

Designer-Led Design-Build

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Advantages when the architect is prime

Design-Build is by far the fastest growing method of project delivery in the country. Its popularity is owner-driven, primarily because of shortened project delivery times and the single point of responsibility for project design and construction.

Traditionally, architects have been somewhat hostile to design-build. They have feared that it diminishes the design professional's role and the importance of design to the project. There is some validity to these criticisms because architects traditionally have played a subservient role to the contractor in design-build projects.

Historically, the reverse was true. The architect as masterbuilder had overall responsibility for the project, both the design and construction. However, as the legal climate became more adversarial, architects retreated from responsibility for construction, carving out the ever-narrowing niche that they now occupy.

The architect as prime design-builder

I recommend that architects redefine their role, particularly in design-build projects. Traditionally, architects have been subcontractors or joint venture partners of the contractor, presumably because of the contractor's stronger financial status. But, it is usually the architect who develops the initial relationship with the owner and who has the owner's trust and confidence when construction begins. I submit that it is more logical (and far more profitable) for the architect to be the prime design-builder, subcontracting the actual construction to the contractor. (See Figure 1.)

Figure 2.

Whether to Team With a General Contractor
PRO'S:

- All construction risks entirely passed through
- Contractor's presence may assist marketing or sales
- Contractor likely to refer projects back to Architect
- Architect not perceived as competing with contractors
- Contractor may be source of financial security for owner
- Contractor may be additional source of project management expertise
- Contractor may negotiate better deals with subcontractors CON'S:
- Reduces available profits (but only in theory, because general contractors get better deals from subcontractors)
- May be harder to explain to owner The first step is for the architect to form a strategic alliance with a financially sound or bonded general contractor. The contractor would agree to provide extensive pre-construction services (estimating, value engineering, constructability review, etc.) in exchange for the architect's promise to subcontract 100 percent of the construction work to the contractor. (See Figure 2 for the advantages of working with a general contractor teammate rather than contracting directly with multiple trades.)

The second step for most architects is to establish a sister company to be the architect's design-build division. This company enters into a Master Subcontract Agreement (similar to a strategic alliance agreement) with the contractor (preferably more than one contractor), which calls for the contractor to perform the preconstruction services described above and then all of the construction on future, as-yet unidentified design-build projects for a cost (or with a guaranteed maximum price) of 95 percent (for example) of what the owner pays to the architect's design-build company for

the construction. Of course, these numbers would be based on the contractor's preconstruction estimating.

I recommend setting up the design-build agreement with the owner differently from what is contemplated in most standard-form contracts. The architect may begin the project with an AIA contract or any other pure architectural contract with which it is comfortable. If the owner elects to have the architect construct the project, then they sign a design-build proposal that I call a "Price/Schedule Guarantee" establishing the construction price and completion date. This document may be signed at any time during the design phase, whenever the owner's program is sufficiently understood to establish the price and duration of the project. This can even occur early in the schematic phase, in which case the architect designs to the construction price as if it were a budget. The contractor has established the construction price during the design phases and is promising to the architect that it will construct the project for 95 percent (for example) of the construction price given to the owner. When the construction documents are developed sufficiently so that construction can begin, the owner then signs a lump sum construction contract with the architect's design-build company, which incorporates the price and schedule terms previously agreed, or possibly a revised price in the likely event that there has been some scope creep. (See Figure 3.)

Advantages when the architect is prime

Structuring a design-build project in this manner affords four significant advantages to the architect.

Increased Profits. Designer-led design-build enables the architect to participate in construction profits, which dwarf the profits from the design phase. Informal research among architectural firms that take the lead in design-build projects indicate that the ratio of construction to design profits exceeds 4:1. There is a potential for even greater profits from sharing in the construction savings if the project cost turns out to be less than the contractor's guaranteed maximum price. There also are labor savings during the Construction Documents phase resulting from a decreased need for "defensive detailing" in lieu of minutes of meetings and other more efficient procedures to convey design intent.

Marketing Advantages. The most important marketing advantage of designer-led design-build is that it permits the architect to "put its money where its mouth is" by offering at an early stage in the project to guarantee the budget and completion date if the architect is hired to build the project. An additional marketing advantage is that the architect would be able to offer owners a design-build option, which the owner may or may not elect at his choice any time during the design phase. Architects employing this approach have found that the ability to perform both the design and construction of the project separates them from their competitors and results in many more commissions — even for projects that ultimately are delivered in a more traditional manner.

A surprise marketing advantage is a change in the architect's relationship with the contractor(s). Contractors quickly figure out that they want to be the architect's "100-percent subcontractor for construction," since the projects usually turn out to be lucrative and non-adversarial. Savvy contractors find ways to hire design-build architects or get them referrals for other projects to increase the likelihood that they will be selected as contractor for the next designer-led design-build project.

Control of Design. An architect who is prime can control the quality of design and can ensure that the construction properly implements the design intent. In designer-led design-build, the contractor does not communicate directly with the owner and therefore cannot recommend unwise design decisions to the owner, such as cheapening an HVAC system to save upfront costs without a thorough analysis of life-cycle considerations. When the design professional works for the contractor in contractor-led design-build, he is often prohibited from communicating directly with the owner about design or construction defects and must take his concerns to his contractor client, who may or may not do anything about them.

This control is particularly helpful if something goes wrong on the project. If a design error is discovered, the architect and contractor can resolve it quickly and quietly without it becoming a public relations disaster, and sometimes without the owner ever finding out. And if there are cost consequences from the design error, the contractor, who is the architect's teammate and ally, will actively attempt to minimize any resulting delays and subcontractor charges.

Minimized Problems During the Construction Phase. In designer-led design-build, the contractor is not entitled to change orders for errors or omissions in the construction documents because it participated in creating and proofreading them. Any resulting consequences are divided equally between the architect and contractor through the sharing measures described below. The architect-contractor relationship is non-adversarial, with the contractor assisting the architect in correcting unanticipated design problems, and the architect assisting the contractor by flexible interpretation of the design, allowance of substitutions and minor design changes, etc. Construction worker injury claims are not defended under the professional liability policy, with its large deductibles, because the architect's liability is as a contractor, covered under the contractor's general liability policy. An architect has fewer and smaller professional liability

risks in designer-led design-build than in traditional projects.

Sharing the wealth

Design-build works best when the parties have the proper economic incentives. The architect should be incentivized to help the contractor have a successful project, and the contractor should be similarly incentivized to help the architect have a successful project. To some extent, these incentives stem from the desire of the parties to work together on other projects in the future. But that is a somewhat fragile incentive.

I strongly recommend that the design professional and the contractor contractually establish a sharing of savings and losses. When the architect's construction contract with the owner is lump sum and his subcontract with the contractor is cost-plus to a guaranteed maximum price, it is easy to share savings and losses. The architect contractually promises to give the contractor 50 percent of any windfall from the contractor bringing in the project under the GMAX. And if the project costs exceed the GMAX, the architect agrees to give a rebate to the contractor from his mark-up of the construction price equal to 50 percent of the cost overrun.

Skeptics frequently ask what the source is of the architect's construction phase mark-up: Is it just an extra cost for the owner? The answer is "no," the owner pays no more than usual, and quite possibly less. This is because designer-led design-build is quite possibly the most efficient project delivery method in the marketplace.

The efficiency is because of the close working relationship between the contractor and the architect, which significantly minimizes the contractor's overhead and other costs. (See Figure 3.) The contractor does not have to spend overhead money marketing for the project because it is awarded to him gratis by the architect. It does not have to support the overhead for bidding or estimating other projects that the contractor sought but was not awarded, because in designer-led design-build the contractor either gets compensated for its preconstruction services or else is awarded the project. There is far greater certainty in pricing and scheduling a designer-led design-build project because the contractor is as cognizant of the design intent as is the architect and has plenty of time during the design process to obtain firm, written quotes from subcontractors and vendors.

Figure 4.
Efficiencies of

Designer-Led Design-Build (i.e., Contractor's Savings to be shared with Architect)

- No marketing overhead for project
- Cost estimating certain to result in project or compensation for the estimating work
- Minimal contingency for bidding errors/oversights
- No contingency for adversarial administration

Most importantly, however, significant efficiencies result from the architect's cooperative, non-adversarial administration of the construction. For example, the substitution process is simplified, with prompt and decisive meetings substituting for a lengthy and detailed catalog cut and submittal process, and with the architect positively incentivized to help the contractor find substitutions that save money. If the contractor "paints itself into a corner" during construction, the architect actively makes minor design changes to help the contractor, rather than woodenly insisting that the contractor build "per plans and specs." Any experienced contractor knows that it is likely to make far more money on a project where the architect is helpful and cooperative, rather than hostile and adversarial. The contractor's significant extra profit from the efficiencies described in these two paragraphs is able to be shared with the architect as the architect's construction phase mark-up. (See Figure 4.)

Minimal risks and obstacles

The major risk in architect-prime design build is liability to the owner for construction defects and related problems. But if the architect is liable to the owner, then the contractor is similarly liable to the architect. This is the theory of flow-down general contracting. As long as the contractor is financially sound or bonded, the architect's ultimate financial risk is minimal.

This design-build structure will not always be optimal or workable. It would have to be modified for public projects in some jurisdictions because of competitive bidding laws. The licensure laws in some (but not many) states may create an

obstacle. And, this project delivery method is not designed for an owner whose primary goal is to obtain the lowest possible competitive bid.

Figure 5.

Advantages to the Owner of Designer-Led Design-Build

- Architect is better trained than Contractor to balance design quality vs. cost
- Owner can delay the design-build decision
- Owner and Architect often have pre-existing relationship to build on
- Architect has less conflict of interest than when Contractor leads team
- Common complaint of Architect lacking cost discipline disappears when Architect must construct to a fixed cost
- Contractor as 100% sub can still be source of bond or financial capitalization

But, designer-led design-build is ideally suited to most private sector projects, particularly those that are driven by schedule or budget. Not only architects, but owners and contractors as well, have expressed great interest in and achieved great success with this project delivery style. (See Figure 5.) Although there are too many details for an article of this length, I encourage anyone who is interested to contact me with their thoughts, experiences or questions. MD

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