

THE ECONOMIC BENEFITS OF CALIFORNIA'S HOUSING INDUSTRY

PREPARED FOR THE

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INTRODUCTION

The housing industry is one of California's most visible and far-reaching industries, but many of the economic benefits of housing construction and the housing industry are not readily apparent. The complete influence of housing in the California economy includes not only the construction of new units, but also the ongoing sales, financing, brokerage, repairs, management, and operation of existing housing units.

This report is designed to provide an economic perspective of the importance of the housing industry on the overall economic activity of California and its metropolitan regions. The report will present two views of the importance of housing in terms of economic activity and job-creation.

1. The importance of new housing construction, and the support industries and consumption expenditures which are generated by housing construction.
2. The greater importance of the housing industry, broadly defined, to include the ongoing sale, financing, upgrading, repairs, management, taxation, and all other aspects of the entire stock of owner-occupied and rented housing of all types.

CALCULATING THE ECONOMIC MULTIPLIERS:

Unlike other economic reports, this report analyzes the full range of economic impacts of the housing industry by calculating the direct benefits, indirect benefits and induced benefits of housing.

- **Direct Benefits** consist of economic activity contained exclusively within the new housing construction sector. This includes all expenditures made by homebuilders and all employees who work directly for builders.
- **Indirect Benefits** define the creation of additional economic activity which results from linked businesses, suppliers of goods and services, and provision of operating inputs. Examples of this include wholesale trade, where builders purchase lumber, roofing, electrical, plumbing, and other components; motor freight firms which deliver the components to the wholesaler and to the construction site; management and consultant services, engineering and architectural services who participate in the design and planning of housing; and many others. (A detailed list of the major indirect sectors appears later in the study).
- **Induced Benefits** measure the consumption expenditures of direct and indirect sector employees. Examples of the benefits induced by housing and new housing construction include employees' expenditures on things such as retail purchases, housing, doctors and dentists, banking, insurance, etc. (A detailed list appears later on in the study).

By calculating the direct, indirect and induced economic benefits, this study provides a measurement of the full range of economic impacts and provides insight into how the housing sector, beginning with new housing construction, produces a wide range of economic benefits to the California Economy.

EXECUTIVE SUMMARY

CONTRIBUTIONS OF NEW HOUSING CONSTRUCTION TO THE CALIFORNIA ECONOMY

New housing construction contributes approximately \$40 billion per year to the California economy and creates an estimated 359,000 jobs statewide. Approximately one half of that economic output (approximately \$20 billion) is directly the result of new housing construction. The balance is generated by those industries which supply components and services to the construction industry, as well as to the retail and consumption sectors which service the employees of the construction industry and its supplier industries.

Every dollar spent on new housing construction in California generates approximately \$1.95 in total economic activity.

New housing construction as a stand-alone industry ranks in the top fifteen in terms of total economic output.

CONTRIBUTIONS OF THE ENTIRE HOUSING INDUSTRY ON THE CALIFORNIA ECONOMY

The larger picture of the influence of housing in the California economy includes not only the construction of new units, but also the ongoing sales, financing, brokerage, repairs, management, and operation of existing housing units. When all facets of the housing sector are considered – including new home construction, residential real estate transactions, expenditures of homeowners, employment, maintenance and operation of housing, and the expenditures of employees of the housing sector and its supplier industries - the housing industry produces the following economic benefits:

- **Contributes more than \$257 billion per year to the California economy**
- **Generates 821,000 jobs**
- **Accounts for approx 13% of all economic activity in the state.**

When all of the economic multipliers are factored in, the housing industry is the largest industry group in the state with economic contributions matched only by the wholesale and retail industry.

REGIONAL ECONOMIC CONTRIBUTIONS OF HOUSING

This report breaks down the economic and job-creating contributions of the housing industry in California's 25 primary metropolitan statistical areas – including contributions of new housing construction and the effects of the housing industry as a whole. In all regions of the state, the housing sector is a significant economic force in terms of total economic output, job-creation and percent of total economic activity.

HOUSING INDUSTRY'S UNTAPPED POTENTIAL

While the housing industry is a leading economic force in the state of California, the potential economic and employment value of the housing industry, and in particular new

housing construction, is much greater. This report analyzes data (1997-2001) which reflect average annual housing production of 132,000 units but according to the state Department of Finance, the annual housing need for California for the past 12 years – based on population growth, job creation and household formation – demanded production at levels at closer to 230,000 units per annum. Clearly, an annual production level closer to the state need would significantly increase the economic benefits of housing in California presented in this report.

FINDINGS

SECTION 1: CONTRIBUTIONS OF NEW HOUSING CONSTRUCTION ON THE CALIFORNIA ECONOMY

ECONOMIC OUTPUT OF NEW HOUSING CONSTRUCTION

In this first portion of the study we will examine new housing construction and its economic benefits in the form of *total industry output* and *employment*. The new housing construction industry in California is one of the most visible and widely dispersed industries in the state. When all aspects of new housing construction are considered, the new housing construction industry:

- **Contributes \$40 billion to the California economy**
- **Generates nearly 359,000 jobs per year**
- **Constitutes nearly 3% of the California economy**

Unlike other economic reports of its kind, this report analyzes the full range of economic impacts of the new housing construction industry by calculating the direct benefits, as well as the indirect and induced benefits.

The ***Direct Benefits*** include the more recognizable industry contributions, or economic activity contained exclusively within the new housing construction sector. This includes all expenditures made by homebuilders and all employees who work directly for builders. *The new housing construction industry contributed more than \$20.2 billion per year in direct economic benefits to the California economy over the 1997-2001 period.*

While this figure alone is significant, in order to calculate the full impact of new housing construction on the economy, it is also necessary to take into consideration the indirect and induced benefits of new housing construction.

Indirect Benefits defines the creation of additional economic activity which results from linked businesses, suppliers of goods and services, and provision of operating inputs. Examples of this include wholesale trade, where builders purchase lumber, roofing, electrical, plumbing, and other components; motor freight firms which deliver the components to the wholesaler and to the construction site; management and consultant services; engineering and architectural services who participate in the design and planning of housing; and many other indirect contributions. A detailed list of the major indirect sectors appears in Appendix III of the report. *The new housing construction industry generated more than \$10 billion in the form of indirect economic output.*

The ***Induced Benefits*** measures the consumption expenditures of direct and indirect sector employees. In other words, those employed directly or indirectly by the new housing construction industry take their pay checks and induce additional economic

activity in the form of retail consumption, housing of their own, personal expenditures on health care, banking, insurance and other sectors of the economy. A detailed list of the induced activities spawned by the new housing construction industry can be found in Appendix III of the study. *In all, the induced benefits of housing contribute an additional \$9.6 billion in economic activity in California annually.*

Table 1 (below) provides a breakdown of the direct, indirect and induced benefits used to calculate the total economic contributions of new housing construction. With a total industry output of nearly \$40 billion, new housing construction constitutes nearly 3% of the state's total economic output. New housing construction ranks among the top fifteen industries in the state in terms of total economic output.

Table 1: Total industry output of new housing construction industry

Summary of Economic Benefits from New Residential Construction in California Annual Average 1997-2001	Direct Component	Indirect Expenditures	Induced Expenditures	Total of all sources
Total Industry Output (Billions)	\$20.25	\$10.07	\$9.58	\$39.90
Compared Using the Minnesota IMPLAN model, 1999 coefficients. Data Sources: US Census Bureau; California Employment Development Department SACTO-CSUS Sacramento Regional Research Institute, May 2002				

NEW HOUSING CONSTRUCTION EMPLOYMENT

In addition to generating nearly \$40 billion in total industry output, new housing construction is also responsible for generating nearly 360,000 jobs per year through direct, indirect and induced activity.

As mentioned in previous sections of the report, in order to calculate the complete contributions of the new housing construction industry, this study accounts for total jobs created directly, indirectly, and those jobs induced by new housing construction.

New housing construction *directly* generates nearly 142,000 jobs per year. Direct employment includes those employees directly employed by the firms involved in the construction of a new home.

Indirectly, new housing construction generates an additional 103,000 jobs per year. Indirect benefits define the creation of additional economic activity and jobs resulting from linked businesses, like the suppliers of goods and services (where builders purchase lumber, electrical equipment, etc.)

New housing also generates an additional 114,000 jobs per year through *induced* economic activity. Induced activity includes jobs created by the consumption expenditures (on things like retail, health care, housing, etc) of direct and indirect sector employees.

Table 2 (below) shows total employment output of the new housing construction industry when direct, indirect and induced benefits are considered.

Table 2: Employment output of new housing construction industry

Summary of Economic Benefits from New Residential Construction in California <small>Annual Average 1997-2001</small>	Direct Component	Indirect Component	Induced Component	Total of all Sources
Number of Employees	141,785	103,017	114,130	358,932
<small>Computed Using the Minnesota IMPLAN model, 1999 coefficients. Data Sources: US Census Bureau; California Employment Development Department SACTO-CSUS Sacramento Regional Research Institute, May 2002</small>				

Table 3 (below) illustrates the number of jobs, segmented by industry, generated by the new housing construction industry through indirect and induced activities.

Table 3: New housing construction employment in California

Sector Name	Total Industry Employment			
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
<i>California Total</i>	141,785	103,017	114,139	358,932
New Residential Structures	141,785	-	-	141,785
Wholesale Trade	-	14,145	3,717	17,862
Automotive Dealers and Service Stations	-	7,383	2,323	9,706
Owner-occupied Dwellings	-	-	-	-
Motor Freight Transport and Warehousing	-	5,241	836	6,077
Banking	-	1,317	1,216	2,533
Real Estate	-	1,317	1,612	2,784
Miscellaneous Retail	-	8,092	4,972	13,064
Management and Consulting Services	-	5,347	865	6,212
State and Local Governments – Non-Education	-	-	8,192	8,192
Doctors and Dentists	-	-	4,474	4,474
State and Local Governments - Education	-	-	10,634	10,634
Eating and Drinking	-	800	8,911	9,711
Engineering – Architectural Services	-	3,440	469	3,909
Communication – Except Radio and TV	-	502	406	908
Computer and Data Processing Services	-	1,455	954	2,409
Sawmills and Planning Mills – General	-	1,602	27	1,629
Hospitals	-	2	4,085	4,087
Insurance Carriers	-	369	1,330	1,699
Other Business Services	-	1,684	797	2,481
Petroleum Refining	-	71	76	147
Personnel Supply Services	-	8,060	1,956	10,016
Equipment Rental and Leasing	-	1,809	135	1,944
Millwork	-	2,615	26	2,641
Legal Services	-	1,127	1,130	2,257
Food Stores	-	1,819	2,660	4,479
Maintenance and Repair - Other Facilities	-	1,04	1,926	2,930
Federal Government - Military	-	-	2,717	2,717
Building Materials and Gardening	-	2,661	1,015	3,676
Accounting – Auditing and Bookkeeping	-	2,524	1,006	3,531
Security and Commodity Brokers	-	357	457	814
New Government Facilities	-	-	1,067	1,067
Federal Government - Non-Military	-	-	3,010	3,010
General Merchandise Stores	-	1,837	2,773	4,610
Wood Kitchen Cabinets	-	2,126	19	2,144
Credit Agencies	-	1,799	1,455	3,255
Furniture & Home Furnishings Stores	-	1,600	1,167	2,766
Hotels and Lodging Places	-	896	1,431	2,327

Table 3: New Housing Construction Employment in California (cont.)

Sector Name	Total Industry Employment			
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Apparel and Accessory Stores	-	1,233	1,195	2,428
Other State and Local Enterprises	-	145	408	553
Structural Wood Members – N.E.C.	-	1,082	8	1,090
Automobile Repairs and Services	-	460	833	1,293
Refrigeration and Heating Equipment	-	524	12	536
Electric Services	-	53	143	196
Gas Production and Distribution	-	31	106	137
Other Medical and Health Services	-	1	1,511	1,512
Maintenance and Repair - Residential	-	97	583	680
Drugs	-	2	282	284
U.S. Postal Service	-	688	517	1,205
Landscape and Horticulture Services	-	1,883	311	2,194
Research – Development and Testing Services	-	626	558	1,184
Automobile Rental and Leasing	-	502	185	688
Paving Mixtures and Blocks	-	200	5	204
Reconstituted Wood Products	-	294	2	296
Air Transportation	-	304	437	741
Lodging Camps and Lodging Contractors	-	422	7	429
Source: IMPLAN model outputs. Table is truncated to show only the sectors with the largest impacts. Sacramento Regional Research Institute, July, 2002				

By providing an accounting of indirect and induced employment for California’s top economic sectors, Table 3 illustrates how new housing construction affects hiring in a wide variety of related and seemingly unrelated industries. Table 3 shows that industries such as wholesale trade, retail, automotive dealers and service stations all benefit greatly through the indirect and induced economic activity of new housing construction.

SECTION 2: CONTRIBUTIONS OF THE ENTIRE HOUSING INDUSTRY ON THE CALIFORNIA ECONOMY

Section 1 of this study focuses only on the economic benefits of new residential construction, therefore examining only a portion of the total economic contributions of the state's housing industry. The larger picture of the importance of housing in the California economy includes not only the construction of new housing units, but also the ongoing sales, financing, brokerage, repairs, management and operation of existing housing units. Even in the best years, the number of new housing units produced is only a few percent of the total number of housing units which comprise the state's housing stock, so it is no surprise that this broader definition gives housing a much larger role in the state's economy.

In Section 2, the economic contributions of the entire housing industry will be examined, including new home construction, residential real estate transactions, expenditures of homeowners, employment, maintenance and operation of housing, and the expenditures of employees of the housing sector and its supplier industries. As before, the direct, indirect and induced benefits of these areas will be included in the analysis.

When all factors of the housing sector are considered, the housing industry:

- **Contributes more than \$257 billion per year to the California economy**
- **Generates 821,000 jobs per year**
- **Accounts for approximately 13% of all economic activity in California, ranking it as the leading industry in terms of total economic output**

As with other sections of this report, the above figures were determined by calculating the direct, indirect and induced benefits of the housing industry as a whole. A more detailed explanation of the how the direct, indirect and induced benefits were calculated can be found in the methodology section (Appendix I) at the end of this report. As a recap:

The ***direct benefits*** are those more recognizable benefits of the housing industry, or those economic activities directly related to the construction of a home, real estate transactions, expenditures of homeowners, etc.

Indirect benefits defines the creation of additional economic activity which results from linked businesses, suppliers of goods and services, and provision of operating inputs.

The ***induced benefits*** measures the consumption expenditures of direct and indirect sector employees. In other words, those employed directly or indirectly by the housing industry (including employees involved in construction, real estate, maintenance, etc) take their pay checks and induce additional economic activity in the form of retail

consumption, personal expenditures on health care, banking, insurance and other sectors of the economy.

As mentioned, in order to perform this analysis it was necessary to go far beyond the construction data initially discussed to include not only activities related to new housing construction but also the maintenance and operation of rental housing and the expenditures of homeowners in the acquisition, maintenance, upgrading and taxes of existing structures. Housing economists integrate these activities into a “housing services” group. Other examples of such groupings of basic economic sectors include the “wholesale and retail” grouping, “transportation”, “communications” and “public utilities” groupings, to name a few.

The US Bureau of Economic Analysis has created a special economic sector on home ownership to facilitate this comprehensive analysis of housing economic activities. Applications of this integrated view of housing economics include the “Ongoing Annual Effects” section of The Local Impact of Home Building in Average City, USA, published by the National Association of Home Builders, and Housing: California’s Foundation for Economic Growth, by the California Department of Housing and Community Development.

INCLUSION OF REAL ESTATE IN THE HOUSING INDUSTRY GROUP

The conventional economic analysis places all Real Estate activity in the traditional economic category of Finance, Insurance, & Real Estate grouping, however, a considerable component of that group is related to sale of new and resale residences. (The same is true of insurance, banking, and other services in this group, but these are less concentrated in the housing sector.) A review of employment of brokers in major real estate brokerages, and of the value of housing and non-residential values and construction, indicates that 70 to 80 percent of Real Estate is related to residential property transactions, management, and leasing, while the remaining 20 to 30 percent is related to non-residential sales, leasing, and management. Based on those assumptions, the following analysis incorporates the housing components of Real Estate (about \$83 billion) to the housing category, and the remaining components of Real Estate to the “non-residential structures” category (about \$35 billion)

HOUSING AS COMPARED TO OTHER LEADING INDUSTRIES

The methods discussed above to group the housing industry were chosen to allow meaningful comparisons to other well-known sectors of the State’s economy, such as Wholesale & Retail Trade; State & Local Government; Medical Services and Related Manufacturing; Computer Manufacturing; Public Utilities; and others. The results are shown in Table 4 (below) which contains a detailed list of industry sectors contained in each industry grouping, along with the total economic activity of each industry sector. Table 4 illustrates that the housing sector, including its component of Real Estate, is the largest industry group in the state with economic contributions matched only by the wholesale and retail industry. As in previous sections, the direct, indirect and induced benefits of these areas are included in the analysis.

Table 4: Comparison of California's leading industries

Components of the California Economy With Real Estate allocated to Housing And non-residential Structures	Total Industry Output (Billions)	Employment (Thousands)	Total Industry Output as a % of State Total
California	\$2,005.6	19,121	100%
Housing (including Real Estate) Transactions of owner-occupied dwellings, construction of new residential structures, residential maintenance and repair, 70 percent of real estate services.	\$257	821	13%
Wholesale and Retail Retail of general merchandise, food stores, automobile dealers & service stations, apparel, furniture and home furnishings, building materials and gardening, eating and drinking; all wholesale trade.	\$256.6	3,816	13%
Finance and Insurance Includes banking, credit agencies, security and commodity brokers, insurance brokers and carriers. Excludes Real Estate.	\$126.3	905	6%
Business Services Services to buildings, equipment rental and leasing, personnel supply services, computer and data services, protective services, automobile renting and leasing, and commercial photography.	\$119.8	1585	6%
State and Local Governments Education, non-education, utilities, transit and other enterprises.	\$116.4	1939	6%
Non-Residential Development Construction and maintenance of government, commercial, industrial highways, utilities structures and 30% of real estate.	\$110.8	846	6%
Medical Services and Related Manufacturing Doctors, dentists, hospitals and other medical services; manufacture of drugs, surgical and dental appliances and supplies.	\$99.2	1053	5%
Computer Manufacturing Industrial machinery, electronic computers, computer storage devices, terminals and peripherals, printed circuit boards, semiconductors and components.	\$81.3	249	4%
Engineering and Management Services Management, consulting, architectural, research, development, testing and accounting services.	\$70.3	891	4%
Communications Voice and data transmissions, radio and television.	\$63.5	170	3%
Other Services Legal, private education, job training, child care, social, residential care, non-profit organizations, business associations, labor and civic organizations and religious organizations.	\$63.1	1,148	3%
Transportation Public Transit, rail, air, trucking and water transportation.	\$52.7	478	3%
Federal Government Military, non-military, postal services and other employ ees.	\$40.8	574	2%
Public Utilities Electricity, gas, water sewerage and sanitary services.	\$34.6	65	2%
Data Source: Minnesota Implan Group based on US Bureau of Economic Analysis 1999 ES202 survey SACTO-CSUS Sacramento Regional Research Institute, May 2002			

Table 4 provides a detailed description of the major industry groupings used in this study by giving a brief description of what is included within each. However, Appendix II not only provides a description of the industry groupings, but also numerical data for each of the described components. This allows for an understanding not only of the composition, but how the composition affects the grouping as a whole.

SECTION 3: REGIONAL ECONOMIC CONTRIBUTIONS OF HOUSING INCLUDING NEW HOUSING CONSTRUCTION AND THE ENTIRE HOUSING INDUSTRY

In this section, the regional economic benefits of new housing construction, as well as the housing industry as a whole, will be examined. The total industry output and employment figures will be examined for California's twenty-five Primary Metropolitan Statistical Areas (PMSAs). As with the previous statewide analysis, we will examine the direct, indirect and induced benefits of new housing construction as well as the entire housing industry on the twenty-five PMSAs.

REGIONAL INDUSTRY OUTPUT OF NEW HOUSING CONSTRUCTION

Housing construction is an industry which provides significant economic benefits to virtually every region of the state, even those regions which do not have significant levels of manufacturing, financial services, or other high-employment sectors. As outlined in previous sections of this report, new housing construction provides significant indirect and induced economic benefits on other industries and economic sectors. Table 5 (below) provides a breakdown of the total economic output created by new housing construction in each of California's PMSA's, including direct, indirect and induced benefits of new housing. This data is based on a 1997-2001 average statewide production of 132,156 units built per year. The regional statistics do not include data from rural areas that are not part of a PMSA.

For comparison purposes, Table 5 also lists the total residential units built in each of the PMSA's using a 5 year average (between 1997-2001). A more detailed explanation of the five year average and its purpose can be found in the methodology section toward the end of this report.

Table 5 (below) shows that the largest economic and job-creation impacts of new housing construction (the total direct, indirect and induced activity) occur in Riverside-San Bernardino (\$5.8 billion, 57,000 jobs), San Diego (\$4.4 billion, 42,000 jobs), Sacramento (\$3.7 billion, 34,000 jobs) and Los Angeles-Long Beach (\$3.6 billion, 32,000 jobs). New housing construction is also very important in much smaller regions such as Bakersfield (\$572 million, 5,700 jobs) and Chico (\$186 million, 2,000 jobs).

With total industry output measuring in the billions and job creation totaling tens of thousands for nine of the state's primary metropolitan statistical areas, new housing construction is a sizeable and stable economic contributor to virtually every region in the state.

Table 5: Regional economic output of the new housing construction industry

Region (1)	Total Regional Industry Output (2)	Regional Employment (Direct, Indirect & Induced) (2)	New Residential Units Built (3)
California	\$39,895,000,000	358,932	132,156
Bakersfield	\$571,617,903	5,686	3,110
Chico	\$186,051,758	1,923	971
Fresno	\$778,708,317	7,699	3,769
Los Angeles – Long Beach	\$3,590,990,651	31,758	14,040
Merced	\$404,904,915	3,990	1,103
Modesto	484,550,097	4,726	2,327
Oakland (Alameda – Contra Costa)	\$3,038,897,644	25,998	9,488
Orange County	\$3,218,302,750	28,134	11,062
Redding	\$209,848,741	2,142	840
Riverside – San Bernardino	\$5,823,825,520	57,071	20,552
Sacramento	\$3,660,114,433	34,376	13,481
Salinas – Monterey	\$447,482,937	4,141	1,538
San Diego	\$4,425,228,024	42,050	14,077
San Francisco – Marin – San Mateo	\$1,261,035,785	9,930	4,466
San Jose	\$1,507,449,791	12,017	7,013
San Luis Obispo - Atascadero	\$402,066,205	4,043	1,628
Santa Barbara	\$288,707,120	2,759	910
Santa Cruz – Watsonville	\$172,951,700	1,631	575
Santa Rosa	\$607,946,206	5,649	2,625
Stockton	\$938,134,092	9,049	3,962
Vallejo – Fairfield – Napa	\$755,461,282	7,095	2,725
Ventura	\$1,253,208,520	11,831	3,492
Visalia	\$231,826,364	2,269	1,509
Yolo	\$282,633,685	2,590	1,259
Yuba City	\$78,740,257	757	392
<p>(1) Data for Primary Metropolitan Statistical Areas (PMSA) and the California Total (2) IMPLAN model outputs. (3) Construction Data from the US Census Bureau. Average for 1997 - 2001 (4) Regional data may not add up to the state total due to rural areas not included in MSAs.</p>			

REGIONAL ECONOMIC CONTRIBUTIONS OF ENTIRE HOUSING INDUSTRY

The following section and charts examine the regional economic contributions of the entire housing industry – which, again, includes the ongoing sales, financing, brokerage, repairs, management, and operation of existing housing units – on California’s twenty-five PMSAs. As with the previous statewide analysis of the entire housing industry’s economic benefits, this regional breakdown incorporates the benefits of new home construction, expenditures of homeowners, employment, maintenance and operation of housing, and the expenditures of employees of the housing sector and its supplier industries. As before, the direct, indirect and induced benefits of these areas will be included in the analysis.

Unlike the statewide economic analysis, however, activities of the Real Estate sector are not included in the following regional breakdown. As we reported in previous sections, that activity is usually reported as part of the Finance, Real Estate, and Insurance sector and would be difficult to estimate on a regional level. For this reason, the total statewide and regional economic output for the entire housing industry is significantly lower in this section of the study. Including Real Estate, as is appropriately done in the statewide calculation in previous sections, would significantly increase the economic and job-creating activities of the housing industry on the regions of the state.

Table 6 (below) outlines the regional industry output and regional employment of the entire housing industry. Again, this chart includes the direct, indirect and induced benefits of the entire housing industry on the state’s twenty-five Primary Metropolitan Service Areas.

Table 6 shows that the total impact of housing is highest in the more mature urban areas where the accumulation of housing assets over many decades has resulted in a very large inventory with high value. The highest annual industry output for housing is in the Los Angeles-Long Beach area, with \$44 billion per year of economic activity. Areas with annual impacts in the \$15-\$20 billion range include Orange County, Oakland (Alameda and Contra Costa counties), San Francisco, and San Jose.

Table 6: Regional economic contributions of entire housing industry

Regions	Regional Economic Output (\$Millions) <i>(Includes Direct, Indirect and Induced benefits)</i>	Regional Employment <i>(Includes Direct, Indirect and Induced benefits)</i>
California	174,318	436,210
Bakersfield	1,888	7,102
Chico	554	2,279
Fresno	2,755	10,045
Los Angeles – Long Beach	44,046	89,350
Merced	424	1,493
Modesto	1,434	5,649
Oakland (Alameda – Contra Costa)	15,753	36,225
Orange County	19,478	44,526
Redding	584	2,581
Riverside – San Bernardino	12,225	45,017
Sacramento	7,719	27,397
Salinas – Monterey	1,589	4,300
San Diego	14,155	40,934
San Francisco – Marin – San Mateo	15,568	27,086
San Jose	15,369	26,236
San Luis Obispo – Atascadero	1,105	4,262
Santa Barbara	2,090	5,513
Santa Cruz – Watsonville	1,478	3,725
Santa Rosa	2,563	8,604
Stockton	1,812	6,387
Vallejo – Fairfield – Napa	2,309	7,278
Ventura	4,298	10,123
Visalia	887	3,324
Yolo	699	2,281
Yuba City	384	1,489
<p>Data Source: Minnesota Implan Group, Based on US Bureau of Economic Analysis 1999 ES-202 survey. Note: None of the real estate sector is included in this data. Note: Areas are primary statistical areas. The total of these areas is not the state total because rural areas are not included. SACTO-CSUS Sacramento Regional Research Institute, 2002</p>		

UNTAPPED POTENTIAL OF THE CALIFORNIA HOUSING INDUSTRY

While the housing industry is a leading economic force in the state of California, the potential economic and employment value of the housing industry, and in particular new housing construction, is much greater. This report analyzes data (1997-2001) which reflect average annual housing production of 132,000 units. According to the state Department of Finance, the annual housing need for California for the past 12 years – based on population growth, job creation and household formation – demanded production at levels at closer to 230,000 units per year. An annual production level closer to the state need would significantly increase the economic benefits of housing in California presented in this report.

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APPENDIX I: METHODOLOGY

CALCULATING THE ECONOMIC MULTIPLIERS:

This report analyzes the full range of economic impacts of the housing industry by calculating the direct benefits, indirect benefits and induced benefits of housing.

- **Direct Benefits** consists of economic activity contained exclusively within the new housing construction sector. This includes all expenditures made by home builders and all employees who work directly for builders.

Indirect Benefits defines the creation of additional economic activity which results from linked businesses, suppliers of goods and services, and provision of operating inputs. Examples of this include wholesale trade, where builders purchase lumber, roofing, electrical, plumbing, and other components; motor freight firms which deliver the components to the wholesaler and to the construction site; management and consultant services, engineering and architectural services who participate in the design and planning of housing; and many other.

- **Induced Benefits** measure the consumption expenditures of direct and indirect sector employees. Examples include owner-occupied dwellings, state and local government, wholesale trade, doctors and dentists, banking, insurance, and retail

By calculating the indirect and induced economic benefits, the report provides a measurement of the full range of economic impacts and provides insight into how the housing sector, beginning with new housing construction, produces a wide range of economic multipliers.

USE OF THE IMPLAN MODEL

In order to illustrate the indirect and induced effects of housing construction, it is necessary to use an econometric model called an “Input-Output” model which can compute all the inputs into the housing construction industry throughout the state and its regions, and can also track all the expenditures of the employees of both the construction workers and the supplier firms. The model used in this report is called the IMPLAN model, developed at the University of Minnesota and widely used in California for economic and fiscal analysis of urban development projects.

This report also contains an analysis of each of California’s metropolitan regions (primary statistical areas, of PMSAs). The PMSA analysis is based on the average annual value of new homes of all types (single family and multi-family, ownership and rental units) produced over the 5 years 1997-2001. The average of these 5 years is about 132,200 units per year at a value of about \$20.3 billion per year, based on housing permit

data provided by the US Census Bureau. This gives an average value of about \$150,000 per unit (bear in mind that this includes apartments and other multi-family units). Methodology Table A1 (below) shows the average number of units and value for each of California's 23 major metropolitan areas, and the statewide totals.

Table A1: Housing permits in California and metropolitan areas

Housing Permits in California And Metropolitan Areas	All Units	Value of All Units (\$ Millions)
California	132,156	\$20,247
Riverside – San Bernardino PMSA	20,552	\$3,297
San Diego MSA	14,077	\$2,373
Los Angeles – Long Beach PMSA	14,040	\$1,948
Sacramento PMSA	13,481	\$2,023
Orange County PMSA	11,062	\$1,810
Oakland PMSA	9,488	\$1,706
San Jose PMSA	7,013	\$954
San Francisco PMSA	4,466	\$747
Stockton MSA	3,962	\$561
Fresno MSA	3,769	\$461
Ventura MSA	3,492	\$737
Bakersfield MSA	3,110	\$342
Vallejo – Fairfield – Napa PMSA	2,725	\$468
Santa Rosa PMSA	2,625	\$350
Modesto MSA	2,327	\$305
San Luis Obispo – Atascadero MSA	1,628	\$249
Salinas – Monterey MSA	1,538	\$283
Yolo PMSA	1,259	\$175
Merced MSA	1,103	\$286
Chico – Paradise MSA	971	\$111
Santa Barbara MSA	910	\$168
Santa Cruz – Watsonville PMSA	575	\$106
Yuba City MSA	392	\$52
Source: US Census Bureau		
SACTO –CSUS Sacramento Regional Research Institute, February 2002.		

The use of the 5-year average was intended to smooth out the year-to-year variation and shifting pattern between regions of the state. The actual impact of new housing construction in year 2001 was higher than this 5-year average for the State and for some of its regions. For example, in year 2001 there were 143,544 new units authorized statewide with a valuation of \$23.26 billion, which exceeded the 5-year average by about 14.9% in valuation and 8.9% in units. Some regions of the state also had higher levels than their 5-year average, but others did not. Sacramento, Riverside-San Bernardino, San Diego, and Los Angeles-Long beach had higher levels of new construction in 2001 than their 5-year average, but Oakland, San Jose, and Santa Rosa had lower levels.

APPENDIX II: COMPOSITION OF INDUSTRY GROUPINGS

In Section 2 of this study we discuss the housing industry as a whole and all of its economic benefits in terms of total industry output, as well as employment. Table 4 in Section 2 provides a comparison of the major industry groupings, but does not provide a detailed breakdown of the various components of those industry groupings.

Table A2 (below) gives a more thorough breakdown of the composition of the various industry groupings that are used in the study, particularly to provide meaningful comparisons of one industry to the next. This provides for a better understanding of all of the factors that are considered in the groupings, and how the various portions of each industry grouping combine to form the whole.

Table A2: Composition of Industry Groupings

Industry Grouping	Total Output (\$ millions)	Employment
Statewide Totals	\$ 2,005,615	19,121,404
Housing	\$ 256,986	820,638
70% of real estate	\$ 82,668	384,428
Transactions of Owner-occupied Dwellings	\$ 112,106	-
New Residential Structures	\$ 43,890	307,354
Maintenance and Repair, Residential	\$ 18,321	128,856
Wholesale and Retail Trade	\$ 256,613	3,815,596
Eating & Drinking	\$ 39,733	988,316
Miscellaneous Retail	\$ 26,826	603,448
Food Stores	\$ 19,611	357,622
Automotive Dealers & Service Stations	\$ 23,306	271,355
Apparel & Accessory Stores	\$ 9,583	166,425
Building Materials & Gardening	\$ 6,013	103,879
General Merchandise Stores	\$ 10,434	265,521
Furniture & Home Furnishings Stores	\$ 9,998	164,320
Retail Subtotal	\$ 145,505	2,920,886
Wholesale Trade	\$ 111,109	894,710
Finance & Insurance, Excluding residential real estate	\$ 126,328	\$ 904,729
Banking	\$ 54,199	218,578
Credit Agencies	\$ 14,848	279,638
Security and Commodity Brokers	\$ 21,543	93,314
Insurance Carriers	\$ 25,594	152,842
Insurance Agents and Brokers	\$ 10,144	160,357
Business Services	\$ 119,759	1,584,735
Other Business Services	\$ 22,214	202,733
Photofinishing, Commercial Photography	\$ 5,940	50,141

Services To Buildings	\$	6,126	136,998
Equipment Rental and Leasing	\$	6,000	45,442
Personnel Supply Services	\$	15,819	604,525
Computer and Data Processing Services	\$	55,122	372,609
Detective and Protective Services	\$	3,991	136,481
Automobile Rental and Leasing	\$	4,547	35,806
State & Local Government	\$	116,398	1,938,778
State & Local Government - Non-Education	\$	53,238	802,993
State & Local Government - Education	\$	40,088	1,042,330
State and Local Electric Utilities	\$	5,009	7,754
Other State and Local Government Enterprises	\$	16,978	69,723
Local Government Passenger Transit	\$	1,085	15,978
Non-Residential Structures	\$	110,813	845,803
30% of real estate	\$	35,429	164,755
New Industrial and Commercial Buildings	\$	24,170	187,893
New Utility Structures	\$	4,893	45,845
New Highways and Streets	\$	4,855	38,362
New Government Facilities	\$	17,677	102,614
Maintenance and Repair Other Facilities	\$	23,789	306,334
Medical Services and Manufacturing	\$	99,215	\$ 1,053,419
Drugs	\$	13,062	39,455
Surgical and Medical Instruments	\$	3,870	20,178
Surgical Appliances and Supplies	\$	2,404	12,143
Dental Equipment and Supplies	\$	790	4,069
Doctors and Dentists	\$	40,168	437,006
Hospitals	\$	29,838	400,962
Other Medical and Health Services	\$	9,082	139,606
Computer Manufacturing	\$	81,278	248,703
General Industrial Machinery,	\$	798	4,420
Electronic Computers	\$	27,054	62,835
Computer Storage Devices	\$	4,236	11,904
Computer Terminals	\$	132	4,144
Computer Peripheral Equipment,	\$	6,103	17,465
Printed Circuit Boards	\$	2,612	34,114
Semiconductors and Related Devices	\$	29,899	73,002
Electronic Components.	\$	10,443	40,819
Engineering & Management Services	\$	70,275	890,959
Management and Consulting Services	\$	21,774	246,327
Engineering, Architectural Services	\$	19,441	200,928
Research, Development & Testing Services	\$	14,204	186,169
Accounting, Auditing and Bookkeeping	\$	14,856	257,535
Communications	\$	63,479	170,060
Communications, Except Radio and TV	\$	56,989	140,407
Radio and TV Broadcasting	\$	6,491	29,653
Other Services	\$	63,136	1,148,166

Legal Services	\$	23,332	207,482
Private Elementary and Secondary Schools	\$	2,888	92,316
Private Colleges, Universities, Schools	\$	5,863	161,030
Other Private Educational Services	\$	3,998	77,256
Job Training & Related Services	\$	1,433	39,316
Child Day Care Services	\$	2,703	56,857
Social Services.	\$	5,990	106,911
Residential Care	\$	2,743	86,544
Other Nonprofit Organizations	\$	2,963	123,527
Business Associations	\$	1,511	27,494
Labor and Civic Organizations	\$	2,210	109,806
Religious Organizations	\$	7,503	59,627
Transportation	\$	52,708	477,568
Railroads and Related Services	\$	2,398	13,092
Local, Interurban Passenger Transit	\$	2,985	59,435
Motor Freight Transport and Warehousing	\$	26,525	242,032
Water Transportation	\$	5,906	23,746
Air Transportation	\$	14,893	139,263
Federal Government	\$	40,842	573,529
Federal Government - Military	\$	17,624	223,886
Federal Government - Non-Military	\$	15,023	247,958
U.S. Postal Service	\$	7,364	95,810
Other Federal Government Enterprises	\$	832	5,875
Public Utilities	\$	34,622	64,987
Electric Services	\$	10,091	17,266
Gas Production and Distribution	\$	19,407	26,328
Water Supply and Sewerage Systems	\$	1,144	3,867
Sanitary Services and Steam Supply	\$	3,981	17,526
Source: IMPLAN model outputs.			
Sacramento Regional Research Institute, July 2002			

APPENDIX III: CALCULATING THE IMPACT OF NEW HOUSING CONSTRUCTION ON OTHER ECONOMIC SECTORS

As mentioned throughout, the sections outlining the economic and job-creating impacts of new housing construction evaluate more than just the value of new homes produced or the employees directly working for home construction companies. Instead, these analyses also take into account the other economic sectors and industries that experience added economic output due to new housing construction and the employees of that industry -- thus incorporating not only the direct, but also the indirect and induced economic influences of new housing construction.

A more detailed explanation of the methodology for calculating indirect and induced benefits of new housing, and the use of the “IMPLAN” model to do so, can be found in the methodology section of this report (Appendix I). In order to illustrate the indirect and induced effects of housing construction, we used an econometric model called an “Input-Output” model which can compute all the inputs into the housing construction industry throughout the State and its regions, and can also track all the expenditures of the employees of both the construction workers and the supplier firms.

The following section details the direct, indirect and induced benefits of new housing construction on other industries and economic sectors.

DIRECT, INDIRECT AND INDUCED BENEFITS OF NEW HOUSING CONSTRUCTION ON HOUSING-RELATED INDUSTRIES

The *direct* component of this table consists only of economic activity contained exclusively within the new housing construction sector, including all expenditures made by home builders and all employees who work directly for builders.

Outside of the direct economic activity, new housing construction stimulates considerable economic activity in various industries that directly do business with the housing construction industry. This includes, among others, purchases of supplies and equipment, utilities, building maintenance, financial and accounting operations, and all other expenditures directly related to housing production. These influences are considered the *indirect benefits* of the new housing industry.

In addition to the direct and indirect components, new housing construction also contributes to the economy through *induced* economic activity. The induced component measures the consumption expenditures of direct and indirect sector employees. In other words, those employed directly or indirectly by the new housing construction industry take their pay checks and induce additional economic activity in the form of retail consumption, housing of their own, personal expenditures on health care, banking, insurance and other sectors of the economy.

Table A3 (below) provides a complete and very comprehensive listing of the direct, indirect and induced economic benefits of the new housing construction industry, and sorts these benefits by industry to give a better understanding of how new housing construction specifically effects other economic sectors. As you will see by the sheer magnitude and extent of Table A3, new housing construction stimulates economic activity in a wide variety of industries and sectors of the economy that are not readily apparent.