



While design/build has emerged as a leader in today's cost-conscious construction industry, it is a concept that is more than 4,000 years old. The design/build method is based on the ancient concept of a master builder who accepted full responsibility for designing and constructing a project from conception to completion.

From the great pyramids of Egypt to the Theater of Dionysus to the Parthenon and the Brooklyn Bridge, design/build has played a role in some of the world's most outstanding structures. And while traditional construction methods such as design/bid/build (DBB) and construction management at-risk (CM at risk) have ruled the construction industry for the past 200 years, design/build is emerging once again as a cost-efficient alternative.

According to the Design Build Institute of America, the design/build construction delivery method has grown approximately 40 percent over the past 15 years, which makes it one of the most significant trends in design and construction today. Total revenue from non-residential design/build projects grew from \$47 billion in 2004 to more than \$97 billion in 2008.

Until recently, highly contentious relationships among architects, engineers, contractors and subcontractors characterized the design and construction industry. However, in recent years, collaboration, alternative delivery systems and more enlightened owner-designer-contractor relationships – such as design/build – have improved these adversarial relationships. Design/build is a system of contracting under which one entity performs both design and construction for a client. In traditional contracting, a client commissions an architect or engineer to prepare drawings and



Benefits of Design/Build

➤ Although it's been around for thousands of years, the design/build method recently has become a popular choice with contractors and owners looking to cut project costs.

specifications, and then separately selects a construction contractor or construction manager. In design/build, a single entity produces a product that meets a client's needs.

Collaboration between designers and builders is the foundation of design/build, and this method offers the client the benefits of even greater design and construction integration and singular responsibility for the outcome and overall process.

There are essentially five advantages that are associated with the design/build process:

1.) *Single responsibility* – The design/build approach provides both architecture/engineering and construction under a single contract. Therefore, the owner's control of the entire design/build process is strengthened and financial risk is reduced by contracting with a single firm that is unconditionally committed to the success of the project.

1.) *Early knowledge of the firm price* – A design/build team, working closely with its client, accurately conceptualizes the completed project at an early stage. Continuous and concurrent estimating



It is evident the design/build process is gaining momentum to become the leading project delivery system in the industry, and by 2015, the Design Build Institute of America predicts that more than 50 percent of all projects will be design/built. In the final analysis, design/build is easier for the owner, more efficient, faster and less expensive than any other process of facility planning and construction.

is significantly reduced, resulting in earlier utilization and superior total project economics.

5.) Quality enhancement – Design/build inherently provides higher quality than the separate, often conflicting architect vs. contractor approach.

Because the design/builder has responsibility for performance, it is motivated to build with quality. Design/build eliminates the traditional finger pointing among the architect, engineer and contractor, and allows resources and attention to be productively focused on cost-effective solutions that reflect best value and quality.

Economical Efficiency

The Construction Industry Institute and Pennsylvania State University studied real-world application of the design/build process and found some interesting statistics.

The study evaluated the three project delivery types mentioned earlier – design/build, CM at risk and DBB – comparing total cost, schedule adherence and quality on 351 projects in six markets: light industrial, heavy industrial, multi-story residential, simple office, complex office and high technology.

The industry study concluded that design/build is the most economical and efficient project delivery system in the

building and construction industry today. The findings of the construction study included:

- » **Unit cost** – Design/build costs at least 4.5 percent less than CM and 6 percent less than DBB;
- » **Construction speed** – Design/build is constructed at least 7 percent faster than CM and 12 percent faster than DBB;
- » **Delivery speed** – Design/build is delivered at least 23 percent faster than CM and 33 percent faster than DBB; and
- » **Quality** – Design/build exceeds quality expectations at all levels.

There is little doubt that the design/build method is more cost-effective and time-efficient than other methods – the only obstacle that it currently faces is education about its processes. Many owners are unfamiliar with the design/build delivery system and its benefits. However, there are major *Fortune* 500 companies that are using the design/build process to construct new, quality facilities.

Such companies using design/build include Frito Lay, Kraft Foods, Gatorade, Nestle Waters, PepsiCo, Anheuser-Busch, Starbucks, ConAgra, Procter & Gamble and Sara Lee.

It is evident the design/build process is gaining momentum to become the leading project delivery system in the industry, and by 2015, the Design Build Institute of America predicts that more than 50 percent of all projects will be design/built. In the final analysis, design/build is easier for the owner, more efficient, faster and less expensive than any other process of facility planning and construction. ☺

Paul Tyler is president of the commercial group at Haskell, ranked the No. 1 2010 healthcare design/build firm by Modern Healthcare magazine. Tyler oversees the operations of Haskell's Commercial Project Delivery Group, which specializes in the design and construction of various structures. Tyler can be reached at Paul.Tyler@Haskell.com

during the development of design results in accurate, guaranteed construction costs and schedule far sooner than traditionally possible.

This permits the firm establishment of project feasibility and financing well in advance of the drafting of final construction documents.

3.) Value-engineering – Design and construction personnel – working as a team – evaluate alternative systems, materials and methods efficiently and accurately. From the outset of the project, both design and construction expertise is brought to bear upon all components of a project. Operating expense is evaluated against capital cost to optimize lifecycle costs.

4.) Time strategies – The design and construction processes can be overlapped, bidding periods and redesign time are eliminated, and long lead time purchases can be made early on in the design phase. The total project duration