Project Delivery Methods
Project Delivery Methods

• Design-bid-build
  – Negotiated team

• Construction management
  – CM as Advisor, CM as Agent
  – CM as Constructor

• Design-build
  – Design-build as Developer

• Bridging
Design-Bid-Build

Owner

Architect

GC

Contracts

Communication

Design-Build Knowledge Community
Design-Bid-Build

• Most common form of project delivery
  – Three phases, three prime players
  – Independent contracts between architect/owner and contractor/owner
  – Linear sequence of work
  – Common with public owners with requirements to select low bid

Source: AIA/CC Handbook on Project Delivery
Design-Bid-Build

- Negotiated team
  - Also called design-assist
  - Owner selects architect and contractor at project beginning
  - Fees are negotiated
  - Cooperative effort early

Source: AIA/CC Handbook on Project Delivery
Design-Bid-Build

• Process
  – Owner hires architect to prepare construction documents
  – Construction documents are used for construction bidding
  – Contractor is selected and cost commitments made
  – Owner hires contractor to build the project

Source: AIA/CC Handbook on Project Delivery
Design-Bid-Build

• Advantages
  – Widespread use
  – Familiarity among owners
  – Clear roles assigned to each party
  – Design complete prior to construction
  – Linear process

Source: AIA/CC Handbook on Project Delivery
Design-Bid-Build

• Disadvantages
  – Relatively lengthy process
  – Restricts optimal communication
  – Change orders and delay claims are more likely

Source: AIA/CC Handbook on Project Delivery
Construction Management

Owner

Architect

CM

Contracts

Communication
Construction Management

• Construction manager added to team to oversee the project
  – CM not licensed in most states
  – Used for public and private projects that are more complex
  – Four players: owner, CM, architect, contractor
  – Four phases

Source: AIA/CC Handbook on Project Delivery
Construction Management

- CM as advisor
  - Acts as advisor to the owner
  - Architect and contractor maintain conventional roles

Source: AIA/CC Handbook on Project Delivery
Construction Management

• CM as agent
  – Given authority of the owner
  – Allows owner to step back from project
  – Assumes financial authority

Source: AIA/CC Handbook on Project Delivery
Construction Management

• CM as constructor
  – Also known as CM at Risk
  – Acts as project coordinator and general contractor
  – Includes early cost commitment
  – CM assumes all liability as the contractor

Source: AIA/CC Handbook on Project Delivery
Construction Management

• Process
  – CM is hired by owner
  – Architect is hired for construction documents
  – The CM oversees design (cost, schedule and constructability)
  – Construction documents are to bid or negotiate the work
  – Contractor is selected
  – CM is on board through construction

Source: AIA/CC Handbook on Project Delivery
Construction Management

• Appropriate for large, complex projects
  – Used by owners that don’t have the time or in-house expertise to oversee the process

Source: AIA/CC Handbook on Project Delivery
Construction Management

- Advantages
  - Direct contractual relationships with owner
  - Careful monitoring of cost and schedule
  - Continuous oversight

Source: AIA/CC Handbook on Project Delivery
Construction Management

• Disadvantages
  – Additional cost for CM
  – Confusion of traditional roles
  – Relatively lengthy process
  – More complex relationships
  – No direct communication between owner/architect, owner/contractor

Source: AIA/CC Handbook on Project Delivery
Design-Build Knowledge Community
Design-Build

• Owner contracts with a single entity
  – Both design and construction services
  – Contractors more commonly head the team
  – Single point of responsibility
  – Not legal in all states
  – Two players

Source: AIA/CC Handbook on Project Delivery
Design-Build

- Design-build as developer
  - Also known as turn-key, or sale-lease-back
  - DB entity maintains and operates building to ensure all systems
  - DB entity takes on responsibility for real estate development
  - Characterized by legal transfer of title to real property

Source: AIA/CC Handbook on Project Delivery
Design-Build

• Process
  – Two step process: design and construction
  – Design is completed by architect
  – Construction is completed by contractor
  – Early cost commitment is made

Source: AIA/CC Handbook on Project Delivery
Design-Build

• Advantages
  – Single point of responsibility
  – Minimizes owner’s risks
  – Reduces change orders
  – Minimal construction delays

Source: AIA/CC Handbook on Project Delivery
Design-Build

• Disadvantages
  – Complex delivery method
  – Lack of direct communication between owner/architect and owner/contractor
  – Potential for compromises in quality to meet budget

Source: AIA/CC Handbook on Project Delivery
Bridging

• Combination of design-bid-build and design-build
  – Owner hires architect for preliminary design
  – Same architect as owner’s rep during construction
  – Design documents are used to choose design-builder
  – Design-builder completes construction documents

Source: AIA/CC Handbook on Project Delivery
Bridging

• Advantages
  – Focused attention on design issues
  – Competitive bidding is included
  – Single point of responsibility during construction documents and construction

Source: AIA/CC Handbook on Project Delivery
Bridging

• Disadvantages
  – Complex delivery method
  – More management required of owner
  – Potential conflicts between owner’s architect and design-builder
  – Compromises in quality to meet budget

Source: AIA/CC Handbook on Project Delivery
Quality-Based Selection

- Competitive bidding creates:
  - A system that seeks the cheapest design cost and is bound to produce lower quality projects
  - At least most of the time
  - Six steps – public notice, submittals, submittal review, ranking respondents, negotiations, award
Quality-Based Selection

• How services are compromised:
  – Less experienced personnel
  – Evaluation of fewer alternatives
  – Documents with less information
  – More work for the contractor in the field
  – Less cost effective/economical
  – Over engineered systems
  – More change orders during construction
Quality-Based Selection

• History of QBS
  – A/E services performed by government employees (pre-1939)
  – Federal Property and Administrative Services Act of 1949
  – Brooks Act (1972)
  – Mini-Brooks laws for states
Quality-Based Selection

• Criteria of QBS
  – Requirements publicly advertised
  – Selection of 3-5 firms/individuals
  – Negotiations based on competence and qualifications
  – Fair and reasonable compensation
Quality-Based Selection

• Owners are more satisfied via:
  – Selection of a well qualified company
  – Scope of work is satisfactory to owner and architect
  – Price is mutually agreed upon
  – A team approach is created
  – Both parties have an interest in the end result
Quality-Based Selection

- QBS laws for states in the Western Mountain Region:
  - Arizona – AZ Statute 34-603
  - Colorado – CO Statute 24-30 (Sections 1401 – 1408)
  - Nevada – NV Statute 625.530
  - New Mexico – NM Statute 13-1-119 thru 124
  - Utah – UT Statute 63-56-42
  - Wyoming – WY Statute 9-2-1031
Quality-Based Selection

• States currently without QBS laws:
  – Iowa
  – Georgia
  – South Dakota
  – Wisconsin
Advantages of Design-Build

• Owner Benefits:
  – Single Source of Responsibility
  – Shortened Project Delivery Time
  – Guaranteed Pricing on a Project
  – Minimized Claims and Damages
  – Performance Warranties
  – Continuity between Designer and Builder
  – Additional Packaged Services
Advantages of Design-Build

• Designer Benefits:
  - Overall project management
  - Better design control
  - Shortened schedule
  - Reduced risk and litigation
  - Market differentiation
  - Improved client satisfaction
  - Increased profits
  - Renewed enjoyment through building
Design-Build Reference

• Reference for design-build legislation:
  – www.aia.org/db