

DESIGN IS GOOD BUSINESS

It doesn't just add value; it multiplies it.



Your building can do much more than keep the rain off your business; it can advance your business plan. To capture the full value of your capital program, you will do well to engage your architect in a discussion of your business goals, with your business leaders.

Project Delivery: Traditional Methods

All of us are familiar with how consumer goods are delivered, in a box on our front porch. We rarely think about the earlier steps that led up to our receipt of that box: the design of the product and its manufacture. Each of those steps is an essential part of the overall delivery process for the product, but we don't have to be involved in those steps.

If we want a building built for us, however, it's different: we have to be involved in the entire arc of delivery, from design through construction. Building industry professionals use the term "project delivery" to refer to that arc, to the process that begins with design, proceeds through construction, and concludes with the building ready for our use.

Many people are involved in this process, playing a variety of roles, and there are a number of distinct ways in which these roles can be assigned and related. Each of these ways is known as a "project delivery method." Various project delivery methods have developed over time, through the collective experience of innumerable building projects, always with the underlying goal of controlling cost, schedule, and quality-a

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difficult balancing act in an endeavor as complex as making a building.

Project delivery always involves an owner, a designer (typically an architect), and a builder (also referred to as the contractor or general contractor). Each project delivery method structures the relationships among these parties in a particular way, and one of its goals is to manage the tendency for their interests to diverge.

Design-Bid-Build

The most traditional project delivery method begins with the owner of the proposed building hiring an architect, who designs the building and makes drawings and other documents that describe in detail how it is to be built. These documents are then distributed to a number of builders, each of whom submits a bid for constructing the building. The owner then chooses and hires one of the builders to do the construction; the documents prepared by the architect serve as the basis for the contract between owner and builder. This method is known as Design-Bid-Build, shorthand for the steps in the process.

Note some of its characteristics:

- The design is essentially complete before a builder is involved.
- The well-documented design allows the owner to seek competitive bids from potential builders.
- The owner hires the architect and the builder separately; there is no contractual relationship between the architect and the builder.
- Once the contract for construction is entered into, the architect's role is to monitor the construction as it proceeds, to make sure that the builder is adhering to the requirements of the construction documents.

The Design-Bid-Build method recommends itself for its simplicity, and-in principle-its assurance of a fair, dependable cost of construction. Yet, in practice, this method has been found to have its problems. Most significantly, the pressure to submit the lowest bid tempts builders to underbid, hoping to make up the difference through change orders-formal changes to the contract documents that add cost-later in the construction process. If it were possible for the architect to produce a perfect set of documents, with no errors and

nothing left out, and if building sites all had uniform conditions and no hidden impediments, and if specified products never became unavailable-in other words, if our dreams were reality-there would be no change orders. But there are always uncertainties, and no set of design documents is perfect. Consequently, cost control in Design-Bid-Build is not as certain as it would appear to be, and the unavoidable uncertainties can play out in an adversarial relationship between the architect and the builder, with the owner caught in the middle. This characteristic problem of Design-Bid-Build, coupled with its strictly linear series of phases-design, documentation, bidding, construction-which offers little opportunity for timesaving, has led to the development of other methods.

Including the Builder Earlier in the Process: Negotiated Select Team

The most common alternative method is known as Negotiated Select Team, a somewhat cumbersome way of noting that, rather than selecting a builder and establishing a construction cost through formal bidding, the owner selects the builder informally and negotiates the cost. This method saves time by eliminating the bidding phase. It also allows the builder to advise on materials, methods, systems, and costs from the beginning of the process. When design is complete, the final construction cost is negotiated through bids from the builder's subcontractors.

The principal advantages of Negotiated Select Team are:

- A cooperative approach to the process;
- The availability of construction expertise during the design phase;
- A reduction in the adversarial relationship between designer and builder; and
- Correspondingly less potential for litigation.

The primary disadvantages of Negotiated Select Team are related to its relative informality:

- Without competitive bidding from the general contractor, owners may question whether they have an economical construction cost. An owner can require, however, that the contractor provide multiple bids for subcontracts, ensuring that competition is included in pricing.

- An ambiguity of roles, responsibilities, and phasing can confuse the process. In particular, the owner may experience uncertainty when facing conflicting advice from the architect and the builder during the design phase.

A Fourth Player: Construction Management Methods

As projects become larger and more complex, owners may choose to engage a construction manager (CM) to oversee such elements as schedule, cost, construction, project management, or building technology. A construction manager may be trained in that field or may be an architect, contractor, engineer, or developer; however, construction management is not a licensed activity in most states.

Construction management is appropriate for both public and private projects that are relatively complex, for which budget or schedule must be closely monitored, and those requiring extensive coordination of consultants or subcontractors.

CMs can serve in different capacities, with varying degrees of authority, depending upon how the project is structured. These variations are discussed in greater detail in the AIACC whitepaper, "Project Delivery: an Introduction," and even more thoroughly in the AIACC Handbook on Project Delivery.

Fewer Players: Design-Build

Design-Build is a form of project delivery in which the owner contracts with a single entity to provide both design and construction services. The design-build entity may be a single firm, a consortium of experts, or a joint-venture undertaking. Typically, the team includes an architect and a contractor, who may be partners in the undertaking or one a subcontractor to the other.

Principal advantages of Design-Build are:

- A single point of responsibility, which minimizes the owner's risk, reduces the likelihood of change orders, and reduces construction delays; and

- The potential to collapse otherwise independent phases and therefore save valuable time.

The primary disadvantages are:

- The method's complexity (particularly for owners with less experience);
- Lack of direct connection between the owner and the architect; and
- The potential for cost-saving strategies to erode design and construction quality.

In addition to simple Design-Build, there are two common variations, "Design-Build by Developer" and "Bridging," both of which are discussed in more detail in "Project Delivery: an Introduction," and the AIACC Handbook on Project Delivery. It should be noted that Design-Build is not legal for public work in some states.

Helpful Questions

You may find the following questions helpful in evaluating the many available methods of project delivery:

1. How much effort and attention does the method require of the owner?
2. How easy is it to understand the roles and responsibilities of each of the parties?
3. How early and how dependably does the method predict the overall cost and time of the project?
4. How well does the method align expertise and authority? Does it put decisions into the hands of those best qualified to make them?
5. How well does the method facilitate necessary changes in expectations?
6. How well does the method facilitate the resolution of conflicts among the parties?
7. How well does the method apportion risk and reward?

Regardless of delivery method chosen, clear and ongoing communication, frequent project reviews, and timely decisions are required for the success of any project. Ultimately, success depends more on the quality of the individuals involved than on the specific delivery system.

Design doesn't add value, it multiplies it.



**2015 AIACC Honor Award for Architecture, UCLA
Adjacent Student and Faculty Housing, Los Angeles, CA,
Lorcan O'Herlihy.** Stepping down its hillside site, the building provides outdoor space—a roof deck or courtyard—at every level.