

CHAPTER THREE

Alternative Project Delivery: Meeting the Owner's Project Demands

Things You Will Learn From This Chapter

- Why project owners are demanding alternative approaches to project delivery, including a perspective on the project owner's universal project expectations.
- A historical perspective on the classic master builder, and the evolution toward specialization of the designer and builder roles beginning in the 19th century until today.
- A comparison of the three most common forms of alternative project delivery and how they contrast to traditional design-bid-build.
- How and why alternative project delivery has grown in demand by owners and in practice by designers and builders.
- Details and formats of the fundamental types of alternative project delivery that dominate the marketplace.
- Which alternative project delivery models work well based on the owner's preferences and policies relative to project design and construction.

AS A PROFESSIONAL DESIGN AND CONSTRUCTION SERVICES marketer and business developer, you must adapt to and master key changes happening in our industry or eventually become irrelevant to your clients. You have the ability to go beyond the typical design and construction services and assist your clients with an array of other integrated services: risk management, sustainability, life-cycle cost control, and financial options, among others. Delivering your services in a way that addresses these more complex owner demands will not only give you an opportunity to do more business with your current clients; it will also allow you to out-distance your competition and generate new business opportunities.

Alternative project delivery (APD) lets you to respond to expanded owner demands. Over the last few years, APD options have become less “alternative” and more mainstream in their application. Today, about half of all commercial construction uses *Market Share by Project Delivery Method, Figure 3:1 (p. 46)* as an alternative to the traditional design-bid-build (DBB) project delivery system that has dominated the industry since the Industrial Revolution. You need to understand what is driving this change and how today’s service providers can better position their staff and resources to meet this changing demand.

APD is really a generic term referring to project delivery models such as construction management (CM), integrated project delivery (IPD), and design-build (DB). While there are many alternative delivery models (in name and structure) to the traditional design-bid-build, they all have one overriding objective: They seek to better integrate the decision-making responsibilities of the project owner, designers, and builders at every level of activity and throughout the project’s life cycle.

Why should we integrate? Owners are interested in pursuing alternative approaches to project delivery in order to better achieve the fundamental project expectations. They are transitioning from design-bid-build to APD because alternative delivery strategies are completing projects more quickly, more cheaply, and more safely. Price adherence, scope satisfaction, and a dependable schedule are chief among owners’ top priorities. You assuredly have heard the questions, “What’s it cost, what’s it look

like, and when do I get it?" Owners demand these answers not on a whim, but as a result of increasing demands placed on them by their leadership, constituents, and shareholders.

This chapter will discuss and examine a variety of APD's characteristics and issues, illuminate their underlying strategies, and address why the APD approach has gained increasingly broad acceptance by owners throughout our industry.

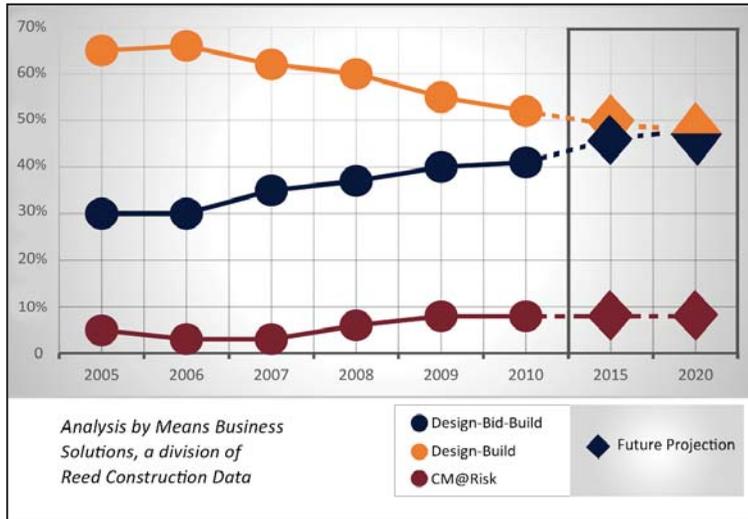


Figure 3.1 Market Share by Project Delivery Method (Non-Residential)

How We Got Here: A Brief History of Design and Construction

Our brief review of the design and construction industry's history begins in 1772 BCE when the Code of Hammurabi was set in stone tablets as the law of ancient Mesopotamia. One of the Code's laws mandated that the architect was responsible and liable for both design and construction decisions. Note that "architect" is translated from Latin as "master builder," one who guides design and construction. What this means is that full integration for design and construction, within one accountable and responsible entity, is actually the classic form of project delivery, preceding the traditional design-bid-build model by some 3,000 years.

By the mid-1800s, the notion of the master builder was lost due to specialization, a hallmark of the Industrial Revolution. Reflecting the growing division of practice between design and construction, the American Institute of Architecture was formed in 1857. AIA brought the art of design into focus not only as an activity but also as a product. As designers became separate from more tangible construction activities, design products shifted more to drawings and renderings. Over time, formal architectural education became focused on developing and documenting abstracted design ideas created in studios rather than constructed results at a jobsite. This is not to say that architects and engineers became completely isolated from the construction of their designs, but it is telling to that even today, several states do not require the designer-of-record to be involved in a project's construction.

The creation of the first trade unions during the same time period furthered trade specialization. The specialization of designers and builders, combined with advancements in manufacturing, transportation, and materials technology, pushed construction productivity to new heights. For

example, Carnegie's production of steel allowed for long-span bridges and the first skyscrapers to be built. For the A/E/C industry, the 19th and early 20th centuries were a time of greatly expanding productivity that continued until the mid-1960s, after which time the industry has been characterized by significant ebbs and flows.

From Segregated to Integrated: The Spectrum of Accountability

To understand alternative project delivery, we must first understand the default project delivery method: design-bid-build (DBB). The principal characteristic of DBB is its sequential and linear approach to design and construction activities. It begins when the owner selects the design team (architect, engineer, specialty designers, etc.). This team, working closely with the owner, then creates and fully documents the project design using drawings and specifications, otherwise known as contract documents.

Following full documentation, the owner advertises the contract documents for the solicitation of bids (bid prices from the marketplace of builders). The owner then confirms the validity of the bids and awards the construction contract to the lowest responsible bidder.

Evaluation and selection of design professionals usually involves a measure of experience, knowledge, past performance, and references. Low price is commonly not a criteria for selecting architects and engineers, as required by the Brooks Act for federal contracting. Since architects and engineers are licensed professionals whose license is regulated for the purpose of protecting the life and safety of the public, price or fee cannot be the dominant criterion for their selection. A selection based on lowest price may erode the life and safety principle laid out in the Brooks Act.

As indicated by the Federal Register: "On October 27, 1972, the Brooks Architect-Engineers Act (92) (40 U.S.C. 541 *et seq.*, re-codified now at 40 U.S.C. 1101 *et seq.*) required that all requirements for Architect-Engineers (A-E) services be publicly announced, and be negotiated on the basis of demonstrated competence and qualifications for the type of professional services required, at fair and reasonable prices. The Act established a specific qualification based procurement process to be used in procurements for architect-engineer services, which the Act defined as 'those professional services of an architectural or engineering nature as well as incidental services that members of these professions and those in their employ may logically or justifiably perform.'"

While the required professional services vary from owner to owner, generally those services include scope definition, bidding administration, and contract administration. Scope definition usually includes project programming (defining the owner's project needs) and design/documentation (documenting a solution/design within detailed drawings and technical specifications). Bidding for construction services involve publishing the drawings/specifications and collecting bid responses from the marketplace for consideration by the owner. Contract administration services affirm contract compliance (ensuring that the resulting construction is in accordance with the drawings/specifications), addressing builder's questions or Requests for Information (RFIs), and processing other administrative matters such as payment applications.

DBB is fundamentally a segregated, linear process. First the project owner selects the designer or design team and then the designer, working under contract with the owner, establishes the project

program (the *problem* to be solved through design) and subsequently provides a documented solution (drawings and specifications). The solution is “put out to bid,” and then those bids are tabulated, with the lowest responsible bidder being awarded the construction contract. As construction takes place, the design team, in service to the owner, measures compliance with the contract documents (drawings and specifications).

It is important to note that the designed solution (drawings and specifications) must be 100 percent complete because any missing, incomplete, or undocumented portions of the solution will not be included in the bid or the subsequent contract between the owner and builder. This is what gives DBB its character and name: design then bid then build. It is also why change orders are inevitable in DBB, as perfect drawings and specifications are as likely as flawless construction results—both activities are subject to human error.

In contrast, and as demanded by project owners’ expectations (see *Figure 3.2, p. 47*), alternatives to DBB are growing in popularity because of their ability to integrate the entire design and construction decision-making process. Although it is an established tradition that is well understood by everyone in our industry, DBB tends to extend schedules and diminish communication by segregating the professionals (designers versus builders) involved in the decision-making process. Since the builder’s adherence to the bid price is solely dependent on the clarity and completeness of the designer’s drawings and specifications, and since the success of the designer’s solution (encoded in the drawings and specifications) is ultimately dependent on the construction results, flawless communication is paramount to the owner’s success. The simplest and most obvious way to strengthen communication between the designer and builder is to put them on the same team.

The Three Primary APD Models: It’s All in the Contract

While there are some subtle variations among different APD approaches, they are all primarily subsets of three predominant models: construction management at risk (CMAR), design-build (DB), and AIA’s integrated project delivery (IPD).

In the CMAR delivery model, the owner establishes two contracts: one between the owner and designer and another between the owner and builder. In this respect, CMAR emulates DBB: a dual-contract operation with which most owners are familiar and comfortable. However, CMAR differs from DBB in that the owner establishes these two contracts at about the same time, thereby allowing the builder to provide input during the design process. With CMAR, the owner’s selection process is typically qualifications-based (as is the case with DBB), measuring the designer’s and builder’s experience, past performance, capacity, and skills.

CMAR allows the designer and builder to collaborate with the owner from the project’s beginning. The owner, designer, and builder can jointly evolve the solution, balancing the impacts of scope, cost, and schedule. This joint evolution lays the foundation for a spirit of partnership, shared responsibility, and tighter coordination of a project’s details.

DB goes one step further in the integration of project team members by joining the designer and builder in a single contract with the owner. The collaborative advantages created in CMAR are reinforced in DB by the use of this single contract. Since the designer and builder are contractually

Project Owners' Seven Fundamental Expectations

Upon hiring the project team (the owner's designer and builder), owners have expectations for performance. Often these expectations are not written down, but they most assuredly exist.

These expectations are in large part the reason that many project owners are searching for alternatives to the traditional project delivery model: design-bid-build (DBB).

As a result, any project delivery model must structure itself to respond to and meet these seven fundamental expectations:

1. **Be On Budget:** On budget means no surprises and no change-orders. With integrated project delivery and design-build, the contractor (service provider) is given design and construction leadership; thus, there are no more excuses.
2. **Satisfy Scope:** Irrespective of what is detailed in the design and plans, the final outcome must support the project's mission. Being in scope means meeting all of the documented requirements of the RFP, not only designing and building the project but also managing and ensuring a successful out-come.
3. **Meet the Schedule:** For most owners, the occupancy date is the key milestone. Many parallel operations (that may not always be apparent to designers and builders), depend on this date being firm.
4. **Be Professional:** Professionals have an obligation to do only what their skill and training will allow. Therefore the owner's project is not an opportunity to discover the solution; it's not an experiment, it's a commitment. "We didn't know, realize, foresee, understand, etc.," are not acceptable explanations.
5. **Be Predictive:** Predictive means that the service provider can (with certainty) predict the results of their decisions. If someone is professional (doing what he KNOWS), then by default he should be able to predict the results of his own decisions. Owners depend on this ability.
6. **Be Accountable:** If the service provider does not meet her obligations under the contract, then she must be responsible for bringing her services and products back into performance with no cost to the owner.
7. **Meet the Market:** The owner expects to receive a fair market price – neither the cheapest price nor the most expensive. This expectation requires the owner to know (discover) what defines a fair market price. Likewise, the owner expects to receive a fair market service. This is the basis for professional "Standards of Care," and the owner deserves nothing less.

Explaining the connections between a project delivery model's strategy and these seven expectations is one key to successfully marketing alternative project delivery.

Figure 3.2 Project Owners' Seven Fundamental Expectations.

a single entity, the owner does not need to settle any disputes between the two. This single-point of accountability, responsibility, and administration is a significant selling point for owners.

As with CMAR, the owner can use non-price factors in the evaluation and selection of the design-builder, including experience, past performance, skills, capacity, management approach, and so on. These non-price factors can be combined with price factors such as total price, unit cost, time/materials, etc.

IPD maximizes the integration of the primary project players: the owner, designer, and builder. Collectively, these three players form the project entity and, for all intents and purposes, all three have an ownership position. Developed by the American Institute of Architects (AIA), IPD can be

seen as the ultimate integrated alternative delivery model. Since the owner, designer, and builder are all members of a joint venture, their motivations are directed toward the project's outcome rather than their individual positions. With IPD in general, all three players are partnered in their success or failure. However, because of this joint ownership position, public entities (such as government owners) are barred from such joint venture models.

As your firm begins to provide integrated design and construction services (APD), you have the opportunity to address two of your clients' most urgent needs: adherence to budget and quality of results. APDs provide better adherence to budget and overall project quality because they can provide better communication throughout the project's entire design and construction life cycle. Builders provide feedback to designers in real-time, while the design decisions are being made and drawings and specifications are being resolved. Designers then provide feedback to builders in real-time, while construction activities are being planned and implemented.

As a result of this integration and enhanced communication, team members can mitigate many of the risks that drive up costs by establishing an intimate working relationship between the owner, designers, and builders. Each decision related to developing the design, coordinating the construction, and commissioning the results can be discussed in detail with all of the team members. Concerns related to function, operation, practicality, constructability, availability of material and resources, cost, and schedule can be raised by any team member throughout the project. At the same time, integration of understanding makes the project's goals clear to all team members, allowing the team to capture many opportunities, otherwise lost, that enhance project results.

Although not all APD models eliminate final price and quality variations, some alternative delivery models, by allocating roles, responsibilities, decision-making control, and risk, can contractually guarantee the project's final price and performance quality at contract award for the designer/builder team (as will be discussed below).

Industry Productivity and Risk: The Downside of Chasing the Upside

Research has presented a number of theories as to why our productivity as an industry is declining. Risk is one such issue that has been identified as a primary cause. Risk comes into play for everyone involved in the design and construction continuum: owners, designers, builders, suppliers, manufacturers, and so on. While there is no universally accepted definition of construction productivity, most agree that it is a function of the resources consumed (labor, material, etc.) versus unit output (square foot, cubic foot, or other program metric) over a given timeline. Our industry's collective challenge is how to increase productivity (maximize final project value) without increasing the risks associated with higher/better output.

This challenge is what is driving APD: owners demanding more, with less time and fewer resources at their disposal. Traditional approaches to project delivery are being scrutinized by those on the supply side in response to the changing needs of those on the demand side. It is important to note that APD is not an original product thought up by designers and builders, but rather a response to owners' demands for better project results. Owners' expectations are more frequently missed through the use of traditional DBB and are therefore driving the demand to lower project risk by reinventing the project delivery process.

The Intersection of Innovation and Accountability: Risk Is Inherent in Any Given System

For project owners, risk resides primarily in three fundamental questions: “What does it cost, what does it look like, and when do I get it?” Change-orders are a poison for any owner; all of their financial success is tied to their budget forecasts. Scope and schedule needs take a backseat to the importance of the budget. Owners can often work with a little upset to the scope of their project, and a smidgen of a schedule delay can be accepted, but blow the budget and it’s game over.

Marketing APD services is commonly done by contrasting APD to the traditional DBB delivery method, and various APD methods are often defined by how they allocate risk. This is done by describing the risk (cost control, schedule control, quality control, etc.) and assigning that risk to one of the entities involved with the project. For example, being familiar with DBB, you understand that the cost of the project is established by the design (designers design to a budget that, beyond the project cost, includes the builder’s profit and their fee) and that competing builders set the price of the project. How well the bid price aligns with the budget is only discovered on bid day when the envelopes are opened. Riskier yet (for the project owner at least) is that the final project price is subject to change due to change-orders, among other things.

To explain the impacts of this risk on a project’s outcome, the *Risk Profile Matrix* (Figure 3.3) demonstrates key relationships. Across the top of the matrix are the primary participants in any construction project: the owner, designer, and builder. The vertical axis identifies responsibility, the principal attributes of risk, control mechanisms, and control tools. This matrix can help you to visualize a project’s interconnected relationships and how various project delivery models will affect such relationship.



Figure 3.3 Risk Profile Matrix. (Source: 3PQ Acquisition & Management Systems)

For example, the owner (owner’s representative) is responsible for mission satisfaction: the operational needs that the finished project is intended to fulfill. The owner’s shareholders (in the case of private sector entities) or the taxpayer (in the case of public sector entities) hold the owner accountable for satisfying this mission. The owner’s activities focus on mitigating any risk that threatens the mission.

To mitigate risk, the owner translates the mission into scope. By defining what the project must be, the owner further mitigates the risk that the mission will not be satisfied (at least in the traditional

DBB model). To better define scope, the owner traditionally depends on professional design services that provide project programming and contract documents (drawings and specifications). In the matrix, mission satisfaction is tied to scope definition, and the scope definition is in turn tied to the quality, capacity, knowledge, and experience of professional designers hired by the owner.

The Request for Qualifications/Proposals (RFQ/P) is the control tool employed almost universally by owners. Once the designer is on board, he works closely with the owner to ultimately create the contract documents, otherwise known as the drawings and technical specifications.

In the same fashion, the designers' and builders' risk, control, tool, and responsibility are easily understood. Designers are at risk for errors and omissions (E&O) within the instruments of service, while builders are at risk for schedule adherence and personnel safety related to their construction activities. Although there are many subsets of risk for designers and builders, errors and omissions management (for the designer) and schedule and safety management (for the builder) dominate their respective approach to overall project management and delivery of services.

Designers mitigate the risk of E&O through the thoughtful design processes. The craft of design is instituted in the traditions of mentorship and internship. Designers (both architects and engineers) have a pace, sequence, and methodology to the development, consideration, and decision-making that goes into thoughtful design. Documentation of the design can further mitigate the risk of E&O; many designers adhere to conventions for the form and organization of drawings and specifications. For example, the Construction Specification Institute (CSI) has established a convention for specification documents based on construction trades.

Builders mitigate risks related to scheduling and safety through the orderly process of building. Similar to design, construction has a pace, sequence, and methodology inherent in the process. By controlling the means and methods (M&M) related to construction activities, the builder could mitigate the risks associated with schedule adherence and human safety.

Finally, each entity has a responsibility to the other: designers set the direction via design, owners verify that direction via mission understanding, and builders follow the direction via construction activities.

Risk and APD: Pinpointing Risk within Systems

Following the various relationships identified by the risk matrix, we can understand how various project delivery models seek to mitigate risk and what each model depends on for its success. Remember, the only reason that owners embrace a new project delivery model is that it may better satisfy their seven fundamental project expectations (*Figure 3.4, p. 51*).

Consider design-bid-build. *Figure 3.5 (p. 51)* shows a black line between the designer and the builder. This black line represents the contract interface. As the contract documents (drawings and specifications) derived from the designer define the owner's required contract scope, the owner and designer are seen as one, left of the line. To the right of the line (the second of a two-entity contract) is the builder.

Based on the traditional DBB contract interface, the owner guarantees to the builder that the contract drawings and specifications are complete and without error. This is codified as the Spearin Doctrine,

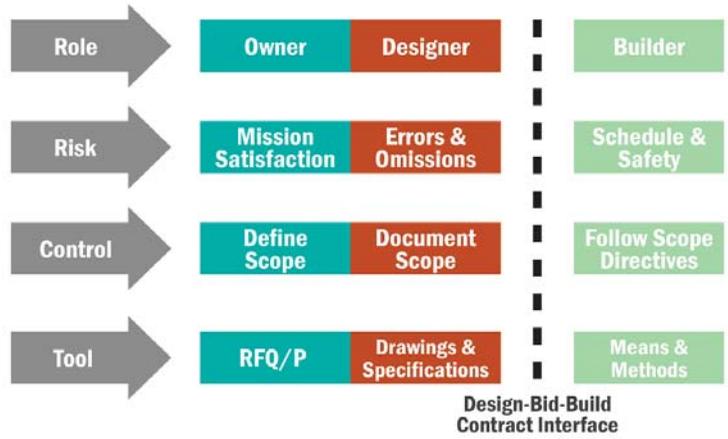


Figure 3.4 Risk Profile Matrix. (Source: 3PQ Acquisition & Management System)

which states that the contractor will not be liable to the owner for any loss or damage resulting solely from insufficiencies or defects in information, plans, and specifications. By contract, the builder follows the owner’s drawings and specifications to the letter. Any error, omission, ambiguity, or other defect in the contract documents (drawings and specifications) that impacts the builder’s schedule or cost constraints is resolved via a change-order for an adjustment to the contract. When using DBB, the owner generally must wait for the conclusion of all construction activities to know the final price.

The opposite extreme sets the contract interface to the left of the designer (Figure 3.5). This scenario establishes one contract between the owner and designer/builder (the designer and builder having their own contractual arrangement). In this relationship, the designer/builder or design-build contractor follows the owner’s RFP Documents to create the solution, which is derived from the design and documented within drawings and specifications. The builder is not contractually obligated by the owner-furnished drawings and specifications; rather, the design-builder is contractually obligated by the owner-furnished RFP Documents.

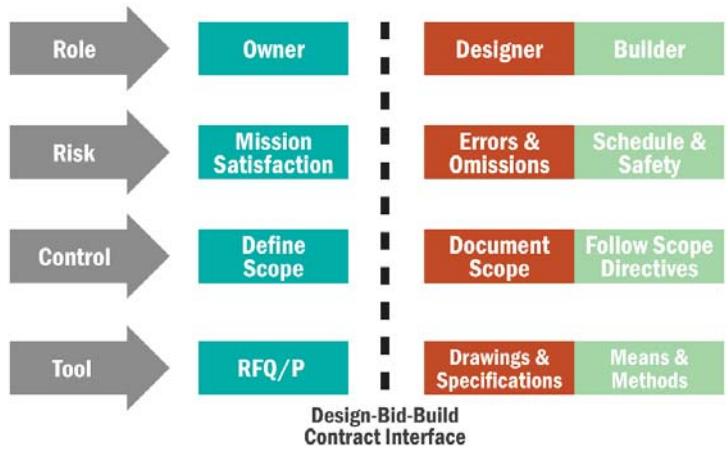


Figure 3.5 Risk Profile Matrix. (Source: 3PQ Acquisition & Management System)

What is unusual for our industry is the content of the owner's Request for Proposals (RFP) documents. Under this design-build approach, the RFP documents must detail and describe all the measurable criteria that the ultimate solution (both completed design and built construction) must satisfy. Since the design-builder controls the tools of design and construction unilaterally, he also controls the design and construction decision-making process. Combining this unilateral control (again, under the Spearin Doctrine) is why the design-builder is liable for all risks (design errors and omissions, as well as errors in construction means and methods) associated with satisfying the owner's RFP requirements.

Since the no longer control the project's outcome via drawings and specifications (this responsibility now residing with the design-builder), owners must add far more performance detail to their RFP documents, as they are the basis-of-scope and the contract documents that replace the traditional drawings and specifications. It is important to note that this change in how and by whom the design is controlled accounts for much of the angst and confusion surrounding design-build as an APD model; designers, builders, and owners have yet to settle on a standard RFP document convention.

We will now look at the structure related to another popular APD: construction management at risk (CMAR), also known as construction manager/general contractor (CMGC). CMAR maintains the dual contract relationship of the owner with both the designer-of-record and the builder-of-record and creates a high level of coordination and collaboration between the designer, builder, and project owner. Similar to DBB, CMAR allows for direct control of design decisions by the owner, since she maintains a contract directly with the designer. CMAR also greatly enhances the builder's understanding of the required construction by including him directly in the design and design-review process. The builder's involvement and associated role at the design phase of the process provides a higher level of quality control, better understanding, and more accurate probable-cost information for the owner.

While design-build allows for setting a final price at contract award, the CMAR delivery model usually sets a guaranteed maximum price (GMP) for the project when the drawings and specifications are around 30-50 percent complete. CMAR establishes the GMP from consideration of the drawings and specifications (to date), along with stated conditions and limitations of understanding related to the GMP. Unlike DBB and DB, since the contract price is a GMP, the contract administration follows an open book approach for the accounting of project costs related to the final price; savings are commonly shared between the owner and CMAR contractor. By contrast, both DBB and DB are commonly contracted on a fixed-price basis.

There are many other contract possibilities that can be mapped on the risk matrix. Bridging-based design-build partially replaces the owner's RFP performance criteria with conceptual drawings and specifications. These conceptual (or bridge) designs are the basis of a contract in which the design-builder (different designer) completes the design and provides the construction services to completion. If bridging documents are contractually obligated, then the Spearin Doctrine can come into play and cloud the risks associated with design and construction. Many owners are attracted to this APD method because it maintains their direction of design while allocating some design responsibility to the design-builder. In practice, bridging-based design-build requires details within the contract that clearly allocate the risks associated with the owner-designer and the design-of-record.

The final APD model removes any contract interface from the matrix. The American Institute of Architects has created documentation for integrated project delivery, or IPD. In this case, integrated project delivery is not a conceptual process, but rather a unique contractual structure in which all members of the matrix (owner, designer, and builder) enter into a formal partnership with each having a vested interest in the project's successful completion. IPD seeks ultimate integration and collaboration by creating a single entity for the project, as if an owner were designing and building the project for himself.

IPD focuses on the single entity absorption of risk, in contrast to DB's focus on the dual entity allocation of risk. The obvious question is who (owner, designer, and builder) controls and shares what percentage of risk in the context to the partnership; the AIA provides literature with recommendations for how to address this question (for more information, see Additional Resources).

One Potato, Two Potato, Three Potato, Four: Choosing the Right APD

As a marketing and business development professional, you have a myriad of owners' perceptions and misconceptions to navigate when promoting APD. Likewise, you have a myriad of internal personalities to unify when pursuing APD projects. Perception is often reality, so changing (or enhancing) your firm's or client's perception of roles, responsibilities, and decision-making control can be the major roadblock to successful APD adoption.

Many owners will be interested in APD if they can understand the direct links between their fundamental project expectations and the attributes of various APD models. Much of the research and empirical and anecdotal evidence compares and contrasts APD to the traditional DBB delivery model; see *Figure 3.6* for a visual comparison. DBB attributes are shown in gray and represent a baseline for comparison. The figure's black cells represent improvements how the indicated attribute can be reliably achieved. Finally, white cells represent a diminished opportunity to reliably achieve the attribute. Using this matrix, you can determine which APD aligns with your owner's expectations, comfort level, internal resources, and so on. Designers and builders can also use this matrix drive a conversation about which APD skillsets align with their own mission and business model.

APD requires a different way of thinking and responding to project delivery. As the risk matrix discussed previously indicates, APDs result in significant shifts in how various responsibilities, tools, and liabilities are structured. Understanding and navigating these shifts is critical to delivering the improvements suggested by the matrix in *Figure 3.6* (p. 54). For example, let's suppose that due to funding commitments, an owner is interested in knowing the final price for their project as early in the acquisition process as possible. Based on this single attribute, we note that DB provides the best opportunity to provide this final price commitment early in the project acquisition process.

Since you are marketing APD, the use of tools such as the delivery model comparison matrix will allow you to discuss your firm's APD services in the context to your owner's project delivery needs.

Natural Extensions to APD: Advanced Integration

Because of APD's collaborative and integrated service approach, turnkey alternatives create an almost endless array of the services you can provide. As a marketing professional, you now have

Owner risk as comparison to D-B-B (Traditional) Method of Project Delivery	Design-Bid-Build (DBB)	Construction Management at Risk (CM-R)	Multiple Prime Contractors (MP)	CM Agent using Multiple Prime Contractors (CM-A)	Integrated Project Delivery (IPD)	Design-Build (DB)
Owner Considerations						
Adversity to change order	0					
Owners ability to make timely key decisions	0					
Ability to reduce gaps between services	0					
Simplify call backs and warranty issues	0					
Owner Schedule						
Timing to establish definitive project scope	0					
Timing to establish definitive construction cost	0					
Ability to fast-track the project	0					
Total project duration	0					
Owner Control						
Owners desire to control design details	0					
Owners desire to control project outcome	0					
Desire to have control of all prime contractors	0					
Increase in project transparency	0					
Increased ability for high performing projects (LEED, etc.)	0					
Project Budget						
Adversity to Change Orders	0					
Need to establish budget at earliest possibility	0					
Reduce the duplication of services	0					
Least cost for value received	0					
Owner Relationships						
Direct relationship with designer	0					
Select entire team not just designer	0					
Ability to establish a more professional relations with contractor	0					
Desire to avoid adversarial relationships	0					
Ability to increase project coordination	0					
Ability to reduce project claims	0					
Owner Communication						
Single point of contact	0					
Importance of having construction input during design	0					
Ability to negotiate cost and scope	0					
Ease in reaching an equitable contract	0					

Figure 3.6 Owner Risk Comparisons to D-B-B.

the impetus to explore the needs of your clients more deeply and the strategies and collaborative capability to address those needs.

Your client's sustainable and green building initiatives are a natural fit for APD. APD models strengthen integration by bringing together people and resources that go far beyond simply a designer and builder. This collaboration can easily address issues that may not have previously been considered basic goals of the design and construction process. The team approach, central to APD models, allows for collaboration with specialists to solve your client's need for energy and water efficiency, environmental stewardship, LEED certification, operational efficacy, or any other subordinate outcomes sought by clients.

Extensions of DB include design-build-operate (DBO) and design-build-operate-maintain (DBOM). Thus, owners can have their mission needs satisfied for any and all phases of a project's service life. Not only can the owner have the project designed and constructed for a set price (design-build), they can have their mission needs met on an ongoing price-for-service basis. DBOM can establish a monthly or annual price for service, akin to a lease. For example, some municipalities can pay an annual price for the treatment of water or wastewater. The agreement establishes the quantity and quality performance metrics of the facility, usually with a service life buyout date on which the ownership reverts to the municipality.

Public-Private Partnerships: Alternatives to Include Financing

Financing can likewise be an additional service that fits naturally with APD. Many public projects in need of project financing options to get off the ground are being delivered using APD models. Again, APD's natural collaboration allows for the easy integration of finance partners into the delivery team.

Public-private partnerships, or PPPs, are an effective strategy behind large public projects such as bridges, major highways, water and wastewater projects, and other public interest development projects. These partnerships bring together a public owner and a private designer and builder, along with a mix of public and private financing conduits that fund the project. As risk allocation is a fundamental component for this type of team structure, APD provides natural collaborative framework.

The National Council for Public Private Partnerships (NCP PPP) has this to say about public-private partnerships and project delivery: "A Public-Private Partnership (PPP) is a contractual arrangement between a public agency (federal, state or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility."

The NCP PPP has developed several best practices for PPPs, recognizing that the methodology for the implementation of PPPs can vary depending on the nature of a given project and local concerns. Key elements of these best practices include the following.

1. *Public Sector Champion:* Recognized public figures should serve as the spokespersons and advocates for the project and the use of a PPP. Well-informed champions can play a critical role in minimizing public misconceptions about the value of an effectively developed PPP.
2. *Statutory environment:* There should be a statutory foundation for the implementation of each partnership. Transparency and a competitive proposal process should be delineated in this statute. However, unsolicited proposals can be a positive catalyst for initiating creative, innovative approaches to addressing specific public sector needs.
3. *Public sector's organized structure:* The public sector should have a dedicated team for PPP projects or programs. This unit should be involved from conceptualization and negotiation through final monitoring of the execution of the partnership. This unit should develop Requests For Proposals (RFPs) that include performance goals,

not design specifications. Consideration of proposals should be based on best value, not lowest prices. Thorough, inclusive Value for Money (VfM) calculations provide a powerful tool for evaluating overall economic value.

4. *Detailed contract (business plan):* A PPP is a contractual relationship between the public and private sectors for the execution of a project or service. This contract should include a detailed description of the responsibilities, risks, and benefits of both the public and the private partners. Such an agreement will increase the probability of the partnership's success. Realizing that all contingencies cannot be foreseen, a good contract will include a clearly defined method of dispute resolution.
5. *Clearly defined revenue stream:* While the private partner may provide a portion or all of the funding for capital improvements, there must be an identifiable revenue stream sufficient to retire this investment and provide an acceptable rate of return over the term of the partnership. The income stream can be generated by a variety and combination of sources (fees, tolls, availability payments, shadow tolls, tax increment financing, commercial use of underutilized assets or a wide range of additional options) but must be reasonably assured for the length of the partnership's investment period.
6. *Stakeholder support:* More people will be affected by a partnership than just the public officials and the private sector partner. Affected employees, the population receiving the service, the press, appropriate labor unions, and relevant interest groups will all have opinions and may have misconceptions about a partnership and its value. It is important to communicate openly and candidly with all stakeholders to minimize potential resistance to establishing a partnership.
7. *Pick your partner carefully:* The best value (not always lowest price) in a partnership is critical in maintaining the long-term relationship that is central to a successful partnership. A candidate's experience in the specific area being considered is an important factor in identifying the right partner. Equally, the financial capacity of the private partner should be considered in the final selection process.

If Nothing Else, APD Enhances Your Business Approach: Alternative Low-Bid

After understanding the advantages of APD, you might be wondering what is to become of the traditional DBB process. It's not likely to go away for some time because many public and private sector clients still accept it. The strategy of pursuing the lowest price, even at the risk of sacrificing some measure of value, still appeals to many owners, although that number is decreasing.

If your firm still implements a considerable amount of DBB services for valuable clients, selecting pieces of the APD strategy can improve your relationships and give you a competitive advantage. For example, encourage your owners to accept pre-qualification statements as part of an overall strategy to increase project value. Often pre-qualification is supported by the public (the critical constituent in public projects) as it safeguards their tax dollars; it also allows you to demonstrate

an integrated and collaborative approach to construction, working with the design-of-record, and satisfying the owner's overall project goals.

The poet Maya Angelou noted that, "We all do what we know, and when we know better we do better. But we always do what we know". In the end, as a marketing and business development professional, you are the front door to your firm. The client largely understands your firm's story as presented by you and as interpreted by their own experience. Advancing your firm's APD portfolio begins by telling a story you both know.■

Things to Think About

- Why has APD grown in demand and acceptance?
- Is the designer or builder a better leader of APD?
- What draws the individual owner to APD?
- Other than traditional knowledge of design and construction, what are the required skills of an effective APD service provider?
- Why would an owner, designer, and builder have different perspectives on a particular APD model approach?
- How is APD different, or the same, as the services you currently provide your marketplace?

