

**NRNC MARKET CHARACTERIZATION AND  
PROGRAM ACTIVITIES TRACKING REPORT  
PY2001**

**FINAL**

**Prepared for**

**Richard Pulliam  
Southern California Edison Co  
Statewide NRNC MA&E Program  
Douglas Mahone, Catherine Chappell, Program Managers**

**Prepared by**

**QUANTUM CONSULTING INC.  
2030 Addison Street  
Berkeley, CA 94704**

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## 1. EXECUTIVE SUMMARY

This section presents a summary of the results from the statewide Market Characterization and Program Activities Tracking (MCPAT) Study. The Market Characterization conducted by the MCPAT Study is an integral part of the statewide Market Assessment and Evaluation activities, and is intended to inform policymakers, regulators, stakeholders, as well as program managers, implementers and evaluators about the characteristics of the California nonresidential new construction (NRNC) market and its segments. The Program Activities Tracking part of the MCPAT study focuses on the accomplishments of the statewide NRNC Savings By Design (SBD) Program, and describes the ways in which the SBD Program fits into the NRNC market. The activities described in this report cover new construction and remodel/renovation/tenant improvement projects from calendar year 2001.

### 1.1 MARKET CHARACTERIZATION

The market characterization part of the MCPAT Study consists of developing an understanding of the characteristics of the California NRNC market and its segments. This task requires quarterly data collection to capture and describe changes in the NRNC market. Specifically, F.W. Dodge data were collected quarterly, and reports describing nonresidential construction value and volume, building types, building size, and design team characteristics were produced statewide, and by investor owned utility (IOU) territory. These reports are meant to allow program designers, implementers, evaluators, and market participants to determine the extent to which the NRNC market changes over a given period of time, understand how energy efficient practices are implemented into the market, and if necessary, modify the SBD Program to most effectively enhance energy efficiency practices in the new construction market. A summary of statewide findings is presented in Table 1.1 and in Exhibit 1.1.

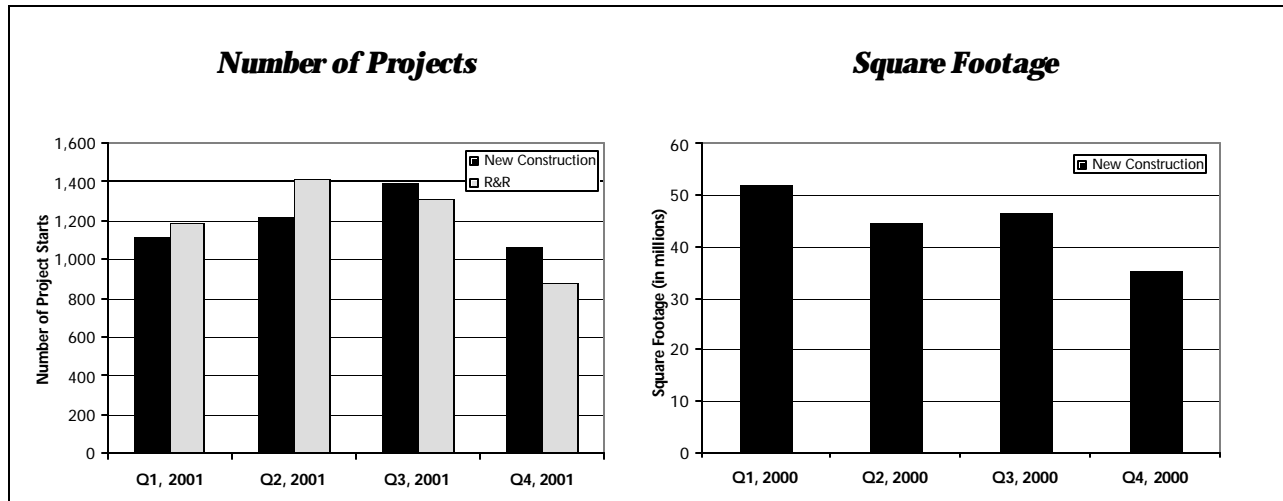
**Table 1.1 Market Summary of Project Starts in California**

Project Type	Quarter	Value (\$ billions)	Area (millions of sqft)	Number of Projects
New and additions	Q1, 2001	4.006	52.11	1,118
	Q2, 2001	3.639	44.73	1,221
	Q3, 2001	3.800	46.47	1,398
	Q4, 2001	2.877	35.17	1,068
	Subtotal	14.322	178.49	4,805
Alterations	Q1, 2001	0.963	-	1,188
	Q2, 2001	1.164	-	1,416
	Q3, 2001	0.951	-	1,313
	Q4, 2001	0.754	-	874
	Subtotal	3.832	-	4,791
<b>Total</b>		<b>18.153</b>	<b>-</b>	<b>9,596</b>

F.W. Dodge data indicate that there were over 9,500 nonresidential projects that started construction in California in calendar year 2001, equally divided between new construction

and alteration projects. The value of new construction projects, however, was approximately four times greater than of alterations. There was little variation in the overall market activity from quarter to quarter, as well as geographically and by building type.

**Exhibit 1.1**  
**F.W. Dodge Nonresidential Project Starts by Quarter in 2001**



## 1.2 SAVINGS BY DESIGN PROGRAM TRACKING AND PENETRATION

The second objective of the MCPAT Study is to track the activities surrounding the Savings By Design (SBD) NRNC program, and to evaluate its penetration levels in the overall NRNC market. The task requires the collection and analysis of the internal tracking systems maintained by each of the IOUs. The tracking systems contain data regarding the number of participants in the SBD program, type and size of projects, geographic locations, energy savings and measures installed through the program.

Results indicate that SBD program participation is high in the building segments with significant market activity, namely office, retail, school and storage. Among the measures installed by program participants, unitary HVAC systems and lighting measures are the most popular. However, whole building design accounts for the highest estimated energy savings in new construction projects, and lighting and daylighting measures produce the highest estimated energy savings in R&R projects.

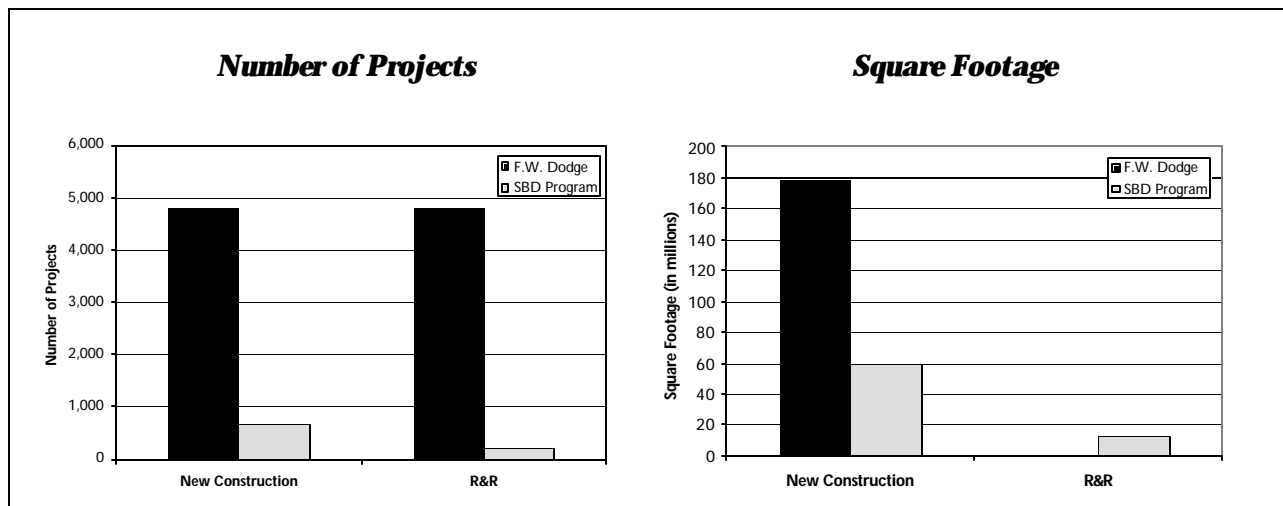
The SBD program data were used in conjunction with the NRNC market data collected in the first part of the Study to prepare quarterly SBD program tracking and penetration analysis reports. A summary of statewide program penetration is presented in Table 1.2 and Exhibit 1.2.

**Table 1.2 Summary of Statewide SBD Program Penetration**

Project Type	Quarter	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	F.W. Dodge Projects	SBD Participants	%Projects Penetration
New and additions	Q1, 2001	52.11	12.07	23.2%	1,118	84	7.5%
	Q2, 2001	44.73	14.70	32.9%	1,221	179	14.7%
	Q3, 2001	46.47	12.00	25.8%	1,398	161	11.5%
	Q4, 2001	35.17	20.54	58.4%	1,068	230	21.5%
	Subtotal	178.49	59.30	33.2%	4,805	654	13.6%
Alterations (R&R)	Q1, 2001	-	1.26	-	1,188	27	2.3%
	Q2, 2001	-	4.34	-	1,416	66	4.7%
	Q3, 2001	-	2.60	-	1,313	49	3.7%
	Q4, 2001	-	4.26	-	874	86	9.8%
	Subtotal	-	12.46	-	4,791	228	4.8%
Total		-	71.76	-	9,596	882	9.2%

Results for PY2001 indicate that the SBD program captured 13.6% of the nonresidential new construction projects and 9.2% of the R&R projects. By square footage, program penetration into the new construction market is 33.2%, indicating that the program is reaching relatively large buildings. Although this penetration level is twice as high when compared to PY2000 (refer to Chapter 6, Tables 6.5-6.8), significant opportunities remain for increased program penetration into the market.

**Exhibit 1.2  
Statewide SBD Program Penetration into the CNC Market in 2001**



The remainder of this report presents detailed market and program tracking and penetration results.

## 2. INTRODUCTION

The statewide Market Characterization and Program Activity Tracking (MCPAT) Study was commissioned to track trends in the nonresidential new construction (NRNC) market, as well as participation in the Savings By Design statewide NRNC program, in PY2000 – 2001. The publication of results on an ongoing basis allows program designers, implementers, evaluators, and market participants to determine the extent to which the NRNC market changes over a given period of time, understand how energy efficiency practices are implemented in the NRNC market, and if necessary, modify the SBD Program to most effectively enhance energy efficiency practices in the new construction market. This Annual Report summarizes the NRNC market and SBD Program tracking and penetration results in calendar year 2001.

### 2.2 NRNC DATA SOURCES

The MCPAT Study conducts the NRNC market characterization using several sources of information. The most important among these are the F.W. Dodge Reports, which provide detailed project information on construction projects that have *started* within a given time period (e.g. a quarter). F.W. Dodge Reports specify project title and location, type of project (new, addition or alteration), type of building under construction, area (square feet) of new or added space, project cost (valuation), and contact information (owner, architect, engineer, contractor, as available). Appendix A contains a glossary of building types tracked by F.W. Dodge.

Regarding project types, F.W. Dodge Reports make a clear distinction between new/addition projects, in which new building area is produced, and alteration projects (which include remodeling, renovation, tenant improvement, and retrofit projects). Even though retrofit projects do not qualify for the SBD program, the F.W. Dodge alteration data remain the best available source of information regarding the commercial remodel/renovation (R&R) market.

The building permit data that were filed with the more than 515 city and county building departments in California represent another source of NRNC data. These permit data are collected by the Construction Industry Research Board (CIRB) into a database that reports monthly permit value data by county and building type. While these data are not as complete as the F.W. Dodge Reports, they provide a framework for the value of commercial projects in California that begin construction in each quarter.

It must be noted that there are differences between the *permit* valuation reported by CIRB and the *project start* valuation reported by F.W. Dodge. Some of these differences are attributable to the time delay that naturally occurs between permit filing and construction start. Others are attributable to the fact that F.W. Dodge records publicly-bid projects, whereas some projects do not go to public bid. Appendix B summarizes the value of nonresidential *permits filed* in PY2001, by building type, as recorded by the CIRB.

## **2.1 THE SAVINGS BY DESIGN PROGRAM**

The Savings By Design (SBD) statewide NRNC program, currently implemented by the three California electric investor-owned utilities (IOUs) PG&E, SCE, and SDG&E, is designed to transform energy-efficiency investment behavior in the commercial construction market. The program seeks to change the design practice of professionals in the construction industry by promoting the understanding and use of energy efficient and integrated design techniques in commercial building construction; to increase awareness of building owners of the benefits associated with integrated designs; and to increase the penetration of energy efficient materials, equipment, and systems in the commercial building market.

The SBD program targets specific links in the commercial building construction decision-making chain, reflecting differences in design activities and priorities between large and small buildings and various occupancies. The Whole Building Approach is used for complex projects where the design team can work closely to integrate the energy systems. The Systems Approach is used for projects where design of the energy systems is done at different phases: where one energy system predominates, where intervention occurs late in the design, or for buildings with simple system interactions.

Within the SBD program, “new construction” program elements address the commercial new construction market segments, including the public, private, and speculative markets. Remodeling and renovation (“R&R”) program elements address the commercial remodeling and renovation market segments specific to “gut-rehabilitation” and tenant improvement projects, including the public, private, and speculative markets.

## **2.3 REPORT LAYOUT**

The core of this report starts in Chapter 3 with a characterization of the NRNC market in PY2001, as described by F.W. Dodge. Drawing on the Savings By Design program participation databases maintained by the three California electric investor-owned utilities (IOUs) PG&E, SCE, and SDG&E, the chapter then summarizes the characteristics of new construction program participants in PY2001.

Chapter 4 presents the market characteristics for alteration projects, as described by F.W. Dodge. It then describes program participation in PY2001 for the renovation/remodel/first tenant improvement (R&R) element of the SBD program.

An evaluation of SBD program penetration into the market in PY2001 is presented in Chapter 5.

Quarterly market and SBD participation data, as well as estimates for the SBD program penetration into the market from program inception in July 1999, are summarized in Chapter 6.

Based on F.W. Dodge Reports, Chapter 7 presents the most active market actors (architects and engineers) in PY2001.

### 3. STATEWIDE NONRESIDENTIAL NEW CONSTRUCTION TRENDS

This chapter presents information on the nonresidential new construction activity that has occurred in PY2001, in the State of California. The first section covers the total valuation, the number of project starts, and the total square footage of new construction projects by county, as reported by F.W. Dodge. The second section analyzes the Savings By Design (SBD) program activity for new construction projects for which the IOUs have committed funds in PY2001.

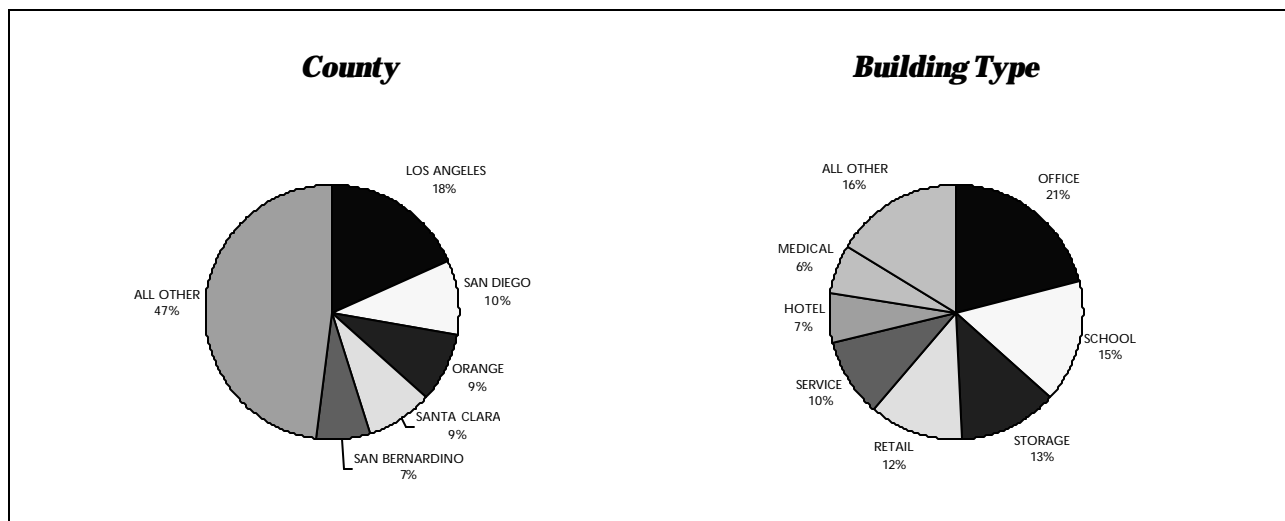
#### 3.1 NEW CONSTRUCTION MARKET CHARACTERISTICS IN PY2001

The following exhibits present the nonresidential new construction market activity by building segment and county, in terms of valuation, number of permits, and square feet. To summarize the market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities. Appendix C contains a short description of the CEC zip code-to-utility territory mapping.

Table 3.1 presents the F.W. Dodge valuation for nonresidential new construction projects that have started construction during PY2001. To emulate SBD program scope as closely as possible, additions reported by F.W. Dodge were included with new construction; this explains the higher project value reported by F.W. Dodge, as compared to the CIRB data summarized in Appendix B. As shown in Exhibit 3.1 below, Los Angeles, San Diego, Orange, Santa Clara and San Bernardino Counties account for the highest value of projects that *have started construction* in PY2001. F.W. Dodge did not report any project starts in PY2001 in Alpine, Del Norte, Mariposa and Modoc Counties.

#### Exhibit 3.1

#### New Construction Market Segments with the Highest Project Start Valuation in PY2001



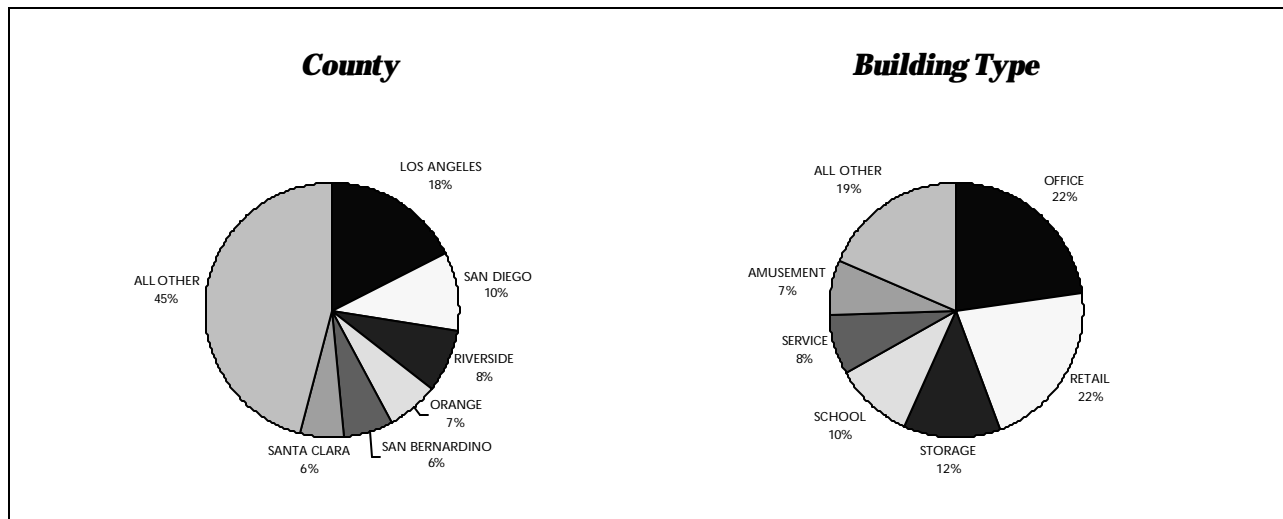


Among building types, office, school, storage and retail account for the highest project start valuation, but service, hotel and medical also show relatively high market activity. The assembly (churches) and education (museums, libraries) segments account for the lowest project start value.

Among utility territories, PG&E accounts for the largest project start value in PY2001, a large fraction of which is concentrated in the office and school segments. SCE follows, with a large fraction of the project value concentrated in the storage and school segments. In the SDG&E service territory, the office, school and hotel segments account for the highest project start value. Non-IOU areas, consisting of the service territories of multiple municipal utilities and other entities, also account for a relatively large share of the project start value. A large fraction of the Non-IOU project value is concentrated in the office and school segments.

Table 3.2 presents the number of nonresidential new construction and addition projects that have started construction in PY2001, as reported by F.W. Dodge. As shown in Exhibit 3.2 below, Los Angeles, San Diego, Riverside, Orange, San Bernardino and Santa Clara Counties have the highest number of new construction project starts. Among building types, office, retail, storage and school account for the highest number of project starts, while the education segment (museums, libraries) accounts for the lowest number of project starts in PY2001. Among utility territories, PG&E leads with the highest number of project starts, closely followed by SCE. SDG&E accounts for the smallest number of project starts. Non-IOU areas have a significant number of project starts, approximately double when compared to the number in SDG&E territory.

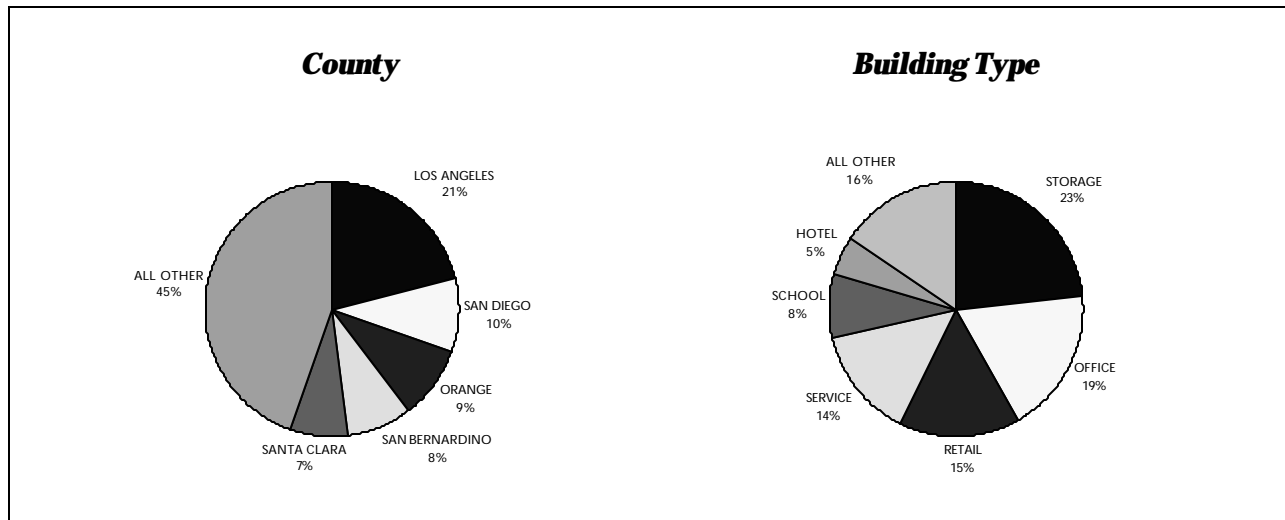
**Exhibit 3.2**  
**New Construction Market Segments with the Highest Number of Project Starts in PY2001**



Tables 3.3 and 3.4 summarize quarterly project starts by county and building type. There is little variation from quarter to quarter in the number of project starts by segment.

Table 3.5 presents the number of square feet of nonresidential new construction and addition projects that have started construction in PY2001, as reported by F.W. Dodge. As shown in Exhibit 3.3 below, the counties with the largest number of square feet attributable to new project starts are Los Angeles, San Diego, Orange, San Bernardino and Santa Clara. The storage, office, retail and service segments account for large square footage of new space, while the education segment accounts for the least amount of new space built in PY2001.

**Exhibit 3.3**  
**New Construction Market Segments with the Highest Square Footage in PY2001**



Among utility territories, PG&E accounts for the largest number of new square feet built in PY2001, almost half of which is concentrated in the office, retail and school segments. SCE follows closely, with over half of the square footage concentrated in the office, retail and storage segments. In the SDG&E service territory, the office and retail segments account for the highest square footage built. Non-IOU areas, consisting of the service territories of multiple municipal utilities and other entities, also account for a relatively large share of the new square footage built in PY2001. A large fraction of the Non-IOU project area is concentrated in the office, retail and storage segments.

Tables 3.6 and 3.7 summarize quarterly square feet of nonresidential new construction built, by county and building type. Again, the volume of new space built does not change much from quarter to quarter, either geographically or by building type.

**Table 3.1 F.W. Dodge Valuation of New Construction Project Starts in PY2001  
by Building Type, County and Service Territory (\$1,000)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>COUNTY</b>													
ALAMEDA	5,966	2,425	10,811	12,870	42,486	28,345	168,667	59,322	60,964	93,001	65,669	28,322	578,848
ALPINE													0
AMADOR				507	1,600	1,170	576	958				110	4,921
BUTTE	3,721		1,159	9,115		13,086	3,929	24,700	17,122	800	3,011	1,607	78,250
CALAVERAS				487	540		114	530		83	520		2,274
COLUSA				1,147			200		2,998				4,345
CONTRA COSTA	18,035	4,000	2,000	30,421	20,700	9,315	86,039	39,837	77,067	43,933	8,590	25,215	365,152
DEL NORTE													0
EL DORADO	445	2,900			52,000		10,007	10,759	18,049	2,923		398	97,481
FRESNO	27,292	2,438	600	16,740		97,846	22,333	47,498	45,983	3,750	12,717	3,910	281,107
GLENN								125		471			596
HUMBOLDT						2,000			6,932	774			9,706
IMPERIAL	3,343			6,800		27,487	1,871	21,052	1,153	14,208	1,168	25,500	102,582
INYO							2,883		10,000	4,940	7,486		25,309
KERN	255	2,893			1,491	3,029	11,983	35,803	12,595	250	169,813	22,327	260,439
KINGS	13,407	432		47,418	100		86	492	11,887		263	1,707	75,792
LAKE	1,796								3,161	594	136		5,687
LASSEN	805			122,052		9,000			2,140				133,997
LOS ANGELES	150,107	52,825	72,895	6,837	47,213	230,305	595,118	366,095	324,590	254,856	394,185	115,467	2,610,493
MADERA		4,000		500			294		1,529		584		11,078
MARIN	4,556			875		302	15,653	1,950	28,491	1,500	6,237	15,000	74,564
MARIPOSA													0
MENDOCINO				275	1,650			500	2,230	911		1,421	6,987
MERCED	150	3,000		683			6,736	9,838	7,723		16,661	4,525	49,316
MODOC													0
MONO	758								3,459				4,217
MONTREY	4,151	1,264			5,000	11,305	7,602	1,598	47,453	700	2,668	3,974	85,715
NAPA	300				2,200	2,140	2,415	8,320	6,150	99	4,465	17,169	43,258
NEVADA	2,459	280	632			1,800	2,946	408	1,000		10,247	112	19,884
ORANGE	80,358	25,178		10,426	240,594	23,528	204,889	226,545	140,556	43,674	203,503	47,830	1,247,081
PLACER	8,968	14,822		7,255	3,500	7,245	65,597	75,850	23,124	22,124	14,846	7,373	250,704
PLUMAS	397			1,491			1,029	468			1,360	1,125	5,870
RIVERSIDE	28,013	9,082	29,745	14,405	52,582	12,736	119,992	178,540	188,869	42,349	144,166	44,188	864,667
SACRAMENTO	7,312	9,554		11,237	50,400	14,338	152,305	59,773	50,417	99,512	51,230	29,611	535,689
SAN BENITO						5,506	1,684	245	3,200				10,635
SAN BERNARDINO	24,834	13,889	3,469	132,607	6,018	15,689	58,231	97,513	207,289	13,119	383,520	26,315	982,493
SAN DIEGO	106,680	21,852	87,115	3,468	179,850	61,451	237,842	146,617	233,370	228,036	58,522	12,321	1,377,124
SAN FRANCISCO	63,798	500	162		120,365	20,078	251,022	18,697	42,851	206,348	1,280	1,904	727,005
SAN JOAQUIN	450	1,098		2,102	4,500	13,717	10,123	36,612	47,301	11,001	56,555	33,173	216,632
SAN LUIS OBISPO	4,699	1,000		8,242	8,676	260	11,697	13,765	41,824	7,290	8,846	10,482	116,781
SAN MATEO	45,074	3,980		94,139	33,910	13,180	360,583	3,124	21,912	61,075	18,880	30,083	685,940
SANTA BARBARA	13,735	2,235	126	1,367	1,574	3,790	21,393	7,655	50,005	640	4,257	9,979	116,756
SANTA CLARA	51,750	6,134	20,746		4,199	199,555	346,754	88,140	228,293	239,965	32,019	17,318	1,234,873
SANTA CRUZ			600			200	527		66,797		750		68,874
SHASTA		2,700			6,500		3,162	11,261	253	323	2,390	361	26,950
SIERRA									2,238	905	1,466		4,609
SISKIYOU	3,341	596				2,500	426	500	1,382				8,745
SOLANO	3,707			5,177	20,214		28,028	8,077	13,302	8,600	32,871	447	120,423
SONOMA	10,439	2,206	6,441	3,275	28,895	3,000	47,341	8,316	22,054	1,100	1,810	23,052	157,929
STANISLAUS	1,300	273		2,390	3,000	3,000	7,426	23,597	45,417	780	16,165	3,965	107,313
SUTTER		2,300				1,500		5,692	900	371	472		11,235
TEHAMA	936			6,315			676	291				534	8,752
TRINITY				173			2,467						2,640
TULARE	3,860	286			82	1,172	2,479	1,010	20,570	1,100	22,186	6,404	59,149
TUOLUMNE	420					666	706				93		1,885
VENTURA	6,993	1,380		40,000		9,483	74,655	51,339	33,519	7,747	36,291	20,749	282,156
YOLO	2,229	3,500				330	76,867	3,568	36,418	3,100	7,000	22,374	155,386
YUBA	1,257										117		1,374
CALIFORNIA	708,096	199,022	236,501	600,796	939,839	850,348	3,027,059	1,698,509	2,213,008	1,423,536	1,808,417	616,537	14,321,668
<b>UTILITY</b>													
SCE	144,797	68,726	33,214	192,800	184,218	113,734	513,586	688,931	727,421	193,534	945,340	213,648	4,019,949
PG&E	286,761	61,522	41,505	210,129	367,035	273,075	1,446,920	530,414	896,812	778,373	492,779	280,989	5,666,314
SDG&E	113,555	26,922	87,115	3,468	249,850	66,267	266,632	174,007	262,566	240,936	73,759	31,401	1,596,478
Non-IOU	162,983	41,852	74,667	194,399	138,736	397,272	799,921	305,157	326,209	210,693	296,539	90,499	3,038,927

**Table 3.2 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2001 by Building Type, County and Service Territory**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	9	3	2	4	7	4	62	38	17	16	22	5	189
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	1	1	1	2	5	7	.	.	.	1	17
BUTTE	2	.	1	1	.	7	6	9	2	1	8	1	38
CALAVERAS	.	.	.	1	1	.	1	3	.	1	2	.	9
COLUSA	.	.	.	1	.	.	1	.	1	.	.	.	3
CONTRA COSTA	11	1	2	4	2	6	28	19	13	13	7	9	115
DEL NORTE	.	.	.	.	.	.	.	.	.	.	.	.	0
EL DORADO	2	2	.	.	2	.	13	7	5	2	.	3	36
FRESNO	4	3	1	4	.	4	27	24	11	2	15	5	100
GLENN	.	.	.	.	.	.	.	1	.	1	.	.	2
HUMBOLDT	.	.	.	.	.	1	.	.	3	1	.	.	5
IMPERIAL	2	.	.	1	.	3	5	4	2	2	5	2	26
INYO	.	.	.	.	.	.	1	.	4	1	5	.	11
KERN	2	5	.	.	2	3	12	28	12	2	33	18	117
KINGS	2	1	.	9	1	.	1	2	5	.	1	4	26
LAKE	1	.	.	.	.	.	.	.	2	4	1	.	8
LASSEN	2	.	.	2	.	1	.	.	1	.	.	.	6
LOS ANGELES	57	24	22	6	12	28	148	226	72	103	102	44	844
MADERA	.	1	.	1	.	1	.	3	.	2	8	1	17
MARIN	6	.	.	1	.	2	9	3	10	1	4	1	37
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	.	.	.	1	1	.	.	1	2	1	.	2	8
MERCED	1	2	.	1	.	.	9	6	2	.	6	7	34
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	1	.	.	.	.	.	.	.	2	.	.	.	3
MONTEREY	2	2	.	.	1	4	15	5	9	3	7	7	55
NAPA	1	.	.	.	2	2	2	2	2	1	5	8	25
NEVADA	2	2	1	.	.	1	4	1	1	.	3	1	16
ORANGE	30	14	.	3	16	12	63	90	26	16	40	10	320
PLACER	9	7	.	1	1	6	36	36	8	11	9	5	129
PLUMAS	1	.	.	1	.	.	2	1	.	.	8	2	15
RIVERSIDE	33	11	3	6	9	6	84	99	40	19	61	16	387
SACRAMENTO	9	16	.	3	8	8	57	48	19	13	18	8	207
SAN BENITO	.	.	.	.	.	1	3	2	1	.	.	.	7
SAN BERNARDINO	16	12	2	11	5	9	46	80	28	15	70	13	307
SAN DIEGO	41	18	15	4	18	15	122	105	35	49	34	18	474
SAN FRANCISCO	11	1	1	.	6	4	48	19	8	20	4	5	127
SAN JOAQUIN	1	2	.	3	1	1	7	13	8	4	13	15	68
SAN LUIS OBISPO	6	1	.	1	6	1	15	18	11	3	15	11	88
SAN MATEO	10	4	.	2	6	3	40	9	8	12	5	4	103
SANTA BARBARA	8	5	1	1	2	4	25	12	9	1	6	10	84
SANTA CLARA	21	5	4	.	1	10	100	32	36	34	13	14	270
SANTA CRUZ	.	.	1	.	.	1	2	.	5	.	1	.	10
SHASTA	.	1	.	.	1	.	16	13	1	2	3	1	38
SIERRA	.	.	.	.	.	.	.	.	1	1	2	.	4
SISKIYOU	2	1	.	.	.	1	3	1	1	.	.	.	9
SOLANO	1	.	.	1	4	.	10	7	3	4	4	4	38
SONOMA	12	2	2	3	4	1	19	17	8	2	3	10	83
STANISLAUS	2	1	.	1	1	1	16	19	8	3	15	8	75
SUTTER	.	1	.	.	.	1	.	4	1	1	1	.	9
TEHAMA	1	.	.	2	.	.	2	3	.	.	.	1	9
TRINITY	.	.	.	1	.	.	2	.	.	.	.	.	3
TULARE	4	1	.	.	1	4	6	3	10	2	8	14	53
TUOLUMNE	2	.	.	.	.	1	2	.	.	.	1	.	6
VENTURA	7	2	.	1	.	4	15	19	8	9	17	15	97
YOLO	4	1	.	.	.	1	6	5	7	2	3	7	36
YUBA	1	.	.	.	.	.	.	.	.	.	1	.	2
CALIFORNIA	339	152	58	83	122	164	1,096	1,044	468	380	589	310	4,805
UTILITY													
SCE	94	48	5	21	27	33	245	359	138	95	231	80	1,376
PG&E	123	46	14	39	49	61	464	318	206	140	188	138	1,786
SDG&E	44	23	15	4	21	19	138	120	40	51	39	21	535
Non-IOU	78	35	24	19	25	51	249	247	84	94	131	71	1,108

**Table 3.3 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2001 by Quarter, County and Service Territory**

	Q1, 2001	Q2, 2001	Q3, 2001	Q4, 2001	2001 Total
<b>COUNTY</b>					
ALAMEDA	47	54	47	41	189
ALPINE	0	0	0	0	0
AMADOR	14	2	0	1	17
BUTTE	14	12	7	5	38
CALAVERAS	0	2	3	4	9
COLUSA	0	1	1	1	3
CONTRA COSTA	25	29	36	25	115
DEL NORTE	0	0	0	0	0
EL DORADO	5	10	9	12	36
FRESNO	35	25	20	20	100
GLENN	0	1	1	0	2
HUMBOLDT	0	2	3	0	5
IMPERIAL	7	5	8	6	26
INYO	4	2	4	1	11
KERN	32	24	42	19	117
KINGS	5	7	13	1	26
LAKE	3	0	4	1	8
LASSEN	1	1	4	0	6
LOS ANGELES	162	238	263	181	844
MADERA	13	2	1	1	17
MARIN	12	7	10	8	37
MARIPOSA	0	0	0	0	0
MENDOCINO	2	2	1	3	8
MERCED	7	12	8	7	34
MODOC	0	0	0	0	0
MONO	2	0	1	0	3
MONTEREY	8	10	19	18	55
NAPA	6	5	5	9	25
NEVADA	2	3	5	6	16
ORANGE	78	67	96	79	320
PLACER	22	35	39	33	129
PLUMAS	3	5	6	1	15
RIVERSIDE	80	92	108	107	387
SACRAMENTO	52	40	60	55	207
SAN BENITO	0	3	1	3	7
SAN BERNARDINO	80	73	73	81	307
SAN DIEGO	104	125	141	104	474
SAN FRANCISCO	31	37	38	21	127
SAN JOAQUIN	10	13	26	19	68
SAN LUIS OBISPO	18	25	26	19	88
SAN MATEO	32	27	29	15	103
SANTA BARBARA	20	22	31	11	84
SANTA CLARA	87	76	63	44	270
SANTA CRUZ	3	1	5	1	10
SHASTA	9	9	9	11	38
SIERRA	1	1	0	2	4
SISKIYOU	1	1	3	4	9
SOLANO	10	11	8	9	38
SONOMA	14	30	23	16	83
STANISLAUS	13	22	26	14	75
SUTTER	1	3	5	0	9
TEHAMA	1	3	1	4	9
TRINITY	0	0	3	0	3
TULARE	7	10	22	14	53
TUOLUMNE	1	0	3	2	6
VENTURA	27	22	28	20	97
YOLO	7	11	9	9	36
YUBA	0	1	1	0	2
CALIFORNIA	1,118	1,221	1,398	1,068	4,805
<b>UTILITY</b>					
SCE	301	351	387	337	1,376
PG&E	457	472	497	360	1,786
SDG&E	119	144	154	118	535
Non-IOU	241	254	360	253	1,108

**Table 3.4 F.W. Dodge Number of Nonresidential New Construction Project Starts in PY2001 by Quarter, Building Type and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2001	73	32	8	15	26	39	294	221	97	95	140	78	1,118
Q2, 2001	89	30	21	16	47	37	250	295	116	88	155	77	1,221
Q3, 2001	97	47	18	30	28	44	323	283	155	115	164	94	1,398
Q4, 2001	80	43	11	22	21	44	229	245	100	82	130	61	1,068
2001 Total	339	152	58	83	122	164	1,096	1,044	468	380	589	310	4,805
<b>SCE</b>													
Q1, 2001	21	9	.	4	4	5	56	85	30	16	46	25	301
Q2, 2001	22	9	2	1	12	7	58	99	37	22	62	20	351
Q3, 2001	26	16	1	6	8	11	79	85	45	28	65	17	387
Q4, 2001	25	14	2	10	3	10	52	90	26	29	58	18	337
2001 Total	94	48	5	21	27	33	245	359	138	95	231	80	1,376
<b>PG&amp;E</b>													
Q1, 2001	24	11	1	7	9	18	140	76	39	41	52	39	457
Q2, 2001	34	11	7	15	19	13	119	84	59	36	44	31	472
Q3, 2001	35	12	4	9	13	14	121	94	63	38	56	38	497
Q4, 2001	30	12	2	8	8	16	84	64	45	25	36	30	360
2001 Total	123	46	14	39	49	61	464	318	206	140	188	138	1,786
<b>SDG&amp;E</b>													
Q1, 2001	12	2	4	1	6	6	33	16	7	18	10	4	119
Q2, 2001	12	6	2	.	9	4	29	41	12	13	10	6	144
Q3, 2001	12	7	5	2	2	4	43	34	12	12	11	10	154
Q4, 2001	8	8	4	1	4	5	33	29	9	8	8	1	118
2001 Total	44	23	15	4	21	19	138	120	40	51	39	21	535
<b>Non-IOU</b>													
Q1, 2001	16	10	3	3	7	10	65	44	21	20	32	10	241
Q2, 2001	21	4	10	.	7	13	44	71	8	17	39	20	254
Q3, 2001	24	12	8	13	5	15	80	70	35	37	32	29	360
Q4, 2001	17	9	3	3	6	13	60	62	20	20	28	12	253
2001 Total	78	35	24	19	25	51	249	247	84	94	131	71	1,108

**Table 3.5 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2001  
by Building Type, County and Service Territory (1,000 sqft)**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	29	26	43	63	385	294	1,932	1,232	332	1,818	1,209	531	7,894
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	.	4	24	9	8	16	.	.	.	2	63
BUTTE	27	.	5	52	.	187	44	339	85	15	57	46	857
CALAVERAS	.	.	.	4	5	.	2	13	.	2	13	.	38
COLUSA	.	.	.	5	.	.	4	.	13	.	.	.	21
CONTRA COSTA	98	25	11	215	185	121	1,066	703	401	746	120	361	4,051
DEL NORTE	.	.	.	.	.	.	.	.	.	.	.	.	0
EL DORADO	5	34	.	.	310	.	120	163	159	42	.	7	839
FRESNO	276	34	6	107	.	420	292	781	346	147	325	42	5,275
GLENN	.	.	.	.	.	.	.	2	.	9	.	.	11
HUMBOLDT	.	.	.	.	.	40	.	.	38	7	.	.	86
IMPERIAL	17	.	.	40	.	85	20	226	15	193	38	332	967
INYO	.	.	.	.	.	.	36	.	51	95	108	.	289
KERN	3	28	.	.	23	30	166	557	115	8	3,885	412	5,228
KINGS	170	5	.	254	2	.	1	6	123	.	8	25	594
LAKE	10	.	.	.	.	.	.	.	28	11	3	.	52
LASSEN	5	.	.	640	.	60	.	.	10	.	.	.	715
LOS ANGELES	1,041	416	451	54	596	2,351	7,301	5,989	2,091	6,299	9,620	1,266	37,475
MADERA	.	29	.	4	.	3	.	.	23	.	11	83	157
MARIN	27	.	.	14	.	3	260	40	111	31	75	130	690
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	.	0
MENDOCINO	.	.	.	2	17	.	.	6	10	5	.	15	55
MERCED	2	37	.	8	.	.	60	139	50	.	706	106	1,108
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	4	.	.	.	.	.	.	.	29	.	.	.	33
MONTEREY	26	17	.	.	60	41	89	31	207	14	62	87	633
NAPA	2	.	.	.	33	26	31	80	82	2	109	152	516
NEVADA	28	4	7	.	.	6	26	8	5	.	240	3	326
ORANGE	609	213	.	76	2,355	245	2,845	3,701	867	719	4,061	537	16,228
PLACER	122	163	.	40	60	85	781	1,184	184	288	401	132	3,439
PLUMAS	0	.	.	2	.	.	9	9	.	.	33	23	76
RIVERSIDE	296	116	160	71	367	123	1,376	2,155	1,383	867	3,039	757	10,709
SACRAMENTO	65	116	.	59	545	138	1,925	944	325	1,952	1,210	460	7,738
SAN BENITO	.	.	.	.	.	28	22	4	32	.	.	.	86
SAN BERNARDINO	228	159	23	1,329	72	201	824	1,585	1,602	172	8,363	481	15,038
SAN DIEGO	735	249	688	26	1,666	750	3,078	2,389	1,619	3,983	1,577	201	16,961
SAN FRANCISCO	319	6	2	.	649	207	1,919	269	393	2,011	33	21	5,828
SAN JOAQUIN	3	26	.	17	68	80	69	737	278	192	1,402	509	3,379
SAN LUIS OBISPO	43	12	.	41	186	3	137	205	228	127	303	145	1,429
SAN MATEO	333	50	.	273	348	114	3,267	38	120	1,129	216	170	6,057
SANTA BARBARA	100	28	2	14	27	55	229	124	317	31	103	104	1,133
SANTA CLARA	332	46	127	.	70	1,133	3,311	1,629	1,208	3,870	830	198	12,753
SANTA CRUZ	.	.	5	.	.	2	6	.	434	.	.	15	462
SHASTA	.	26	.	.	49	.	42	170	2	4	41	4	338
SIERRA	.	.	.	.	.	.	.	.	19	9	65	.	93
SISKIYOU	18	7	.	.	.	41	6	9	11	.	.	.	93
SOLANO	21	.	.	24	237	.	378	145	57	125	1,139	10	2,135
SONOMA	86	23	42	14	228	35	570	141	155	22	70	257	1,642
STANISLAUS	12	3	.	13	50	29	93	434	266	18	502	44	1,463
SUTTER	.	29	.	.	.	25	.	155	10	6	8	.	232
TEHAMA	9	.	.	26	.	.	8	5	.	.	.	2	50
TRINITY	.	.	.	1	.	.	19	.	.	.	.	.	20
TULARE	47	6	.	.	2	17	25	14	166	23	392	82	773
TUOLUMNE	3	.	.	.	.	7	8	.	.	.	2	.	20
VENTURA	49	18	.	200	.	133	876	753	189	133	873	508	3,733
YOLO	15	22	.	.	.	3	325	66	288	49	120	206	1,093
YUBA	14	.	.	.	.	.	.	.	.	.	2	.	16
CALIFORNIA	5,228	1,974	1,571	3,690	8,617	7,130	33,604	27,216	14,449	25,181	41,458	8,370	178,486
UTILITY													
SCE	1,270	671	183	1,649	2,113	1,052	6,906	10,563	5,106	3,982	20,410	3,051	56,954
PG&E	2,082	637	233	952	3,017	2,076	14,148	9,165	5,486	11,958	11,883	3,596	65,231
SDG&E	811	296	688	26	2,162	814	3,536	2,790	1,815	4,159	1,988	269	19,355
Non-IOU	1,065	371	466	1,063	1,326	3,189	9,014	4,699	2,042	5,082	7,177	1,455	36,946

**Table 3.6 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2001  
by Quarter, County and Service Territory (1,000 sqft)**

	Q1, 2001	Q2, 2001	Q3, 2001	Q4, 2001	2001 Total
<b>COUNTY</b>					
ALAMEDA	1,843	2,967	2,438	646	7,894
ALPINE	0	0	0	0	0
AMADOR	28	28	0	7	63
BUTTE	396	295	132	35	857
CALAVERAS	0	8	17	14	38
COLUSA	0	4	5	13	21
CONTRA COSTA	1,156	733	1,233	930	4,051
DEL NORTE	0	0	0	0	0
EL DORADO	34	457	82	266	839
FRESNO	527	1,359	467	422	2,775
GLENN	0	2	9	0	11
HUMBOLDT	0	30	56	0	86
IMPERIAL	396	184	228	158	967
INYO	117	86	58	29	289
KERN	2,215	559	410	2,044	5,228
KINGS	41	269	281	3	594
LAKE	19	0	11	22	52
LASSEN	4	10	701	0	715
LOS ANGELES	10,587	10,593	8,353	7,942	37,475
MADERA	121	20	7	10	157
MARIN	270	81	269	70	690
MARIPOSA	0	0	0	0	0
MENDOCINO	19	11	4	21	55
MERCED	229	179	616	83	1,108
MODOC	0	0	0	0	0
MONO	29	0	4	0	33
MONTEREY	61	180	180	211	633
NAPA	113	140	193	69	516
NEVADA	9	244	50	24	326
ORANGE	4,739	4,136	4,575	2,777	16,228
PLACER	559	793	1,099	989	3,439
PLUMAS	32	9	16	19	76
RIVERSIDE	1,920	2,910	3,098	2,782	10,709
SACRAMENTO	2,353	1,598	2,343	1,444	7,738
SAN BENITO	0	62	6	18	86
SAN BERNARDINO	4,185	3,237	4,653	2,963	15,038
SAN DIEGO	4,551	3,389	6,125	2,896	16,961
SAN FRANCISCO	3,253	1,010	769	796	5,828
SAN JOAQUIN	481	842	827	1,230	3,379
SAN LUIS OBISPO	294	310	556	269	1,429
SAN MATEO	2,161	2,503	785	608	6,057
SANTA BARBARA	214	371	444	105	1,133
SANTA CLARA	5,645	3,141	1,970	1,997	12,753
SANTA CRUZ	266	2	189	5	462
SHASTA	32	25	153	129	338
SIERRA	19	9	0	65	93
SISKIYOU	2	1	58	33	93
SOLANO	440	285	362	1,048	2,135
SONOMA	566	543	278	255	1,642
STANISLAUS	421	290	548	204	1,463
SUTTER	25	152	55	0	232
TEHAMA	6	5	2	38	50
TRINITY	0	0	20	0	20
TULARE	205	59	314	195	773
TUOLUMNE	2	0	10	7	20
VENTURA	1,419	512	1,018	784	3,733
YOLO	107	104	385	498	1,093
YUBA	0	2	14	0	16
CALIFORNIA	52,110	44,734	46,473	35,169	178,486
<b>UTILITY</b>					
SCE	14,027	14,616	17,355	10,956	56,954
PG&E	21,661	17,320	14,210	12,041	65,231
SDG&E	5,462	3,846	6,488	3,559	19,355
Non-IOU	10,961	8,952	8,420	8,613	36,946



**Table 3.7 F.W. Dodge Area of Nonresidential New Construction Project Starts in PY2001  
by Quarter, Building Type and Service Territory (1,000 sqft)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2001	1,055	392	118	1,430	1,899	2,392	12,208	7,403	3,315	9,304	9,724	2,870	52,110
Q2, 2001	1,809	426	287	469	3,973	1,268	9,199	6,505	3,800	4,258	10,070	2,670	44,734
Q3, 2001	1,726	658	961	1,283	1,831	1,156	7,583	7,426	4,127	6,699	10,961	2,060	46,473
Q4, 2001	638	497	204	508	914	2,313	4,614	5,882	3,207	4,919	10,703	770	35,169
1-Year Total	5,228	1,974	1,571	3,690	8,617	7,130	33,604	27,216	14,449	25,181	41,458	8,370	178,486
<b>SCE</b>													
Q1, 2001	247	96	.	1,270	295	95	3,566	3,011	1,395	480	2,634	939	14,027
Q2, 2001	313	99	36	11	1,244	111	1,350	1,685	1,541	1,548	5,644	1,035	14,616
Q3, 2001	456	242	81	259	451	358	1,238	3,236	1,361	1,048	7,822	804	17,355
Q4, 2001	254	234	66	110	122	488	752	2,630	810	907	4,310	273	10,956
1-Year Total	1,270	671	183	1,649	2,113	1,052	6,906	10,563	5,106	3,982	20,410	3,051	56,954
<b>PG&amp;E</b>													
Q1, 2001	349	91	3	75	753	472	5,000	2,704	912	6,261	3,700	1,342	21,661
Q2, 2001	1,029	231	70	458	1,138	630	4,822	2,484	1,611	1,938	1,902	1,007	17,320
Q3, 2001	501	169	106	101	818	426	2,798	2,315	1,508	2,470	2,172	826	14,210
Q4, 2001	204	145	55	318	307	548	1,527	1,662	1,455	1,290	4,109	421	12,041
1-Year Total	2,082	637	233	952	3,017	2,076	14,148	9,165	5,486	11,958	11,883	3,596	65,231
<b>SDG&amp;E</b>													
Q1, 2001	220	56	68	1	591	545	1,543	690	371	900	358	119	5,462
Q2, 2001	212	73	7	.	1,251	129	389	767	336	390	273	19	3,846
Q3, 2001	348	134	572	15	207	39	534	935	685	2,382	512	124	6,488
Q4, 2001	31	33	42	10	113	100	1,070	398	423	488	845	8	3,559
1-Year Total	811	296	688	26	2,162	814	3,536	2,790	1,815	4,159	1,988	269	19,355
<b>Non-IOU</b>													
Q1, 2001	241	150	47	84	260	1,281	2,099	998	637	1,664	3,032	470	10,961
Q2, 2001	255	24	175	.	340	398	2,637	1,568	312	383	2,251	610	8,952
Q3, 2001	420	113	203	909	355	333	3,013	941	573	800	455	306	8,420
Q4, 2001	149	84	42	70	372	1,177	1,266	1,192	520	2,235	1,439	68	8,613
1-Year Total	1,065	371	466	1,063	1,326	3,189	9,014	4,699	2,042	5,082	7,177	1,455	36,946

### **3.2 SBD NEW CONSTRUCTION PROGRAM PARTICIPATION IN PY2001**

Savings By Design (SBD) program activity for nonresidential new construction participants for whom the IOUs have committed funds in PY2001 is summarized below. Program commitment indicates that the customer has filed an application, that the utility has reviewed it and found that it fits within the scope of the SBD program, and that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program. Program commitment was established using the following dates from the tracking systems maintained by the IOUs: the “coupon issue date” for SCE participants, the “acceptance date” for PG&E participants, and the “sign date” for SDG&E participants.

The SBD program targets specific links in the commercial building construction decision-making chain, reflecting differences in design activities and priorities between large and small buildings and various occupancies. The Whole Building Approach is used for complex projects where the design team can work closely to integrate the energy systems. For participants adopting the Whole Building Approach, energy savings can be attributed to the integration of multiple energy efficient measures into the building design. The Systems Approach is used for projects where design of the energy systems is done at different phases: where one energy system predominates, where intervention occurs late in the design, or for buildings with simple system interactions. For the SBD program participants adopting the Systems Approach, energy savings can be attributed to one or more of several measure classes implemented: daylighting, HVAC, envelope, motors, etc.

The following tables summarize program participation by building type and measure. Participation is provided for the whole building approach and the systems approach separately.

Table 3.8 presents the number of new construction nonresidential participants to the SBD program for which funds were committed in PY2001.

Table 3.9 summarizes the number of square feet of new construction committed in PY2001.

Table 3.10 shows the estimated annual MWh savings attributable to new construction measures committed in PY2001.

Table 3.11 presents the frequency with which classes of measures were installed by new construction SBD participants in PY2001. A glossary of the measure classes is presented in Appendix D.

Table 3.12 summarizes the estimated annual MWh savings by measure class, in new construction committed in PY2001.

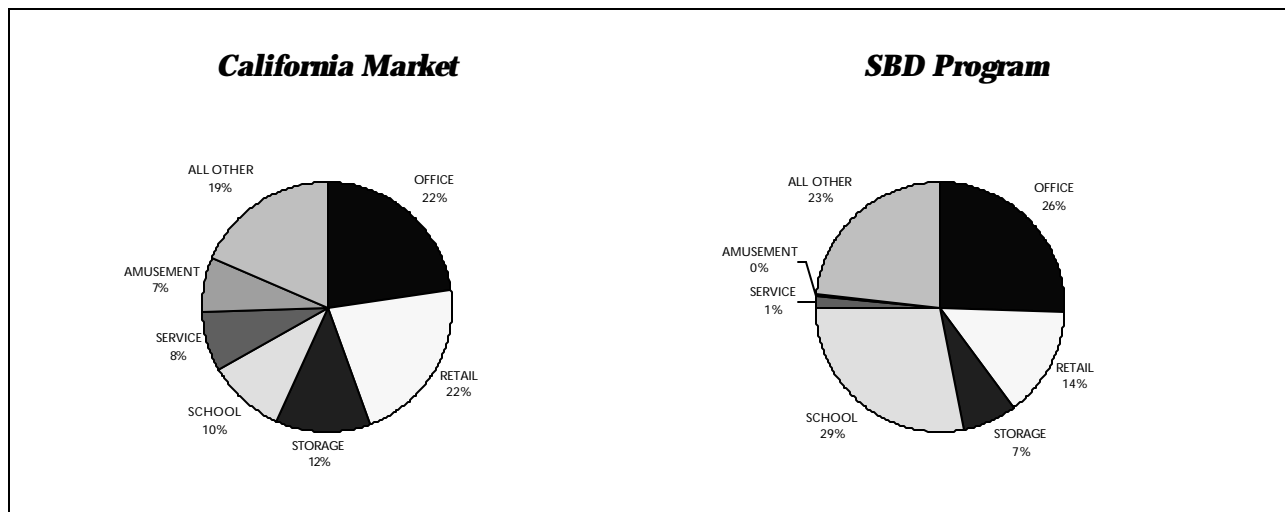
**Table 3.8 Number of Nonresidential New Construction SBD Participants in PY2001**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	1	3	3	2	.	.	72	10	69	1	13	12	186
Systems Approach	1	20	1	.	19	17	96	84	115	8	33	75	469
Total	2	23	4	2	19	17	168	94	184	9	46	87	655
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	5	10	2	.	13	7	37
Systems Approach	.	6	.	.	2	3	21	31	24	.	23	42	152
Total	.	6	.	.	2	3	26	41	26	.	36	49	189
<b>PG&amp;E</b>													
Whole Building Approach	1	2	3	2	.	.	50	.	10	1	.	1	70
Systems Approach	1	10	1	.	3	10	56	36	53	8	5	20	203
Total	2	12	4	2	3	10	106	36	63	9	5	21	273
<b>SDG&amp;E</b>													
Whole Building Approach	.	1	.	.	.	.	17	.	57	.	.	4	79
Systems Approach	.	4	.	.	14	4	19	17	38	.	5	13	114
Total	.	5	.	.	14	4	36	17	95	.	5	17	193

The majority of SBD program participants in PY2001 belong to the school, office and retail building types. High participation in these segments can be attributed to the overall high volume of new construction within these same segments (Exhibit 3.4 below), but also to the good fit between these building types and the scope of the SBD program.

Note that the number of SBD participants has doubled in PY2001 as compared to PY2000 (see Chapter 6, Tables 6.5-6.8). The high participation rates at the beginning of PY2001 may be due to changes in building codes and Program standards that went into effect on July 1, 2001, but also to the overall conservation efforts undertaken in California prior to, and during the Summer of 2001.

**Exhibit 3.4  
New Construction Building Segments with the Highest Number of Projects in PY2001**



**Table 3.9 Area of Nonresidential New Construction SBD Participants in PY2001  
(1,000 sqft)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	44	147	165	579	.	.	14,034	809	2,846	204	5,852	1,670	26,349
Systems Approach	15	795	11	.	3,566	804	7,966	3,970	3,864	478	6,555	4,961	32,982
Total	59	942	176	579	3,566	804	22,000	4,779	6,709	682	12,407	6,630	59,331
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	915	809	94	.	5,852	1,283	8,952
Systems Approach	.	369	.	.	261	45	3,286	1,219	1,353	.	4,873	2,749	14,156
Total	.	369	.	.	261	45	4,201	2,028	1,446	.	10,725	4,031	23,107
<b>PG&amp;E</b>													
Whole Building Approach	44	69	165	579	.	.	11,816	.	1,284	204	.	30	14,190
Systems Approach	15	220	11	.	228	611	3,831	1,897	1,754	478	1,374	1,604	12,022
Total	59	289	176	579	228	611	15,646	1,897	3,039	682	1,374	1,633	26,212
<b>SDG&amp;E</b>													
Whole Building Approach	.	78	.	.	.	.	1,304	.	1,468	.	.	358	3,208
Systems Approach	.	206	.	.	3,076	148	849	854	757	.	307	608	6,805
Total	.	284	.	.	3,076	148	2,152	854	2,225	.	307	966	10,013

The majority of SBD program activity in terms of area committed in PY2001 belongs to the office, storage and school segments. The same building types yield high estimated MWh savings. Similar to the number of participants into the SBD program, the committed square footage has doubled in PY2001 as compared to PY2000 (see Chapter 6, Tables 6.5-6.8), while the estimated MWh savings have almost tripled.

**Table 3.10 Estimated Annual MWh Savings  
for New Construction SBD Participants in PY2001**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	47	154	638	967	.	.	27,558	5,482	7,167	206	10,356	14,373	66,949
Systems Approach	26	1,720	8	.	7,000	5,809	12,728	16,250	6,726	681	14,039	21,426	86,412
Total	74	1,875	646	967	7,000	5,809	40,286	21,732	13,892	887	24,395	35,799	153,361
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	1,709	5,482	191	.	10,356	9,346	27,085
Systems Approach	.	1,335	.	.	197	3,997	4,363	4,627	1,399	.	10,235	18,061	44,214
Total	.	1,335	.	.	197	3,997	6,072	10,109	1,591	.	20,591	27,407	71,299
<b>PG&amp;E</b>													
Whole Building Approach	47	62	638	967	.	.	21,076	.	2,790	206	.	38	25,824
Systems Approach	26	202	8	.	119	1,269	6,825	8,274	2,211	681	3,005	1,913	24,532
Total	74	264	646	967	119	1,269	27,900	8,274	5,001	887	3,005	1,952	50,356
<b>SDG&amp;E</b>													
Whole Building Approach	.	92	.	.	.	.	4,774	.	4,186	.	.	4,989	14,041
Systems Approach	.	184	.	.	6,684	544	1,540	3,348	3,115	.	800	1,452	17,666
Total	.	276	.	.	6,684	544	6,314	3,348	7,301	.	800	6,440	31,706

**Table 3.11 Classes of Measures Installed by New Construction SBD Participants in PY2001**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	OTHER	TOTAL
<b>CALIFORNIA</b>												
Whole Building Approach	186											186
Systems Approach		45		36	313		102	14	224	52	151	937
Total	186	45		36	313		102	14	224	52	151	1,123
<b>SCE</b>												
Whole Building Approach	37											37
Systems Approach		40		21	69		9	14	53	4	45	255
Total	37	40		21	69		9	14	53	4	45	292
<b>PG&amp;E</b>												
Whole Building Approach	70											70
Systems Approach		5		9	125		9		122	15	46	331
Total	70	5		9	125		9		122	15	46	401
<b>SDG&amp;E</b>												
Whole Building Approach	79											79
Systems Approach				6	119		84		49	33	60	351
Total	79			6	119		84		49	33	60	430

The measures installed by each participant were established using the following fields from the tracking systems maintained by the IOUs: the “meas\_desc” for SCE participants, the “description” for PG&E participants, and the “msr\_desc” for SDG&E participants. Each entry into the tracking system was then assigned to one of the measure segments presented in Table 3.11, and counted as one instance in which that particular class of measures was installed through the SBD Program. Each participant that selected the whole building approach counted as one instance in which the whole building approach was adopted, regardless of the number and types of measures installed. As Table 3.11 indicates, unitary HVAC systems, lighting, and “other measures” (VSDs, refrigeration) were installed most often by SBD new construction participants, while motors were installed very rarely, and HVAC controls were not installed at all in PY2001. Note that skylights do not appear to have been installed either, however, they may have been coded as “daylighting” measures in the SBD participation databases.

**Table 3.12 Estimated Annual MWh Savings by Measure Class for New Construction SBD Participants in PY2001**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	OTHER	TOTAL
<b>CALIFORNIA</b>												
Whole Building Approach	66,949											66,949
Systems Approach		9,821		3,599	4,904		5,129	184	20,450	778	41,548	86,412
Total	66,949	9,821		3,599	4,904		5,129	184	20,450	778	41,548	153,361
<b>SCE</b>												
Whole Building Approach	27,085											27,085
Systems Approach		8,370		1,896	2,245		709	184	10,072	370	20,368	44,214
Total	27,085	8,370		1,896	2,245		709	184	10,072	370	20,368	71,299
<b>PG&amp;E</b>												
Whole Building Approach	25,824											25,824
Systems Approach		1,451		762	2,351		841		9,316	218	9,595	24,532
Total	25,824	1,451		762	2,351		841		9,316	218	9,595	50,356
<b>SDG&amp;E</b>												
Whole Building Approach	14,041											14,041
Systems Approach				942	308		3,579		1,061	190	11,585	17,666
Total	14,041			942	308		3,579		1,061	190	11,585	31,706

The whole building design, lighting and “other measures” such as variable speed drives and refrigeration systems account for most of the committed MWh savings in new construction.

#### 4. STATEWIDE NONRESIDENTIAL ALTERATION (R&R) TRENDS

This chapter summarizes the nonresidential alterations that have occurred in PY2001 in the State of California. Similar to Chapter 2, the first section presents the total valuation and the number of project starts in the nonresidential alteration market, by county and building type (F.W. Dodge does not track square feet for alteration projects.) The second section presents the SBD program activity for tenant improvement, renovation and remodeling projects (R&R) in PY2001.

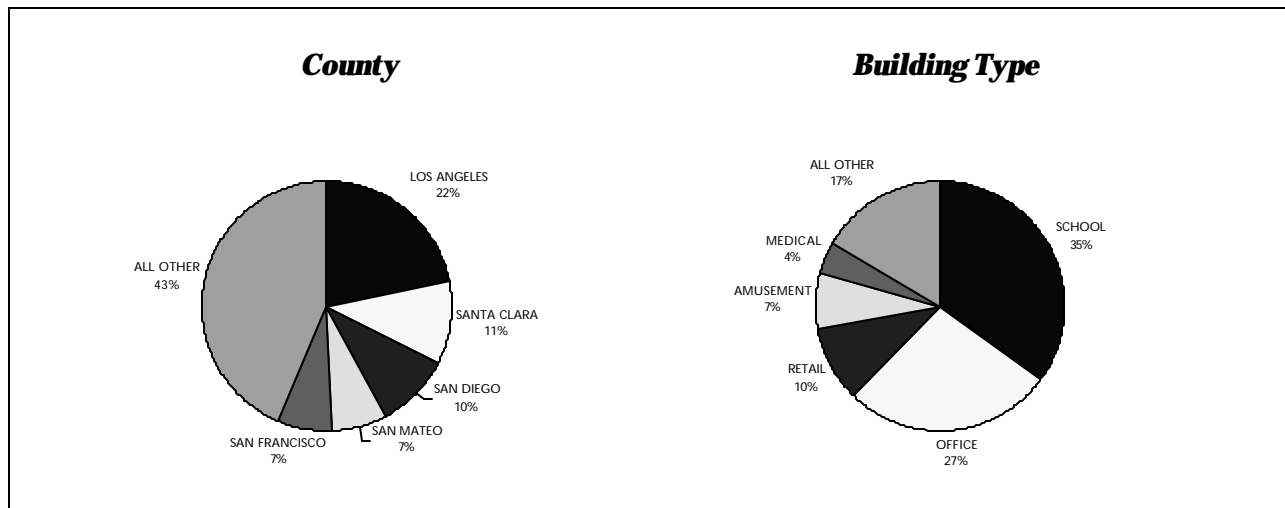
##### 4.1 ALTERATION (R&R) MARKET CHARACTERISTICS IN PY2001

PY2001 nonresidential alteration market activity by building segment and county is presented in the following tables. To summarize the market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities.

Table 4.1 summarizes the F.W. Dodge valuation for the nonresidential alteration projects that started construction during PY2001. The valuation reported by F.W. Dodge is roughly half of the permit valuation reported by CIRB (Appendix B, Table B.1). One explanation is that CIRB groups addition and alteration projects together, thus reporting a larger market segment than F.W. Dodge. Another is that CIRB records only building-related projects, while leaving out permits for heating, HVAC, electrical, and other remodeling/renovation projects.

As Exhibit 4.1 shows, the counties with the most active alteration activity in terms of valuation are Los Angeles, Santa Clara, San Diego, San Mateo and San Francisco. There are five counties for which F.W. Dodge does not record any nonresidential alteration project starts: Alpine, Lassen, Plumas and Sierra.

**Exhibit 4.1**  
**R&R Market Segments with the Highest Project Start Valuation in PY2001**

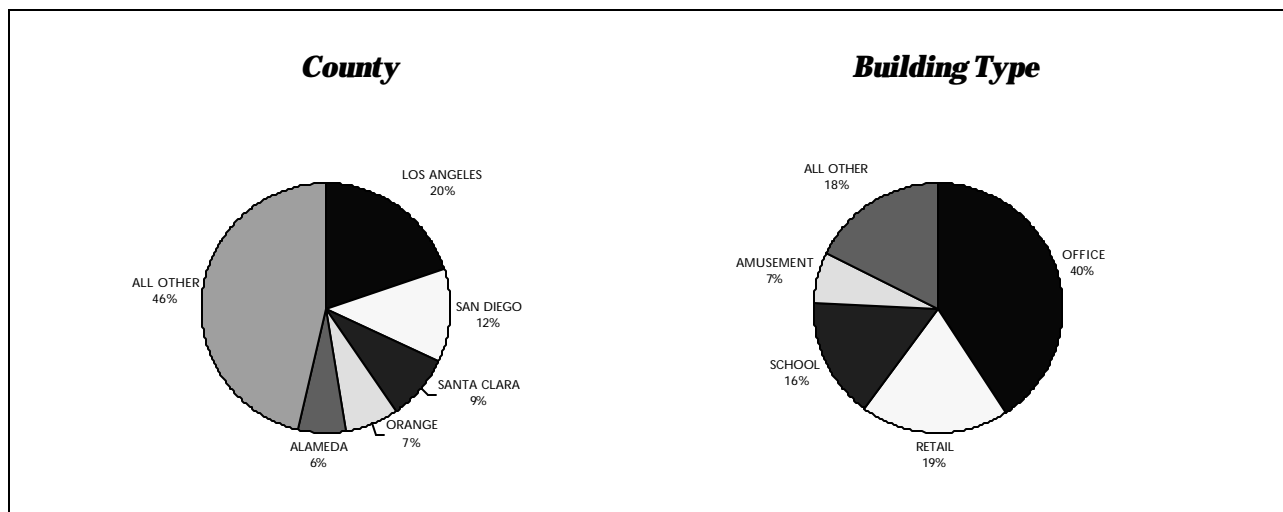


Among building types, school, office, retail and amusement account for the highest value of alteration projects that have started construction in PY2001, while assembly (churches) and service account for the lowest value in PY2001.

Among utility territories, PG&E accounts for almost half the statewide project start value in PY2001. In all three IOU territories, the school and office segments account for large fractions of the total project start valuation. In non-IOU areas, the retail segment is also important in terms of project start valuation.

Table 4.2 presents the number of nonresidential alteration projects that started construction during PY2001. As shown in Exhibit 4.2 below, the counties with the largest number of alteration project starts are Los Angeles, San Diego, Santa Clara, Orange and Alameda. Among building types, the office segment is by far the largest in terms of alteration project starts, followed by retail and school. The fewest alteration project starts recorded by F.W. Dodge in PY2001 occur in the education (museums, libraries) and government segments. Among utility territories, PG&E leads with the highest number of project starts, followed by SCE. SDG&E accounts for the smallest number of project starts. Non-IOU areas have a significant number of project starts, approximately double when compared to the number in SDG&E territory.

**Exhibit 4.2**  
**R&R Market Segments with the Highest Number of Project Starts in PY2001**



Tables 4.3 and 4.4 summarize quarterly alteration project starts by county and building type. Similar to the findings for the new construction and addition market, there is little variation from quarter to quarter in the number of project starts by segment.

**Table 4.1 F.W. Dodge Valuation for Nonresidential Alteration Project Starts in PY2001  
by Building Type, County and Service Territory (\$1,000)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>COUNTY</b>													
ALAMEDA	20,013	2,879	1,190	12,662	595	4,108	108,600	20,536	75,170	1,500	750	5,779	253,782
ALPINE													0
AMADOR			98						240				338
BUTTE	375	749		139		1,315	1,106	6,787	16,907				27,378
CALAVERAS								750					750
COLUSA												969	969
CONTRA COSTA	6,121	155	269	1,856	142	5,041	15,673	7,075	31,344	1,203		1,337	70,216
DEL NORTE	266												266
EL DORADO	3,275					400	2,616	1,060	6,307		95	813	14,566
FRESNO	464					2,000	16,171	6,826	31,111		514	600	57,686
GLENN	1,200												1,200
HUMBOLDT	3,272			843			915		4,734				9,764
IMPERIAL	1,037			2,300			140	220	6,879		85		10,661
INYO							200					510	710
KERN	5,109			2,643		1,080	3,428	2,608	13,065	795	545	566	29,839
KINGS							230					9,326	9,556
LAKE							1,519	78					1,597
LASSEN													0
LOS ANGELES	76,334	9,720	69,777	5,012	22,729	53,072	162,230	93,853	277,356	14,471	8,650	36,558	829,762
MADERA						449	745		582				1,776
MARIN	3,068		475	510		13,000	7,653	3,714	6,883		80	84	35,467
MARIPOSA												218	218
MENDOCINO	200						879				209		1,288
MERCED						175	1,576	2,299	12,496				16,546
MODOC													0
MONO											60		60
MONTEREY	23,725	206	80	1,139	876	3,753	8,755	6,765	35,350			2,200	82,849
NAPA	787			106	380	450	1,551	1,331	21,600		149	739	27,093
NEVADA	359			2,136			306	850	2,865				6,516
ORANGE	15,988	506	959	1,477	2,464	6,548	60,928	34,861	106,038	724	3,224	10,892	244,609
PLACER	1,453	976	127	1,090		504	7,904	3,080	4,468		1,278	932	21,812
PLUMAS													0
RIVERSIDE	3,493	1,716	300	220	85	5,592	12,484	11,171	38,121	338		3,182	76,702
SACRAMENTO	5,909	524		13,570		13,775	69,518	14,157	44,106	2,801	1,819	5,104	171,283
SAN BENITO							1,192						1,192
SAN BERNARDINO	10,294	1,145	1,724	5,978	618	3,971	9,809	13,946	70,014	180	7,877	14,147	139,703
SAN DIEGO	5,876	2,859	444	5,571	2,876	5,181	107,436	30,152	128,489	7,655	55,544	21,560	373,643
SAN FRANCISCO	14,852	10,200	37,930	2,205	22,043	6,957	103,364	26,257	20,650	12,791	486	13,935	271,670
SAN JOAQUIN	733			1,320			5,657	1,800	14,451		130	131	24,222
SAN LUIS OBISPO	667					420	5,070	1,161	4,789	352	647	237	13,343
SAN MATEO	19,200	1,570			14,500	12,593	129,522	10,273	54,985	130	399	29,381	272,553
SANTA BARBARA	7,070	75		1,253	644	1,360	11,970	3,217	25,074	489		2,733	53,885
SANTA CLARA	29,663	4,626	4,623	737	6,212	7,762	151,429	28,824	151,900	3,594	2,101	22,753	414,224
SANTA CRUZ	840						1,632	813	10,085			278	13,648
SHASTA				460		1,485	100	1,691	6,619			213	10,568
SIERRA													0
SISKIYOU				613					3,320		175		4,108
SOLANO	2,402			2,140		775	1,545	7,244	9,880	289	5,000	721	29,996
SONOMA	1,454			164		427	7,749	3,006	34,133	238	374	2,675	50,220
STANISLAUS	1,546			2,150		2,426	4,253	6,332	14,111			1,567	32,385
SUTTER							465	1,173					1,638
TEHAMA									900			190	1,090
TRINITY												226	226
TULARE	1,675		671	2,259	200	180	2,271	798	2,678				10,732
TUOLUMNE	277	139			186		771						1,373
VENTURA	3,840	990	43	807		5,798	13,288	12,987	26,735	600	740	7,702	73,530
YOLO						244	3,673	947	25,124		87	176	30,251
YUBA	832	166					540	90	554				2,182
CALIFORNIA	273,669	39,201	118,710	71,360	74,550	160,841	1,046,663	368,932	1,340,113	48,150	91,018	198,434	3,831,641
<b>UTILITY</b>													
SCE	79,841	6,384	67,833	17,187	3,356	53,990	120,096	90,919	327,089	11,302	13,749	51,586	843,332
PG&E	141,791	18,158	43,818	30,473	39,448	62,343	555,826	144,238	593,110	20,727	12,155	86,169	1,748,256
SDG&E	6,877	2,859	487	5,751	2,876	8,831	114,622	34,392	137,540	7,655	55,815	21,994	399,699
Non-IOU	45,160	11,800	6,572	17,949	28,870	35,677	256,119	99,383	282,374	8,466	9,299	38,685	840,354



**Table 4.2 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2001  
by Building Type, County and Service Territory**

COUNTY	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
ALAMEDA	16	5	3	4	2	9	147	49	41	3	3	16	298
ALPINE	.	.	.	.	.	.	.	.	.	.	.	.	0
AMADOR	.	.	1	.	.	.	.	.	1	.	.	.	2
BUTTE	1	1	.	1	.	1	2	6	8	.	.	.	20
CALAVERAS	.	.	.	.	.	.	.	1	.	.	.	.	1
COLUSA	.	.	.	.	.	.	.	.	.	.	.	2	2
CONTRA COSTA	10	2	1	2	1	9	44	19	13	4	.	2	107
DEL NORTE	1	.	.	.	.	.	.	.	.	.	.	.	1
EL DORADO	2	.	.	.	.	1	14	3	7	.	1	2	30
FRESNO	3	.	.	.	.	1	26	20	26	.	2	1	79
GLENN	1	.	.	.	.	.	.	.	.	.	.	.	1
HUMBOLDT	2	.	.	1	.	.	2	.	7	.	.	.	12
IMPERIAL	2	.	.	1	.	.	1	2	2	.	1	.	9
INYO	.	.	.	.	.	.	.	1	.	.	.	1	2
KERN	11	.	.	3	.	4	15	8	17	2	4	3	67
KINGS	.	.	.	.	.	.	2	.	.	.	.	1	3
LAKE	.	.	.	.	.	.	4	1	.	.	.	.	5
LASSEN	.	.	.	.	.	.	.	.	.	.	.	.	0
LOS ANGELES	66	15	7	12	12	32	350	234	144	25	25	42	964
MADERA	.	.	.	.	.	1	2	.	1	.	.	.	4
MARIN	4	.	1	1	.	2	17	3	10	.	1	1	40
MARIPOSA	.	.	.	.	.	.	.	.	.	.	.	1	1
MENDOCINO	1	.	.	.	.	.	1	.	.	.	1	.	3
MERCED	.	.	.	.	.	1	5	5	8	.	.	.	19
MODOC	.	.	.	.	.	.	.	.	.	.	.	.	0
MONO	.	.	.	.	.	.	.	.	.	.	1	.	1
MONTEREY	9	2	1	1	3	9	35	18	14	.	.	4	96
NAPA	2	.	.	1	1	2	9	3	11	.	1	2	32
NEVADA	1	.	.	3	.	.	1	1	1	.	.	.	7
ORANGE	25	2	2	6	4	13	147	60	43	2	8	17	329
PLACER	3	3	1	1	.	4	26	11	9	.	3	7	68
PLUMAS	.	.	.	.	.	.	.	.	.	.	.	.	0
RIVERSIDE	15	2	1	1	1	8	45	37	20	3	.	4	137
SACRAMENTO	12	3	.	5	.	15	116	52	19	7	10	12	251
SAN BENITO	.	.	.	.	.	.	3	.	.	.	.	.	3
SAN BERNARDINO	16	2	6	7	2	3	43	33	25	1	9	8	155
SAN DIEGO	23	9	1	8	4	17	279	72	75	7	29	36	560
SAN FRANCISCO	21	2	3	2	8	11	169	45	14	5	4	7	291
SAN JOAQUIN	3	.	.	1	.	.	9	2	8	.	1	1	25
SAN LUIS OBISPO	3	.	.	.	.	3	20	11	7	1	1	1	47
SAN MATEO	10	3	.	.	3	6	66	14	21	1	2	9	135
SANTA BARBARA	8	1	.	1	2	9	44	19	17	1	.	3	105
SANTA CLARA	15	10	4	3	3	12	203	64	76	5	5	22	422
SANTA CRUZ	3	.	.	.	.	.	9	6	6	.	.	2	26
SHASTA	.	.	.	2	.	2	1	7	6	.	.	1	19
SIERRA	.	.	.	.	.	.	.	.	.	.	.	.	0
SISKIYOU	.	.	.	1	.	.	.	.	7	.	2	.	10
SOLANO	1	.	.	2	.	2	4	14	6	1	1	2	33
SONOMA	5	.	.	1	.	2	20	14	24	2	2	5	75
STANISLAUS	5	.	.	1	.	4	17	22	10	.	.	3	62
SUTTER	.	.	.	.	.	.	2	3	.	.	.	.	5
TEHAMA	.	.	.	.	.	.	.	.	1	.	.	1	2
TRINITY	.	.	.	.	.	.	.	.	.	.	.	1	1
TULARE	8	.	1	1	1	1	5	5	4	.	.	.	26
TUOLUMNE	2	1	.	.	1	.	3	.	.	.	.	.	7
VENTURA	10	2	1	3	.	6	36	54	18	2	3	22	157
YOLO	.	.	.	.	.	3	5	4	14	.	1	1	28
YUBA	1	1	.	.	.	.	1	1	2	.	.	.	6
CALIFORNIA	321	66	34	76	48	193	1,950	924	743	72	121	243	4,791
<b>UTILITY</b>													
SCE	96	14	11	25	7	42	329	248	162	16	25	64	1,039
PG&E	126	23	13	28	21	88	815	332	355	23	28	86	1,938
SDG&E	27	9	2	9	4	19	304	84	78	7	31	38	612
Non-IOU	72	20	8	14	16	44	502	260	148	26	37	55	1,202

**Table 4.3 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2001 by Quarter, County and Service Territory**

	Q1, 2001	Q2, 2001	Q3, 2001	Q4, 2001	2001 Total
<b>COUNTY</b>					
ALAMEDA	61	94	81	62	298
ALPINE	0	0	0	0	0
AMADOR	0	1	1	0	2
BUTTE	4	9	3	4	20
CALAVERAS	0	1	0	0	1
COLUSA	0	0	2	0	2
CONTRA COSTA	19	35	23	30	107
DEL NORTE	0	0	1	0	1
EL DORADO	8	9	10	3	30
FRESNO	13	29	32	5	79
GLENN	0	1	0	0	1
HUMBOLDT	6	5	1	0	12
IMPERIAL	0	3	3	3	9
INYO	0	2	0	0	2
KERN	16	14	19	18	67
KINGS	3	0	0	0	3
LAKE	3	0	2	0	5
LASSEN	0	0	0	0	0
LOS ANGELES	255	272	278	159	964
MADERA	2	1	1	0	4
MARIN	13	14	3	10	40
MARIPOSA	0	0	0	1	1
MENDOCINO	0	0	1	2	3
MERCED	4	5	5	5	19
MODOC	0	0	0	0	0
MONO	0	0	0	1	1
MONTEREY	27	31	31	7	96
NAPA	14	5	5	8	32
NEVADA	2	1	2	2	7
ORANGE	73	98	100	58	329
PLACER	10	18	22	18	68
PLUMAS	0	0	0	0	0
RIVERSIDE	20	42	43	32	137
SACRAMENTO	69	64	60	58	251
SAN BENITO	0	1	1	1	3
SAN BERNARDINO	37	26	48	44	155
SAN DIEGO	184	147	164	65	560
SAN FRANCISCO	48	115	84	44	291
SAN JOAQUIN	5	5	6	9	25
SAN LUIS OBISPO	8	14	10	15	47
SAN MATEO	26	45	35	29	135
SANTA BARBARA	25	27	25	28	105
SANTA CLARA	123	150	78	71	422
SANTA CRUZ	7	11	5	3	26
SHASTA	4	12	1	2	19
SIERRA	0	0	0	0	0
SISKIYOU	1	6	3	0	10
SOLANO	8	7	10	8	33
SONOMA	14	36	13	12	75
STANISLAUS	21	15	18	8	62
SUTTER	2	0	3	0	5
TEHAMA	1	0	1	0	2
TRINITY	1	0	0	0	1
TULARE	7	7	6	6	26
TUOLUMNE	1	2	3	1	7
VENTURA	36	28	53	40	157
YOLO	7	6	14	1	28
YUBA	0	2	3	1	6
CALIFORNIA	1,188	1,416	1,313	874	4,791
<b>UTILITY</b>					
SCE	241	277	294	227	1,039
PG&E	456	652	472	358	1,938
SDG&E	192	167	179	74	612
Non-IOU	299	320	368	215	1,202

**Table 4.4 F.W. Dodge Number of Nonresidential Alteration Project Starts in PY2001  
by Quarter, Building Type and Service Territory**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Q1, 2001	73	13	7	23	16	41	521	216	156	21	38	63	1,188
Q2, 2001	90	17	11	15	11	52	542	260	285	26	36	71	1,416
Q3, 2001	86	26	5	22	15	65	526	271	183	9	30	75	1,313
Q4, 2001	72	10	11	16	6	35	361	177	119	16	17	34	874
2001 Total	321	66	34	76	48	193	1,950	924	743	72	121	243	4,791
<b>SCE</b>													
Q1, 2001	18	2	3	7	3	7	80	57	37	2	7	18	241
Q2, 2001	23	3	2	4	1	15	83	72	45	7	8	14	277
Q3, 2001	30	6	1	8	3	12	98	62	50	2	2	20	294
Q4, 2001	25	3	5	6	.	8	68	57	30	5	8	12	227
2001 Total	96	14	11	25	7	42	329	248	162	16	25	64	1,039
<b>PG&amp;E</b>													
Q1, 2001	28	7	3	8	3	20	206	77	72	7	5	20	456
Q2, 2001	40	4	6	5	8	20	253	104	167	7	7	31	652
Q3, 2001	28	8	.	7	7	28	196	89	72	2	10	25	472
Q4, 2001	30	4	4	8	3	20	160	62	44	7	6	10	358
2001 Total	126	23	13	28	21	88	815	332	355	23	28	86	1,938
<b>SDG&amp;E</b>													
Q1, 2001	5	2	1	6	2	5	112	21	12	2	12	12	192
Q2, 2001	12	1	.	1	.	5	74	20	33	1	11	9	167
Q3, 2001	7	5	.	2	2	7	82	32	22	2	6	12	179
Q4, 2001	3	1	1	.	.	2	36	11	11	2	2	5	74
2001 Total	27	9	2	9	4	19	304	84	78	7	31	38	612
<b>Non-IOU</b>													
Q1, 2001	22	2	.	2	8	9	123	61	35	10	14	13	299
Q2, 2001	15	9	3	5	2	12	132	64	40	11	10	17	320
Q3, 2001	21	7	4	5	3	18	150	88	39	3	12	18	368
Q4, 2001	14	2	1	2	3	5	97	47	34	2	1	7	215
2001 Total	72	20	8	14	16	44	502	260	148	26	37	55	1,202

#### **4.2 SBD R&R PROGRAM PARTICIPATION IN PY2001**

SBD program activity for nonresidential customers that have a first tenant improvement/renovation/remodel project (R&R customers), and for whom the IOUs have committed funds in PY2001, is summarized below. Program commitment indicates that the customer has filed an application, that the utility has reviewed it and found that it fits within the scope of the SBD program, and that an agreement was signed between the utility and the customer, detailing the conditions of participation in the program. Program commitment was established using the following dates from the tracking systems maintained by the IOUs: the “coupon issue date” for SCE participants, the “acceptance date” for PG&E participants, and the “sign date” for SDG&E participants.

Table 4.5 presents the number of nonresidential R&R participants to the SBD program for which funds were committed in PY2001.

Table 4.6 shows the number of square feet of R&R construction committed as of PY2001.

Table 4.7 summarizes the estimated annual MWh savings attributable to R&R measures committed in PY2001.

Table 4.8 presents the frequency with which classes of measures were installed in R&R SBD projects committed in PY2001. A glossary of measure classes is presented in Appendix D.

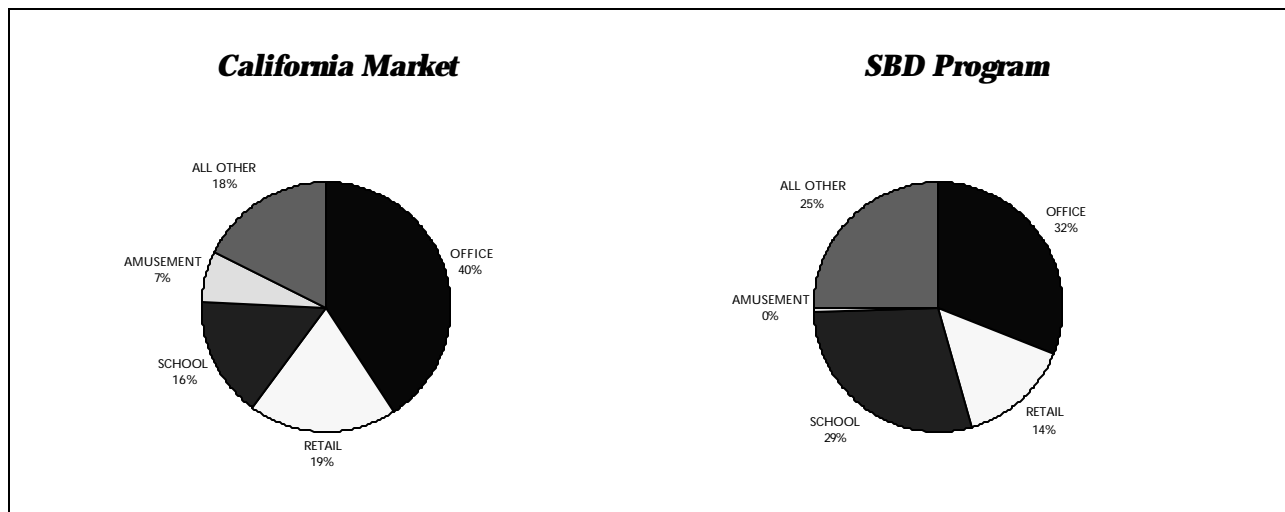
Table 4.9 shows the estimated annual MWh savings by measure class, for R&R projects committed in PY2001.

**Table 4.5 Number of Nonresidential R&R SBD Participants in PY2001**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	.	.	.	.	.	2	.	3	.	.	.	5
Systems Approach	1	6	2	.	.	2	69	33	63	7	5	35	223
Total	1	6	2	.	.	2	71	33	66	7	5	35	228
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	1	.	.	.	1
Systems Approach	.	1	.	.	.	1	9	11	7	.	4	18	51
Total	.	1	.	.	.	1	9	11	8	.	4	18	52
<b>PG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	1	.	1	.	.	.	2
Systems Approach	1	2	2	.	.	1	44	18	33	7	.	9	117
Total	1	2	2	.	.	1	45	18	34	7	.	9	119
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	1	.	1	.	.	.	2
Systems Approach	.	3	.	.	.	.	16	4	23	.	1	8	55
Total	.	3	.	.	.	.	17	4	24	.	1	8	57

The number of R&R participants has increased by 20% as compared to PY2000 (see Chapter 6, Tables 6.5-6.8), but is still less than half the number of new construction SBD participants (Table 3.8). The office and school building types are the largest segments participating in the program, which reflects the high number of alteration projects reported by F.W. Dodge for these building segments (Exhibit 4.3 below). R&R participants in PY2001 do not include any government buildings, possibly due to differences between the SBD program requirements and FEMP regulations. There are also no participants from the hotel segment.

**Exhibit 4.3  
R&R Building Segments with the Highest Number of Projects in PY2001**



**Table 4.6 Area for Nonresidential R&R SBD Participants  
in PY2001 (1,000 sqft)**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	.	.	.	.	.	73	.	125	.	.	.	198
Systems Approach	9	168	36	.	.	47	3,286	2,649	2,075	241	1,584	2,168	12,264
Total	9	168	36	.	.	47	3,359	2,649	2,200	241	1,584	2,168	12,462
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	24	.	.	.	24
Systems Approach	.	52	.	.	.	29	445	678	351	.	1,578	1,052	4,185
Total	.	52	.	.	.	29	445	678	374	.	1,578	1,052	4,209
<b>PG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	55	.	63	.	.	.	118
Systems Approach	9	23	36	.	.	18	2,137	1,702	1,088	241	.	800	6,053
Total	9	23	36	.	.	18	2,192	1,702	1,151	241	.	800	6,171
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	18	.	38	.	.	.	56
Systems Approach	.	94	.	.	.	.	704	270	637	.	6	315	2,026
Total	.	94	.	.	.	.	722	270	675	.	6	315	2,082

The majority of SBD R&R program activity in terms of area committed in PY2001 belongs to the office, retail and school building types. The same trend holds for estimated MWh savings.

**Table 4.7 Estimated Annual MWh Savings for R&R SBD Participants  
in PY2001**

	AMUSEMENT	ASSEMBLY	EDUCATION	GOVT	HOTEL	MEDICAL	OFFICE	RETAIL	SCHOOL	SERVICE	STORAGE	OTHER	TOTAL
<b>CALIFORNIA</b>													
Whole Building Approach	.	.	.	.	.	.	158	.	322	.	.	.	479
Systems Approach	4	554	68	.	.	43	4,748	5,529	2,409	511	3,413	14,761	32,039
Total	4	554	68	.	.	43	4,906	5,529	2,731	511	3,413	14,761	32,518
<b>SCE</b>													
Whole Building Approach	.	.	.	.	.	.	.	.	117	.	.	.	117
Systems Approach	.	229	.	.	.	40	722	2,483	573	.	3,406	10,342	17,795
Total	.	229	.	.	.	40	722	2,483	690	.	3,406	10,342	17,912
<b>PG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	98	.	109	.	.	.	206
Systems Approach	4	14	68	.	.	3	3,020	2,289	939	511	.	1,085	7,933
Total	4	14	68	.	.	3	3,118	2,289	1,048	511	.	1,085	8,140
<b>SDG&amp;E</b>													
Whole Building Approach	.	.	.	.	.	.	60	.	97	.	.	.	156
Systems Approach	.	311	.	.	.	.	1,006	756	896	.	7	3,335	6,310
Total	.	311	.	.	.	.	1,065	756	992	.	7	3,335	6,467

**Table 4.8 Classes of Measures Installed by R&R SBD Participants in PY2001**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	OTHER	TOTAL
<b>CALIFORNIA</b>												
Whole Building Approach	5	.	.	.	.	.	.	.	.	.	.	5
Systems Approach	.	14	.	15	206	.	27	3	148	15	40	468
Total	5	14	.	15	206	.	27	3	148	15	40	473
<b>SCE</b>												
Whole Building Approach	1	.	.	.	.	.	.	.	.	.	.	1
Systems Approach	.	13	.	10	20	.	3	3	21	1	14	85
Total	1	13	.	10	20	.	3	3	21	1	14	86
<b>PG&amp;E</b>												
Whole Building Approach	2	.	.	.	.	.	.	.	.	.	.	2
Systems Approach	.	1	.	3	60	.	.	.	73	2	15	154
Total	2	1	.	3	60	.	.	.	73	2	15	156
<b>SDG&amp;E</b>												
Whole Building Approach	2	.	.	.	.	.	.	.	.	.	.	2
Systems Approach	.	.	.	2	126	.	24	.	54	12	11	229
Total	2	.	.	2	126	.	24	.	54	12	11	231

Similar to new construction SBD participants, the measures installed by each participant were established using the following fields from the tracking systems maintained by the IOUs: the “meas\_desc” for SCE participants, the “description” for PG&E participants, and the “msr\_desc” for SDG&E participants. Each entry into the tracking system was then assigned to one of the measure segments presented in Table 4.8, and counted as one instance in which that particular class of measures was installed through the SBD Program. Each participant that selected the whole building approach counted as one instance in which the whole building approach was adopted, regardless of the number and types of measures installed. As Table 4.8 indicates, R&R participants installed unitary HVAC and lighting measures most often, motors very rarely, and did not install any HVAC control measures in PY2001. Note that skylights do not appear to have been installed either, however, they may have been coded as “daylighting” measures in the SBD participation databases.

**Table 4.9 Estimated Annual MWh Savings by Measure Class for R&R SBD Participants in PY2001**

	WHOLE BUILDING	DAY-LIGHTING	SKYLIGHT	HVAC CHILLER	HVAC PACKAGE	HVAC CONTROLS	HVAC OTHER	MOTORS	LIGHTING	ENVELOPE	OTHER	TOTAL
<b>CALIFORNIA</b>												
Whole Building Approach	479	.	.	.	.	.	.	.	.	.	.	479
Systems Approach	.	3,931	.	3,401	2,663	.	946	19	12,286	121	8,672	32,039
Total	479	3,931	.	3,401	2,663	.	946	19	12,286	121	8,672	32,518
<b>SCE</b>												
Whole Building Approach	117	.	.	.	.	.	.	.	.	.	.	117
Systems Approach	.	3,888	.	3,031	681	.	256	19	4,517	9	5,396	17,795
Total	117	3,888	.	3,031	681	.	256	19	4,517	9	5,396	17,912
<b>PG&amp;E</b>												
Whole Building Approach	206	.	.	.	.	.	.	.	.	.	.	206
Systems Approach	.	44	.	237	1,256	.	.	.	6,149	40	207	7,933
Total	206	44	.	237	1,256	.	.	.	6,149	40	207	8,140
<b>SDG&amp;E</b>												
Whole Building Approach	156	.	.	.	.	.	.	.	.	.	.	156
Systems Approach	.	.	.	134	726	.	690	.	1,619	72	3,070	6,310
Total	156	.	.	134	726	.	690	.	1,619	72	3,070	6,467

Lighting, daylighting and “other measures” (such as variable speed drives and refrigeration) account for the highest estimated MWh savings in the R&R SBD program in PY2001.

## **5. SBD PROGRAM PENETRATION INTO THE NRNC MARKET IN PY2001**

This chapter presents SBD program penetration into the NRNC market statewide and by utility territory, in PY2001.

Program penetration for new construction participants was evaluated based on both construction area (square feet) and number of projects. As the area of alteration projects is not tracked by F.W. Dodge, program penetration for R&R participants was evaluated only based on number of projects.

When summarizing market activity by utility territory, project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities.

Table 5.1 presents the statewide SBD program penetration.

Table 5.2 presents SBD program penetration in the SCE service territory.

Table 5.3 shows SBD program penetration in the PG&E service territory.

Table 5.4 summarizes SBD program penetration in the SDG&E service territory.

In terms of square feet committed, the statewide new construction market penetration of the SBD program is 33.2%, more than double the market penetration in PY2000 (see Chapter 6, Tables 6.9-6.12). This number is lower than in individual utility territories due to the fact that non-IOU areas are included in the statewide market. If only the IOU territories are considered, program penetration by square footage is 41.9%. SBD committed square feet account for 40.6% market penetration in the SCE territory; 40.2% penetration in the PG&E territory; 51.7% penetration in the SDG&E territory.

In terms of number of projects committed, the statewide new construction market penetration of the SBD program is 13.6%, again doubling the market penetration from PY2000. In the three IOU service territories, program penetration by number of projects is 17.7%. SBD committed projects account for 13.7% market penetration in the SCE territory; 15.3% penetration in the PG&E territory; 36.1% penetration in the SDG&E territory.

Note that SBD program penetration by number of projects is lower than penetration by square footage, indicating that the SBD program is reaching relatively large buildings.

Among R&R participants, the statewide market penetration of the SBD program is 4.8%, only slightly higher than in PY2000. In the three IOU service territories, program penetration by number of projects is 6.4%. SBD committed projects account for 5.0% market penetration in the SCE territory; 6.1% penetration in the PG&E territory; 9.3% penetration in the SDG&E territory.

Due to the higher number of projects selecting the systems approach, SBD program penetration is consistently higher for these projects than for those selecting the whole building approach. Significant opportunities remain for increased program penetration into the market, through sustained networking with the most active designers (Chapter 7) and with building officials.



**Table 5.1 Statewide SBD Program Penetration in PY2001**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2001 QTR 1-4	F. W. Dodge	14.322	178.49		4,805	
		SBD Whole Building	-	26.35	14.8%	186	3.9%
		SBD Systems Approach	-	32.98	18.5%	469	9.8%
		SBD Total	-	59.33	33.2%	655	13.6%
Alterations (R&R and TI)	2001 QTR 1-4	F. W. Dodge	3.832	-		4,791	
		SBD Whole Building	-	0.20	-	5	0.1%
		SBD Systems Approach	-	12.26	-	223	4.7%
		SBD Total	-	12.46	-	228	4.8%

**Table 5.2 SBD Program Penetration in the SCE Service Territory in PY2001**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2001 QTR 1-4	F. W. Dodge	4.020	56.95		1,376	
		SBD Whole Building	-	8.95	15.7%	37	2.7%
		SBD Systems Approach	-	14.16	24.9%	152	11.0%
		SBD Total	-	23.11	40.6%	189	13.7%
Alterations (R&R and TI)	2001 QTR 1-4	F. W. Dodge	0.843	-		1,039	-
		SBD Whole Building	-	0.02	-	1	0.0%
		SBD Systems Approach	-	4.19	-	51	4.9%
		SBD Total	-	4.21	-	52	5.0%

**Table 5.3 SBD Program Penetration in the PG&E Service Territory in PY2001**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2001 QTR 1-4	F. W. Dodge	5.666	65.23		1,786	
		SBD Whole Building	-	14.19	21.8%	70	3.9%
		SBD Systems Approach	-	12.02	18.4%	203	11.4%
		SBD Total	-	26.21	40.2%	273	15.3%
Alterations (R&R and TI)	2001 QTR 1-4	F. W. Dodge	1.748	-		1,938	
		SBD Whole Building	-	0.12	-	2	0.1%
		SBD Systems Approach	-	6.05	-	117	6.0%
		SBD Total	-	6.17	-	119	6.1%

**Table 5.4 SBD Program Penetration in the SDG&E Service Territory in PY2001**

Program Type	Year/Quarter	Source	Value (\$ billions)	Area (millions of sqft)	%Area Penetration	Number of Projects	%Projects Penetration
New and Additions	2001 QTR 1-4	F. W. Dodge	1.596	19.35		535	
		SBD Whole Building	-	3.21	16.6%	79	14.8%
		SBD Systems Approach	-	6.80	35.2%	114	21.3%
		SBD Total	-	10.01	51.7%	193	36.1%
Alterations (R&R and TI)	2001 QTR 1-4	F. W. Dodge	0.400	-		612	
		SBD Whole Building	-	0.06	-	2	0.3%
		SBD Systems Approach	-	2.03	-	55	9.0%
		SBD Total	-	2.08	-	57	9.3%

## **6. NRNC MARKET AND PROGRAM TRACKING SUMMARY**

This chapter provides a summary of the NRNC market and SBD program activity since SBD program inception (July 1999).

Tables 6.1 – 6.4 summarize the market activities quarterly, statewide and by utility territory, starting with Quarter 3, 1999. Consistent with the data reported in the previous chapters, F.W. Dodge project zip codes were used in conjunction with California Energy Commission's zip code-to-utility territory mapping to allocate projects to IOU and non-IOU utilities.

As discussed in Chapters 2 and 3, there is little variation in market activity from quarter to quarter. Quarter 2, 2000, presents the lowest volume of project starts statewide, while Quarter 1, 2001, presents the largest volume of project starts. This result may be due to changes in building codes that went into effect on July 1, 2001, and which contributed to an increase in permit activity prior to the effective date of those changes, but also to the energy conservation activity statewide in 2001.

Tables 6.5 – 6.8 summarize SBD Program activity quarterly, statewide and by utility territory, starting with Quarter 3, 1999.

Tables 6.9 – 6.12 summarize SBD Program penetration quarterly, statewide and by utility territory, starting with Quarter 3, 1999.

**Table 6.1 F.W. Dodge Market Summary for Project Starts in California**

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects
New and additions	1999	3	3.492	50.23	1,443
	1999	4	2.474	38.16	1,068
	2000	1	3.004	48.08	1,160
	2000	2	2.855	39.77	1,096
	2000	3	3.890	46.31	1,227
	2000	4	3.500	45.99	1,191
	2001	1	4.006	52.11	1,118
	2001	2	3.639	44.73	1,221
	2001	3	3.800	46.47	1,398
Alterations	2001	4	2.877	35.17	1,068
	1999	3	1.102	-	1,374
	1999	4	0.851	-	1,026
	2000	1	0.710	-	983
	2000	2	0.958	-	1,101
	2000	3	0.959	-	1,425
	2000	4	0.813	-	1,145
	2001	1	0.963	-	1,188
	2001	2	1.164	-	1,416
2001	3	0.951	-	1,313	
2001	4	0.754	-	874	

**Table 6.2 F.W. Dodge Market Summary for Project Starts within the SCE Service Territory**

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects
New and additions	1999	3	0.951	17.68	486
	1999	4	0.731	13.84	340
	2000	1	1.177	23.25	416
	2000	2	0.836	14.15	384
	2000	3	0.891	13.00	325
	2000	4	0.736	11.63	303
	2001	1	1.108	14.03	301
	2001	2	1.013	14.62	351
	2001	3	1.132	17.36	387
Alterations	2001	4	0.767	10.96	337
	1999	3	0.239	-	429
	1999	4	0.156	-	343
	2000	1	0.214	-	311
	2000	2	0.173	-	293
	2000	3	0.208	-	292
	2000	4	0.167	-	290
	2001	1	0.284	-	241
	2001	2	0.216	-	277
2001	3	0.188	-	294	
2001	4	0.156	-	227	

**Table 6.3 F.W. Dodge Market Summary for Project Starts within the PG&E Service Territory**

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects
New and additions	1999	3	1.528	17.77	566
	1999	4	0.992	13.17	387
	2000	1	1.087	13.00	371
	2000	2	0.965	13.05	392
	2000	3	1.948	21.36	536
	2000	4	1.671	20.56	532
	2001	1	1.716	21.66	457
	2001	2	1.620	17.32	472
	2001	3	1.300	14.21	497
Alterations	2001	4	1.030	12.04	360
	1999	3	0.513	-	466
	1999	4	0.390	-	291
	2000	1	0.289	-	300
	2000	2	0.430	-	458
	2000	3	0.428	-	620
	2000	4	0.373	-	471
	2001	1	0.404	-	456
	2001	2	0.612	-	652
2001	3	0.421	-	472	
2001	4	0.311	-	358	

**Table 6.4 F.W. Dodge Market Summary for Project Starts within the SDG&E Service Territory**

Program Type	Year	Quarter	Value (\$billions)	Area (millions of sqft)	Number of Projects
New and additions	1999	3	0.412	5.28	132
	1999	4	0.362	5.06	136
	2000	1	0.297	5.29	141
	2000	2	0.451	5.54	110
	2000	3	0.453	5.33	141
	2000	4	0.342	4.63	109
	2001	1	0.466	5.46	119
	2001	2	0.326	3.85	144
	2001	3	0.545	6.49	154
Alterations	2001	4	0.259	3.56	118
	1999	3	0.074	-	139
	1999	4	0.142	-	126
	2000	1	0.105	-	140
	2000	2	0.116	-	106
	2000	3	0.099	-	176
	2000	4	0.103	-	133
	2001	1	0.103	-	192
	2001	2	0.133	-	167
2001	3	0.113	-	179	
2001	4	0.051	-	74	

**Table 6.5 Statewide SBD Program Participation Summary**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Number of Participants	
<b>NEW CONSTRUCTION</b>						
Whole Building Approach	1999	3	0.10	0.29	2	
	1999	4	3.13	9.06	22	
	2000	1	0.33	2.12	3	
	2000	2	2.49	8.72	21	
	2000	3	1.01	4.26	5	
	2000	4	4.40	7.61	18	
	2001	1	8.34	11.38	34	
	2001	2	6.12	16.58	44	
	2001	3	6.98	17.25	55	
	2001	4	4.91	21.74	53	
	Systems Approach	1999	3	3.86	8.02	29
		1999	4	6.25	14.78	73
2000		1	1.72	3.63	17	
2000		2	3.17	7.08	46	
2000		3	3.88	6.31	65	
2000		4	5.34	16.84	130	
2001		1	3.72	5.71	50	
2001		2	8.58	23.81	135	
2001		3	5.02	11.78	106	
2001		4	15.66	45.11	178	
Total	1999	3	3.96	8.30	31	
	1999	4	9.38	23.84	95	
	2000	1	2.06	5.75	20	
	2000	2	5.67	15.81	67	
	2000	3	4.89	10.57	70	
	2000	4	9.74	24.45	148	
	2001	1	12.07	17.09	84	
	2001	2	14.70	40.39	179	
	2001	3	12.00	29.03	161	
	2001	4	20.56	66.84	231	
<b>R&amp;R, incl. TI</b>						
Whole Building Approach	1999	3	.	.	.	
	1999	4	0.19	1.10	2	
	2000	1	0.02	0.01	1	
	2000	2	0.13	0.35	3	
	2000	3	.	.	.	
	2000	4	0.85	2.55	9	
	2001	1	.	.	.	
	2001	2	0.07	0.16	2	
	2001	3	0.04	0.10	1	
	2001	4	0.09	0.23	2	
Systems Approach	1999	3	1.36	5.57	15	
	1999	4	1.65	3.51	32	
	2000	1	3.71	2.85	18	
	2000	2	2.68	5.41	35	
	2000	3	1.92	5.52	36	
	2000	4	3.78	9.92	77	
	2001	1	1.26	10.15	27	
	2001	2	4.27	9.54	64	
	2001	3	2.56	4.13	48	
	2001	4	4.17	8.21	84	
Total	1999	3	1.36	5.57	15	
	1999	4	1.84	4.61	34	
	2000	1	3.74	2.86	19	
	2000	2	2.81	5.75	38	
	2000	3	1.92	5.52	36	
	2000	4	4.63	12.47	86	
	2001	1	1.26	10.15	27	
	2001	2	4.34	9.70	66	
	2001	3	2.60	4.23	49	
	2001	4	4.26	8.44	86	

**Table 6.6 SBD Program Participation Summary for SCE Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Number of Participants	
<b>NEW CONSTRUCTION</b>						
Whole Building Approach	1999	3	.	.	.	
	1999	4	.	.	.	
	2000	1	0.09	1.32	1	
	2000	2	0.65	1.58	1	
	2000	3	0.78	3.74	3	
	2000	4	1.11	2.25	4	
	2001	1	4.02	3.97	6	
	2001	2	0.09	0.38	1	
	2001	3	2.03	7.08	10	
	2001	4	2.83	15.66	20	
	Systems Approach	1999	3	3.78	7.97	27
		1999	4	4.33	10.84	44
2000		1	1.26	3.17	8	
2000		2	1.98	5.19	18	
2000		3	1.82	3.03	24	
2000		4	1.26	8.58	25	
2001		1	1.44	1.95	17	
2001		2	3.81	13.50	46	
2001		3	1.78	5.20	27	
Total	2001	4	7.13	23.56	62	
	1999	3	3.78	7.97	27	
	1999	4	4.33	10.84	44	
	2000	1	1.36	4.49	9	
	2000	2	2.63	6.77	19	
	2000	3	2.61	6.78	27	
	2000	4	2.37	10.82	29	
	2001	1	5.46	5.92	23	
	2001	2	3.89	13.88	47	
	2001	3	3.80	12.28	37	
2001	4	9.96	39.22	82		
<b>R&amp;R, incl. TI</b>						
Whole Building Approach	1999	3	.	.	.	
	1999	4	.	.	.	
	2000	1	.	.	.	
	2000	2	.	.	.	
	2000	3	.	.	.	
	2000	4	0.85	2.55	9	
	2001	1	.	.	.	
	2001	2	.	.	.	
	2001	3	.	.	.	
	2001	4	0.02	0.12	1	
Systems Approach	1999	3	1.20	5.35	10	
	1999	4	1.05	2.41	13	
	2000	1	0.35	0.50	4	
	2000	2	1.58	2.92	10	
	2000	3	0.77	3.93	12	
	2000	4	2.50	7.18	36	
	2001	1	0.44	6.54	10	
	2001	2	2.12	7.18	15	
	2001	3	0.94	2.24	16	
Total	2001	4	0.69	1.84	10	
	1999	3	1.20	5.35	10	
	1999	4	1.05	2.41	13	
	2000	1	0.35	0.50	4	
	2000	2	1.58	2.92	10	
	2000	3	0.77	3.93	12	
	2000	4	3.35	9.73	45	
	2001	1	0.44	6.54	10	
2001	2	2.12	7.18	15		
2001	3	0.94	2.24	16		
2001	4	0.71	1.95	11		

**Table 6.7 SBD Program Participation Summary for PG&E Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Number of Participants
<b>NEW CONSTRUCTION</b>					
Whole Building Approach	1999	3	.	.	.
	1999	4	2.17	6.04	16
	2000	1	.	.	.
	2000	2	1.10	3.08	5
	2000	3	0.23	0.52	2
	2000	4	3.27	5.30	13
	2001	1	4.14	6.77	14
	2001	2	5.00	9.72	21
	2001	3	4.05	7.59	27
	2001	4	0.99	1.74	8
Systems Approach	1999	3	.	.	.
	1999	4	1.31	1.76	18
	2000	1	0.07	0.18	1
	2000	2	0.45	0.48	12
	2000	3	0.94	1.44	26
	2000	4	2.71	6.30	78
	2001	1	1.54	2.21	17
	2001	2	2.93	3.63	60
	2001	3	1.79	2.34	44
Total	1999	3	0.00	0.00	0
	1999	4	3.48	7.80	34
	2000	1	0.07	0.18	1
	2000	2	1.55	3.55	17
	2000	3	1.16	1.96	28
	2000	4	5.98	11.60	91
	2001	1	5.68	8.98	31
	2001	2	7.94	13.35	81
	2001	3	5.85	9.94	71
R&R, incl. TI	1999	3	.	.	.
	1999	4	.	.	.
	2000	1	.	.	.
	2000	2	0.09	0.25	1
	2000	3	.	.	.
	2000	4	.	.	.
	2001	1	.	.	.
	2001	2	0.06	0.10	1
	2001	3	.	.	.
Systems Approach	1999	3	.	.	.
	1999	4	0.34	0.56	6
	2000	1	0.04	0.06	2
	2000	2	0.46	1.36	10
	2000	3	0.30	0.26	4
	2000	4	0.78	1.88	24
	2001	1	0.44	0.56	5
	2001	2	1.62	1.61	33
	2001	3	1.12	1.26	19
Total	1999	3	0.00	0.00	0
	1999	4	0.34	0.56	6
	2000	1	0.04	0.06	2
	2000	2	0.55	1.61	11
	2000	3	0.30	0.26	4
	2000	4	0.78	1.88	24
	2001	1	0.44	0.56	5
	2001	2	1.67	1.71	34
	2001	3	1.12	1.26	19
2001	4	2.93	4.61	61	



**Table 6.8 SBD Program Participation Summary for SDG&E Territory**

Program Type	Year	Quarter	Area (millions of sqft)	Energy Impacts GWh	Number of Participants	
<b>NEW CONSTRUCTION</b>						
Whole Building Approach	1999	3	0.10	0.29	2	
	1999	4	0.96	3.02	6	
	2000	1	0.24	0.80	2	
	2000	2	0.74	4.06	15	
	2000	3	.	.	.	
	2000	4	0.02	0.07	1	
	2001	1	0.18	0.65	14	
	2001	2	1.03	6.48	22	
	2001	3	0.90	2.58	18	
	2001	4	1.09	4.33	25	
Systems Approach	1999	3	0.08	0.04	2	
	1999	4	0.61	2.18	11	
	2000	1	0.39	0.28	8	
	2000	2	0.74	1.42	16	
	2000	3	1.12	1.84	15	
	2000	4	1.37	1.96	27	
	2001	1	0.74	1.55	16	
	2001	2	1.84	6.69	29	
	2001	3	1.45	4.24	35	
Total	2001	4	2.77	5.20	34	
	1999	3	0.18	0.33	4	
	1999	4	1.57	5.20	17	
	2000	1	0.63	1.08	10	
	2000	2	1.48	5.48	31	
	2000	3	1.12	1.84	15	
	2000	4	1.39	2.02	28	
	2001	1	0.92	2.19	30	
	2001	2	2.88	13.17	51	
R&R, incl. TI	2001	3	2.35	6.82	53	
	2001	4	3.87	9.53	59	
	Whole Building Approach	1999	3	.	.	.
		1999	4	0.19	1.10	2
		2000	1	0.02	0.01	1
		2000	2	0.04	0.09	2
		2000	3	.	.	.
		2000	4	.	.	.
		2001	1	.	.	.
		2001	2	0.02	0.06	1
2001		3	0.04	0.10	1	
2001		4	.	.	.	
Systems Approach	1999	3	0.16	0.22	5	
	1999	4	0.27	0.53	13	
	2000	1	3.32	2.28	12	
	2000	2	0.64	1.13	15	
	2000	3	0.84	1.33	20	
	2000	4	0.49	0.86	17	
	2001	1	0.38	3.05	12	
	2001	2	0.53	0.75	16	
	2001	3	0.50	0.63	13	
Total	2001	4	0.61	1.88	14	
	1999	3	0.16	0.22	5	
	1999	4	0.46	1.63	15	
	2000	1	3.35	2.30	13	
	2000	2	0.68	1.23	17	
	2000	3	0.84	1.33	20	
	2000	4	0.49	0.86	17	
	2001	1	0.38	3.05	12	
	2001	2	0.55	0.81	17	
2001	3	0.54	0.73	14		
2001	4	0.61	1.88	14		

**Table 6.9. Summary of Statewide SBD Program Penetration**

Program Type	Year	Quarter	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3	50.23	3.96	7.9%	1,443	31	2.1%
	1999	4	38.16	9.38	24.6%	1,068	95	8.9%
	2000	1	48.08	2.06	4.3%	1,160	20	1.7%
	2000	2	39.77	5.67	14.2%	1,096	67	6.1%
	2000	3	46.31	4.89	10.6%	1,227	70	5.7%
	2000	4	45.99	9.74	21.2%	1,191	148	12.4%
	2001	1	52.11	12.07	23.2%	1,118	84	7.5%
	2001	2	44.73	14.70	32.9%	1,221	179	14.7%
	2001	3	46.47	12.00	25.8%	1,398	161	11.5%
	2001	4	35.17	20.56	58.5%	1,068	231	21.6%
Alterations (R&R)	1999	3	-	1.36	-	1,374	15	1.1%
	1999	4	-	1.84	-	1,026	34	3.3%
	2000	1	-	3.74	-	983	19	1.9%
	2000	2	-	2.81	-	1,101	38	3.5%
	2000	3	-	1.92	-	1,425	36	2.5%
	2000	4	-	4.63	-	1,145	86	7.5%
	2001	1	-	1.26	-	1,188	27	2.3%
	2001	2	-	4.34	-	1,416	66	4.7%
	2001	3	-	0.00	-	1,313	49	3.7%
	2001	4	-	4.26	-	874	86	9.8%

**Table 6.10. Summary of SBD Program Penetration within the SCE Service Territory**

Program Type	Year	Quarter	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3	17.68	3.78	21.4%	486	27	5.6%
	1999	4	13.84	4.33	31.3%	340	44	12.9%
	2000	1	23.25	1.36	5.8%	416	9	2.2%
	2000	2	14.15	2.63	18.6%	384	19	4.9%
	2000	3	13.00	2.61	20.0%	325	27	8.3%
	2000	4	11.63	2.37	20.4%	303	29	9.6%
	2001	1	14.03	5.46	38.9%	301	23	7.6%
	2001	2	14.62	3.89	26.6%	351	47	13.4%
	2001	3	17.36	3.80	21.9%	387	37	9.6%
	2001	4	10.96	9.96	90.9%	337	82	24.3%
Alterations (R&R)	1999	3	-	1.20	-	429	10	2.3%
	1999	4	-	1.05	-	343	13	3.8%
	2000	1	-	0.35	-	311	4	1.3%
	2000	2	-	1.58	-	293	10	3.4%
	2000	3	-	0.77	-	292	12	4.1%
	2000	4	-	3.35	-	290	45	15.5%
	2001	1	-	0.44	-	241	10	4.1%
	2001	2	-	2.12	-	277	15	5.4%
	2001	3	-	0.94	-	294	16	5.4%
	2001	4	-	0.71	-	227	11	4.8%

**Table 6.11. Summary of SBD Program Penetration within the PG&E Service Territory**

Program Type	Year	Quarter	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3	17.77	0.00	0.0%	566	0	0.0%
	1999	4	13.17	3.48	26.4%	387	34	8.8%
	2000	1	13.00	0.07	0.5%	371	1	0.3%
	2000	2	13.05	1.55	11.9%	392	17	4.3%
	2000	3	21.36	1.16	5.4%	536	28	5.2%
	2000	4	20.56	5.98	29.1%	532	91	17.1%
	2001	1	21.66	5.68	26.2%	457	31	6.8%
	2001	2	17.32	7.94	45.8%	472	81	17.2%
Alterations (R&R)	2001	3	14.21	5.85	41.2%	497	71	14.3%
	2001	4	12.04	6.74	56.0%	360	90	25.0%
	1999	3	-	0.00	-	466	0	0.0%
	1999	4	-	0.34	-	291	6	2.1%
	2000	1	-	0.04	-	300	2	0.7%
	2000	2	-	0.55	-	458	11	2.4%
	2000	3	-	0.30	-	620	4	0.6%
	2000	4	-	0.78	-	471	24	5.1%
	2001	1	-	0.44	-	456	5	1.1%
	2001	2	-	1.67	-	652	34	5.2%
2001	3	-	1.12	-	472	19	4.0%	
2001	4	-	2.93	-	358	61	17.0%	

**Table 6.12. Summary of SBD Program Penetration within the SDG&E Service Territory**

Program Type	Year	Quarter	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3	5.28	0.18	3.5%	132	4	3.0%
	1999	4	5.06	1.57	31.1%	136	17	12.5%
	2000	1	5.29	0.63	12.0%	141	10	7.1%
	2000	2	5.54	1.48	26.8%	110	31	28.2%
	2000	3	5.33	1.12	21.1%	141	15	10.6%
	2000	4	4.63	1.39	30.1%	109	28	25.7%
	2001	1	5.46	0.92	16.9%	119	30	25.2%
	2001	2	3.85	2.88	74.8%	144	51	35.4%
	2001	3	6.49	2.35	36.2%	154	53	34.4%
Alterations (R&R)	2001	4	3.56	3.87	108.6%	118	59	50.0%
	1999	3	-	0.16	-	139	5	3.6%
	1999	4	-	0.46	-	126	15	11.9%
	2000	1	-	3.35	-	140	13	9.3%
	2000	2	-	0.68	-	106	17	16.0%
	2000	3	-	0.84	-	176	20	11.4%
	2000	4	-	0.49	-	133	17	12.8%
	2001	1	-	0.38	-	192	12	6.3%
	2001	2	-	0.55	-	167	17	10.2%
2001	3	-	0.54	-	179	14	7.8%	
2001	4	-	0.61	-	74	14	18.9%	

## 7. MOST ACTIVE MARKET PLAYERS IN PY2001

This chapter presents the most active market players in PY2001, by utility territory and statewide, as reported in the F.W. Dodge “Players” database. The most active market players are defined as the architectural and engineering firms who either contributed to the highest number of projects, or contributed to projects that added up to the highest total value in PY2001. Knowledge about the players who are most active in new construction design offers targeted marketing opportunities for the SBD program.

Our experience with the F.W. Dodge Reports indicates that, while most projects are associated with at least one market actor, that actor is not necessarily an architect or an engineer (the F.W. Dodge database also tracks owners and contractors). The data reported below are therefore subject to the limitations intrinsic to reporting within the F.W. Dodge Reports.

In preparing these results, all entries containing the same address, zip code, and similar names for the market actors, were considered to correspond to the same firm. Civil engineering, structural engineering, and landscape architecture firms were excluded only if their name included the words “civil”, “structural” or “landscape” (the F.W. Dodge database does not contain information regarding the specialty of an actor).

The mapping of market actors by utility service territory was done using the zip code associated with the *project* location, not that associated with the address of the *market actor*.

Table 7.1 presents the most active market players statewide, during PY2001.

Table 7.2 presents the most active market players in SCE territory during PY2001.

Table 7.3 shows the most active market players in PG&E territory during PY2001.

Table 7.4 summarizes the most active market players in SDG&E territory during PY2001.

**Table 7.1 Most Active Market Players in California in PY2001  
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
	City	State	Total	New Construction	Alteration	Total	New Construction	Alteration
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Hill Pinckert Architects	NEWPORT BEACH	CA	332.012	326.282	5.630	26	21	4
Perkowitz & Ruth Architects	LONG BEACH	CA	300.592	293.518	7.074	39	35	4
Gruen Associates	LOS ANGELES	CA	247.489	233.600	13.889	6	2	4
HMC Group	ONTARIO	CA	238.946	140.390	98.556	31	14	17
LPA	IRVINE	CA	221.764	187.660	34.104	25	10	15
Perkins & Will Architects	SANTA MONICA	CA	218.088	216.488	1.500	5	3	1
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	210.125	202.380	7.745	5	4	1
Langdon Wilson Architecture	LOS ANGELES	CA	199.476	195.501	3.800	6	4	1
Architects Orange	ORANGE	CA	191.865	190.997	0.700	12	10	1
Korth Sunseri Hagey Architects	SAN FRANCISCO	CA	180.703	172.982	7.721	8	5	3
<b>Top 10 by Number of Projects</b>								
Casco Corporation	SAINT LOUIS	MO	97.908	47.627	50.000	58	8	47
Perkowitz & Ruth Architects	LONG BEACH	CA	300.592	293.518	7.074	39	35	4
HMC Group	ONTARIO	CA	238.946	140.390	98.556	31	14	17
Leidenfrost/Horowitz & Associates	GLENDALE	CA	73.422	68.844	4.496	29	24	4
Lionakis Beaumont Design Group	SACRAMENTO	CA	102.670	70.150	32.520	28	14	14
Ware & Malcomb	IRVINE	CA	95.393	88.542	5.630	27	10	8
Hill Pinckert Architects	NEWPORT BEACH	CA	332.012	326.282	5.630	26	21	4
Shremshock Architects	COLUMBUS	OH	4.500	3.000	1.500	26	20	6
W L C Architects	RANCHO CUCAMONGA	CA	125.873	80.193	45.680	26	9	17
LPA	IRVINE	CA	221.764	187.660	34.104	25	10	15
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Capitol Engineering Consultants Inc	SACRAMENTO	CA	340.151	210.898	129.253	98	39	59
John A Martin & Associates	LOS ANGELES	CA	263.406	245.495	17.911	9	6	3
Frederick Brown & Associates	NEWPORT BEACH	CA	239.754	212.003	27.751	40	26	14
ILA/Zammit Engineering	SAN DIEGO	CA	234.317	228.138	6.179	10	8	2
Culp & Tanner	LAKE FOREST	CA	222.232	216.046	6.186	12	9	3
ANF and Associates	EL MONTE	CA	217.402	215.077	2.325	47	45	2
M E Engineers	LOS ANGELES	CA	208.274	199.922	8.352	13	11	2
Dasse Design Inc	SAN FRANCISCO	CA	206.513	145.799	60.714	38	13	25
Alfa Tech Consulting Engineers	SAN JOSE	CA	205.379	151.633	53.746	22	9	13
Palmieri & Associates Inc	SOUTH PASADENA	CA	198.770	196.970	1.800	44	42	2
<b>Top 10 by Number of Projects</b>								
Capitol Engineering Consultants Inc	SACRAMENTO	CA	340.151	210.898	129.253	98	39	59
ANF and Associates	EL MONTE	CA	217.402	215.077	2.325	47	45	2
Palmieri & Associates Inc	SOUTH PASADENA	CA	198.770	196.970	1.800	44	42	2
Buehler & Buehler	SACRAMENTO	CA	148.311	102.613	45.698	43	22	21
Frederick Brown & Associates	NEWPORT BEACH	CA	239.754	212.003	27.751	40	26	14
Dasse Design Inc	SAN FRANCISCO	CA	206.513	145.799	60.714	38	13	25
TMAD Engineers Inc.	ONTARIO	CA	151.926	57.979	93.947	36	14	22
Zucco Fagent Associates	SANTA ROSA	CA	129.883	77.333	52.550	35	13	22
Brummel Myrick & Associates	SAN LUIS OBISPO	CA	60.587	36.191	24.396	31	13	18
Harry Yee & Associates	SACRAMENTO	CA	124.206	68.950	55.256	30	12	18

**Table 7.2 Most Active Market Players in SCE Territory in PY2001  
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
			Total	New Construction	Alteration	Total	New Construction	Alteration
	City	State						
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Hill Pinckert Architects	NEWPORT BEACH	CA	252.882	247.789	4.993	20	16	3
Perkowitz & Ruth Architects	LONG BEACH	CA	212.837	206.837	6.000	24	21	3
HMC Group	ONTARIO	CA	199.469	120.200	79.269	27	12	15
Architects Orange	ORANGE	CA	138.060	138.060	-	4	4	-
HOK/Hellmuth Obata & Kassabaum Inc	SAN FRANCISCO	CA	109.880	109.880	-	1	1	-
RG&A Architectural Design	LONG BEACH	CA	108.481	108.481	-	6	6	-
R K Z Architects	TUSTIN	CA	103.228	103.228	-	12	12	-
Kaplan McLaughlin Diaz	SAN FRANCISCO	CA	93.191	93.191	-	2	2	-
W L C Architects	RANCHO CUCAMONGA	CA	86.876	47.678	39.198	20	7	13
Kaufman-Meeks & Partners	NEWPORT BEACH	CA	86.500	86.500	-	3	3	-
<b>Top 10 by Number of Projects</b>								
HMC Group	ONTARIO	CA	199.469	120.200	79.269	27	12	15
Perkowitz & Ruth Architects	LONG BEACH	CA	212.837	206.837	6.000	24	21	3
Hill Pinckert Architects	NEWPORT BEACH	CA	252.882	247.789	4.993	20	16	3
W L C Architects	RANCHO CUCAMONGA	CA	86.876	47.678	39.198	20	7	13
Casco Corporation	SAINT LOUIS	MO	42.350	24.000	18.250	17	2	14
NTD-Neptune Thomas Davis	GLENDORA	CA	77.865	57.470	20.395	17	7	10
Ware & Malcomb	IRVINE	CA	34.059	27.933	5.630	15	3	8
R K Z Architects	TUSTIN	CA	103.228	103.228	-	12	12	-
Flewelling & Moody	PASADENA	CA	27.064	13.276	13.788	12	2	10
LPA	IRVINE	CA	73.991	45.896	28.095	12	4	8
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
TMAD Engineers Inc.	ONTARIO	CA	119.860	46.709	73.151	30	11	19
Frederick Brown & Associates	NEWPORT BEACH	CA	116.401	106.444	9.957	23	15	8
ANF and Associates	EL MONTE	CA	109.327	109.327	-	19	19	-
Nack & Pezeshki	CARLSBAD	CA	85.741	74.254	11.487	19	12	7
Palmieri & Associates Inc	SOUTH PASADENA	CA	79.170	78.820	0.350	16	15	1
ACEA Inc/Associated Consulting Engrs	ARCADIA	CA	78.862	46.200	32.662	7	3	4
F T Andrews Inc	ANAHEIM	CA	76.159	52.871	23.288	17	8	9
K B Leung & Associates	RANCHO CUCAMONGA	CA	69.369	44.754	24.615	10	4	6
California Engineering Design Group Inc.	BURBANK	CA	66.655	61.107	5.548	7	3	4
Ajit Randhava Engineers	LA MIRADA	CA	65.000	65.000	-	3	3	-
<b>Top 10 by Number of Projects</b>								
TMAD Engineers Inc.	ONTARIO	CA	119.860	46.709	73.151	30	11	19
Frederick Brown & Associates	NEWPORT BEACH	CA	116.401	106.444	9.957	23	15	8
ANF and Associates	EL MONTE	CA	109.327	109.327	-	19	19	-
Nack & Pezeshki	CARLSBAD	CA	85.741	74.254	11.487	19	12	7
F T Andrews Inc	ANAHEIM	CA	76.159	52.871	23.288	17	8	9
GLP Karjala Associates	COSTA MESA	CA	19.864	9.395	10.469	16	8	8
Kanda & Tso Associates	SOUTH PASADENA	CA	57.051	44.352	12.699	16	10	6
Palmieri & Associates Inc	SOUTH PASADENA	CA	79.170	78.820	0.350	16	15	1
Donn C Gilmore & Associates Inc	ONTARIO	CA	30.161	20.074	10.087	14	8	6
R M Byrd and Associates	ONTARIO	CA	40.884	20.981	19.903	13	9	4

**Table 7.3 Most Active Market Players in PG&E Territory in PY2001  
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
	City	State	Total	New Construction	Alteration	Total	New Construction	Alteration
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Korth Sunseri Hagey Architects	SAN FRANCISCO	CA	180.303	172.982	7.321	7	5	2
Gordon H Chong & Associates	SAN FRANCISCO	CA	162.871	160.871	2.000	9	8	1
SOM/Skidmore Owings & Merrill LLP	SAN FRANCISCO	CA	151.859	85.059	66.800	6	2	4
M B T Associates	SAN FRANCISCO	CA	148.215	147.715	0.500	7	6	1
Gensler & Associates	SAN FRANCISCO	CA	121.406	109.793	11.053	10	3	3
Ware & Malcomb	SAN RAMON	CA	119.497	119.497	-	9	9	-
M B H Architects (McNulty Briseman & Heath)	ALAMEDA	CA	119.027	101.000	18.027	14	6	8
The Steinberg Group	SAN JOSE	CA	112.190	90.247	21.943	19	6	13
Kwan Henmi Architecture/Planning Inc	SAN FRANCISCO	CA	109.492	97.500	11.992	6	2	4
Ratcliff Architects	EMERYVILLE	CA	106.270	100.000	6.150	6	3	2
<b>Top 10 by Number of Projects</b>								
Aedis/PJHM Architecture & Planning	SAN JOSE	CA	68.369	35.252	33.117	25	6	19
The Steinberg Group	SAN JOSE	CA	112.190	90.247	21.943	19	6	13
Lionakis Beaumont Design Group	SACRAMENTO	CA	72.307	56.361	15.946	18	9	9
TLCD Architecture	SANTA ROSA	CA	65.984	36.522	29.462	17	5	12
Hardison Komatsu Ivelich Tucker	OAKLAND	CA	56.045	46.798	9.247	15	7	8
BFGC Architects Planners Inc	SAN JOSE	CA	55.772	38.994	16.778	14	4	10
M B H Architects (McNulty Briseman & Heath)	ALAMEDA	CA	119.027	101.000	18.027	14	6	8
Edwin S Darden Associates Inc	FRESNO	CA	50.972	16.184	34.788	12	5	7
DES Architects + Engineers	REDWOOD CITY	CA	90.626	85.588	5.038	11	5	6
Gensler & Associates	SAN FRANCISCO	CA	121.406	109.793	11.053	10	3	3
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Capitol Engineering Consultants Inc	SACRAMENTO	CA	267.036	153.294	113.742	83	30	53
Alfa Tech Consulting Engineers	SAN JOSE	CA	205.379	151.633	53.746	22	9	13
Dasse Design Inc	SAN FRANCISCO	CA	199.182	142.404	56.778	36	12	24
Nishkian Menninger	SAN FRANCISCO	CA	197.653	152.653	45.000	7	5	2
Flack & Kurtz Consulting Engineers	SAN FRANCISCO	CA	144.350	84.850	59.500	8	5	3
Zucco Fagent Associates	SANTA ROSA	CA	129.883	77.333	52.550	35	13	22
Rutherford & Chekene	OAKLAND	CA	117.072	48.300	68.772	9	4	5
Forell-Elsesser Engineers Inc	SAN FRANCISCO	CA	107.162	104.580	2.582	9	5	4
Buehler & Buehler	SACRAMENTO	CA	104.765	60.765	44.000	35	16	19
KPFF Consulting Engineers	SANTA MONICA	CA	96.000	96.000	-	2	2	-
<b>Top 10 by Number of Projects</b>								
Capitol Engineering Consultants Inc	SACRAMENTO	CA	267.036	153.294	113.742	83	30	53
Dasse Design Inc	SAN FRANCISCO	CA	199.182	142.404	56.778	36	12	24
Buehler & Buehler	SACRAMENTO	CA	104.765	60.765	44.000	35	16	19
Zucco Fagent Associates	SANTA ROSA	CA	129.883	77.333	52.550	35	13	22
Brummel Myrick & Associates	SAN LUIS OBISPO	CA	41.392	17.353	24.039	27	10	17
Lawrence Nye Anderson Associates	FRESNO	CA	60.632	46.215	14.417	26	14	12
Belden Incorporated	DUBLIN	CA	89.485	74.067	15.418	24	14	10
Hobach Lewin	PALO ALTO	CA	65.958	50.585	15.373	24	12	12
Horn Engineers	SANTA ROSA	CA	48.074	6.125	41.949	24	5	19
Alfa Tech Consulting Engineers	SAN JOSE	CA	205.379	151.633	53.746	22	9	13

**Table 7.4 Most Active Market Players in SDG&E Territory in PY2001  
according to F.W. Dodge**

Firm Name	Firm Location		Project Value (in \$millions)			Number of Projects		
	City	State	Total	New	Alteration	Total	New	Alteration
				Construction			Construction	
<b>ARCHITECTS</b>								
<b>Top 10 by Project Value</b>								
Paul Steelman Ltd.	LAS VEGAS	NV	125.000	125.000	-	1	1	-
Carrier Johnson Architects	SAN DIEGO	CA	121.252	118.297	2.955	9	8	1
Martinez Cutri	SAN DIEGO	CA	95.999	90.565	5.434	5	4	1
KMA Architects	SAN DIEGO	CA	77.284	74.409	2.875	8	6	2
The Steinberg Group	LOS ANGELES	CA	60.000	60.000	-	1	1	-
Pacific Cornerstone Architect Inc	SAN DIEGO	CA	53.081	39.689	13.084	15	7	5
Bergman & Walls Associates	LAS VEGAS	NV	50.000	50.000	-	1	1	-
De Revere Partnership	NEWPORT BEACH	CA	49.500	49.500	-	2	2	-
Mithun - Architecture Design & Planning	SEATTLE	WA	41.960	41.960	-	2	2	-
Austin Veum Robbins Parshalle	SAN DIEGO	CA	34.415	29.334	4.998	11	5	5
<b>Top 10 by Number of Projects</b>								
Pacific Cornerstone Architect Inc	SAN DIEGO	CA	53.081	39.689	13.084	15	7	5
Austin Veum Robbins Parshalle	SAN DIEGO	CA	34.415	29.334	4.998	11	5	5
Architects Delawie Wilkes Rodrigues Barker	SAN DIEGO	CA	20.744	8.910	11.729	11	2	8
Joseph Wong Design Associates Inc.	SAN DIEGO	CA	30.415	22.000	8.051	11	1	7
Carrier Johnson Architects	SAN DIEGO	CA	121.252	118.297	2.955	9	8	1
Cooper Roberts & Company	SAN DIEGO	CA	2.958	-	2.401	9	-	5
The Stichler Design Group Inc	SAN DIEGO	CA	13.949	5.316	8.275	9	3	3
KMA Architects	SAN DIEGO	CA	77.284	74.409	2.875	8	6	2
NTD Architects	SAN DIEGO	CA	12.094	0.626	11.468	8	1	7
Sillman Wright Architects	SAN DIEGO	CA	15.182	9.970	5.212	8	3	5
<b>ENGINEERS</b>								
<b>Top 10 by Project Value</b>								
Flores Lund Mobayed	SAN DIEGO	CA	132.514	122.214	10.300	8	5	3
FEA Associates Inc	LAS VEGAS	NV	125.000	125.000	-	1	1	-
RHR Engineering	LAS VEGAS	NV	125.000	125.000	-	1	1	-
McParlane & Associates	SAN DIEGO	CA	111.708	109.708	2.000	12	11	1
ILA/Zammit Engineering	SAN DIEGO	CA	106.186	106.088	0.098	8	7	1
Hope Engineering	SAN DIEGO	CA	93.939	93.939	-	10	10	-
Burkett & Wong	SAN DIEGO	CA	79.879	66.792	13.087	11	7	4
DeLorenzo Inc	SAN DIEGO	CA	75.072	70.050	5.022	3	2	1
GEM Engineering Inc	SAN DIEGO	CA	71.310	71.197	0.113	6	5	1
Randall Lamb Associates	SAN DIEGO	CA	70.484	62.500	7.984	5	2	3
<b>Top 10 by Number of Projects</b>								
McParlane & Associates	SAN DIEGO	CA	111.708	109.708	2.000	12	11	1
Merrick & Associates	SAN DIEGO	CA	22.677	4.496	18.181	12	2	10
Burkett & Wong	SAN DIEGO	CA	79.879	66.792	13.087	11	7	4
Bechard - Long & Associates	SAN DIEGO	CA	60.882	49.399	11.483	10	3	7
Hope Engineering	SAN DIEGO	CA	93.939	93.939	-	10	10	-
Stedman & Dyson	SAN DIEGO	CA	27.991	21.509	6.482	9	4	5
Flores Lund Mobayed	SAN DIEGO	CA	132.514	122.214	10.300	8	5	3
ILA/Zammit Engineering	SAN DIEGO	CA	106.186	106.088	0.098	8	7	1
Johnson Consulting Engineers	POWAY	CA	18.720	8.126	10.594	8	2	6
HVAC Engineering	SAN DIEGO	CA	17.540	10.778	6.762	7	3	4



**APPENDIX A**

**GLOSSARY OF BUILDING TYPES RECORDED BY F.W. DODGE**

Amusement	amusement and recreational buildings
Assembly	religious and worship buildings
Education	libraries, museums
Government	government services
Hotel	hotels and motels
Medical	hospitals and other health-related buildings
Office	office and laboratory buildings
Retail	retail stores and shopping centers
School	schools, colleges and universities, including dorms
Service	service stations
Storage	warehouses and storage facilities
Other	other nonresidential buildings

## APPENDIX B

### CIRB NONRESIDENTIAL NEW CONSTRUCTION PERMIT VALUE IN PY2001

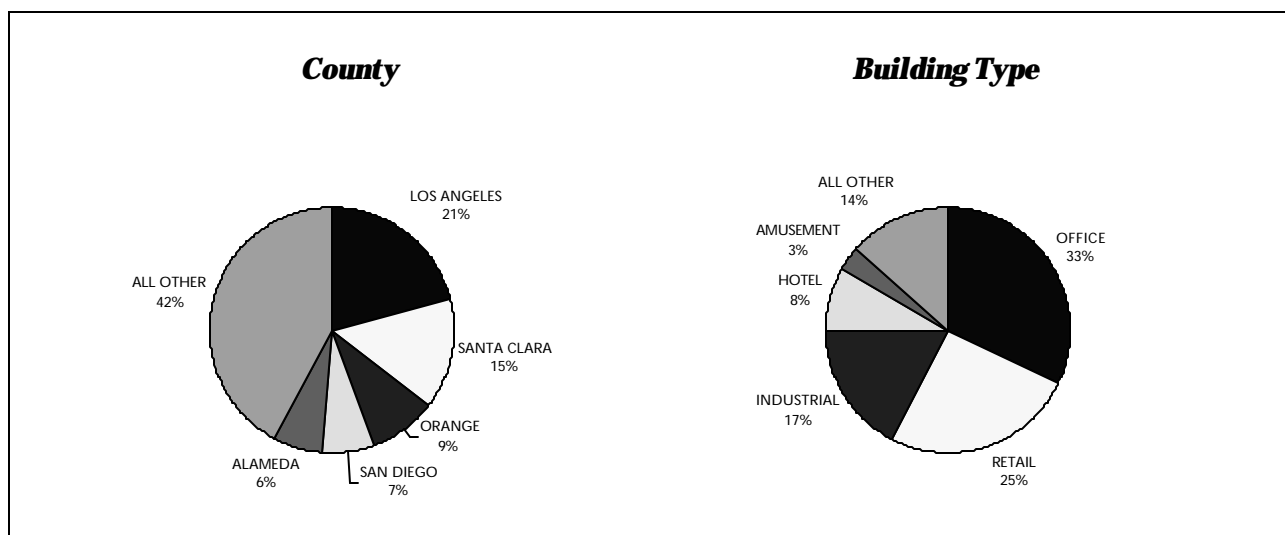
This Appendix presents information on the value of nonresidential new construction permits that were filed in PY2001 in the State of California. The data were collected by the Construction Industry Research Board from the more than 515 city and county building departments in California.

The CIRB database separates new construction projects from additions and alterations. New construction projects are then reported by building type, while additions and alteration projects are reported together, with no indication regarding building type. Moreover, CIRB reports only building-related projects, while leaving out permits for heating, HVAC, electrical, and other remodeling/renovation projects. A glossary of building/project types recorded by CIRB is provided at the end of this Appendix.

Table B.1 summarizes the value of nonresidential *permits filed* in PY2001, by building type. As shown in Exhibit B.1 below, Los Angeles, Santa Clara, Orange, San Diego and Alameda Counties account for the highest value of permits filed in the State during PY2001. Conversely, Sierra, Alpine, Modoc and Plumas Counties had the lowest volume of permit activity in PY2001. Among building types, the highest permit value was recorded in the office, retail and industrial segments, but the hotel and amusement segments also show relatively high activity. The lowest permit value was recorded in the service segment.

A breakdown of project valuation by utility territory was not possible, because the CIRB reports permit activity by city and county, not by zip code.

**Exhibit B.1**  
**Market Segments with the Highest Permit Value in PY2001**



**Table B.1 CIRB Statewide Nonresidential Permit Valuation in PY2001  
by Building Type and County (\$1,000)**

COUNTY	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL
ALAMEDA	.	2,683	80,434	.	170,483	2,900	1,600	127,607	6,805	97,333	489,844	504,799	994,643
ALPINE	.	.	.	.	.	20	.	.	.	.	20	8	28
AMADOR	.	.	.	.	1,278	1,452	.	89	.	229	3,048	1,382	4,431
BUTTE	1,664	1,580	.	3,616	18,665	5,551	600	21,418	568	2,850	56,512	11,116	67,629
CALAVERAS	.	.	.	.	.	600	.	3,265	.	.	3,945	2,592	6,537
COLUSA	.	.	.	.	.	9,230	.	1,205	.	.	10,435	1,251	11,687
CONTRA COSTA	19,347	5,538	37,622	.	209,722	26,646	4,369	56,586	.	9,633	369,462	165,153	534,614
DEL NORTE	600	.	.	.	.	773	.	.	.	.	1,373	384	1,758
EL DORADO	.	1,600	123,881	.	1,658	3,736	2,002	7,209	.	.	140,086	25,454	165,540
FRESNO	1,849	363	.	.	34,827	11,855	476	57,393	1,441	26,993	135,197	99,972	235,168
GLENN	.	.	.	.	.	1,650	.	407	398	376	2,831	620	3,451
HUMBOLDT	.	.	3,778	.	.	4,899	.	7,779	.	180	16,636	7,277	23,913
IMPERIAL	.	.	.	.	1,402	1,131	.	2,950	.	548	6,031	6,405	12,435
INYO	.	.	.	977	.	428	.	.	.	821	2,226	1,117	3,343
KERN	455	4,910	.	2,205	52,564	41,466	474	31,074	1,998	22,055	157,201	48,206	205,406
KINGS	.	.	.	.	572	1,712	.	1,066	.	41,846	45,197	8,496	53,693
LAKE	.	.	.	.	370	339	.	436	371	.	1,516	768	2,284
LASSEN	.	.	.	.	.	301	.	.	.	.	301	818	1,119
LOS ANGELES	83,709	20,127	19,253	45,000	592,652	86,030	100,430	471,577	7,318	204,507	1,630,600	1,654,699	3,285,299
MADERA	137	854	.	.	937	2,216	.	8,188	.	2,738	15,070	6,265	21,335
MARIN	.	.	.	.	44,518	1,356	.	2,100	.	4,103	52,077	48,232	100,309
MARIPOSA	.	.	.	.	.	3,122	.	1,122	.	.	4,244	327	4,571
MENDOCINO	.	2,704	8,329	.	2,286	3,273	.	3,505	.	4,067	24,165	6,000	30,165
MERCED	.	.	.	.	650	28,618	.	14,032	.	3,921	47,221	10,686	57,906
MODOC	.	.	.	.	.	172	.	.	.	.	172	89	261
MONO	.	.	.	.	.	547	.	.	.	.	547	1,062	1,609
MONTREY	3,595	1,848	1,480	.	11,734	9,602	5,148	5,150	.	5,646	44,202	48,943	93,145
NAPA	14,263	.	3,350	2,034	7,056	10,499	.	64,141	750	7,965	110,058	34,987	145,045
NEVADA	618	152	1,218	9,480	7,739	4,352	.	216	.	.	23,775	599	24,373
ORANGE	34,793	26,054	170,777	19,228	188,578	9,726	25,695	208,723	4,007	130,868	818,448	587,095	1,405,543
PLACER	4,434	373	.	.	31,127	4,240	.	55,574	3,211	12,182	111,141	65,712	176,853
PLUMAS	.	.	.	.	308	.	.	.	.	.	308	260	567
RIVERSIDE	8,972	5,783	16,410	3,139	49,345	25,605	8,626	195,410	3,169	60,704	377,165	151,633	528,798
SACRAMENTO	7,692	4,168	12,660	4,076	151,679	17,338	10,650	94,353	559	44,614	347,790	209,644	557,434
SAN BENITO	.	.	.	.	.	1,492	.	3,144	.	.	4,636	5,645	10,281
SAN BERNARDINO	4,859	2,768	7,727	630	19,773	19,508	8,286	165,281	8,262	307,816	544,910	107,968	652,877
SAN DIEGO	31,817	12,942	66,754	24,852	146,945	32,780	34,982	166,116	11,896	100,452	629,537	455,891	1,085,427
SAN FRANCISCO	1,200	.	24,000	.	161,151	4,122	20,600	20,629	.	550	232,252	449,879	682,131
SAN JOAQUIN	.	8,441	6,598	.	12,021	13,805	523	50,620	9,789	32,064	133,861	76,978	210,839
SAN LUIS OBISPO	.	177	2,409	.	7,181	13,337	.	24,665	1,201	7,727	56,696	23,422	80,119
SAN MATEO	8,850	.	21,586	787	279,409	6,976	.	14,014	5,332	5,133	342,086	261,706	603,792
SANTA BARBARA	.	724	.	.	10,795	13,309	1,232	28,353	.	14,062	68,475	61,148	129,623
SANTA CLARA	10,430	5,932	93,429	53,491	543,907	15,091	53,169	138,835	.	222,461	1,136,744	1,170,107	2,306,851
SANTA CRUZ	.	.	4,175	1,473	13,097	1,894	381	1,918	.	932	23,870	16,971	40,841
SHASTA	19,800	2,396	.	.	6,049	4,286	.	15,773	181	5,894	54,379	11,451	65,830
SIERRA	.	.	.	.	.	9	.	9	.	.	9	13	22
SISKIYOU	.	.	.	.	.	5,797	.	300	.	3,396	9,492	3,940	13,432
SOLANO	.	1,165	6,107	.	9,000	9,595	883	15,015	1,193	18,775	61,732	46,349	108,081
SONOMA	1,668	3,217	24,858	.	31,618	12,917	1,400	35,404	613	31,341	143,033	64,538	207,572
STANISLAUS	2,900	475	4,360	10,295	15,044	23,545	468	51,557	1,689	6,985	117,318	69,782	187,100
SUTTER	.	1,697	.	.	4,130	1,087	.	16,361	.	4,959	28,235	7,866	36,100
TEHAMA	.	811	.	.	.	7,461	.	.	.	2,847	11,119	1,509	12,628
TRINITY	194	.	.	.	.	545	.	.	.	.	740	483	1,222
TULARE	500	286	1,000	.	7,815	13,610	.	10,488	482	17,681	51,862	29,940	81,801
TUOLUMNE	10,000	.	.	666	5,350	1,648	.	3,200	.	.	20,864	3,109	23,973
VENTURA	11,517	759	.	4,416	33,176	17,900	862	58,655	.	75,489	202,775	102,439	305,214
YOLO	.	.	.	.	14,716	4,528	.	11,279	314	22,577	53,413	28,826	82,239
YUBA	1,664	.	.	2,616	1,018	3,601	901	117	.	358	10,275	1,968	12,243
CALIFORNIA	287,527	120,526	742,194	188,981	2,902,347	550,306	283,756	2,274,298	71,544	1,565,676	8,987,156	6,713,978	15,701,134

Tables B.2 and B.3 present quarterly permit activity, by county and building type. According to these data, there is little variation from quarter to quarter in the volume of permit activity for the entire market, as well as geographically and by building type.

**Table B.2 CIRB Nonresidential Permit Valuation in PY2001  
by Quarter and County (\$1,000)**

COUNTY	NEW CONSTRUCTION					ADDITIONS AND ALTERATIONS					2001 TOTAL
	Q1, 2001	Q2, 2001	Q3, 2001	Q4, 2001	2001 Total	Q1, 2001	Q2, 2001	Q3, 2001	Q4, 2001	2001 Total	
ALAMEDA	205,105	90,849	103,126	90,764	489,844	161,899	117,560	107,724	117,616	504,799	994,643
ALPINE	20	0	0	0	20	0	0	8	.	8	28
AMADOR	438	94	2,424	94	3,048	71	196	918	196	1,382	4,431
BUTTE	21,348	12,087	9,910	13,168	56,512	2,817	2,743	2,794	2,762	11,116	67,629
CALAVERAS	3,144	340	120	340	3,945	851	683	374	683	2,592	6,537
COLUSA	2,289	3,034	2,078	3,034	10,435	179	372	329	372	1,251	11,687
CONTRA COSTA	30,581	108,982	116,089	113,810	369,462	39,997	33,899	57,485	33,772	165,153	534,614
DEL NORTE	733	254	133	254	1,373	166	75	69	75	384	1,758
EL DORADO	4,556	66,307	2,917	66,307	140,086	10,235	6,319	2,581	6,319	25,454	165,540
FRESNO	38,342	34,021	24,444	38,389	135,197	31,810	23,854	20,294	24,014	99,972	235,168
GLENN	453	889	601	889	2,831	284	137	63	137	620	3,451
HUMBOLDT	2,735	6,461	979	6,461	16,636	1,438	2,162	1,514	2,162	7,277	23,913
IMPERIAL	2,405	897	1,831	897	6,031	922	2,266	952	2,266	6,405	12,435
INYO	1	214	1,798	214	2,226	196	327	267	327	1,117	3,343
KERN	44,134	37,998	27,565	47,504	157,201	11,576	9,699	13,537	13,393	48,206	205,406
KINGS	4,391	19,943	920	19,943	45,197	1,238	3,376	506	3,376	8,496	53,693
LAKE	560	0	955	0	1,516	614	32	90	32	768	2,284
LASSEN	125	34	125	17	301	356	154	22	286	818	1,119
LOS ANGELES	468,642	456,088	244,691	461,179	1,630,600	397,271	412,973	427,698	416,757	1,654,699	3,285,299
MADERA	6,035	2,400	4,234	2,400	15,070	1,136	2,138	853	2,138	6,265	21,335
MARIN	18,956	15,395	2,330	15,395	52,077	7,925	13,825	12,658	13,825	48,232	100,309
MARIPOSA	797	1,160	1,126	1,160	4,244	0	13	302	13	327	4,571
MENDOCINO	15,094	2,679	3,713	2,679	24,165	1,275	1,550	1,625	1,550	6,000	30,165
MERCED	3,766	17,120	9,214	17,120	47,221	1,319	3,425	2,518	3,425	10,686	57,906
MODOC	28	47	51	47	172	45	14	16	14	89	261
MONO	0	273	0	273	547	46	423	169	423	1,062	1,609
MONTEREY	7,230	8,973	19,027	8,973	44,202	11,229	11,420	14,875	11,420	48,943	93,145
NAPA	34,926	27,122	20,888	27,122	110,058	10,830	6,807	10,544	6,807	34,987	145,045
NEVADA	11,036	4,417	3,905	4,417	23,775	125	131	212	131	599	24,373
ORANGE	223,603	217,266	158,513	219,066	818,448	134,841	159,707	132,153	160,395	587,095	1,405,543
PLACER	12,330	28,522	41,768	28,522	111,141	19,818	14,831	16,232	14,831	65,712	176,853
PLUMAS	0	0	308	0	308	26	75	84	75	260	567
RIVERSIDE	72,564	86,533	129,994	88,073	377,165	29,004	44,409	33,856	44,365	151,633	528,798
SACRAMENTO	40,811	109,808	84,435	112,736	347,790	43,665	46,482	63,675	55,822	209,644	557,434
SAN BENITO	940	421	2,854	421	4,636	2,314	780	1,771	780	5,645	10,281
SAN BERNARDINO	158,359	97,136	191,650	97,764	544,910	25,846	26,150	29,378	26,593	107,968	652,877
SAN DIEGO	166,688	175,730	111,388	175,730	629,537	116,230	108,908	121,844	108,908	455,891	1,085,427
SAN FRANCISCO	134,782	10,059	77,351	10,059	232,252	130,826	120,006	79,042	120,006	449,879	682,131
SAN JOAQUIN	25,121	25,784	57,171	25,784	133,861	14,043	21,116	20,869	20,949	76,978	210,839
SAN LUIS OBISPO	15,875	13,833	13,156	13,833	56,696	5,683	5,694	6,353	5,694	23,422	80,119
SAN MATEO	107,752	83,606	67,487	83,241	342,086	40,204	88,038	56,423	77,040	261,706	603,792
SANTA BARBARA	18,859	17,440	14,736	17,440	68,475	16,243	14,269	16,367	14,269	61,148	129,623
SANTA CLARA	325,451	286,722	237,849	286,722	1,136,744	325,982	309,302	225,521	309,302	1,170,107	2,306,851
SANTA CRUZ	7,924	4,511	6,925	4,511	23,870	3,928	3,517	5,797	3,729	16,971	40,841
SHASTA	6,120	17,106	14,047	17,106	54,379	3,968	2,563	2,356	2,563	11,451	65,830
SIERRA	0	0	9	0	9	0	0	13	.	13	22
SISKIYOU	2,800	1,405	3,882	1,405	9,492	439	1,202	1,095	1,202	3,940	13,432
SOLANO	23,674	6,298	25,462	6,298	61,732	7,467	13,349	12,185	13,349	46,349	108,081
SONOMA	39,443	30,348	42,894	30,348	143,033	11,643	18,788	15,321	18,788	64,538	207,572
STANISLAUS	23,368	33,860	26,231	33,860	117,318	10,284	17,759	23,981	17,759	69,782	187,100
SUTTER	4,044	10,352	3,487	10,352	28,235	910	2,506	1,945	2,506	7,866	36,100
TEHAMA	1,519	4,415	770	4,415	11,119	367	240	661	240	1,509	12,628
TRINITY	282	42	373	42	740	295	7	175	7	483	1,222
TULARE	26,667	7,786	9,622	7,786	51,862	4,765	8,069	9,037	8,069	29,940	81,801
TUOLUMNE	14,718	2,163	1,820	2,163	20,864	649	973	514	973	3,109	23,973
VENTURA	58,151	49,148	46,328	49,148	202,775	18,817	28,470	26,683	28,470	102,439	305,214
YOLO	5,795	10,338	26,940	10,338	53,413	5,758	8,082	6,905	8,082	28,826	82,239
YUBA	1,980	3,190	1,916	3,190	10,275	775	478	237	478	1,968	12,243
CALIFORNIA	2,447,491	2,251,902	2,004,558	2,283,205	8,987,156	1,670,638	1,722,339	1,591,470	1,729,532	6,713,978	15,701,134

**Table B.3 CIRB Nonresidential Permit Valuation in PY2001  
by Quarter and Building Type (\$1,000)**

	AMUSEMENT	CHURCH	HOTEL	MEDICAL	OFFICE	OTHER	EDUCATION	RETAIL	SERVICE	INDUSTRIAL	TOTAL NEW	ALTERATION	TOTAL
<b>CALIFORNIA</b>													
Q1, 2001	74,054	29,020	256,574	37,476	922,240	101,526	24,016	543,835	10,186	448,565	2,447,491	1,670,638	4,118,129
Q2, 2001	75,218	30,945	149,029	33,881	762,866	138,102	87,238	600,728	18,872	355,023	2,251,902	1,722,339	3,974,241
Q3, 2001	63,037	24,593	181,388	76,375	449,410	166,660	86,305	529,533	23,614	403,643	2,004,558	1,591,470	3,596,027
Q4, 2001	75,218	35,969	155,204	41,249	767,831	144,017	86,198	600,203	18,872	358,446	2,283,205	1,729,532	4,012,737
2001 Total	287,527	120,526	742,194	188,981	2,902,347	550,306	283,756	2,274,298	71,544	1,565,676	8,987,156	6,713,978	15,701,134

**GLOSSARY OF BUILDING/PROJECT TYPES RECORDED BY CIRB**

Amusement	amusement and recreational buildings
Church	churches and religious buildings
Hotel	hotels and motels
Medical	hospitals and institutional buildings
Office	office and bank buildings
Other	other nonresidential buildings
Education	schools, colleges, universities, libraries, museums
Retail	stores and other mercantile buildings
Service	service stations
Industrial	manufacturing plants and affiliated buildings
Alterations	alterations, additions, and conversions to nonresidential structures (excludes special installation permits for electrical, plumbing, heating, AC, or similar mechanical work, or installation of fire escapes, elevators, signs, etc.)

## **APPENDIX C**

### **CEC ZIP CODE-TO-UTILITY TERRITORY MAPPING**

California Energy Commission's zip code-to-utility territory mapping consists of a list of 2,671 zip codes corresponding to 1,410 cities in California. In this list, each zip code is mapped to one of 16 territory zones. In turn, the territory zones correspond to utility territories as follows.

Zones 1 – 5 are in PG&E territory

Zone 6 is in SMUD territory

Zones 7 – 10 are in SCE territory

Zones 11 and 12 are in LADWP territory

Zone 13 is in SDG&E territory

Zones 14 – 16 comprise the Other Service area

To identify the utility territory based on zip code, the zip code must be first used to identify the territory zone, which then corresponds to a utility territory.

Note that the territory zones defined for this purpose by the CEC are not the same as the California Climate Zones.

## **APPENDIX D**

### **GLOSSARY OF MEASURES IMPLEMENTED BY SBD PARTICIPANTS**

Whole building	Measures installed as part of the whole building approach
Daylighting	Daylighting measures
Skylight	Skylights
HVAC chiller	High-efficiency chillers
HVAC package	High-efficiency unitary systems
HVAC controls	Controls for HVAC systems
HVAC other	Other measures labeled as “HVAC”, including air handling units, pumps, variable speed drives, and other measures specifically labeled “HVAC”.
Motors “motors”	High-efficiency motors and other measures labeled as
Lighting	Lighting measures, including lighting power density reduction
Envelope	Envelope measures, including insulation and windows
Other	Refrigeration, process cooling and pumps, variable frequency drives and adjustable speed drives that are not specifically labeled “HVAC” or “motors”, controls that are not specifically labeled “HVAC” or “motors”, and measures labeled “other” or “miscellaneous”.