AIA Best Practices:
A primer on project delivery terms

Contributed by a joint task force of the AIA and the Associated General Contractors of America

Summary

The AIA and the Associated General Contractors of America (AGC) formed a task force to produce a primer that defines popular methods of design delivery, including design/bid/build, construction management at risk, and design/build.

The task force hopes this primer will help architects and contractors achieve quality projects that fulfill owner expectations and are delivered on time and on budget. The AIA and AGC recognize that many viable project delivery methods are available, so this list is not meant to endorse any one as "best."

Administrative considerations

Delivery vs. Management

Construction management at risk (CM@R) is a project delivery method, whereas construction management-adviser is a form of project management. While this difference in leadership may appear subtle, it is important to the understanding of the different delivery methods.

Leadership defines the authority to legally bind the owner. Assignment of contractual responsibility is key to differentiating project delivery methods. Outsourcing responsibility and administration is another option that owners should consider in any project.

Selection Procedures

The three project delivery methods this primer defines are design/bid/build, CM@R, and design/build. These are the three most commonly used and referenced project delivery methods.

How the owner selects the primary service providers significantly affects the project delivery method and the resulting contractual relationship. The selection is usually based on price, qualifications, or a combination of the two. When qualifications and price serve as the basis for selection, it is common to use a request for qualifications (RFQ), a request for proposals (RFP), and interviews to review bidders. Each of these methods of gathering information reveals important aspects of the bidders' qualifications. Typically, more than one provider is contacted to supply information to encourage responsible bids.

The following are commonly used approaches for selecting an architecture and construction team:

- Low bid: The owner's final selection is based solely on lowest total cost.

- Best-value bid: The owner's final selection is based on some weighting of the total cost and other criteria such as qualifications.
- Qualifications-based selection: Total construction cost is not a factor in the owner's final selection. Instead, the final selection is based on either a "pure qualifications-based selection" (qualifications only, no element of price) or a combination of qualifications and fees.

Delivery method definitions

Design/Bid/Build

This method involves three roles in the project delivery process—owner, architect, and builder—in traditionally separate contracts. "Traditional" frequently describes the design/bid/build method, which typically involves competitively bid, lump-sum construction contracts based on complete and prescriptive contract documents prepared by the architect. These documents generally include drawings, specifications, and supporting information. The phases of work are usually conducted in linear sequence. The owner contracts with an architect for design; uses the design documents produced by the architect to secure competitive bids from contractors; and, based on an accepted bid, contracts with a contractor for construction of the building.

For most of the 20th century, public work has been routinely built using the design-bid-build/lump-sum (or stipulated sum) delivery method. Much private work has also been performed for a lump-sum figure in the belief that the marketplace ensures economic discipline and yields the lowest cost. In particular, private organizations with large constituencies, such as churches and schools, are often required to use project delivery methods with sealed bids and formal procedures, similar to procedures for public projects.

Design/bid/build is identified by the following defining characteristics:

- Three prime players: owner, architect, builder
- Two separate contracts: owner-architect, owner-builder
- Final contractor selection based on lowest responsible bid or total contract price

Typical characteristics of the design/bid/build approach include the following:

- Three linear phases: design, bid, build
- Well-established and broadly documented roles
- Carefully crafted legal and procedural guidelines
- A lowest responsible bid that provides a reliable market price for the project
- Contract documents that are typically completed in a single package before construction begins, requiring construction-related decisions in advance of actual execution
- An opportunity for construction planning based on completed documents
- Complete specifications that produce clear quality standards

Construction Management at Risk

CM@R involves a construction manager who takes on the risk of building a project. The architect is hired under a separate contract. The construction manager oversees project management and building technology issues, in which a construction manager typically has particular background and expertise. Such management services may include advice on the time and cost consequences of design and construction decisions, scheduling, cost control, coordination of construction contract negotiations and awards, timely purchasing of critical materials and long-lead-time items, and coordination of construction activities.

In CM@R, the construction entity, after providing preconstruction services during the design phase, takes on the financial obligation for construction under a specified cost agreement. The construction manager frequently provides a guaranteed maximum price (GMP). CM@R is sometimes referred to as CM/GC because the construction manager becomes a general contractor (GC) through the at-risk agreement.

The term "at risk" is often a source of confusion. Sometimes it refers to the fact that the contractor holds the trade contracts and takes the performance risk for construction. In other contexts, the term is tied to the existence of a cost guarantee or GMP. Because the term "at risk" has two distinct meanings, it is important to understand how it is being used in a particular situation. The definition used for CM@R in this document is based primarily on the fact that the construction manager holds the trade contracts and takes the performance risk. The eventual establishment of a GMP is typical of CM@R project delivery, but it is not a defining characteristic of the delivery method in this case.

When a GMP is used, the CM@R method is flexible as to when the construction price becomes fixed. As a result, the timing for agreeing to a GMP varies by project.

Considerations of risk should include an evaluation of the amount of design information available, the amount of contingency included, and the owner's willingness to share in the risk of cost overruns. It should be noted that there is no contractual relationship between the architect and the CM@R.

CM@R is identified by the following defining characteristics:

- Three prime players: owner, architect, CM@R
- Two separate contracts: owner-architect, owner-CM@R
- Final provider selection based on aspects other than total cost

Typical characteristics of the CM@R approach include the following:

- Overlapping phases: design and build (fast track)
- Construction manager hired during the design phase
- Preconstruction services offered by the constructor
- Specific contractual arrangement determines the roles of players
- Clear quality standards produced by the contract's prescriptive specifications

Design/build

Owners interested in single-point responsibility for both design and construction can use the design/build delivery system. In the design/build approach, the owner contracts with a single entity, the architect-builder, for both design and construction services. The design/build entity can be led by either an architect or a general contractor, and can consist of any number of people. As with CM@R, the timing of agreement on a GMP varies with each project.

Design/build approaches require an explicit determination of the roles and responsibilities of the design/build team. Single-source contracting has gained popularity in recent years in both the private and public sectors. The primary reason for this interest in design/build as a viable project delivery option is the owner's desire for a single source of responsibility for design and construction.

The following defining characteristics identify design/build delivery:

- One contract: owner to design/build entity
- Project-by-project basis for establishing and documenting roles
- Continuous execution of design and construction
- Overlapping phases: design and build (fast track)
- Two prime players: owner, design/build entity
- Carefully crafted legal and procedural guidelines for public owners
- Some construction-related decisions after the start of the project
- Overall project planning and scheduling by the design/build entity prior to mobilization
- Either cost or solution as the basis for selection of the design/build entity

About AIA Best Practices

AIA Best Practices is a collection of relevant, experience-based knowledge and expert advice on firm management, project delivery, contracts and more, aligned with the *Architect's Handbook of Professional Practice, 15th edition*. See the full AIA Best Practices collection at aia.org/aia-best-practices.

This article corresponds to:

Architect's Handbook of Professional Practice, 15th edition Unit 1 - The Profession
Chapter 09 – Design Project Delivery
Section 01 – Project Delivery Methods