\$2,358	\$4,087	\$6,446	-	5	9	15
Carpet and rug mills	-	\$4,471	\$1,906	\$6,377	-	15	7	22
Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	-	\$5,744	\$545	\$6,288	-	7	1	7
Wood container and pallet manufacturing	-	\$4,616	\$1,587	\$6,203	-	35	12	48
Unlaminated plastics profile shape manufacturing	-	\$5,549	\$634	\$6,183	-	17	2	18
Pump and pumping equipment manufacturing	-	\$6,019	\$117	\$6,136	-	14	-	15
Poultry and egg production	-	\$98	\$6,012	\$6,110	-	-	7	7
Mining and quarrying other nonmetallic minerals	-	\$5,571	\$295	\$5,866	-	20	1	21
Glass product manufacturing made of purchased glass	-	\$4,131	\$1,516	\$5,647	-	17	6	24
Other rubber product manufacturing	-	\$4,365	\$1,259	\$5,624	-	14	4	18
All other forging, stamping, and sintering	-	\$4,821	\$702	\$5,524	-	11	2	13
Ferrous metal foundries	-	\$5,028	\$448	\$5,476	-	19	2	20
Textile bag and canvas mills	-	\$4,848	\$575	\$5,423	-	35	4	39
Automatic environmental control manufacturing	-	\$5,200	\$191	\$5,391	-	16	1	17
Coffee and tea manufacturing	-	\$97	\$5,266	\$5,363	-	-	6	6

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
All other miscellaneous wood product manufacturing	-	\$4,721	\$535	\$5,256	-	25	3	27
Other information services	-	\$657	\$4,326	\$4,983	-	2	13	15
Other electronic component manufacturing	-	\$4,318	\$626	\$4,944	-	17	2	19
Sporting and athletic goods manufacturing	-	\$778	\$4,048	\$4,826	-	2	12	14
Show case, partition, shelving, and locker manufacturing	-	\$4,075	\$522	\$4,597	-	15	2	17
Photographic services	-	\$1,495	\$3,015	\$4,510	-	14	29	43
Ice cream and frozen dessert manufacturing	-	\$228	\$4,177	\$4,405	-	1	10	11
Construction machinery manufacturing	-	\$4,328	\$22	\$4,350	-	5	-	5
Electromedical and electrotherapeutic apparatus manufacturing	-	\$17	\$4,229	\$4,246	-	-	9	9
Textile and fabric finishing mills	-	\$1,821	\$2,413	\$4,234	-	8	10	18
Confectionery manufacturing from purchased chocolate	-	\$21	\$3,865	\$3,886	-	-	10	10
Sanitary paper product manufacturing	-	\$905	\$2,952	\$3,857	-	1	4	5
Nonferrous metal foundries	-	\$3,439	\$373	\$3,812	-	15	2	16
Cut and sew apparel contractors	-	\$2,283	\$1,480	\$3,763	-	33	22	55
Dry, condensed, and evaporated dairy product manufacturing	-	\$111	\$3,617	\$3,728	-	-	4	4
Industrial gas manufacturing	-	\$2,313	\$1,378	\$3,691	-	2	1	4
Laminated plastics plate, sheet (except packaging), and shape manufacturing	-	\$3,239	\$381	\$3,620	-	10	1	11
Doll, toy, and game manufacturing	-	\$483	\$3,065	\$3,548	-	1	5	5
Pottery, ceramics, and plumbing fixture manufacturing	-	\$3,251	\$297	\$3,548	-	19	2	21
Audio and video equipment manufacturing	-	\$1,272	\$2,232	\$3,504	-	2	4	7
Broom, brush, and mop manufacturing	-	\$2,737	\$597	\$3,334	-	10	2	12
Relay and industrial control manufacturing	-	\$2,948	\$339	\$3,287	-	8	1	9
All other textile product mills	-	\$2,127	\$1,159	\$3,286	-	12	7	19
Dental equipment and supplies manufacturing	-	\$2,163	\$1,099	\$3,263	-	6	3	9
Nonchocolate confectionery manufacturing	-	\$51	\$3,211	\$3,263	-	-	7	8
Light truck and utility vehicle manufacturing	-	\$2	\$3,213	\$3,215	-	-	1	1
All other basic inorganic chemical manufacturing	-	\$2,629	\$573	\$3,202	-	3	1	4
Support activities for other mining	-	\$3,165	\$24	\$3,189	-	8	-	8
Computer terminals and other computer peripheral equipment manufacturing	-	\$1,443	\$1,725	\$3,168	-	3	4	8
Tortilla manufacturing	-	\$16	\$3,017	\$3,034	-	-	13	13
Custom roll forming	-	\$2,763	\$195	\$2,958	-	6	-	6
Chocolate and confectionery manufacturing from cacao beans	-	\$19	\$2,907	\$2,926	-	-	3	3
Printed circuit assembly (electronic assembly) manufacturing	-	\$2,092	\$813	\$2,905	-	8	3	11
Nonupholstered wood household furniture manufacturing	-	\$61	\$2,740	\$2,800	-	-	19	20
Ophthalmic goods manufacturing	-	\$38	\$2,704	\$2,742	-	-	9	9
Institutional furniture manufacturing	-	\$2,584	\$138	\$2,721	-	7	-	7
Motorcycle, bicycle, and parts manufacturing	-	\$120	\$2,593	\$2,713	-	-	3	4
Other accommodations	-	\$38	\$2,672	\$2,710	-	-	27	27
Mattress manufacturing	-	\$245	\$2,428	\$2,673	-	1	6	7
Glass container manufacturing	-	\$84	\$2,553	\$2,637	-	-	7	7

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Electronic connector manufacturing	-	\$2,488	\$138	\$2,626	-	10	1	10
Paper mills	-	\$1,053	\$1,559	\$2,612	-	1	2	3
Grain farming	-	\$409	\$2,178	\$2,587	-	5	24	29
Distilleries	-	\$102	\$2,473	\$2,575	-	-	2	2
Sugar cane mills and refining	-	\$28	\$2,426	\$2,454	-	-	2	2
Wet corn milling	-	\$814	\$1,609	\$2,423	-	-	1	1
Paperboard Mills	-	\$1,870	\$474	\$2,344	-	2	1	3
Synthetic rubber manufacturing	-	\$1,879	\$461	\$2,340	-	2	-	2
Breakfast cereal manufacturing	-	\$10	\$2,312	\$2,323	-	-	3	3
All other miscellaneous electrical equipment and component manufacturing	-	\$2,039	\$282	\$2,321	-	6	1	7
Dental laboratories manufacturing	-	\$1	\$2,299	\$2,301	-	-	26	26
Synthetic dye and pigment manufacturing	-	\$2,109	\$182	\$2,290	-	2	-	3
Seafood product preparation and packaging	-	\$157	\$2,059	\$2,217	-	-	5	6
Biological product (except diagnostic) manufacturing	-	\$134	\$2,057	\$2,191	-	-	3	3
Pesticide and other agricultural chemical manufacturing	-	\$786	\$1,368	\$2,154	-	-	1	1
Bare printed circuit board manufacturing	-	\$1,740	\$401	\$2,141	-	8	2	10
Telephone apparatus manufacturing	-	\$989	\$1,122	\$2,111	-	1	1	3
Sign manufacturing	-	\$1,488	\$619	\$2,106	-	10	4	15
All other petroleum and coal products manufacturing	-	\$1,724	\$370	\$2,094	-	1	-	1
Animal production, except cattle and poultry and eggs	-	\$201	\$1,890	\$2,091	-	3	28	31
All other paper bag and coated and treated paper manufacturing	-	\$1,397	\$664	\$2,061	-	4	2	6
Power boiler and heat exchanger manufacturing	-	\$1,924	\$120	\$2,044	-	6	-	7
Material handling equipment manufacturing	-	\$1,888	\$144	\$2,033	-	5	-	5
Video tape and disc rental	-	-	\$1,910	\$1,910	-	-	17	17
Abrasive product manufacturing	-	\$1,834	\$74	\$1,908	-	5	-	5
Small electrical appliance manufacturing	-	\$1,633	\$260	\$1,893	-	4	1	5
Household cooking appliance manufacturing	-	\$446	\$1,395	\$1,841	-	1	3	4
Soybean and other oilseed processing	-	\$165	\$1,630	\$1,795	-	-	1	1
Industrial process variable instruments manufacturing	-	\$1,547	\$221	\$1,768	-	4	1	5
Air purification and ventilation equipment manufacturing	-	\$1,635	\$121	\$1,756	-	5	-	5
Mens and boys cut and sew apparel manufacturing	-	\$57	\$1,665	\$1,722	-	-	11	11
Power, distribution, and specialty transformer manufacturing	-	\$1,493	\$178	\$1,671	-	4	-	4
Storage battery manufacturing	-	\$847	\$793	\$1,640	-	2	2	4
Electricity and signal testing instruments manufacturing	-	\$1,530	\$98	\$1,628	-	4	-	4
Magnetic and optical recording media manufacturing	-	\$667	\$957	\$1,623	-	1	1	2
All other converted paper product manufacturing	-	\$659	\$960	\$1,619	-	2	3	5
Secondary smelting and alloying of aluminum	-	\$1,276	\$315	\$1,591	-	1	-	1
Tire manufacturing	-	\$1,006	\$565	\$1,571	-	2	1	4
Other industrial machinery manufacturing	-	\$1,165	\$403	\$1,567	-	3	1	4
Fluid power process machinery manufacturing	-	\$1,369	\$172	\$1,540	-	4	-	4

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Flat glass manufacturing	-	\$1,405	\$113	\$1,519	-	4	-	4
Curtain and linen mills	-	\$63	\$1,450	\$1,513	-	-	9	9
Jewelry and silverware manufacturing	-	\$21	\$1,480	\$1,501	-	-	4	5
Air and gas compressor manufacturing	-	\$1,463	\$31	\$1,494	-	3	-	3
Propulsion units and parts for space vehicles and guided missiles manufacturing	-	\$1,364	\$114	\$1,478	-	5	-	5
Blind and shade manufacturing	-	\$626	\$827	\$1,454	-	5	6	11
Software, audio, and video media for reproduction	-	\$661	\$763	\$1,425	-	2	2	3
Mining gold, silver, and other metal ore	-	\$1,216	\$174	\$1,390	-	3	-	4
Farm machinery and equipment manufacturing	-	\$1,159	\$198	\$1,357	-	2	-	3
Printing ink manufacturing	-	\$936	\$413	\$1,349	-	2	1	3
Alkalies and chlorine manufacturing	-	\$953	\$389	\$1,342	-	1	-	1
Medicinal and botanical manufacturing	-	\$52	\$1,262	\$1,314	-	-	2	2
Ball and roller bearing manufacturing	-	\$1,050	\$245	\$1,295	-	3	1	4
Support activities for printing	-	\$675	\$606	\$1,281	-	6	5	11
Aircraft manufacturing	-	\$1,052	\$204	\$1,256	-	2	-	2
All other transportation equipment manufacturing	-	\$117	\$1,122	\$1,238	-	-	2	2
Computer storage device manufacturing	-	\$389	\$839	\$1,228	-	-	1	1
Analytical laboratory instrument manufacturing	-	\$597	\$629	\$1,226	-	1	1	3
Office Furniture	-	\$18	\$1,189	\$1,207	-	-	5	5
Watch, clock, and other measuring and controlling device manufacturing	-	\$437	\$728	\$1,165	-	1	2	3
Stationery product manufacturing	-	\$410	\$749	\$1,159	-	1	2	3
Gasket, packing, and sealing device manufacturing	-	\$937	\$222	\$1,159	-	4	1	5
Support activities for oil and gas operations	-	\$855	\$301	\$1,156	-	4	2	6
Metal and other household furniture manufacturing	-	\$254	\$884	\$1,138	-	2	6	7
Nonoven fabric mills	-	\$908	\$218	\$1,126	-	2	-	2
Commercial hunting and trapping	-	-	\$1,092	\$1,092	-	-	2	2
Primary battery manufacturing	-	\$52	\$1,035	\$1,087	-	-	2	2
Travel trailer and camper manufacturing	-	\$117	\$946	\$1,063	-	-	4	4
Clay and nonclay refractory manufacturing	-	\$1,003	\$38	\$1,041	-	5	-	6
Other cut and sew apparel manufacturing	-	\$5	\$1,023	\$1,028	-	-	7	8
Tree nut farming	-	\$117	\$884	\$1,001	-	1	5	6
Other pressed and blown glass and glassware manufacturing	-	\$548	\$429	\$977	-	2	2	4
Other engine equipment manufacturing	-	\$634	\$273	\$907	-	1	-	1
Apparel knitting mills	-	\$20	\$823	\$843	-	-	6	7
Railroad rolling stock manufacturing	-	\$718	\$112	\$831	-	1	-	1
Broadcast and wireless communications equipment manufacturing	-	\$305	\$518	\$824	-	1	1	2
Office supplies (except paper) manufacturing	-	\$358	\$436	\$795	-	1	2	3
Rubber and plastics hoses and belting manufacturing	-	\$525	\$251	\$775	-	2	1	2
Other general purpose machinery manufacturing	-	\$709	\$39	\$748	-	2	-	3
Other leather and allied product manufacturing	-	\$56	\$691	\$747	-	-	4	5

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Alumina refining and primary aluminum production	-	\$578	\$143	\$721	-	1	-	1
Apparel accessories and other apparel manufacturing	-	\$30	\$683	\$713	-	-	4	4
Cutting tool and machine tool accessory manufacturing	-	\$617	\$94	\$711	-	4	1	4
Fabric coating mills	-	\$538	\$165	\$703	-	1	-	2
Petrochemical manufacturing	-	\$576	\$77	\$653	-	-	-	-
Other aircraft parts and auxiliary equipment manufacturing	-	\$355	\$261	\$616	-	1	1	2
Footwear manufacturing	-	-	\$598	\$598	-	-	4	4
Metal cutting and forming machine tool manufacturing	-	\$502	\$89	\$591	-	2	-	2
Boat building	-	\$29	\$536	\$565	-	-	2	2
Other major household appliance manufacturing	-	\$508	\$53	\$561	-	1	-	1
Carbon and graphite product manufacturing	-	\$448	\$106	\$554	-	1	-	1
Plastics and rubber industry machinery manufacturing	-	\$490	\$55	\$545	-	2	-	2
Industrial process furnace and oven manufacturing	-	\$497	\$35	\$532	-	2	-	2
Industrial mold manufacturing	-	\$473	\$53	\$527	-	3	-	3
Motor vehicle body manufacturing	-	\$332	\$172	\$505	-	1	1	2
Power-driven handtool manufacturing	-	\$426	\$74	\$499	-	1	-	1
Electric lamp bulb and part manufacturing	-	\$227	\$247	\$473	-	1	1	2
Arms, ordnance, and accessories manufacturing	-	\$101	\$370	\$471	-	-	1	1
Turbine and turbine generator set units manufacturing	-	\$230	\$225	\$456	-	-	-	1
Cotton farming	-	\$101	\$345	\$446	-	-	1	1
Cutlery, utensil, pot, and pan manufacturing	-	\$148	\$295	\$443	-	-	1	1
Heavy duty truck manufacturing	-	\$95	\$317	\$413	-	-	-	-
Fiber, yarn, and thread mills	-	\$221	\$187	\$408	-	1	1	1
Musical instrument manufacturing	-	\$66	\$341	\$407	-	-	2	3
Electron tube manufacturing	-	\$199	\$207	\$406	-	-	1	1
Beet sugar manufacturing	-	\$7	\$394	\$402	-	-	1	1
Mining iron ore	-	\$372	\$22	\$393	-	-	-	-
Mining and oil and gas field machinery manufacturing	-	\$353	\$38	\$391	-	1	-	1
Totalizing fluid meters and counting devices manufacturing	-	\$233	\$151	\$384	-	-	-	1
Packaging machinery manufacturing	-	\$166	\$210	\$376	-	1	1	1
Broadoven fabric mills	-	\$108	\$252	\$360	-	-	1	1
Tobacco product manufacturing	-	-	\$310	\$310	-	-	-	-
Bowling centers	-	\$1	\$308	\$310	-	-	7	7
Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	-	\$209	\$89	\$297	-	1	-	2
Special tool, die, jig, and fixture manufacturing	-	\$216	\$79	\$295	-	1	-	2
Semiconductor machinery manufacturing	-	\$143	\$140	\$283	-	-	-	-
Search, detection, and navigation instruments manufacturing	-	\$194	\$83	\$278	-	-	-	1
Mechanical power transmission equipment manufacturing	-	\$204	\$49	\$254	-	1	-	1
Household refrigerator and home freezer manufacturing	-	\$59	\$182	\$241	-	-	-	-
Speed changer, industrial high-speed drive, and gear manufacturing	-	\$191	\$46	\$237	-	1	-	1

APPENDIX A—DETAILED CALIFORNIA IMPACTS

Sector Name	Output Impacts (in thousands)				Employment Impacts			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Sugarcane and sugar beet farming	-	\$9	\$218	\$228	-	-	3	3
Commercial Fishing	-	\$24	\$189	\$213	-	-	2	2
Primary smelting and refining of nonferrous metal (except copper and aluminum)	-	\$187	\$23	\$210	-	-	-	-
Vending, commercial, industrial, and office machinery manufacturing	-	\$68	\$141	\$209	-	-	-	1
Manufactured home (mobile home) manufacturing	-	\$185	\$20	\$206	-	1	-	1
Narrow fabric mills and schiffli machine embroidery	-	\$130	\$66	\$196	-	1	-	1

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 Coefficients based on United States Census Bureau information

Note: Differences due to rounding.

Appendix B—California Industry Groupings

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
California Total Economy	\$3,430,334,448	20,195,330
Housing (including Real Estate)	\$320,935,603	908,885
Construct new residential permanent site single- and multi-family structures	\$17,578,854	84,668
Construct other new residential structures	\$24,098,598	134,481
Maint & repair construct of residential structures	\$3,183,996	18,409
Imputed rental activity for owner-occupied dwellings	\$147,117,641	0
70% of Real Estate	\$128,956,516	671,328
Wholesale and Retail Trade	\$327,459,561	2,669,268
Retail trade subtotal	\$164,357,795	1,932,176
Motor vehicle and parts	\$20,157,109	192,274
Furniture and home furnishing	\$5,692,452	57,065
Electronics and appliances	\$10,946,978	70,981
Building material and garden	\$10,933,646	121,193
Food and beverage	\$26,364,840	366,542
Health and personal care	\$10,477,624	122,632
Gasoline stations	\$7,458,120	56,229
Clothing and clothing accessories	\$16,504,467	209,996
Sporting goods, hobby, book and music stores	\$4,744,669	84,432
General merchandise	\$20,812,254	303,968
Miscellaneous	\$9,967,063	183,540
Direct and electronic sale	\$20,298,572	163,321
Wholesale trade	\$163,101,766	737,092
Finance and Insurance	\$225,129,368	988,193
Monetary authorities and depository credit intermediation	\$73,925,172	193,509
Nondepository credit intermediation and related activities	\$16,262,345	98,165
Securities, commodity contracts, investments and related activities	\$61,343,941	355,924
Insurance carriers	\$32,604,717	137,452
Insurance agencies, brokerages, and related activities	\$19,761,930	141,341
Funds, trusts, and other financial vehicles	\$21,231,264	61,803
Professional, Scientific, and Technical Services	\$283,075,150	1,834,785
Legal services	\$39,013,324	212,665
Accounting, tax preparation, bookkeeping and payroll services	\$21,756,750	187,229
Architectural, engineering and related services	\$32,505,408	256,658
Specialized design services	\$4,404,004	31,245
Custom computer programming services	\$42,359,617	263,523
Computer systems design services	\$20,970,055	139,436
Other computer related services, including facilities management	\$10,085,063	26,652
Management, scientific and technical consulting services	\$18,388,533	149,574
Environmental and other technical consulting	\$13,556,207	154,937
Scientific research and development services	\$43,619,254	199,327
Advertising and related services	\$22,067,059	112,969
Photographic services	\$1,115,916	11,196
Veterinary services	\$2,704,055	44,084
All other miscellaneous professional, scientific and technical services	\$10,529,904	45,290

APPENDIX B—INDUSTRY GROUPINGS

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
State and Local Government	\$179,857,503	2,176,480
State and local government passenger transit	\$1,144,676	29,529
State and local government electric utilities	\$3,658,810	11,469
Other state and local government enterprises	\$16,921,893	89,219
Employment and payroll for State and Local Government Non-Education	\$79,356,602	912,962
Employment and payroll for State and Local Government Education	\$78,775,523	1,133,301
Information	\$208,004,071	503,309
Newspaper publishers	\$2,345,479	18,313
Periodical publishers	\$3,566,988	11,637
Book publishers	\$2,394,351	6,840
Directory, mailing list, and other publishers	\$1,320,318	4,237
Software publishers	\$36,740,336	60,897
Motion picture and video industries	\$45,584,016	162,971
Sound recording industries	\$3,878,627	4,771
Radio and television broadcasting	\$8,523,090	30,038
Cable and other subscription programming	\$10,876,841	20,361
Internet publishing and broadcasting	\$13,295,168	43,958
Telecommunications	\$58,057,824	108,398
Data processing, hosting, and related services	\$20,331,686	27,315
Other information services	\$1,089,349	3,573
Health Care and Social Assistance	\$206,274,565	1,915,859
Offices of physicians, dentists, and other health practitioners	\$69,271,570	562,181
Home health care services	\$5,318,912	91,394
Medical and diagnostic labs and outpatient and other ambulatory care services	\$37,262,063	207,189
Private hospitals	\$60,107,566	371,406
Nursing and residential care facilities	\$17,481,314	279,287
Child day care services	\$4,453,738	107,081
Individual and family services	\$8,385,576	210,008
Community food, housing, and other relief services, including rehabilitation services	\$3,993,826	87,312
Computer and Electronic Product Manufacturing	\$197,482,902	252,701
Electronic computer manufacturing	\$78,699,602	46,031
Computer storage device manufacturing	\$3,845,026	3,231
Computer terminals and other computer peripheral equipment manufacturing	\$4,860,968	9,390
Telephone apparatus manufacturing	\$4,627,973	5,572
Broadcast and wireless communications equipment	\$8,063,638	16,633
Other communications equipment manufacturing	\$2,015,823	4,305
Audio and video equipment manufacturing	\$3,534,944	6,575
Electron tube manufacturing	\$825,004	1,890
Bare printed circuit board manufacturing	\$2,322,688	10,149
Semiconductor and related device manufacturing	\$48,778,465	46,418
Electronic capacitor, resistor, coil, transformer and other inductor manufacturing	\$499,595	2,382
Electronic connector manufacturing	\$1,152,929	4,323
Printed circuit assembly (electronic assembly) manufacturing	\$2,355,415	8,188
Other electronic component manufacturing	\$3,810,452	14,034
Search, detection, and navigation instruments manufacturing	\$14,168,258	32,588

APPENDIX B—INDUSTRY GROUPINGS

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
Computer and Electronic Product Manufacturing (continued)		
Automatic environmental control manufacturing	\$405,489	1,301
Industrial process variable instruments manufacturing	\$2,741,895	7,976
Totalizing fluid meters and counting devices	\$383,276	813
Electricity and signal testing instruments	\$4,959,323	12,058
Analytical laboratory instrument manufacturing	\$3,745,448	8,765
Irradiation apparatus manufacturing	\$517,294	998
Watch, clock, and other measuring and controlling device manufacturing	\$1,469,180	4,289
Software, audio, and video media reproducing	\$993,529	2,272
Magnetic and optical recording media manufacturing	\$2,453,988	2,521
Agriculture and Food Processing	\$166,407,061	622,704
Oilseed farming	\$41,493	298
Grain farming	\$1,211,538	13,542
Vegetable and melon farming	\$6,927,070	19,222
Fruit farming	\$10,351,178	30,892
Tree nut farming	\$6,885,313	42,723
Greenhouse, nursery, and floriculture products	\$3,736,809	15,532
Tobacco farming	\$0	0
Cotton farming	\$1,064,298	3,065
Sugarcane and sugar beet farming	\$75,455	1,112
All other crop farming	\$5,787,322	16,242
Cattle ranching and farming	\$3,298,548	14,498
Dairy cattle and milk production	\$6,899,743	27,203
Poultry and egg production	\$1,483,119	1,646
Animal production, except cattle and poultry	\$474,229	7,126
Forestry, forest products, and timber tract products	\$515,149	1,594
Commercial logging	\$372,509	3,070
Commercial Fishing	\$380,467	4,445
Commercial hunting and trapping	\$176,261	328
Support activities for agriculture and forest	\$9,197,349	221,015
Dog and cat food manufacturing	\$1,239,022	975
Other animal food manufacturing	\$3,762,269	2,763
Flour milling and malt manufacturing	\$2,584,693	1,978
Wet corn milling	\$604,672	250
Soybean and other oilseed processing	\$1,152,714	563
Fats and oils refining and blending	\$3,132,241	699
Breakfast cereal manufacturing	\$513,071	621
Sugar cane mills and refining	\$819,724	796
Beet sugar manufacturing	\$107,806	148
Chocolate and confectionery manufacturing fro	\$931,937	1,084
Confectionery manufacturing from purchased chocolate	\$873,726	2,360
Nonchocolate confectionery manufacturing	\$764,372	1,811
Frozen food manufacturing	\$4,125,458	12,141
Fruit and vegetable canning, pickling, and drying	\$9,754,908	19,409
Fluid milk and butter manufacturing	\$10,125,120	7,951
Cheese manufacturing	\$6,054,374	6,091
Dry, condensed, and evaporated dairy products	\$968,511	1,021
Ice cream and frozen dessert manufacturing	\$1,010,415	2,566
Animal (except poultry) slaughtering, rendering, and processing	\$4,384,878	12,884
Poultry processing	\$3,745,014	8,843

APPENDIX B—INDUSTRY GROUPINGS

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
Agriculture and Food Processing (continued)		
Seafood product preparation and packaging	\$438,502	1,218
Bread and bakery product manufacturing	\$4,984,235	28,208
Cookie- cracker- and pasta manufacturing	\$2,024,107	4,957
Tortilla manufacturing	\$1,477,712	6,589
Snack food manufacturing	\$5,873,268	8,392
Coffee and tea manufacturing	\$1,483,609	1,773
Flavoring syrup and concentrate manufacturing	\$1,976,181	1,136
Seasoning and dressing manufacturing	\$2,455,067	4,103
All other food manufacturing	\$3,261,246	10,312
Soft drink and ice manufacturing	\$10,356,942	13,355
Breweries	\$3,812,904	3,770
Wineries	\$12,232,327	29,987
Distilleries	\$438,630	352
Tobacco product manufacturing	\$59,554	41
Non-Residential Construction	\$162,090,939	945,310
Construct new nonresidential commercial and health care structures	\$22,911,563	139,564
Construct new nonresidential manufacturing structures	\$5,924,640	38,380
Construct other new nonresidential structures	\$50,677,645	299,994
Maint & repair construct of nonresident structures	\$27,310,014	179,660
30% of Real Estate	\$55,267,078	287,712
Leisure and Hospitality	\$145,468,709	1,993,420
Performing arts companies	\$2,788,746	63,698
Spectator sports companies	\$4,171,552	66,940
Promoters of performing arts and sports and agents for public figures	\$5,310,621	76,403
Independent artists, writers, and performers	\$16,064,132	76,161
Museums, historical sites, zoos, and parks	\$2,127,666	14,396
Fitness and recreational sports centers	\$2,556,920	67,841
Bowling centers	\$184,181	4,620
Amusement parks, arcades, and gambling industry	\$10,448,375	115,609
Hotels and motels, including casino hotels	\$15,974,626	138,902
Other accommodations	\$1,845,850	19,537
Food services and drinking places	\$81,251,305	1,299,977
Other amusement and recreation industries	\$2,744,735	49,334
Management and Support	\$137,556,290	1,542,620
Management of companies and enterprises	\$46,257,742	212,198
Employment services	\$25,590,742	549,852
Travel arrangement and reservation services	\$4,775,808	28,127
Office administrative services	\$11,148,591	102,162
Facilities support services	\$2,164,773	10,742
Business support services	\$5,622,725	79,264
Investigation and security services	\$7,503,816	176,611
Services to buildings and dwellings	\$17,755,277	294,869
Other support services	\$6,476,677	44,641
Waste management and remediation services	\$10,260,138	44,155

APPENDIX B—INDUSTRY GROUPINGS

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
Other Services	\$84,115,353	1,267,770
Automotive repair and maintenance, except car washes	\$12,868,682	150,170
Car washes	\$1,789,621	42,301
Electronic and precision equipment repair and maintenance	\$5,792,630	29,359
Commercial and industrial machinery and equipment	\$5,296,832	39,336
Personal and household goods repair and maintenance	\$2,457,430	17,375
Personal care services	\$7,836,401	120,794
Death care services	\$2,043,551	18,322
Dry-cleaning and laundry services	\$3,611,984	60,972
Other personal services	\$10,011,128	75,736
Religious organizations	\$12,750,893	65,211
Grantmaking, giving, and social advocacy organizations	\$8,151,609	94,019
Civic, social, professional, and similar organizations	\$8,423,979	140,030
Private household operations	\$3,080,615	414,146
Transportation and Warehousing	\$88,728,755	649,626
Transport by air	\$15,922,858	45,562
Transport by rail	\$3,668,022	10,921
Transport by water	\$2,997,280	5,738
Transport by truck	\$27,314,516	198,696
Transit and ground passenger transportation	\$3,992,592	61,808
Transport by pipeline	\$1,582,145	2,751
Scenic and sightseeing transportation and support activities for transportation	\$11,364,604	96,451
Couriers and messengers	\$8,844,034	85,386
Warehousing and storage	\$7,073,806	78,836
US Postal Service	\$5,968,896	63,477
Medical Manufacturing	\$82,270,086	116,600
Medicinal and botanical manufacturing	\$1,561,399	2,690
Pharmaceutical preparation manufacturing	\$50,416,629	33,590
In-vitro diagnostic substance manufacturing	\$3,420,694	4,904
Biological product (except diagnostic) manufacturing	\$1,933,103	2,956
Electromedical and electrotherapeutic apparatus manufacturing	\$5,168,646	10,796
Surgical and medical instrument manufacturing	\$11,761,047	30,616
Surgical appliance and supplies manufacturing	\$4,203,060	12,432
Dental equipment and supplies manufacturing	\$1,517,472	4,490
Ophthalmic goods manufacturing	\$1,512,681	5,142
Dental laboratories manufacturing	\$775,355	8,983
Federal Government	\$59,823,591	377,993
Federal electric utilities	\$598	1
Other Federal Government enterprises	\$1,100,974	6,914
Employment and payroll for Federal Non-Military	\$22,486,539	130,838
Employment and payroll for Federal Military	\$36,235,480	240,241
Utilities	\$56,923,484	60,720
Electric power generation, transmission, and distribution	\$19,448,615	22,599
Natural gas distribution	\$36,093,805	32,670
Water- sewage and other treatment and deliver	\$1,381,064	5,450

APPENDIX B—INDUSTRY GROUPINGS

<i>Industry Grouping / Sector Name</i>	<i>Output (in thousands)</i>	<i>Employment</i>
Transportation Equipment Manufacturing	\$48,528,817	102,773
Automobile manufacturing	\$2,530,339	1,411
Light truck and utility vehicle manufacturing	\$1,402,628	657
Heavy duty truck manufacturing	\$1,069,184	950
Motor vehicle body manufacturing	\$595,778	2,174
Truck trailer manufacturing	\$313,086	981
Motor home manufacturing	\$26,004	68
Travel trailer and camper manufacturing	\$365,334	1,491
Motor vehicle parts manufacturing	\$6,146,940	12,804
Aircraft manufacturing	\$11,958,483	18,827
Aircraft engine and engine parts manufacturing	\$1,367,339	2,521
Other aircraft parts and auxiliary equipment	\$8,833,382	27,480
Guided missile and space vehicle manufacturing	\$8,790,937	18,904
Propulsion units and parts for space vehicles	\$883,325	3,058
Railroad rolling stock manufacturing	\$451,471	798
Ship building and repairing	\$1,635,623	6,846
Boat building	\$210,613	814
Motorcycle, bicycle, and parts manufacturing	\$1,202,521	1,666
Military armored vehicle, tank, and tank component manufacturing	\$402,582	725
All other transportation equipment manufacturing	\$343,247	601

Center for Strategic Economic Research, August 2014

Data Source: IMPLAN, 2012 coefficients

Note: Differences due to rounding.

Appendix C—Population Distribution of California's Counties

