DESIGN-BUILD PROJECT DELIVERY MARKET SHARE AND MARKET SIZE REPORT

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1.0 OVERVIEW

The purpose of this study is to determine the usage rates and calculate market size of Design-Build Project Delivery Method in Non-Residential construction market. Usage rates and market size were calculated for projects <u>bid</u> between 2005 and 2013. The primary delivery methods analyzed included Design-Build, CM-at-Risk and Design-Bid-Build.

Market segmentation analyses delineated usage rates and market size by US Census Regions and the nine Reed Construction Data primary building types / market verticals and projects above or below $10 million. Results are given in both total project values and numbers of individual projects. Metrics calculated for 1,458 market segments (9 census regions x 9 market verticals and 2 size classes and 9 years = 1,458 market segments). Such detailed data-driven information enables differential analysis at the micro-market level, powering strategic competitive advantage in the building Project Delivery Methods.

2.0 DATA AND METHODOLOGY

2.1 The Data

The RSMeans/RCD Market Intelligence team used REED MarketStats, its proprietary analytical database of historical and planning construction project data, as the basis for this study. MarketStats is an analytic database of "all the best data", drawing from both proprietary RCD/RSMeans databases as well as other publicly and privately available data sources. It contains detailed data on nearly 1,000,000 construction projects, 300,000 plans and specifications, historical and current material and labor construction costs, and historical and projected demographic data. This data from this multitude of RCD resources and Public sources is integrated and

aggregated into MarketStats for valid comparisons. In addition, the RSMeans engineering team has developed and embedded construction engineering supported statistical algorithms in MarketStats that power unprecedented predictive analytic capabilities for the construction industry.

Nine year historical analysis of project delivery methods was based on commercial non-residential projects that were bid between 2005 and 2013 extracted from MarketStats. Over time Project data is constantly being updated with more accurate information; therefore this may cause some slight variations in historical analysis.

Highlights show that the highest market share of Design-Build project delivery occurs in Military work for projects above $10 million in value at 81% market share. Also, noted that the Census region with the highest market share was in the Pacific region at 59%.

2.2 The Methodology

Step 1: Search specifications data

The first step was to develop specification searches to identify usage in projects with one of the three primary project delivery methods referenced in the RCD specifications database. One method used - the use of text word patterns searches to look for references within the text of each project specification for the products of interest.

The search is the traditional method of using a word text query to search all the specification documents in the RCD archive. This is based on an iterative searching process to find all of the patterns of words that identify products of interest in project specifications.

Another element of the RCD database is the project data collected by our project news research staff, who as part of their information collection always capture information on type of bidding (open bidding, invitation only, negotiated bidding or pre-qualified bidding) as a data field and then independently ask of the source what project delivery method is being utilized and record that data in the text within each project.

Each project reference is then merged to additional data for each project in the MarketStats analytic data warehouse to calculate usage rates for market segmentation analysis.

Step 2: Determine project delivery market share

Usage rates are then calculated by aggregating the total dollar value and number of projects specified by strata (i.e., geographic / market sector / size / bid year combinations), then divided by the total dollar value of opportunity for all of the projects in the RCD specifications archive (the sample universe) for the same period of time. Using the power of SAS analytics (Statistical Analysis System software), usage rates are evaluated and segmented to determine if there is a statistically significant difference of material usage rates among building verticals and/or geographical segments. In cases where data was limited in a strata, pooling of data with the most similar strata was used to get statistically valid usage rates.

Step 3: Determine Nine-year historical market size

Based on this analysis, the usage algorithm of the sample universe is applied to all of the projects tracked in the RCD project universe. This "universe" represents approximately 75% of the construction activity

bid in the US according to US Census Bureau statistics, which show that reporting agencies such as RCD capture up to 95% of public construction dollars and 75% of private construction dollars in the marketplace.

The application of the usage algorithms to the universe includes the 1,458 different usage rates per strata as described above for the Nine year historical (2005 to 2013 bid years). This yields the total dollar value of project delivery method by market size per year.

3.0   ANALYSES AND RESULTS

3.1   Provide Market Share Analysis for primary project delivery methods
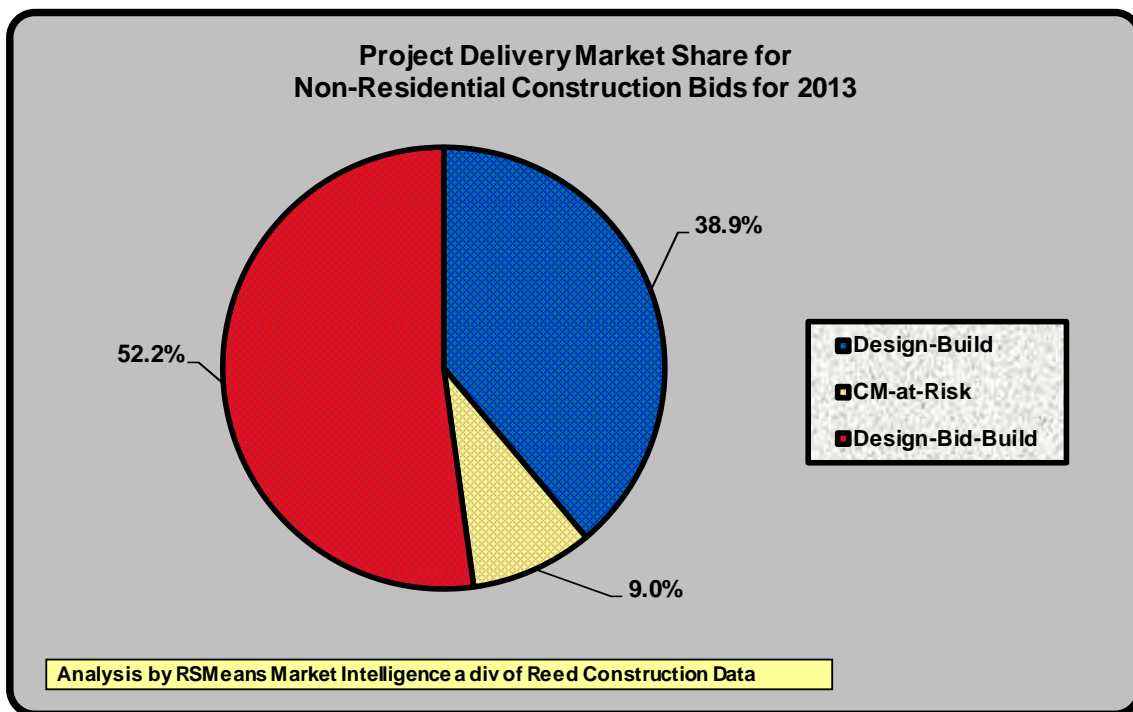
Market size for Design-Build project Delivery vs other project delivery methods. Chart 1 and Table 1 shows the Nine-year historical bid yearly trend.
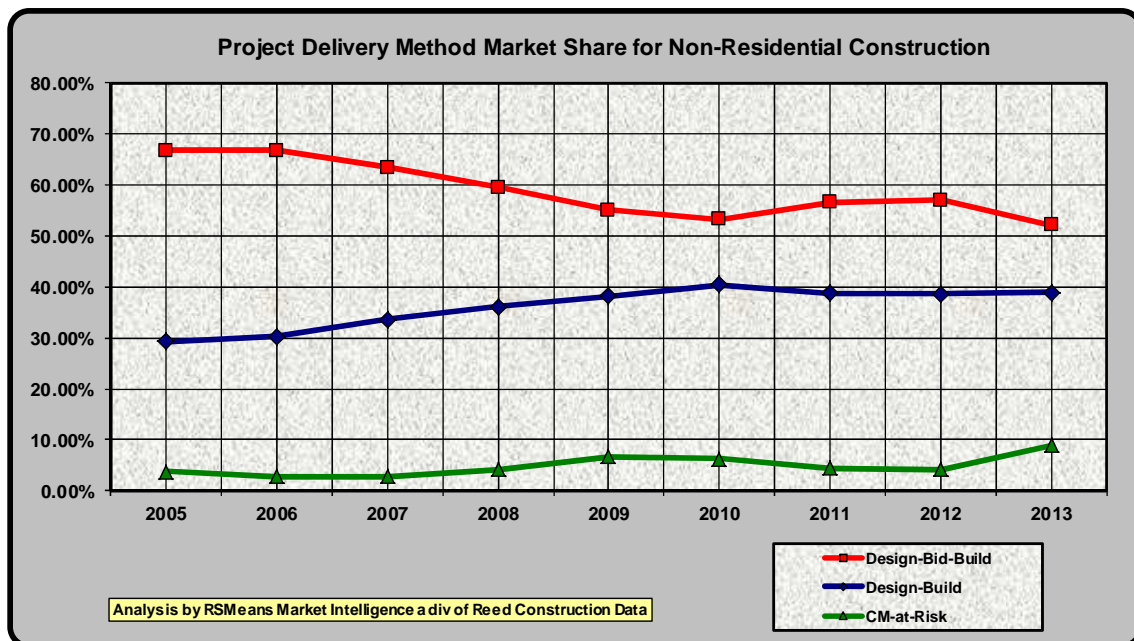
Table 1: Market Share for each Project Delivery Method

Year	Design - Build	CM-at-Risk	Design-Bid-Build
2005	29%	4%	67%
2006	30%	3%	67%
2007	34%	3%	63%
2008	36%	4%	60%
2009	38%	7%	55%
2010	40%	6%	54%
2011	39%	4%	57%
2012	39%	4%	57%
2013	39%	9%	52%

Market share by primary over the last 9 years by Delivery Method

Project Delivery Market Share for Non-Residential Construction Bids for 2013

Analysis by RSMeans Market Intelligence a div of Reed Construction Data

Market Share for Design-Build by year for over and under $10 million per project

YEAR	VALUE	Dollar Value Market Share
2005	Above $10 Million	0.37
2006	Above $10 Million	0.37
2007	Above $10 Million	0.42
2008	Above $10 Million	0.45
2009	Above $10 Million	0.48
2010	Above $10 Million	0.52
2011	Above $10 Million	0.51
2012	Above $10 Million	0.53
2013	Above $10 Million	0.53
2005	Under $10 Million	0.20
2006	Under $10 Million	0.21
2007	Under $10 Million	0.21
2008	Under $10 Million	0.23
2009	Under $10 Million	0.24
2010	Under $10 Million	0.25
2011	Under $10 Million	0.22
2012	Under $10 Million	0.21
2013	Under $10 Million	0.20

Market Share for Design-Build by Building Categories (note inclusion of apartments in non-residential category)

Market Share of Design-Build by Building Categories for last 9 years by Dollar Value

Market Share 2013

Commercial   Community   Educational
Government   Industrial   Medical
Military   Apartments   Retail

Analysis by RSMeans Market Intelligence a div of Reed Construction Data
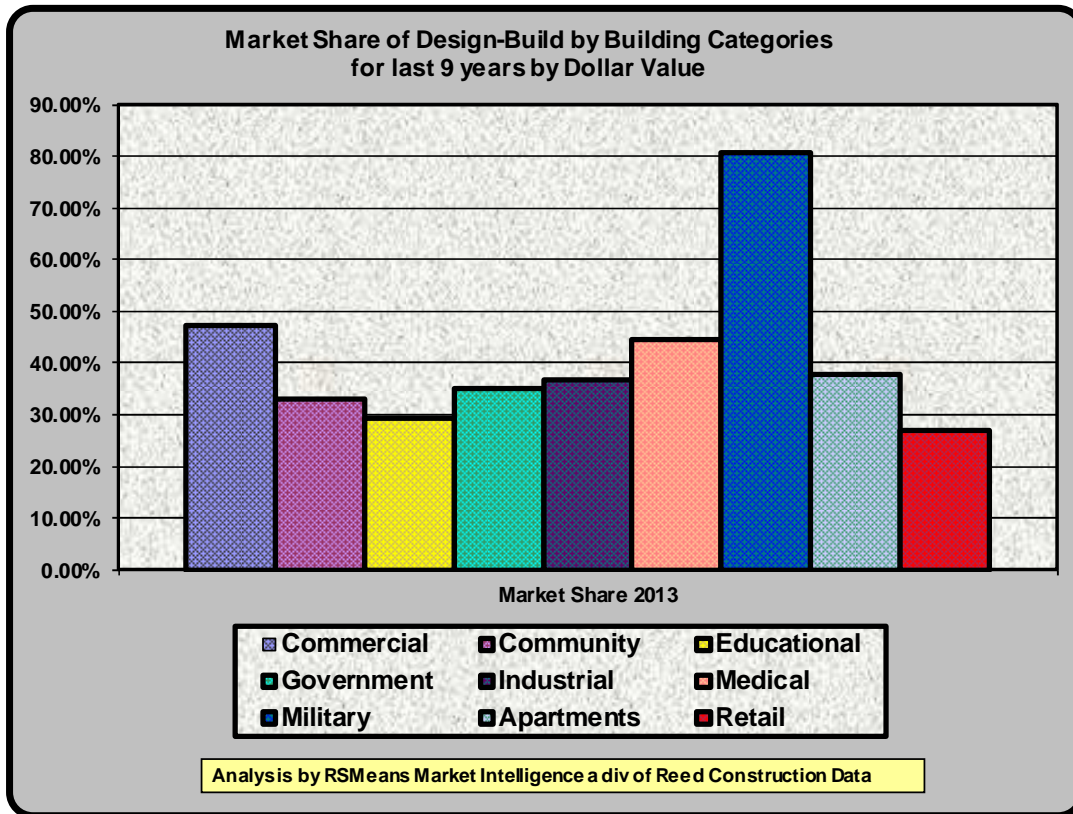
3.2 Provide Market Size for Design-Build by year

By extrapolating the market share for each segment of the total market the result indicates the total dollar value of proposed work for the Design-Build market over the last Nine years.

Design-Build Project Delivery Method Non-Residential Market Size

Analysis by RSMeans Market Intelligence a div of Reed Construction Data — Market Size 2013
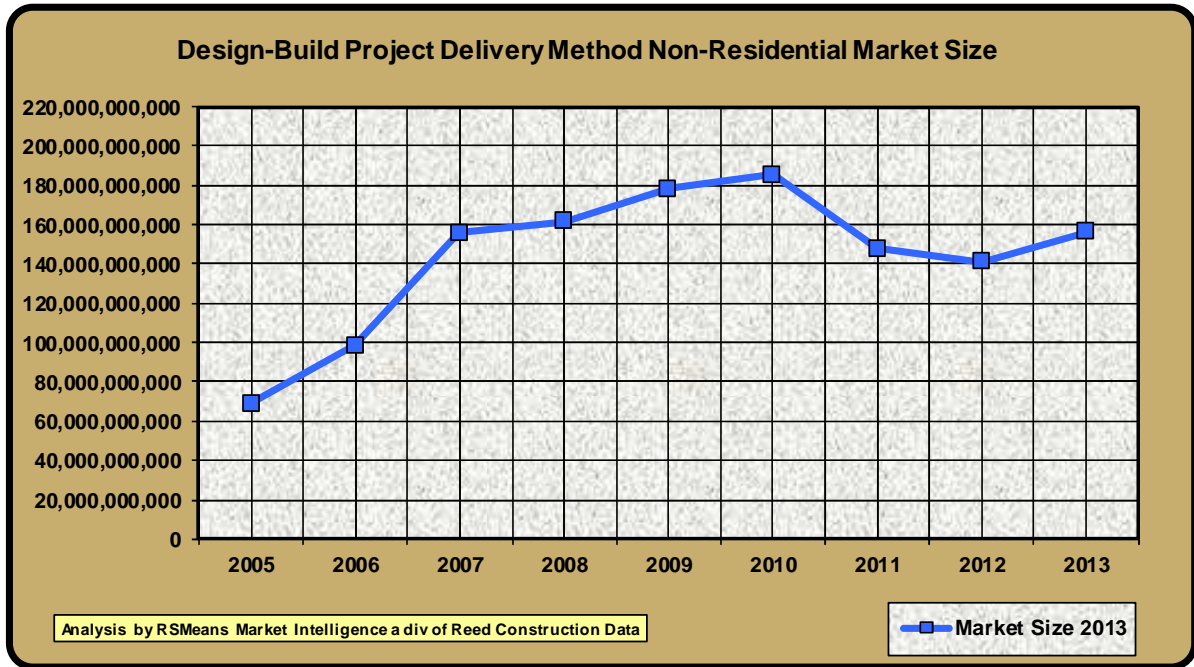
This year we have added another measure of total design build activity that actually moved forward to a construction START. Some projects go through the design process and go to bid but do not then move forward into the actual construction stages, therefore the data below defines actual activity volume levels. The following chart represents the total actual START market size of Commercial Non Res and Multi Family construction in the designated years.

Year	Actual Market Size
2005	$54,701,064,114
2006	$70,931,005,807
2007	$93,047,338,750
2008	$88,622,461,109
2009	$74,542,741,280
2010	$71,808,682,566
2011	$68,284,564,957
2012	$74,306,637,906
2013	$79,031,128,086

3.3 Provide additional segmentation analysis of market share of procurement types as a secondary frame of reference

Overall Non-Residential Construction Market

Type of Contracting	Dollar Value Ratio	Number of Project Ratio
Open Bidding	0.31	0.59
Invited Bidders	0.33	0.23
Pre-Qualified Bidders	0.06	0.05
Negotiated	0.31	0.14

Market Share by Various Building Types

Market Share by Bidding Method for each Building Category over 9 years				
Building Categories	**Open Bidding**	**Invited Bidders**	**Pre-Qualified Bidders**	**Negotiated**
Commercial	0.21	0.38	0.09	0.33
Community	0.33	0.30	0.06	0.31
Educational	0.73	0.07	0.11	0.08
Government	0.81	0.02	0.12	0.05
Industrial	0.05	0.51	0.02	0.41
Medical	0.20	0.29	0.04	0.46
Military	0.87	0.03	0.06	0.04
Apartments	0.05	0.45	0.01	0.49
Retail	0.03	0.58	0.02	0.37

This year the REED team took a deeper look into analysis by State and Building types. The first table indicates the ratio of Design Build value and sorts the states by penetration. The data will allow further analysis to show yearly trends but this data represents the total time span from 2005 to 2013.

State	Design Build Value Ratio
OR	71%
CA	59%
WA	56%
DC	53%
AK	53%
NV	52%
HI	51%
MD	50%
CO	50%
KY	44%
NY	40%
MO	40%
WI	39%
VT	37%
FL	36%
MN	34%
RI	34%
NH	34%
VA	34%
MI	34%
UT	33%
TX	33%
ME	32%
AZ	31%
AL	30%
PA	30%

State	Design Build Value Ratio
GA	30%
NC	30%
IL	28%
ID	28%
OK	28%
NM	28%
AR	27%
MT	26%
SC	24%
CT	24%
KS	24%
OH	23%
WY	23%
ND	23%
NE	22%
WV	22%
MA	22%
NJ	22%
IA	20%
IN	20%
DE	20%
LA	19%
TN	18%
SD	17%
MS	17%

Using the same principle we can use the data to identify the top 20 markets by State and building type, (we have eliminated military from this analysis because of extreme usage directed by federal standards).

State	Building Type	Design Build Value Ratio
OR	Residential	86%
OR	Industrial	86%
MI	Industrial	82%
NV	Residential	81%
OR	Medical	80%
OR	Commercial	80%
AR	Medical	79%
HI	Residential	78%
WA	Medical	77%
CA	Medical	74%
CA	Commercial	74%
CA	Residential	72%
OR	Community	70%
OR	Educational	69%
WY	Medical	69%
NE	Community	68%
OK	Industrial	67%
MN	Community	67%
WA	Industrial	67%
OH	Industrial	66%

Also included with this report is a detailed segmentation analysis worksheet for Design-Build that allows the user to view 15 levels of analysis from 1,458 segments up to 1 national analysis. Filters can be used to search the analysis and identify segments of interest. The output provides market share and weighted average extrapolation of market size and distributed market size adjusted.

The following is a high level view of the analysis:

RSMeans, a division of Reed Construction Data, conducted a study to analyze the growing use of design-build and update our ongoing research with the latest data findings. The newly released study confirms that the use of design-build has remained steady since its growth spurt at the end of the last decade, and also that the West Coast is leading with the most dollars being spent on design-build projects.

Shortly before the economic downturn a little over five years ago, the use of design-build spiked from 29 percent of the non-residential market in 2005 to 36 percent in 2008. Throughout the recession period, design-build use continued to grow, and now with the economy stable and slowly recovering, the use of design-build has held steady at around 40 percent for the last three years.

Design-build's growth has been particularly strong on large projects. For the first time since 2005 when DBIA first commissioned this research, more than half of projects above $10 million are being completed through design-build project delivery. In contrast, the research findings show the use of design-build has slipped back to

2005 levels for smaller, less complicated projects, likely due to tightened budgets discouraging states and localities from reaching outside their comfort zone (i.e. traditional design-bid-build).

"The REED/RSMeans segmentation analysis becomes more powerful each year and now includes nine complete years of actual history, statistically supporting observation of trends at the state and industry sector segment levels," says Tim Duggan, Director of Custom Solutions, Reed/RSMeans. "In many sectors, findings show an increasing trend of consistent and significant stability in large dollar projects over the last three years."

For the first time, RSMeans analyzed projects state by state and found that the West Coast is where design-build is the most ubiquitous. In fact, 71 percent of construction dollars being spent in Oregon are on design-build projects. California is the second highest at 59 percent and Washington the third highest state at 56 percent. When looking at specific sectors, the military uses design-build on 81 percent of projects. However, even when military projects are taken out of the equation, Oregon is still the top state due to multifamily residential and industrial sectors' preference for design-build. Those two industries also lift Michigan to the second place spot in the list of states doing the most non-military design-build (when military construction is included, Michigan falls to 18th place).

The research team drew upon RSMeans' proprietary database of historical and planning construction projects data as the basis for the study. In addition, the study incorporated other publicly and privately available data sources. Detailed data on nearly 1,000,000 construction projects, 300,000 plans and specifications, historical and current

material, and labor construction costs was integrated with historical and projected demographic data for valid comparisons. The research team estimates that 95 percent of public projects and 75 percent of private projects were captured in this analysis.