

The Economic Impact of New Housing Construction in the Sacramento Region

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by

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Introduction

Construction of new housing is one of the Sacramento region's most important industry sectors, and makes a very large contribution to the region's economic well-being and prosperity...not to mention the contribution to the personal satisfaction of residents who receive quality, affordable housing (both new and resale) as a result.

What is not very well known is the effect of housing construction on sectors not directly involved in construction, both through the indirect or supplier effect (other industries and government sectors which supply goods and services to the housing industry) and the induced or consumption effects (when employees of housing construction and supplier firms consume the usual household goods and services.)

This study of the economic impacts of housing construction in the Sacramento region is designed to illustrate two important factors:

First, the housing industry is a very large sector of the region's economy and produces many economic and employment benefits throughout the region even in areas where little new housing is being constructed. During the current economic times, housing construction has been a major contributor to the economic stability and growth of this region, and has largely prevented the region from falling into recessionary levels like some other regions in California.

Housing benefits created in one location of the region spread throughout the region as affecting industry sectors and occupations not directly related to housing construction at all.

Housing is a very large part of the region's economic activity and produces benefits which are distributed throughout the economy, including retail, medical care, legal and accounting, business services, education, and local government.

Methodology

The study is based on the application of an input-output model called the IMPLAN model, which embodies the connections between the various industries in the region and the resulting household and governmental activities. The model is calibrated specifically for the Sacramento Metropolitan Area (the 4-county region including El Dorado, Placer, Sacramento, and Yolo Counties) and for the Cities of Sacramento and Elk Grove, which

were chosen to illustrate the region-wide impacts of local housing construction. The data which drives the IMPLAN model is the value of new housing construction during the year 2003, data obtained from the US Census Bureau and the Construction Industry Research Board.

Data and Results

Table 1 shows the total value of housing construction in the Sacramento region during the years 2000 through 2003. The Table shows the levels for each of the county's and for the total region. The highest total during this time is the year 2003.

Table 1. The Value of Housing Construction in the Sacramento Region

Value of Housing Construction in the Sacramento Region

County	2000		2001		2002		2003	
El Dorado	\$	323,645,617	\$	388,042,707	\$	435,207,636	\$	500,920,153
Placer	\$	1,052,169,012	\$	961,110,492	\$	1,245,480,066	\$	1,085,489,795
Sacramento	\$	1,099,430,014	\$	1,296,662,931	\$	1,688,543,506	\$	2,242,871,156
Yolo	\$	179,374,251	\$	188,814,801	\$	205,916,740	\$	245,295,543
Total	\$	2,654,618,894	\$	2,834,630,931	\$	3,575,147,948	\$	4,074,576,647

Data source: US Census Bureau. Dr. Robert Fountain, February 2004.

(The total employed population of the 4-County region in the 2000 census was about 815,000, and the total output of the economy was about \$ 100 billion.)

Additional detail showing the value of housing construction in the region's major cities and unincorporated County areas is shown in Table 2. A total of about \$4 billion worth of housing and was constructed in the year 2003 with the highest levels occurring in the city of El Grove, followed by the city of Sacramento. None of the other jurisdictions, unincorporated counties or cities, came very close to these two housing leaders.

Table 2. The Value of New Housing Construction in Major Local Jurisdictions

Value of Housing Construction in 2003 Sacramento Region and Major Local Jurisdictions		Percent of Total
Elk Grove	\$ 888,036,124	21.8%
Sacramento (City)	\$ 690,049,549	16.9%
Unincorporated El Dorado County	\$ 484,931,900	11.9%
Unincorporated Sacramento County	\$ 446,949,189	11.0%
Roseville	\$ 426,792,524	10.5%
Lincoln	\$ 349,535,353	8.6%
Folsom	\$ 188,925,300	4.6%
Unincorporated Placer County	\$ 156,094,693	3.8%
West Sacramento	\$ 130,687,382	3.2%
Rocklin	\$ 127,482,781	3.1%
Woodland	\$ 50,075,144	1.2%
Davis	\$ 32,848,659	0.8%
Auburn	\$ 21,403,878	0.5%
Unincorporated Yolo County	\$ 16,021,391	0.4%
Placerville	\$ 6,411,602	0.2%
Region Total	\$ 4,074,576,647	100%

Note: smaller cities not included in the list. Rancho Cordova data not available.

Source: US Census Bureau.

Dr. Robert Fountain, February 2004.

Elk Grove had a total of \$888 million worth of new housing construction or about 21.8% of the region's total, while the city of Sacramento had a total of \$690 million value of housing construction or about 16.9% of the region's total. Note that the city of Davis, the city of Auburn, unincorporated Yolo County, and the city of Placerville each produced less than 1 percent of the regions of housing during 2003.

The subsequent analysis of economic impacts in this report is performed using an econometric input output model called IMPLAN, a model created specifically for the analysis of economic and impacts of local housing and infrastructure investment.

- The direct component is the estimated revenues and employment of the new housing construction.
- The indirect component is increased activity of firms which supply them with materials and services, including raw and intermediate materials, utilities, business services, and others including local government.
- The induced component is the effect created when the employees of the housing construction firms, and those of the indirect firms, consume housing, health care, retail, education, transportation, and all other consumer services.

The measurements of the region's housing construction impacts are shown in table 3, below.

Table 3. Economic Impacts of Housing Construction in the

Economic Impacts of Housing Construction Sacramento Region 2003								
Impact		Direct		Indirect		Induced		Total
Total Output	\$	4,074,576,640	\$	1,659,271,896	\$	1,428,923,294	\$	7,162,771,831
Value Added	\$	1,585,523,456	\$	1,007,999,169	\$	864,378,814	\$	3,457,901,418
Employee Compensation	\$	1,070,302,592	\$	602,236,246	\$	439,566,582	\$	2,112,105,420
State & Local Taxes		-		-		-	\$	343,813,643
Employment		30,565		19,656		16,473		66,694

Source: IMPLAN model outputs for the 4-county Sacramento CMSA based on 2003 housing construction data.
State and local taxes cannot be separated because of the rapidly-changing tax structure.
Dr. Robert Fountain, February 2004

Sacramento Region in 2003

The Total Output is the estimated total revenues of all of the firms, including all sources of income. The total revenues of the housing construction firms alone is about \$4.1 billion for the region in 2003, but the added revenues of the indirect and induced effects raises the total to about \$7.2 billion.

The Value Added is the net new value created by the construction industry, net of costs of inputs, and is approximately the wages, profits, and return to capital. The value added of the new housing is about \$1.6 billion, but the indirect and induced effects raises this to about \$3.5 billion. (Value added is the contribution to the Gross Regional Product, which is estimated at about \$63.5 billion.)

Employee compensation includes wages, salaries, benefits, and all other employer contributions. The \$1.07 billion paid to workers of the housing construction firms is increased by the indirect and induced effects to a total of about \$2.1 billion.

The model also estimates State & Local Tax Impacts, based on historical data reported by Sacramento firms. The data should be viewed as an approximation, rather than a detailed fiscal analysis. The model does not attempt to separate local and state taxes because the structure of local government finances is rapidly changing. The model estimates that \$343.8 million in State & Local Tax Revenues is generated by the new housing construction.

The employment data is the number of full-time equivalent positions created. The direct job creation of the housing construction is about 30,600 but the indirect and induced positions raise the total to 66,694 jobs.

Table 4 shows more detail about how the economic impacts spread throughout the Sacramento region. This table shows part of the "indirect" or "supplier" sectors which support the construction industry with goods and services. These are not part of the construction industry itself. For example, the top row in the table is wholesale trade, which receives \$243 million and generates nearly 2,000 full-time equivalent jobs as a result of housing construction.

Table 4. Revenues and Employment Generated in Support Sectors

Other large impacts occurred in sectors like motor vehicles, truck transportation, retail sales, legal services, and many others which are not viewed as part of construction but nevertheless received major inputs from the construction activity.

Table 4 is not a complete listing of the index but is merely a tabulation of the sectors with the largest impacts. The Table is truncated at the level of \$2 million per year, but many other sectors receive lower but still large amounts as a result of housing construction.

The other multiplier effect is the so-called induced activity, which occurs when the construction employees and the employees of the supplier firms spend their money in their usual household consumption activities related to such items as housing, food, health care, transportation, education, entertainment and the other usual consumption activities. These are shown in Table 5.

**Total Revenues and Employment in Support Sectors
Created by New Housing Construction**

Sector	Total Revenues	Employment
Wholesale trade	\$243,430,576	1,993
Architectural and engineering services	\$139,570,448	1,581
Real estate	\$111,605,424	801
Motor vehicle and parts dealers	\$87,307,768	999
Monetary authorities and depository credit interme	\$80,458,056	424
Building material and garden supply stores	\$78,118,816	1,188
Truck transportation	\$75,664,232	614
Miscellaneous store retailers	\$58,471,784	1,193
Insurance carriers	\$56,892,040	331
Legal services	\$49,933,832	557
Sawmills	\$46,829,332	248
Wood kitchen cabinet and countertop manufacturing	\$42,081,804	551
Management of companies and enterprises	\$39,648,680	416
Employment services	\$32,190,026	1,154
State and local government electric utilities	\$30,494,804	59
Accounting and bookkeeping services	\$28,879,588	511
Gasoline stations	\$28,057,856	375
Wood windows and door manufacturing	\$27,418,326	186
Machinery and equipment rental and leasing	\$25,808,798	77
Management consulting services	\$23,485,660	287
Reconstituted wood product manufacturing	\$22,208,544	85
Engineered wood member and truss manufacturing	\$21,004,544	171
Other millwork- including flooring	\$15,068,131	212
Commercial machinery repair and maintenance	\$14,807,888	151
Custom architectural woodwork and millwork	\$14,495,547	78
Plastics plumbing fixtures and all other plastics	\$13,546,847	72
Postal service	\$11,869,142	155
Logging	\$11,201,065	76
Business support services	\$11,191,621	220
Waste management and remediation services	\$10,351,798	79
Asphalt paving mixture and block manufacturing	\$10,134,549	25
Plastics pipe- fittings- and profile shapes	\$8,280,466	59
Environmental and other technical consulting servi	\$7,805,066	63
Specialized design services	\$4,858,457	48
Foam product manufacturing	\$3,214,956	16
Ready-mix concrete manufacturing	\$2,382,965	12
Sheet metal work manufacturing	\$2,193,825	13

Data from IMPLAN model for the Sacramento CMSA using year 2003 housing construction data.
Selected sectors with highest indirect impacts.
Dr. Robert Fountain, March 2004.

Table 5. Expenditures and Employment Created in Consumption Sectors

The largest entry in the table is the \$125 million in expenditures by housing owners for housing related items. This is not just the buyers of new houses making their down payments and mortgage payments, but also includes the increases in expenditures by owners of existing houses for improvements and repairs. Other major sectors include food services, which produces about \$86 million worth of new business and creates 2000 new full-time equivalent jobs; expenditures on health care (\$83.5 million and 952 jobs) and others. This table does not include all of the consumption expenditures, but is truncated at annual expenditure of \$10 million to show only the largest sectors affected by new housing construction.

Additional detail on the state and local tax revenues created as a result of a new housing construction is shown in Table 6. The table displays major categories of taxes on both

Effect of Sacramento Region Housing Construction on Household Consumption Expenditures and Related Employment

Industry	Induced Expenditures	Induced Employment
Owner-occupied dwellings	125,377,536	0
Food services and drinking places	85,747,352	2,129
Offices of physicians- dentists- and other health	83,516,600	952
Hospitals	78,460,632	670
Wholesale trade	73,114,816	598
Real estate	69,018,672	496
Monetary authorities and depository credit	55,263,916	291
Automotive repair and maintenance	46,972,352	294
Insurance carriers	40,402,208	235
Motor vehicle and parts dealers	37,127,128	425
Food and beverage stores	31,137,410	510
Telecommunications	29,977,214	122
Other ambulatory health care services	27,697,444	194
Legal services	22,629,600	252
Other State and local government enterprises	20,742,618	119
Nursing and residential care facilities	20,589,056	479
General merchandise stores	19,123,724	459
State and local government electric utilities	18,868,964	36
Funds- trusts- and other financial vehicles	15,914,475	62
Nondepository credit intermediation and related a	15,782,643	93
Other amusement- gambling- and recreation	15,030,096	276
Truck transportation	14,779,963	120
Building material and garden supply stores	14,745,021	224
Miscellaneous store retailers	14,733,417	301
Clothing and clothing accessories stores	13,254,400	291
Management of companies and enterprises	13,070,197	137
Nonstore retailers	11,803,463	351
Securities- commodity contracts- investments	11,342,679	144
Gasoline stations	11,204,957	150
Social assistance- except child day care services	10,628,371	396
Cable networks and program distribution	10,227,855	19

Source: IMPLAN model for the 4-county Sacramento CMSA based on 2003 housing construction data.
Selected sectors with the highest induced impacts; table truncated at \$10 million annual revenue

corporations and individuals. For taxes on business, the biggest tax is the sales tax, followed by the property tax. In the personal taxes categories, the biggest tax by far is income taxes with second biggest being fines, fees, and service charges, which includes all of those categories of local government services such as water, waste collection, and others.

Table 6. Effect of Housing Construction on State & Local Tax Revenues

The last two tables illustrate the fact that housing construction in one city may generate substantial economic benefits to other local jurisdictions. This occurs because the companies which produce houses may be located elsewhere in the region, the workers on the construction jobs may reside elsewhere in the region, the firms which supply the housing builders with goods and services may be located elsewhere, and workers may shop outside the area. Specific data for the Cities of Sacramento and Elk Grove are selected for this illustration.

The extent to which the housing affects are truly regional is illustrated in Table 7 which shows impacts of new housing construction in Elk Grove during the year 2003. The \$888

**Effect of Sacramento Region Housing Construction
on State and Local Tax Revenues**

State and Local Taxes on Corporations and Individuals	
Corporate Taxes	
Corporate Profits Tax	\$ 8,002,542
Indirect Bus Tax: Motor Vehicle Lic	\$ 1,390,428
Indirect Bus Tax: Other Taxes	\$ 11,318,479
Indirect Bus Tax: Property Tax	\$ 70,768,994
Indirect Bus Tax: S/L NonTaxes	12,584,434
Indirect Bus Tax: Sales Tax	\$ 104,539,203
Personal Taxes	
Personal Tax: Income Tax	\$ 96,622,592
Personal Tax: Motor Vehicle License	\$ 3,002,521
Personal Tax: NonTaxes (Fines- Fees)	\$ 24,973,047
Personal Tax: Property Taxes	\$ 1,226,832
Social Ins Tax- Employee Contribution	\$ 2,040,124
Social Ins Tax- Employer Contribution	\$ 7,344,447
Total State and Local Taxes	\$ 343,813,643

Source: IMPLAN model for the 4-county Sacramento CMSA
Dr. Robert Fountain, February 2004

million of new housing construction in Elk Grove created about 6,700 construction jobs in the city with a total of \$231.5 million in employee direct compensation.

(As a comparison, The total employed population of Elk Grove in the 2000 census was about 28,000, and the total output of the economy was about \$2.2 billion.)

Table 7. Elk Grove Housing Construction Impacts

An additional \$339 million in revenues and 4,200 jobs were generated in the indirect (supplier) industries and the induced (consumption sectors), for a total of \$1.2 billion in business activity in Elk Grove, and about 10,900 jobs.

Region wide, the total impacts were \$1.56 billion, and 14,500 jobs. In terms of local and state tax revenues, \$39.4 million were generated in Elk Grove, and about \$75 million region wide.

In larger local jurisdictions like the City of Sacramento, the City retains more of the benefits of their construction activities, as illustrated in Table 8. This table shows that \$690 million worth of new construction in the city of Sacramento creates the total impact

City of Elk Grove Housing Construction Impacts

	Direct Impacts	Indirect and Induced Impacts	Total Impacts
Total Output Impacts (Business Revenues)			
City of Elk Grove	\$ 888,000,000	\$ 338,861,078	\$ 1,226,861,081
Region	\$ 888,000,000	\$ 673,031,227	\$ 1,561,031,228
Difference	\$ -	\$ 334,170,149	\$ 334,170,147
Employment Impacts (Number of full-time annual equivalent jobs)			
City of Elk Grove	6,703	4,209	10,912
Region	6,703	7,874	14,535
Difference	0	3664	3623
State & Local Tax Revenues			
City			\$ 39,400,871
Region			\$ 75,064,224
Difference			\$ 35,663,353

Source: IMPLAN model outputs based on new housing construction.

Region is the 4-county Sacramento CMSA.

State and Local Taxes cannot be separated because of the shifting tax revenue structure.

Dr. Robert Fountain, March 2004.

of 1.16 billion in the city of Sacramento and about 1.2 billion in the entire region, a very small difference. This occurs because most of the construction labor construction firms and suppliers for the City of Sacramento housing construction are located within the city. The same is true for the employment and tax revenues. The City of Sacramento housing

construction creates 10,600 jobs in the city and about 11,300 jobs in the region. . The city, therefore, captures most of the benefits of its housing construction...

Table 8. City of Sacramento Housing Construction Impacts

The same is true of state and local taxes generated as the result of the city's housing construction. The total of 58.3 million is generated region-wide as a result of the city's housing construction, and \$54.7 million of this occurs within the city.

(As a comparison, the total employed population of the City of Sacramento in the 2000 census was about 169,000 and the total output of the City's economy was about \$44.9 billion.)

Conclusions from the Analysis

City of Sacramento Housing Construction Impacts

	Direct Impacts	Indirect and Induced Impacts	Total Impacts
Total Output Impacts (Business Revenues)			
City of Sacramento	\$ 690,000,000	\$ 469,173,556	\$ 1,159,173,556
Region	\$ 690,000,000	\$ 522,963,453	\$ 1,212,963,452
Difference		\$ 53,789,897	\$ 53,789,896
Employment Impacts (Number of full-time annual equivalent jobs)			
City of Sacramento	5,208	5,441	10,649
Region	5,208	6,118	11,294
Difference		677	645
State & Local Tax Impacts			
City of Sacramento			\$ 54,694,098
Region			\$ 58,326,930
Difference			\$ 3,632,832

Source: IMPLAN model outputs based on new housing construction.

Region is the 4-county Sacramento CMSA.

State and Local Taxes cannot be separated because of the shifting tax revenue structure.

Dr. Robert Fountain, March 2004.

- The Sacramento Region built about \$4.1 billion worth of new housing in 2003.
- The total economic impact on the region's businesses and governments resulting from this activity totaled \$7.2 billion.
- A total of about 66,700 jobs were supported. Compensation for these employees totaled over \$2.1 billion.
- Nearly \$344 million in additional state and local taxes resulted from this activity.

Much of the economic impact from the construction accrued to firms not in construction activity, including wholesale trade, motor vehicle dealers and parts, financial institutions, and retail stores.

Consumer expenditures resulting from the housing activity generated over \$10 million in sales to each of the following: food service, physicians, hospitals, wholesale and retail trade, banks, auto sales, and many other sectors.

The location of the economic impacts was not limited to the location of the new housing construction. The impacts occurred region-wide, showing that the entire region benefits from housing construction anywhere in the region.