THE DESIGN-BUILD CONSTRUCTION DELIVERY MODEL

Is Design-Build Right for Your Next Project?

The design-build construction delivery model has gained significant traction in the construction industry over the past few decades. This approach is valued for speedy delivery and involves a single entity taking responsibility for both the design and construction phases of a project (typically this arrangement involves a design firm and general contracting firm partnership led by the general contractor).

Design-build offers several advantages, and disadvantages that need to be carefully considered before implementation and thoroughly evaluated against on the specific needs and goals of each project.

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PROS OF DESIGN-BUILD

Single Point of Responsibility: One of the key advantages of the design-build model is the establishment of a single point of responsibility. In traditional models, the owner would need to manage multiple contracts between architects, engineers, contractors, and various consultants. In contrast, the design-build approach streamlines this process by placing all project responsibilities in the hands of a single entity with the intent of minimizing the potential for disputes.

Fast Delivery: The integration of design and construction allows for parallel processing of tasks. While the design is being developed, construction can begin on the early phases of the project. This overlap often leads to shorter project timelines compared to a traditional design-bid-build model, where phases are completed sequentially.

Cost Savings: Design-build can lead to cost savings through improved coordination and communication. Additionally, the fast-tracking nature of the model can result in reduced overhead costs and quicker return on investment for the owner.

Risk Management: With a design-build delivery, the design-builder assumes a significant portion of the project risks, reducing the burden on the owner. This can include risks related to design errors, cost overruns, and construction delays.

CONS OF DESIGN-BUILD

Limited Design Input: Implementation of the design-build model on projects that necessitate a high-degree of customization, specialization, or unique design might lead to a compromise in design quality.

Since the design-build team is focused on construction efficiency, functional design considerations might take a back seat, potentially leading to a project that lacks the unique architectural elements that a specialized architect could provide.

Potential for Reduced Transparency: Some concerns arise regarding transparency and accountability. With a single entity responsible for both design and construction, there might be limited external oversight, which could potentially lead to conflicts of interest or a lack of checks and balances. Once the design-build contract is signed, the owner becomes heavily dependent on the capabilities and performance of the selected design-build team. If issues arise or if the team lacks the necessary expertise, it could lead to project delays or compromised quality.

Potential for Cost Overruns: While the design-build model aims to identify cost-saving opportunities early in the process, there's also a risk that cost overruns could occur due to changes made during construction. These changes might not align with the initial budget, leading to financial strain for the owner.

Limited Bid Competition: Unlike the traditional design-bid-build model, where multiple contractors bid on the construction phase, the design-build model involves selecting a single entity to handle both design and construction. This reduced competition could impact pricing and potentially lead to higher costs for the owner.

Complex Contractual Arrangements: The contracts in the design-build model can be complex. Legal and contractual matters must be carefully negotiated to ensure that the owner's interests are adequately protected throughout the project.

Paying for Unused Options: Design-build teams can be selected based upon qualifications, but often some statutes require some form of a "bid." It's important for owners to understand that profit margins in design and construction as an industry are slim. Expecting teams to expend vast sums of money developing and pricing a design without compensating the losing teams for their efforts will likely drive off the best teams and leave only the most desperate ones in the competition. Owners should evaluate how much effort their selection process requires and if they are prepared to pay for it.

The success of any delivery method comes down to an attitude of trust and collaboration among the owner, designer, and builder. When the relationships within that triangle become strained and the parties begin to focus on protecting their own "turf" rather than advancing the goals of the project, problems inevitably arise. With that in mind, it's often best for design-build teams to form on their own, not being subject to a "shotgun marriage" arranged by owners. **An experienced practitioner will tell you that for any project, getting a great overall team is the most important thing and that the type of delivery method is secondary.**

While the design-build construction delivery model offers advantages for many projects, particularly those that may involve a certain level of repeatability or have a mission driven component that requires a facility get up and running quickly, there are certain types of projects where it might not be the most suitable approach. These projects often require specialized expertise, extensive or nuanced design input, or a high degree of regulatory compliance, which can clash with the streamlined nature of the design-build model, such as:

Highly Customized or Specialized Projects: Projects that demand intricate and highly customized designs might not align well with the design-build approach. The focus on efficiency and cost in design-build could potentially compromise the specialized design elements and creativity that specialized architects bring to the table. Facilities with specific functions, such as data centers, clean rooms, healthcare spaces, or specialized manufacturing plants, often require specialized expertise in their design and construction.

Large Public Infrastructure: Mega-scale infrastructure projects with complex engineering, extensive regulatory requirements, and significant public involvement are not the best fit for design-build. These projects often involve multiple stakeholders and require extensive planning, design, and review phases that can benefit from the more comprehensive approach of the design-bid-build model.

Research Facilities: Projects like laboratories or research centers often require specialized systems, rigorous adherence to regulations, and unique design considerations. These projects can benefit from the detailed design and extensive peer review processes that are more characteristic of the traditional design-bid-build model.

Historic Restoration: Restoration of historic buildings or landmarks requires a deep understanding of preservation techniques, materials, and historical accuracy. The design-build model's focus on efficient construction might not align with the meticulous research and design required for such projects.

Projects with Multiple Stakeholders: Projects that involve numerous stakeholders with varying interests and needs might find it challenging to streamline decision-making in the design-build model. The design-bid-build model's sequential phases can provide more opportunities for stakeholder input and adjustments.

Projects Requiring Competitive Bidding: Certain government or public projects necessitate competitive bidding to ensure transparency and value for taxpayers. The design-bid-build model's separation of design and construction phases facilitates a more competitive bidding environment.

While the design-build model can lead to faster project delivery, cost savings, and enhanced collaboration, it also poses risks related to design quality, transparency, and potential cost overruns, particularly for projects that are unique, complex, or have stringent code requirements. This does not mean the design-build construction delivery model isn't beneficial in many cases. On the contrary, it offers significant advantages for a wide range of projects, but it is not the most appropriate choice for projects that demand extensive design customization, specialized expertise, intricate regulatory compliance, or multi-stakeholder involvement.

As with any delivery model, the decision to use the design-build approach should be made considering the unique requirements and complexities of each individual project.

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Written by Peter Devereaux FAIA, LEED AP, Founding Principal. Explore more market and design insights at www.hed.design/insights