

INTRODUCTION TO DESIGN-BUILD

This paper provides an introductory overview of the design-build process. It describes design-build delivery in the context of other major project delivery processes and sets forth its essential attributes, comparing them where appropriate to the other methodologies.

Design-build is a method of project delivery in which one entity works under a single contract with the project owner to provide design and construction services. Also known as design/construct or single-source responsibility, design-build is an alternative to design-bid-build and construction management. Under the latter approaches, responsibility for design and construction are split among two or more entities, each holding separate contracts with the owner. Under design-build, there is one entity, operating under a single contract for all services required to deliver the complete project.

The three project delivery systems most commonly employed in North America are design-build, design-bid-build and construction management. Over the past 15 years, use of design-build has greatly accelerated in the United States, making this delivery method the fastest growing of the three, now accounting for a market share of 40% of all non-residential construction.¹

The benefits of a well-designed and managed design-build process include the following:

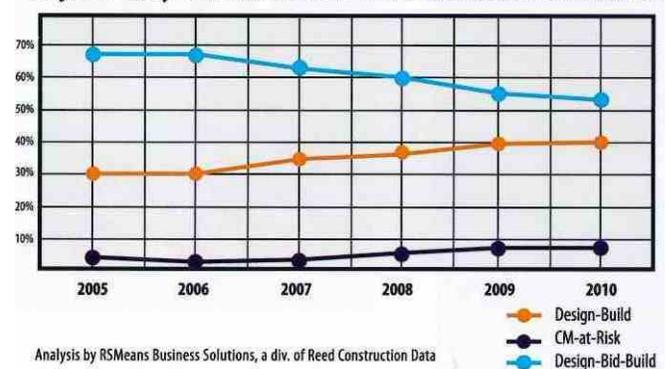
Single Responsibility: With both design and construction in the hands of a single entity there is a single point of responsibility for quality, scope, cost, and schedule adherence, which avoids disputes or “finger pointing” among the parties. The owner is able to focus its objectives on scope, needs definition and timely decision making, rather than on coordination and conflict resolution between the designer and builder.

Cost Savings: Because design and construction personnel interact and communicate with one another throughout the design process, alternative materials and systems, constructability, and innovative solutions are continuously analyzed, maximizing cost effectiveness and value.

Time Savings: Because design and construction are overlapped, and because bidding periods and redesign time are eliminated, total design/construction time can be significantly reduced. Design-build is ideal for the application of “fast track” construction, where construction work is allowed to begin in advance of the working drawings being fully completed. The time savings translates into lower costs and earlier utilization of the completed facility.

Early Knowledge of Firm Costs: Because the entity responsible for design is simultaneously estimating construction costs and can accurately conceptualize the completed project at an early stage, guaranteed construction costs are known far sooner. This permits early

Project Delivery Method Market Share for Non-Residential Construction



¹ RSMMeans Business Solutions, a division of Reed Construction Data

establishment of financing, reduces exposure to cost escalation, and avoids the possibility of committing substantial time and money for design, only to learn that the cost of the project is prohibitive.

Quality: The singular responsibility aspect of design-build delivery serves as a motivation for high quality and proper performance of the completed facility. It is the design-builder's responsibility to produce a defect-free facility without dispute as to whether a defect is in design or construction. To avoid such defects, the design-builder is motivated to provide a high level of quality control throughout the design and construction process.

Reduced Administrative Burden: The design-build process can significantly reduce the owner's administrative burden. At the outset, the owner's involvement may be extensive, setting forth requirements and expectations; however, this degree of involvement lessens thereafter. The owner does not invest his time and resources coordinating and arbitrating between separate design and construction contracts.

In summary, design-build is emerging as the delivery system which creates greatest value for an owner seeking time and cost savings, early knowledge of project cost, high quality, and streamlined project delivery. Its rapid and widespread growth across facilities of all types and sizes clearly indicates its superiority, in most cases, to the traditional method.