

WHITE PAPER / **DESIGN-BUILD PROJECT DELIVERY**

TAKING DESIGN-BUILD FURTHER FOR MAXIMUM PROJECT VALUE

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Buildings house nearly every function of daily life, from the small to the massive. Bringing a new building to life is a complex process that relies on communication and understanding. You want your design and construction to come together seamlessly.



INTEGRATED, SCALABLE AND IN-DEPTH

Design-build delivery is available broadly today. But to reap its biggest rewards, your solution must address your project's unique needs. Integrated delivery, scalable processes and in-depth understanding of design and construction in your market are critical to your success.

Whether your building will be an industrial facility, an airport terminal, a manufacturing hub, a sleek office tower or a consumer retail development, the principles align. Design-build brings a unified flow, a single contract governing design and construction that comes with advantages (See Figure 1.)

OPENING DOORS FASTER

Competitive markets demand agility in getting capital projects off the ground. In a retail environment, speed to market can be the difference-maker for bottom-line success. Lean practices or building information modeling (BIM) may be the critical elements for manufacturing. Long-lead-time equipment may be the key for an airport central utility plant or technology integration.

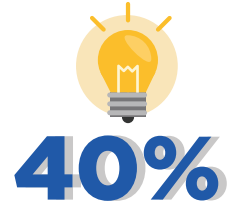
In construction, time really is money. Scalable processes and strategic execution plans guide your program's implementation regardless of your program's scope or number of sites.

EYE ON COST

From feasibility through final completion, cost is at the forefront for every project. Cost can easily become a crucial obstacle to project success if it isn't understood and managed efficiently. In its basic form, design-build delivery provides cost advantages. A truly integrated

WHY DESIGN-BUILD?

Design-build is used for nearly 40% of nonresidential design and construction in the U.S. It optimizes the use of such industry innovations as BIM and Lean construction practices.



According to research from the Construction Industry Institute and Penn State, comparisons of 351 projects ranging from 5,000 to 2.5 million square feet resulted in advantages of design-build over design-bid-build:

- 6.1% lower unit cost
- 12% faster construction speed
- 33.5% faster delivery speed
- 5.2% less cost growth
- 11.4% less cost growth

FIGURE 1: The advantages of design-build are quantifiable as the delivery method is increasingly adopted.

design and construction team has an established process for real-time estimating and pricing feedback. Real-cost data maximizes your project and business goals without sacrificing your project safety, schedule, performance or quality. This helps you and the entire project team understand costs earlier in the design process. Better information, provided earlier, enables you to make the right decisions for your project and, ultimately, your business.

At Burns & McDonnell, integration is the difference. Because our design and construction professionals are under one roof, our design-build delivery provides even greater advantages in accountability, efficiency, communication and seamless project completion.

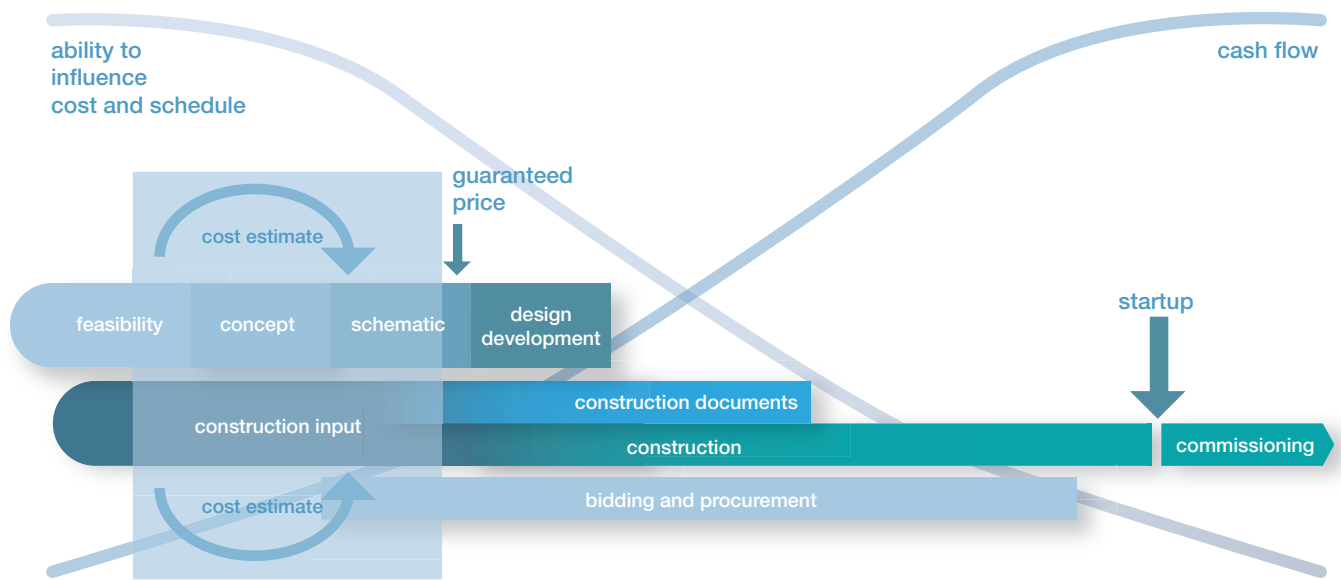


FIGURE 2: Design-build delivery puts significant cost decisions early in the project, where their impact can be understood and managed.

VALUE AND QUALITY

Maximizing the value achieved from your capital outlay can only happen when you begin each project with a determination of the key elements that will define success, whether that is total installed cost, first cost, operational costs or another measure.

By incorporating constructability reviews and cost conversations occur early in the timeline, rather than waiting until bridging documents are in play, the impact on final cost is lower (See Figure 2.) Design-build also allows the contractor to incorporate the most effective subcontractor prequalifications and scope management.

Factoring in Lean principles for design, construction and procurement addresses life-cycle costs for operational efficiency and maintainability. Knowing these costs up front can alter the overall cost equation and guide you to best value decisions. BIM helps identify potential project challenges and provides cost-efficient solutions before construction begins, reducing costly rework and schedule impact. In that vein, design-build creates opportunity for innovations that take a project beyond the initial vision, layering on increased value.

ACCOUNTABILITY AND TRUST

When one entity is accountable for cost, schedule and performance, responsibility for addressing issues and concerns cannot shift to another party. The design-build approach provides a partner with no competing interests. The single point of responsibility decreases the administrative burden on you as the project owner.

Tightly integrated teams in our design-build model benefit from proactive and open communication. This partnership — stretching from prequalification through procurement to project execution — means that project challenges can be discovered early in the project timeline, minimizing impact on cost and schedule.

Value to you is increased because your teams are able to focus on your business while the design and construction needs are handled through one source. Instead of back-and-forth communication from the architect/engineer to the owner and the owner to the contractor, it is streamlined.

TAKING DESIGN-BUILD FURTHER

Design-build project delivery, at its core, streamlines the process from facility conception to final completion. It's about reducing costs, accelerating the schedule,

and improving quality and safety. It cuts the burden shouldered by you as an owner. It lets your management teams focus on your business, not on the details of design and construction.

Design-build at Burns & McDonnell adds a benefit unique to us. We apply our perspective as employee-owners to the key elements of your project, from document preparation and constructability reviews to budget controls, subcontractor selection and management. Our experience handling subcontractors, labor or material shortages, quality control and more comes with an uncompromising safety program and performance record. Our design and construction professionals are employee-owners who work together under the same roof, every day. We go further. We provide solutions-led design-build, serving as a fully integrated, single-source design and construction partner, focused on the project goals that lead to a facility that meets your needs.

BIOGRAPHIES

RANDY POPE, PE, SENIOR VICE PRESIDENT AND PRINCIPAL, provides project oversight for facility design and design-build projects specializing in projects with a fast-tracked design and construction schedule. His responsibilities include client management, project coordination, quality control and cost control. As a principal member of the National Fire Protection Association Technical Committee on Airport Facilities, he has published fire code standards on aircraft fueling ramp drainage, construction, and protection of airport terminal buildings and aircraft loading walkways.

NEAL ANGRISANO, AIA, NCARB, SENIOR PROJECT MANAGER AND ASSOCIATE, is responsible for project management for a variety of building types with a specialization in commercial, government and institutional facilities, sustainability planning and implementation, and design-build delivery. He has directed or managed numerous large and technically complex projects. Additionally he has facilitated numerous, diverse public and private sector stakeholder processes for strategic planning and capital development.