The accompanying AIACC whitepaper for clients, “Project Delivery: an Introduction,” describes the most common project delivery methods: Design-Bid-Build, Negotiated Select Team, Construction Manager and its variations, and Design-Build and its variations. It also introduces the concept and principles of Integrated Project Delivery. You may want to download a copy of it from the AIACC website for your own reference or perhaps to give to a potential client. It begins with a simple description of what building professionals mean by the term “project delivery”:

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.

Such a basic explanation will be unnecessary for many clients—certainly for those who have had experience with many building projects—but it’s good practice not to assume a common understanding of industry-specific terms.

Understanding the Goals of Project Delivery

Any project delivery method has two goals. Explicitly, its goal is to optimize, in accordance with the owner’s expectations, the relationship among cost, schedule, and quality. At the same time, an often unspoken goal is to manage the divergence of interests of the owner, the architect, and the builder.

There is truth in the saying, “Of cheap, fast, and good, you can choose any two.” There are always trade-offs to be made among cost, schedule, and quality. The building can be made better, but it will cost more or take longer; it can be built more quickly, but it will cost more or be of lower quality. The goal of any project is to balance these factors in a way that best satisfies the owner’s expectations.

Of course, there is no way to satisfy expectations that aren’t realistic in the first place. Accordingly, a question one might ask of any delivery method is, “How well does this method align the owner’s expectations with reality?” This question can be broken down into three components:

“How well does this method establish and control the project’s quality?”
“How well does this method establish and control the project’s cost?”
“How well does this method establish and control the project’s schedule?”

Note that each of these questions has two verbs: “establish” and “control.” That is, each factor (quality, cost, and schedule) must be determined at some point in the process, after which it must be continually reconfirmed or, if necessary, revised.

Quality and Cost

The traditional Design-Bid-Build method offers a good introduction to the issue of reconciling quality and cost, at which—in principle—it does a good job. (Because of its discrete phases, it is not the fastest method; see “Schedule,” below.) In the design phase, working directly with the owner (without the distraction of other voices), the architect identifies the owner’s needs, desires, and expectations of quality. These expectations are codified in the contract documents in such a way that, whoever builds the building, they are certain to be met. The bidding process assures a fair and reasonable price. As we know, however, competitive bidding is not, in practice, a dependable
way to determine the final cost of construction. As “Project Delivery: an Introduction” points out,

The pressure to submit the lowest bid tempts builders to underbid, hoping to make up the difference through change orders 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.

Other methods of project delivery can be understood as attempts to resolve, on the one hand, the lack of dependability of the low-bid cost and, on the other hand, the potentially adversarial relationship between architect and builder. The Negotiated Select Team method sacrifices competitive bidding at the general contractor level for a greater degree of collaboration between architect and builder. In the Construction Manager methods, the owner employs an expert advisor or agent to mediate the architect-builder relationship. The Design-Build methods combine the roles of architect and builder in a single entity.

“Project Delivery: an Introduction” describes each of these variations and outlines their advantages and disadvantages. For a more in-depth understanding of project delivery methods, including real-world case studies, you may want to purchase the Handbook on Project Delivery, which is available from the AIA California Council at http://www.aiacc.org/project-delivery/handbook-on-project-delivery/.

An Emerging Model: Integrated Project Delivery

Each of the common project delivery methods can be seen as a structure for optimizing the relationship among cost, schedule, and quality in a building endeavor. Equally, they are structures for mitigating the often-divergent interests of owner, architect, and builder. As “Project Delivery: an Introduction” notes, a new model of project delivery attempts, instead, to align—and in some cases even to unite—these interests. You may be familiar with this approach, Integrated Project Delivery (IPD). It can be understood as a set of principles that may be applied to any contractual situation; or it can involve a unique, three-party contract among the owner, architect, and builder. Such a three-party contract establishes shared risk and reward, aligning the interests of the parties in the timely, cost-effective completion of the project at an agreed level of quality. While the use of three-party contracts remains relatively rare to date, the following nine principles of IPD are being successfully applied to improve other project delivery methods—and each is worth discussing with your client:

1. Mutual Respect and Trust
   In an integrated project, owner, designer, consultants, constructor, subcontractors, and suppliers understand the value of collaboration and are committed to working as a team in the best interests of the project.

2. Mutual Benefit and Reward
   All participants or team members benefit from IPD. Because the integrated process requires early involvement by more parties, IPD compensation structures recognize and reward early involvement. Compensation is based on the value added by an organization, and the method rewards “what’s best for project” behavior, such as by providing incentives tied to achieving project goals.

3. Collaborative Innovation and Decision Making
   Integrated projects use innovative business models to support collaboration and efficiency. Innovation is stimulated when ideas are freely exchanged among all participants. In an integrated project, ideas are judged on their merits, not on the author’s role or status. Key decisions are evaluated by the project team and, to the greatest practical extent, made unanimously.

4. Early Involvement of Key Participants
   In an integrated project, the key participants are involved from the earliest practical moment. Decision-making is improved by the influx of knowledge and expertise of all key participants. Their combined knowledge and expertise is most powerful during the project’s early stages, when informed decisions have the greatest effect.

5. Early Goal Definition
   Project goals are developed early, agreed upon, and respected by all participants. Insight from each participant is
valued in a culture that promotes and drives innovation and outstanding performance, holding project outcomes at the center within a framework of individual participant objectives and values.

6. Intensified Planning
The IPD approach recognizes that increased effort in planning results in increased efficiency and savings during execution. Thus the thrust of the integrated approach is not to reduce design effort, but rather to greatly improve the design results, streamlining and shortening the much more expensive construction effort.

7. Open Communication
IPD’s focus on team performance is based on open, direct, and honest communication among all participants. Responsibilities are clearly defined in a no-blame culture, leading to identification and resolution of problems, not determination of liability. Disputes are recognized as they occur and promptly resolved.

8. Appropriate Technology
Integrated projects often rely on cutting edge technologies. Technologies are specified at project initiation to maximize functionality, generality, and interoperability. Open and interoperable data exchanges based on disciplined and transparent data structures are essential to support IPD. Because open standards best enable communications among all participants, technology that is compliant with open standards is used whenever available.

9. Organization and Leadership
The project team is an organization in its own right and all team members are committed to the project team’s goals and values. Leadership is taken by the team member most capable with regard to specific work and services. Often, design professionals and builders lead in areas of their traditional competence with support from the entire team, yet specific roles are necessarily determined on a project-by-project basis. Roles are clearly defined, without creating artificial barriers that chill open communication and risk taking.

IPD principles can be applied to a variety of contractual arrangements, and IPD teams can include members well beyond the basic triad of owner, architect, and contractor. In all cases, integrated projects are uniquely distinguished by highly effective collaboration among the owner, the prime designer, and the prime constructor, commencing at early design and continuing through to project handover. For more on IPD, see Integrated Project Delivery: A Guide, available as a free download from the AIA at http://info.aia.org/siteobjects/files/ipd_guide_2007.pdf.

Helpful Questions

Keeping in mind the principles above, as well as the independent interests of the two, three, or four parties involved in the endeavor, you and your client may find the following questions helpful in further 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?

Is there a clear-cut answer for which project delivery method is best? No. The appropriateness of a project delivery method will vary according to the size, scale, and complexity of the project, the experience of the owner, and the owner’s capacity to oversee the project. The position of the AIA is to encourage its members to deliver services to owners using the delivery method that is the most appropriate for the project, taking into account the interests of the owner, the AIA Code of Ethics and Professional Conduct, and the constraints of the law.

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.