Design-Build Done Right™: Alternative Delivery Trends

“Integration is Our Foundation"

Benjamin Dzioba, PE, PMP, DBIA

“Integration is Our Foundation"

Design-Build Institute of America

VISION

DBIA will be the industry's preeminent resource for leadership, education, objective expertise and best practices for the successful integrated delivery of capital projects

MISSION

DBIA promotes the value of design-build project delivery and teaches the effective integration of design and construction services to ensure success for owners and design and construction practitioners

VALUES

- Excellence in integrated design-build project delivery, producing high value outcomes
- An environment of trust characterized by integrity and honest communication
- Mutual respect for and appreciation of diverse perspectives and ideas
- A commitment to innovation and creativity to drive quality, value and sustainability
- Professionalism, fairness and the highest level of ethical behavior

DBIA - Design-Build *Done Right*

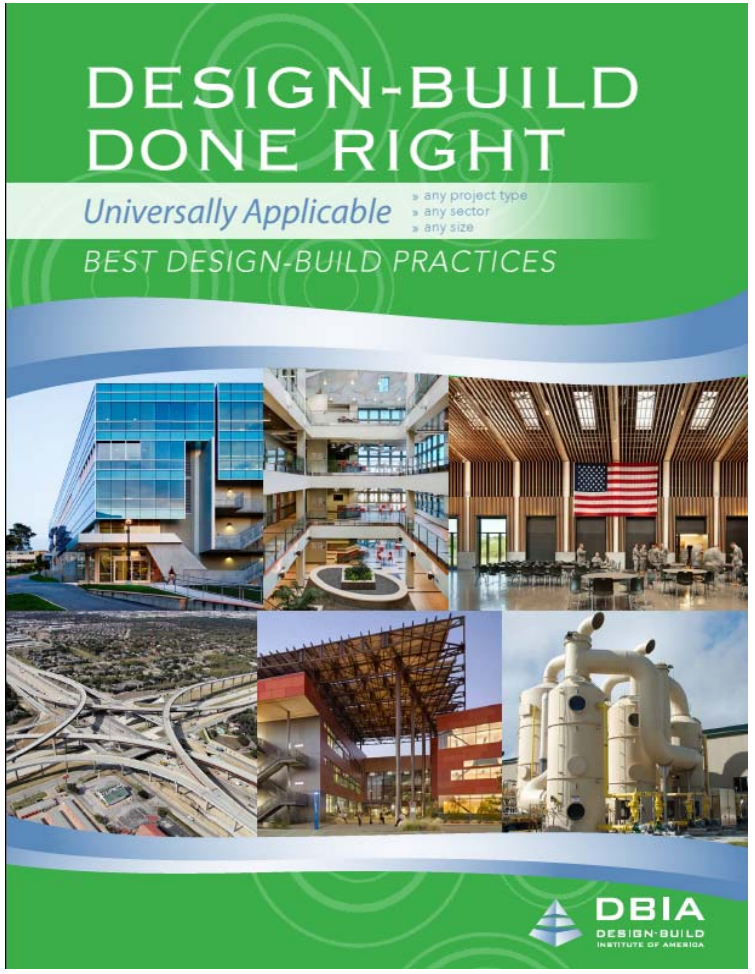
Best Practices

- Available at *www.DBIA.org*
- Universally applicable
- Categorized ten (10) best practices supporting implementing techniques into three areas:

1 - Procuring Design-Build Services

2 - Contracting for Design-Build Services

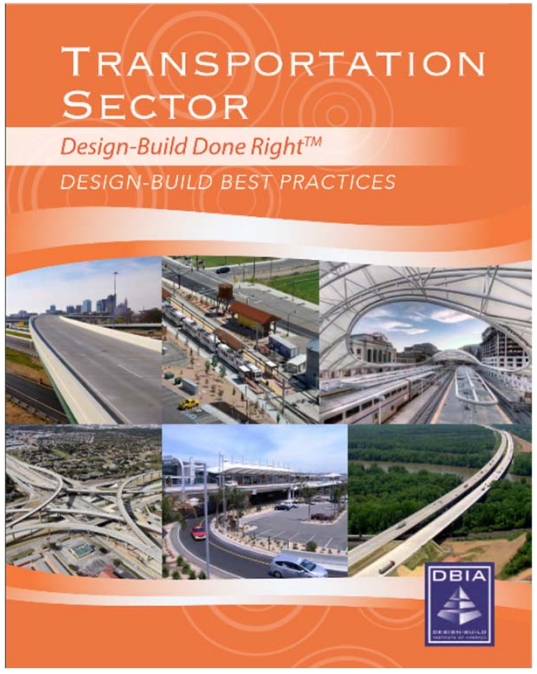
3 - Executing the Delivery of Design-Build Projects



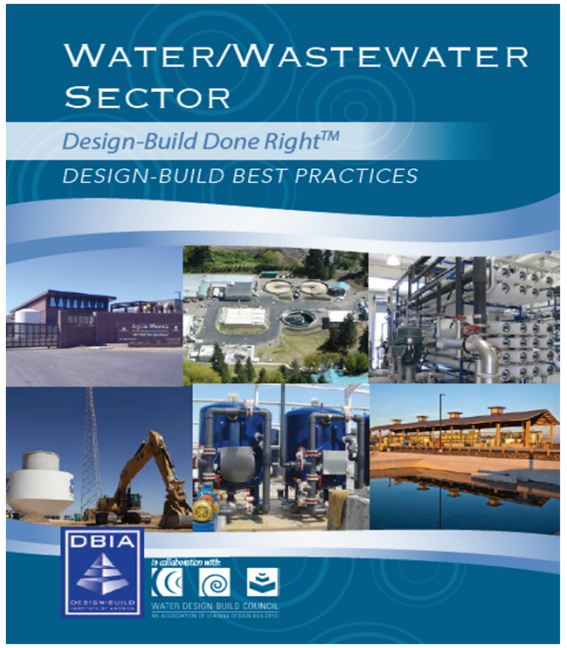
Sector-Specific Best Design-Build Practices

www.dbia.org/resources

Federal



Transportation

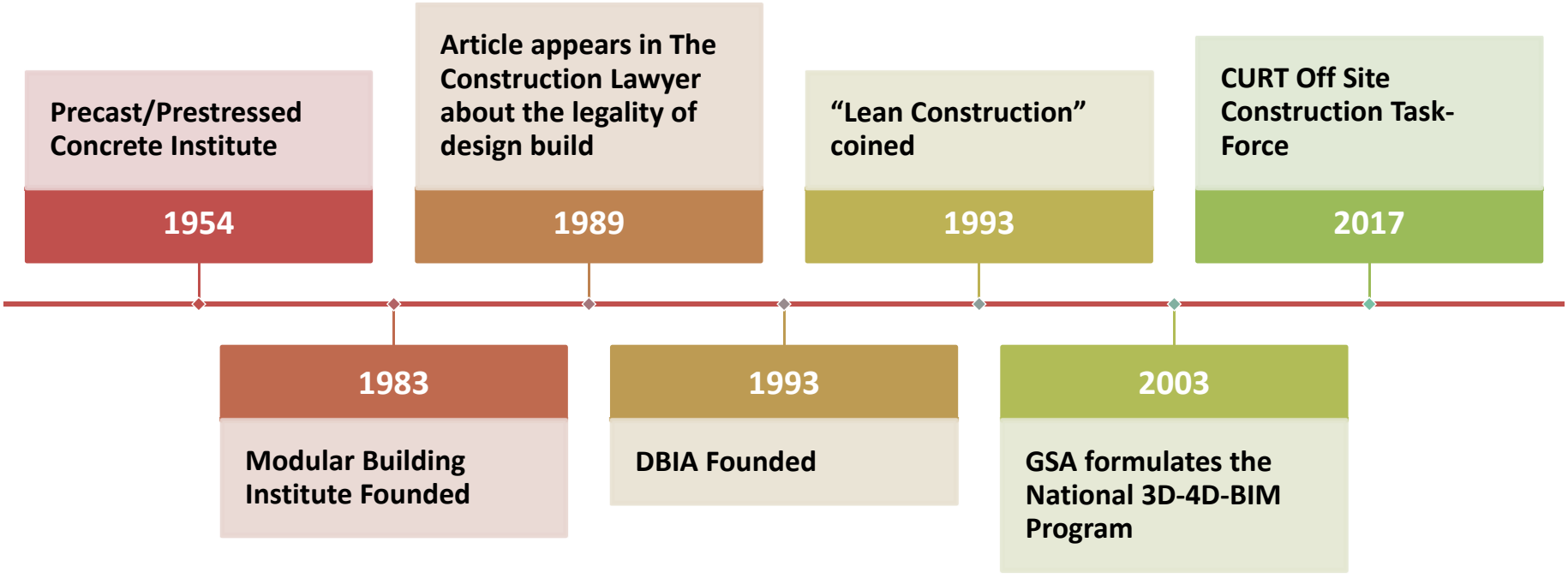


Water/Wastewater

“What percentage uses design-build? What percentage uses lean practices? What percentage leverages BIM to improve productivity? I would suggest it’s a small percentage. The ones that do are making gains, but it needs to spread to the masses.”

-J. Doug Pruitt, Former Chairman and CEO
Sundt Construction

History


Precast/Prestressed Concrete Institute
1954
Article appears in The Construction Lawyer about the legality of design build
1989
"Lean Construction" coined
1993
CURT Off Site Construction Task-Force
2017
1983
Modular Building Institute Founded
1993
DBIA Founded
2003
GSA formulates the National 3D-4D-BIM Program

Hotel Palacio Del Rio

- Built in 1968 for San Antonio World Fair
- 202 days to construct
- First major project of its kind
- 21 stories, 496 rooms
- Rooms were constructed 8 miles away
- Rooms were installed building fully furnished

The Three Questions

Project Delivery Systems	Procurement Methods	Contract Formats
Construction Management at Risk **(CMR)** also known as CM/GC	Best Value **(BVS)**	Cost Plus Fee
Design-Bid-Build **(DBB)**	Low Bid	Guaranteed Maximum Price **(GMP)**
Design-Build **(DB)**	Negotiated	Lump Sum (or Fixed Price)
Multi-Prime **(MP)**	Qualifications-Based **(QBS)**	Target Price
	Sole Source (or Direct Select)	Unit Price

Items listed in alphabetical order.

Familiar Project Delivery Methods

- Design-Bid-Build (D-B-B)
  - *Sometimes called "Traditional"*
- Multiple Prime (M-P)
- Integrated Project Delivery (IPD)
- Construction Management at Risk (CM@R)
  - *Also known as CM/GC*
- Design-Build (DB)
- Progressive Design-Build (PDB)

Which Project Delivery Method is Best?

- Each construction project has a unique combination of factors:
  - Project-specific factors
  - Organization-specific factors

Which Project Delivery Method is Best? (continued)

- There are a number of relevant questions an Owner needs to answer in choosing a delivery system:
  - An Owner must make an objective assessment of factors surrounding each project
  - An Owner needs to understand the benefits & drawbacks of each delivery method

Which Project Delivery Method is Best? (continued)

- The decision should be directly related to the:
  - Attributes of the project to be undertaken
  - Ability of the Owner to staff the project appropriately
  - Program & performance issues that the Owner has identified for the project

Process for Selecting an Approach

- Matching Owner & project characteristics to project delivery system options
  - Matrix approach
  - Brainstorming sessions
  - Computer-based programs

Selection Considerations

Owner Control

- Desire to control design details.
- Desire to control project outcome.
- Desire to have control of all prime contractors.
- Desire to empower more innovative project solutions.
- Desire for design excellence.

Selection Considerations

Owner Relationships

- Desire to have direct relationship with designer.
- Willingness to establish a more professional relationship with contractor.
- Desire to avoid adversarial relationships.
- Ability to enhance project coordination.
- Ability to reduce project claims.
- Desire to integrate the "voice" of the contractor in the planning process.

Selection Considerations

Project Budget

- Adversity to change orders.
- Need to establish budget at earliest possibility.
- Best value for funds invested.

Selection Considerations

Project Schedule

- Timing to establish definitive project scope.
- Timing to establish definitive construction cost.
- Ability to fast track a project.
- Total project duration.
- Desire to avoid delays due to disputes or claims.

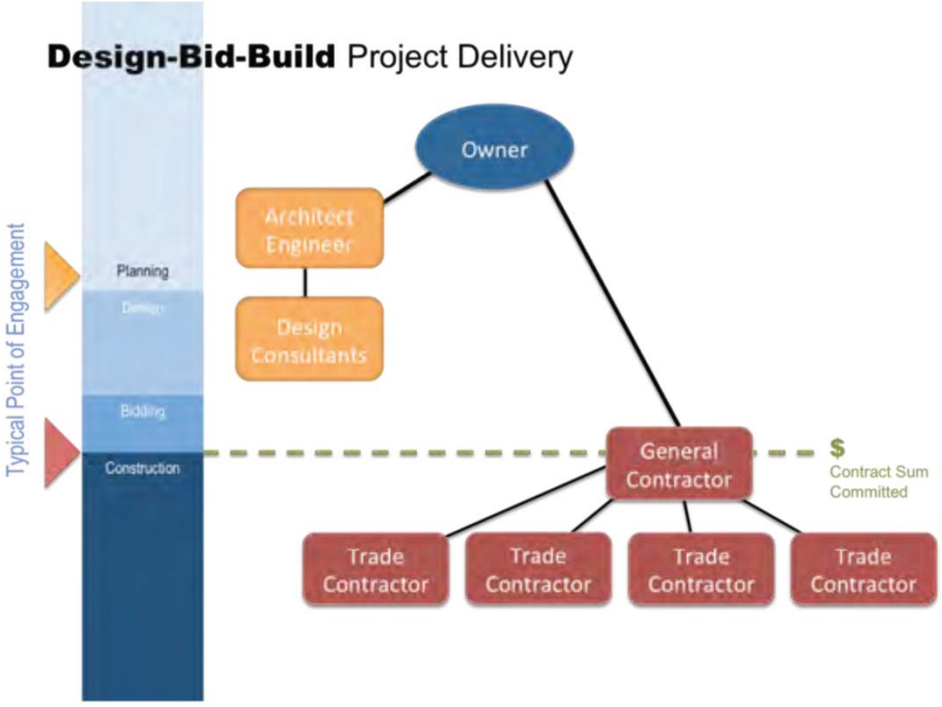
Selection Considerations

Owner Risk

- Adversity to change orders.
- Owner's ability to make timely key decisions.
- Ability to reduce gaps between services.
- Liability for the success or failure of the design.

Design-Bid-Build

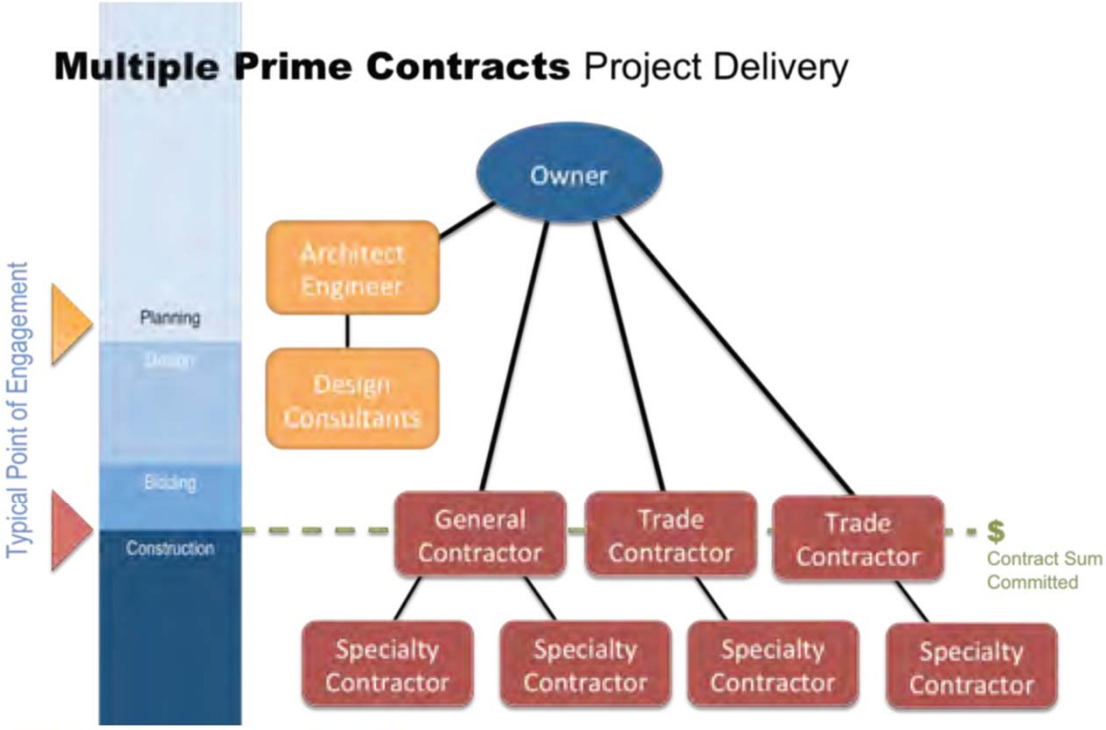
Characteristics	▪ Three linear phases: Design, bid, & Build ▪ Three prime players: Owner Owner, Designer, constructor ▪ Two Separate contract: - Owner to designer - Owner to constructor
Responsibilities	
Owner	Program, finance, management
Designer	Prepares plans & specs, normal services
Constructor	Prime & sub construction



Design-Bid-Build (DBB) – The traditional U.S. project delivery method typically involves three sequential project phases: The design phase, which requires the services of a designer who will be the "designer of record" for the project; the bid phase, when a contractor is selected; and a build or construction phase, when the project is built by the selected (typically low bid) contractor. This sequence usually leads to a sealed bid, fixed-price contract.

Multi Prime

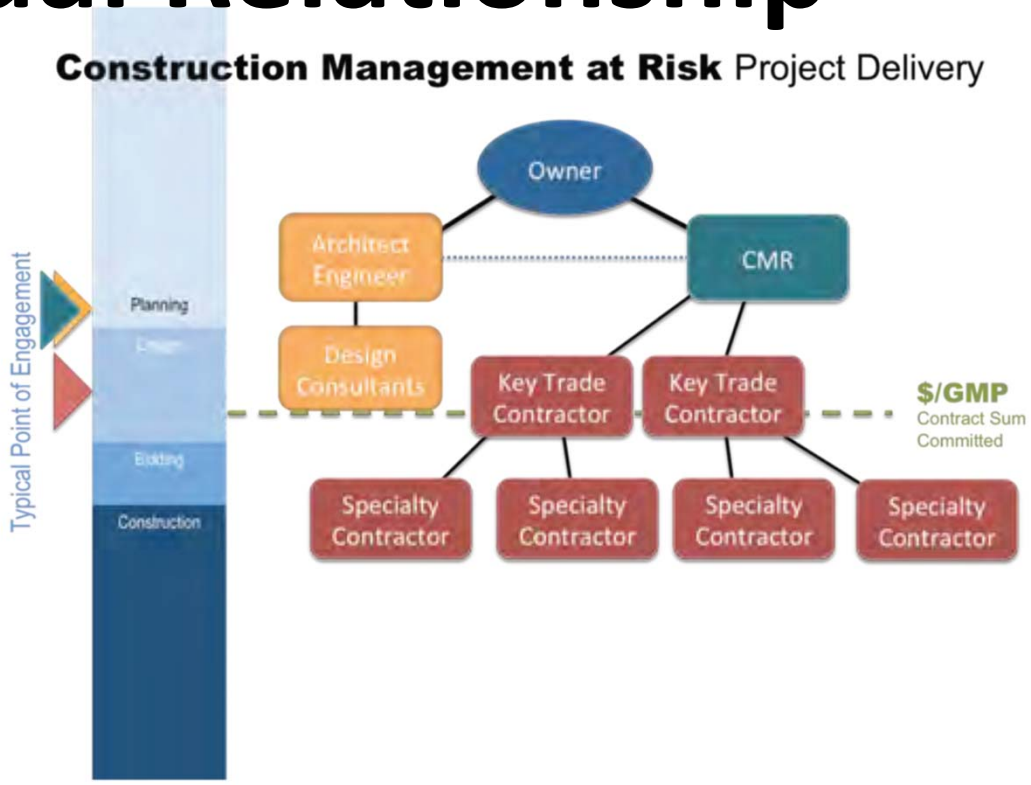
Characteristics	▪ Three linear phases: Design, bid, & Build ▪ Multiple prime players: Owner Owner, Designer, constructor ▪ Multiple Separate contracts: - Owner to designer - Owner to constructor - Owner to Supplier
Responsibilities	
Owner	Program, finance, management
Designer	Prepares plans & specs, normal services
Constructor	Prime



Multi-Prime (MP) – Although similar to design-bid-build relative to the three sequential project phases, with MP the owner contracts directly with separate specialty contractors for specific and designated elements of the work, rather than with a single general or prime contractor.

CMGC Contractual Relationship

Characteristics	▪ Three linear phases: Design, bid, build or may be fast tracked ▪ Multiple prime players: Owner, designer, multiple subs ▪ Many contracts - Owner to designer - Owner to prime contractor ▪ Design to Contractor
Responsibilities	
Owner	Program, finance, manage. Owner as Contractor
Prime specialty subs	Provided independent construction services to owner
Designer	All normal services



Construction Management at Risk (CMR) (also called CM at-Risk or CM/GC) – This delivery method entails a commitment by the CMR for construction performance to deliver the project within a defined schedule and price, either a fixed lump sum or a guaranteed maximum price (GMP). The CMR provides construction input to the owner during the design phases and becomes the general contractor during the construction phase.