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NRNC Market Characterization And Program Activities Tracking Report 2005

Final

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P2026-170

July 2006

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1. EXECUTIVE SUMMARY

This section presents a summary of results from the statewide Market Characterization and Program Activities Tracking (MCPAT) Report. The Market Characterization part of the MCPAT Report 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 Report 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 2005.

1.1 MARKET CHARACTERIZATION

The market characterization part of the MCPAT Report requires knowledge of the characteristics of the California NRNC market and its segments. This task relies on periodic data collection to capture and describe changes in the NRNC market. Specifically, calendar year 2005 F.W. Dodge data were collected and summarized to describe nonresidential construction value and volume, building types, building size, and design team characteristics statewide, and by investor owned utility (IOU) territory. The current report, as well as previous reports produced in years 2000 through 2004, 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 for 2005 is presented in Table 1.1 and in Exhibit 1.1.

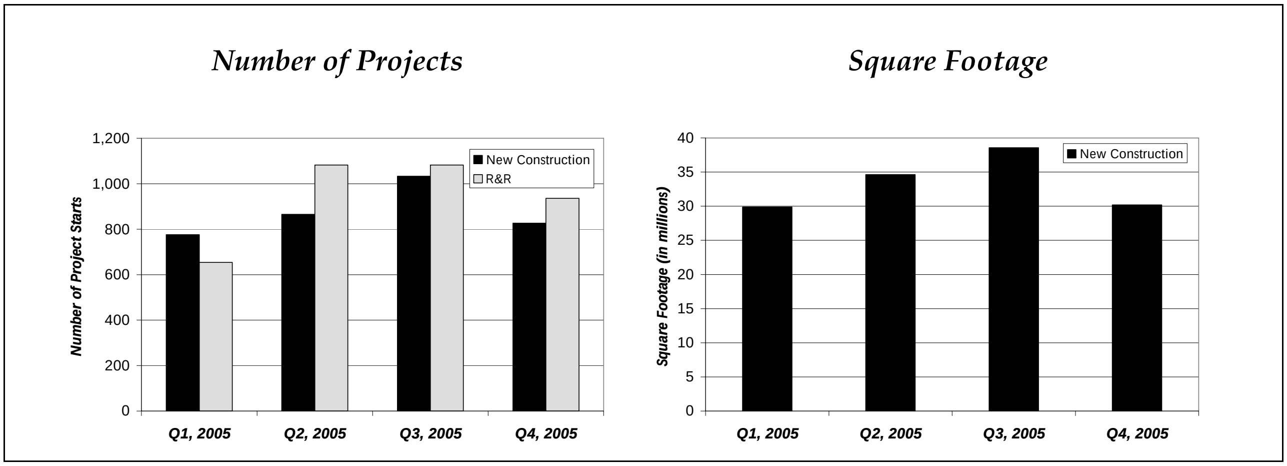
Table 1.1 Market Summary of Project Starts in California

Project Type	Quarter	Value ($ billions)	Area (millions of sqft)	Number of Projects
New and additions	Q1, 2005	2.846	29.88	776
	Q2, 2005	3.739	34.63	865
	Q3, 2005	4.276	38.56	1,033
	Q4, 2005	3.824	30.19	827
	Subtotal	14.685	133.26	3,501
Alterations	Q1, 2005	0.617	-	654
	Q2, 2005	1.157	-	1,083
	Q3, 2005	0.880	-	1,083
	Q4, 2005	0.892	-	936
	Subtotal	3.546	-	3,756
Total		18.231	-	7,257

* F.W. Dodge does not report square footage for alteration projects.

F.W. Dodge data indicate that there were over 7,200 nonresidential projects that started construction in California in calendar year 2005, almost equally divided between new construction and alteration projects. The value of new construction projects, however, was approximately three times greater than of alterations. There was some variation in the overall market activity from quarter to quarter, with quarter 3 more active and quarter 1 less active than quarters 2 and 4; market activity varied little from quarter to quarter with respect to building type or location.

Exhibit 1.1
F.W. Dodge Nonresidential Project Starts by Quarter in 2005



* F.W. Dodge does not report square footage for alteration projects.

There are some shortcomings to F.W. Dodge data as a measure of NRNC market activity: they only track information for *project starts* in a given time period; they only track *publicly-bid projects* (whereas some projects do not go to public bid); and they pertain to the whole state of California, including areas outside IOU territories. In addition, the F.W. Dodge data include retrofits in the alterations category (but retrofits do not qualify for SBD program participation), and do not report the square footage of renovation/remodeling projects. Even considering these shortcomings, F.W. Dodge data are considered the best available source of market information for the nonresidential new construction market study.

1.2 SAVINGS BY DESIGN PROGRAM TRACKING AND PENETRATION

The second objective of the MCPAT Report 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, demand and therm savings, and measures committed through the program.

Results indicate that SBD program participation is high in the building segments with significant market activity, namely office, school and retail. Among the measures proposed to be installed by program participants, whole building design, "process and other" measures (variable speed drives, gas-fired boilers, water heating), "other HVAC measures" (VSDs, motors, furnaces, boilers, gas-fired space heating) and lighting are the most popular. These measures also account for the highest estimated energy savings, in both new construction projects and R&R projects.

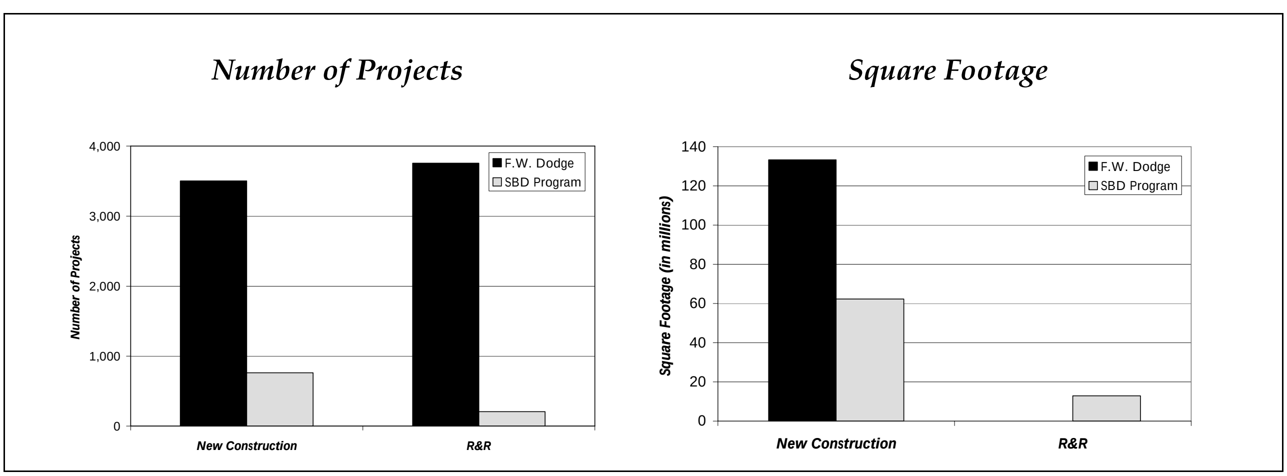
The SBD program data were used in conjunction with the NRNC market data described in the first part of the report to prepare the SBD program tracking and penetration analysis. A summary of statewide program activity is presented in Table 1.2. Exhibit 1.2 shows program penetration results for calendar year 2005.

Table 1.2 Summary of Statewide SBD Program Activity in 2005

Project Type	Quarter	Area (millions of sqft)	Number of Participants
New and additions	Q1, 2005	10.10	123
	Q2, 2005	13.63	158
	Q3, 2005	10.75	171
	Q4, 2005	27.81	311
	Subtotal	62.30	763
Alterations (R&R)	Q1, 2005	6.05	56
	Q2, 2005	1.54	38
	Q3, 2005	2.20	42
	Q4, 2005	3.10	69
	Subtotal	12.89	205
Total		75.19	968

Program penetration results for 2005 indicate that the SBD program captured 21.8% of the nonresidential new construction projects and 5.5% of the R&R projects. By square footage, program penetration into the new construction market is 46.8%, indicating that the program continues to reach relatively large buildings. Although this penetration level is the highest in the history of the SBD program, opportunities remain for increased program penetration into the market.

Exhibit 1.2
Statewide SBD Program Penetration into the NRNC Market in 2005



* F.W. Dodge does not report square footage for alteration projects.

1.3 HISTORIC TRENDS

A summary of market and program activity from July 1999 (i.e. from the SBD program inception) until the end of calendar year 2005 is presented in Table 1.3.

Table 1.3
Historic Statewide SBD Program and NRNC Market Activity

Program Type	Year	Quarters	Dodge Area (millions of sqft)	SBD Area (millions of sqft)	%Area Penetration	Dodge Projects	SBD Participants	%Projects Penetration
New Construction	1999	3-4	88.38	15.37	17.4%	2,511	128	5.1%
	2000	1-4	180.15	22.92	12.7%	4,674	316	6.8%
	2001	1-4	178.49	60.53	33.9%	4,805	576	12.0%
	2002	1-4	143.62	38.63	26.9%	4,626	435	9.4%
	2003	1-4	128.63	45.17	35.1%	3,782	489	12.9%
	2004	1-4	120.86	47.97	39.7%	3,863	497	12.9%
	2005	1-4	133.26	62.30	46.8%	3,501	763	21.8%
Alterations (R&R)	1999	3-4	-	3.29	-	2,400	52	2.2%
	2000	1-4	-	13.27	-	4,654	182	3.9%
	2001	1-4	-	12.60	-	4,791	222	4.6%
	2002	1-4	-	6.65	-	4,343	127	2.9%
	2003	1-4	-	9.30	-	3,880	154	4.0%
	2004	1-4	-	10.29	-	4,053	115	2.8%
	2005	1-4	-	12.89	-	3,756	205	5.5%

* F.W. Dodge does not report square footage for alteration projects.

Between mid-1999 and the end of 2001 market activity was relatively stable with respect to the number of projects starting construction per year. The high SBD program participation rates in 2001 may be due to changes in building codes that went into effect on July 1, 2001 (and to the subsequent change in program requirements), but also to the overall conservation efforts undertaken in California prior to, and during the Summer of 2001.

Similar to the general trends in the California economy, the NRNC sector activity had a downturn from 2002 through 2004 as compared to the previous years; the downturn continued in 2005 with respect the number of projects that started construction, but not with respect to the square footage built. In terms of the number of projects that started construction, 2004 marked a 5 percent decrease relative to 2002 and 2003, and the trend continued with a 7 percent decrease in 2005 relative to 2003 and 2004. In terms of square footage the NRNC market building rate dropped by approximately 11 percent in 2004 relative to 2002 and 2003, but it increased by 7% in 2005 relative to 2003 and 2004. In other words, fewer but larger projects started construction in 2005 than in previous years.

Savings By Design program activity follows similar trends as the NRNC market in the early years, with a relatively busy year in 2001 and a less active year in 2002. Then instead of a downturn, 2003 and were more active than 2002, and 2005 was more active even than the busy 2001. In 2005 program penetration in terms of both square footage and number of projects reached a new historic high.

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