

# **Economic Analysis of the Impacts of Proposition 55 on the California Economy**

Prepared for  
**CALIFORNIANS FOR ACCOUNTABILITY  
AND BETTER SCHOOLS**

A coalition of taxpayers, parents, seniors, educators, builders, labor and business,  
California Teachers Association and Californians for Higher Education.

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## Introduction

Proposition 55 is a general obligation bond of \$12.3 billion, designed to finance construction and improvement of Kindergarten – 12<sup>th</sup> grade schools and facilities for the University of California, California State University, and the California Community Colleges. The measure has been described as a sequel to Proposition 47, a bond issue passed in 2002 and now being implemented.

The general provisions of the bond issue are contained in the adjacent table. The total authorization is \$12.3 billion, with \$10 billion for K-12 facilities and \$2.3 billion for higher education. The funding is for a mixture of new construction and modernization of facilities.

<b>Expenditures Authorized Through Proposition 55</b>	
	<b>\$ millions</b>
New Construction for K-12 facilities	\$ 5,260
Modernization of School Facilities	\$ 2,250
Construction and Modernization for Overcrowded Schools	\$ 2,440
Joint-Use Projects, Construction and Modernization	\$ 50
Subtotal for K-12	\$ 10,000
University of California	\$ 690
California State University	\$ 690
Community Colleges	\$ 920
Subtotal Higher Education	\$ 2,300
<b>Bond Total</b>	<b>\$ 12,300</b>

Source: AB 16 Part 68.2. Kindergarten-University Public Education Facilities Bond Act of 2004.

## Impact Analysis

The expenditure of funds for school construction will generate economic impacts which greatly exceed the direct construction expenditures. This occurs because construction activity generates additional business and employment in sectors which provide the lumber, concrete, and many other goods and services which go into the construction; and because the employees of both the construction workers and the workers of the supplier companies spend their income on the usual range of household and consumer goods and services. As a result, the \$12.3 billion in school construction will have a multiplied effect on the California economy, as shown in the table below.

The \$12.3 billion in construction expenditures over two years will create a direct impact of \$12.159 billion after inflation. An additional \$4.332 billion will be generated in the sectors which supply the school construction process. Finally, \$5.934 billion will be

### Economic Impacts of Proposition 55 Construction on the California Economy

	Direct Impacts		Indirect Impacts		Induced Impacts		Total Impacts
	Construction		Materials and Services		Household Consumption		
Total Output	\$	12,159,462,912	\$	4,332,407,907	\$	5,934,898,926	<b>\$ 22,426,769,787</b>
Value Added	\$	6,561,521,152	\$	2,527,033,191	\$	3,735,387,487	<b>\$ 12,823,941,763</b>
Employee Compensation	\$	4,249,253,120	\$	1,601,532,752	\$	1,900,850,215	<b>\$ 7,751,636,091</b>
Number of Employees		96,319		40,384		62,644	<b>199,347</b>

The table is based on data for Proposition 55. The construction is assumed to occur over a 2-year time period after implementation begins, and about 67% of the construction is assumed to be for new structures, with the balance for modernization. Impacts are computed using the IMPLAN econometric model calibrated for the California using the latest available parameters.

generated by the employees of school construction firms and the supplier companies through the household consumption based on their incomes. This totals to \$22.424 billion in new economic activity for the California economy.

The table also shows the Value Added, which is the component of total activity net of input costs, such as labor, profits, and other non-physical inputs, and totals about \$12.8 billion. Value added is a component of the Gross State Product, which totals about \$2.2 trillion, so the school bond impacts would equal about a 0.6% increase in GSP.

The Employee Compensation indicates the payments to labor, including salaries, benefits, and all other costs. The Employee Compensation to the construction process is about \$4.249 billion, or about 20% of the direct construction expenditures. After including the supplier and consumer impacts, total Employ Compensation will be about \$7.75 billion.

Finally, the number of annual-equivalent jobs created will be about 199,300 jobs, of which 96,300 are in the direct construction of the schools and an additional 103,028 jobs in the construction supply sectors and the consumer sectors.

The multiplier concept is often used to show the ratio of total economic impact to direct impact. For the Total Output measure, a total of \$22.426 billion is created by the direct expenditure of \$12.3 billion, for a multiplier of about 1.8. The employment multiplier will be 199,347 total employee-years divided by 96,319 direct construction employees, for an employment multiplier of 2.06.

### Details of the Total Impacts

The importance of the economic impacts resulting from school construction is partly due to the effect on economic sectors not directly related to the actual construction. The adjacent table shows the increase in revenues and employment which accrue to many economic sectors which may not realize that the school construction generated the impact. The table shows a listing of the economic sectors which will realize an increase of over \$100 million; this

Total Impacts of Proposition 55		
Industry	Total Industry Output	Employment
Total	\$ 22,426,769,787	199,347.00
New Government Facilities	\$ 8,187,627,520	46,119.10
Maintenance and Repair Existing Structures	\$ 4,056,912,640	51,275.30
Engineering- Architectural Services	\$ 1,100,358,784	10,043.80
Wholesale Trade	\$ 841,712,128	6,403.50
Owner-occupied Dwellings	\$ 521,453,632	Note
Real Estate	\$ 364,241,088	1,628.90
Banking	\$ 362,785,280	1,331.30
Doctors and Dentists	\$ 323,115,072	3,375.00
Automotive Dealers & Service Stations	\$ 297,423,872	3,140.80
Eating & Drinking	\$ 291,096,736	6,936.60
Management and Consulting Services	\$ 248,995,904	2,641.50
Miscellaneous Retail	\$ 243,568,256	4,899.00
Hospitals	\$ 242,241,920	3,081.90
Communications- Except Radio and TV	\$ 215,837,488	576.2
Other Business Services	\$ 214,115,216	1,799.30
Motor Freight Transport and Warehousing	\$ 213,746,048	1,880.00
Computer and Data Processing Services	\$ 203,520,640	1,332.90
Insurance Carriers	\$ 197,749,104	1,110.60
Petroleum Refining	\$ 180,759,600	65.4
Accounting- Auditing and Bookkeeping	\$ 152,523,440	2,526.40
Food Stores	\$ 139,009,680	2,341.40
Legal Services	\$ 131,822,504	1,104.40
Automobile Repair and Services	\$ 130,878,480	1,261.10
Personnel Supply Services	\$ 129,724,752	4,747.60
Security and Commodity Brokers	\$ 109,047,952	445.2
Credit Agencies	\$ 102,123,712	1,763.80

The table is truncated to show only sectors with over \$100 million in industry output. About 86% of the total impact is included in the table.

The Owner Occupied Dwellings sector accounts for expenditures by homeowners which do not create direct employment.

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includes the industries directly involved in school construction, such as New Government Facilities and Maintenance and Repair of Existing Facilities (new school construction and modernization), as well as other construction-related sectors like architects and engineers, finance, and others; but also contains the consumption sectors which benefit from the added economic activity. The table is truncated for brevity, and includes only about 86% of the total impacts.

### Details of the Consumer Impacts

The consumer impacts are those created by the employees of the construction firms and the supplier firms in their household consumption expenditures, and are illustrated in the adjacent table. These impacts contain none of the direct construction activity, and reflect the normal household consumption pattern of California consumers. The top category in the table is the \$521 million in additional expenditures for owner-occupied housing, but wholesale trade, medical expenses, financial services, and retail expenditures are also among the top categories of consumer expenditures.

<b>Impacts of Proposition 55 Expenditures on Consumer Sectors</b>		
	<b>Total Industry Output</b>	<b>Employment</b>
<b>Totals for All Consumer Expenditures</b>	<b>\$ 5,934,898,926</b>	<b>62,644</b>
Owner-occupied Dwellings	\$ 521,453,632	-
Wholesale Trade	\$ 349,401,440	2,658
Doctors and Dentists	\$ 323,115,072	3,375
Eating & Drinking	\$ 279,570,432	6,662
Real Estate	\$ 276,526,112	1,237
Hospitals	\$ 242,121,024	3,080
Banking	\$ 240,249,392	882
Miscellaneous Retail	\$ 184,563,584	3,712
Insurance Carriers	\$ 169,571,728	952
Automotive Dealers & Service Stations	\$ 154,314,912	1,630
Communications- Except Radio and TV	\$ 125,322,408	335
Food Stores	\$ 121,587,240	2,048
Petroleum Refining	\$ 109,258,208	40
Legal Services	\$ 103,015,384	863
General Merchandise Stores	\$ 83,620,872	2,027
Computer and Data Processing Services	\$ 80,939,016	530
Security and Commodity Brokers	\$ 77,253,976	315
State and Local Govt Enterprises	\$ 76,112,168	302
Medical and Health Services	\$ 75,571,128	1,116
Drugs	\$ 71,423,976	191
Gas Production and Distribution	\$ 69,700,240	70
Motor Freight Transport and Warehousing	\$ 64,901,416	571
Automobile Repair and Services	\$ 64,745,864	624
Business Services	\$ 64,255,924	540
Hotels and Lodging Places	\$ 64,163,200	964
Credit Agencies	\$ 63,315,000	1,094
Maintenance and Repair of Existing Facilities	\$ 59,771,140	755
Furniture & Home Furnishings Stores	\$ 56,617,640	863
Electric Services	\$ 55,843,916	88
Apparel & Accessory Stores	\$ 55,148,440	886
Social Services	\$ 53,540,460	883
Amusement and Recreation Services	\$ 53,492,344	1,752
Building Materials & Gardening	\$ 44,838,084	765
Colleges- Universities- Schools	\$ 42,660,520	1,173
Nursing and Protective Care	\$ 41,713,280	1,053
Management and Consulting Services	\$ 40,566,944	430
Accounting- Auditing and Bookkeeping	\$ 38,123,940	632
Religious Organizations	\$ 36,851,152	294
Insurance Agents and Brokers	\$ 34,616,324	516
Personnel Supply Services	\$ 33,318,684	1,219
Air Transportation	\$ 32,480,612	280
Motion Pictures	\$ 32,148,658	224
Natural Gas & Crude Petroleum	\$ 29,240,868	68
Miscellaneous Personal Services	\$ 28,576,512	360
State and Local Electric Utilities	\$ 28,558,456	41
Apparel Made From Purchased Materials	\$ 28,548,854	261
Maintenance and Repair- Residential	\$ 26,184,430	175
U.S. Postal Service	\$ 26,060,896	327
Other Educational Services	\$ 24,637,226	448
Beauty and Barber Shops	\$ 23,986,448	816
Child Day Care Services	\$ 23,302,328	472
Elementary and Secondary Schools	\$ 23,279,338	764
Residential Care	\$ 23,218,968	688
Bread- Cake- and Related Products	\$ 23,046,888	130
Laundry- Cleaning and Shoe Repair	\$ 20,677,300	618
Labor and Civic Organizations	\$ 20,314,448	883

The Table is truncated to show only sectors with over \$20 million in consumer impacts. About 86% of total impacts are contained in the table.

The Owner-occupied dwelling sector accounts for expenditures of homeowners which results in no direct employment.

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## Assumptions and Methodology

A number of assumptions were required in structuring the data for the IMPLAN model analysis. Two key assumptions are (1) the division of construction funding between new construction and modernization; and (2) the length of time required for the construction to begin. Some of the information to support the assumptions was derived from the implementation of Proposition 47.

The data for the Proposition 55 analysis is based on the information in the enabling legislation, allocation data on Proposition 47 funding from the Department of General Services Office of Public School Construction, and the Department of General Services Legislative Services offices. Additional background data was obtained from the Proposition 55 website <http://www.2004schoolbond.com> and individual websites for the University of California, California State University, and California Community Colleges.

The data on Proposition 47 implementation was obtained from the Department of General Services, Office of Public School Construction in its Proposition 47 Project Apportionment Listing at [http://www.documents.dgs.ca.gov/opsc/whatsnew/prop1a\\_projapportmnts.pdf](http://www.documents.dgs.ca.gov/opsc/whatsnew/prop1a_projapportmnts.pdf).

### Split between New Construction and Modernization

The division of apportionments between new construction and modernization is relevant to the economic analysis because modernization generates more employment but lower economic impacts than new construction. While the difference is not great, it can nevertheless create a difference of about \$1.12 billion in economic impact, and 77,000 jobs. The assumption used in this report is that 67% of the funds would go to new construction (about \$8.3 billion), while 33% (about \$4 billion) will go to modernization.

The *a priori* estimates for Proposition 47, based on approved but unfunded projects at the time, were for a split of 70.6% new construction, 29.4% modernization. At the present (November 2003), approaching one year after the initial allocations of Prop 47 funds, approximately 58% of the funds have been allocated, and the allocations total 57% new construction, 43% modernization. Applying this split to the proposition 55 funding is not necessarily accurate for the following reasons:

1. Proposition 47 was passed when a long list of ready-to-go approved projects, mostly new construction, existed. By contrast, the current list of projects approved but not funded is comprised primarily of modernization, and that list totals only a small percentage of the Proposition 55 funding level. There is, therefore, a much higher level of uncertainty about the Proposition 55 split and

- the length of time required to bring additional projects to approval and allocation stage.
2. New projects typically take longer to go through the planning and approval state than modernization. As a result, it is assumed that a higher percentage of modification projects will occur during the first year of construction using Proposition 55 funds, while a higher proportion of new construction projects will occur in the second year.
  3. The Proposition 55 has significant amounts of funding for the University of California, California State University, and the California Community Colleges. Some of these systems contain a significant number of structures which are not earthquake compliant, and that may shift the mix toward modernization rather than new construction.

### Timing of the Proposition 55 Construction

Another factor is the timing of the construction funded under Proposition 55. As time progresses, the economic impacts resulting from a given level of funding decreases due to inflation in construction materials and labor costs.

Projects funded by Proposition 47 were accelerated by the existence of a significant list of approved projects ready to go into the funding and construction process, which resulted in nearly 60% of the bond amount, or about \$7.6 billion, being allocated within 8 months. A much shorter list of approved projects exists at present, comprising only a small proportion of the Proposition 55 amount. As a result, the allocation of Proposition 55 funds may occur at a lower rate.

The model inputs assume that the Proposition 55 funds will be essentially all allocated over a period of two years after initial allocations, with about 50% allocated in each year. It is important to note that the economic impacts only occur when project activity begins, including the architectural and engineering process and actual construction.

### **The IMPLAN model.**

The econometric model used in the study is the Minnesota Implan Group IMPLAN model, an input-output model designed explicitly for the analysis of impacts of capital and operating expenditures on the broader economy. The IMPLAN model is widely used for analysis of government expenditures, and its use is a required element of project benefit-cost analysis in many Federal programs.

The model measures the economic impacts in three arenas:

- the direct impact of the actual expenditures on the primary activity (in this study, the construction activity);
- the indirect impact (also called the supplier effect) as goods and services are purchased for the project by the implementing activity (in this case, the purchases

- of architectural and engineering services, construction materials, and all other payouts and purchases; and
- the induced (or consumer) effects as the construction employees and the supplier industry employees apply their incomes to consumer purchases of housing, retail purchases, health care, transportation, education, and all other consumer sectors.

The model calibration used in this study is the year 2000 model parameters, the latest available, based on the economic structure identified in the Bureau of Economic Analysis ES-202 business structure analysis. The data is specific for the State of California and for the Construction of New Government Facilities sector and the Repair and Maintenance of Existing Non-Residential Structures sectors.

### **Researcher Qualifications and Compensation Disclosure**

Dr. Robert Fountain is a *Professor Emeritus* in Urban Economic Development at California State University, Sacramento. He holds a Ph. D. from the University of California at Los Angeles in Housing, Real Estate, and Urban Land Economics. He currently serves as research director of the Sacramento Regional Research Institute, and frequently performs economic impact analyses for a variety of private and public sector clients.

The analysis provided in this report has been performed as a private consultant. Compensation was provided by Californians for Accountability and Better Schools. No public funds were involved in any way in this activity.