Welcome to Choosing the Right Delivery System for your Construction Project

**Moderator:** Col. Joel Cross, USA (Ret.), VCI

**Speakers:**
- Col. Jeffrey Bedey, CCM, USA (Ret.), CEO, VCI
- Dan Hitchings, Program Manager, VCI
- Col. Michael “Mike” Rossi, P.E., PMP, USA (Ret.), President and COO, VCI
Choosing the Right Delivery System for your Construction Project

Presented By:
Jeff Bedey, CCM
Mike Rossi, PE
Dan Hitchings, PE
Learning Objectives

- Review/learn components of the delivery system
- Understand risk allocation across various delivery methods
- Review/learn how choosing a delivery system can impact project execution/success
A Framework for Discussion

- Risk and Success
- Methods for Source Selection
- Methods of Delivery
- Methods of Compensation
- Choosing the Right Method
- Discussion
Risk Tolerance and the Delivery Decision

- Roles and Relationships
- Owner
- Designer
- Constructor
- Delivery vs. Management
Selection Procedures

- Direct Negotiation
- Qualification Based Selection
- Best Value (Fee or Total Cost)
- Low Bid (including LPTA)
Delivery Methods

- Defines relationship among owner, designer and constructor
- Binds together by specific contractual terms affecting the project budget, schedule, quality and the amount of owner involvement required for the project
  - Design-Bid-Build (DBB)
  - Construction Management at-Risk (CM at-Risk)
  - Design-Build (DB)
  - Integrated Project Delivery (IPD)

U.S. PROJECTS BY DELIVERY METHOD
(based on vertical construction)

- DESIGN BUILD (DB) 18%
- CONST. MGMT. AT RISK (CMAK) 25%
- PUBLIC PRIVATE PARTNERSHIP 2%
- MULTIPLE PRIMES & OTHER 8%
- DESIGN-BID-BUILD (DBB) 45%
- INTEGRATED PROJECT DELIVERY (IDD) 2%
Design/Bid/Build

- Competitive bidding is used to achieve the lowest price
- Longer project duration
- Selection based on price
- Owner and architect are responsible for completeness and accuracy of construction documents
- No construction input during design
- Firm pricing can only be established after the owner has incurred the majority of the cost for a complete design
- Owner is financially responsible for conflicts among team members and cost overruns

ADVANTAGES
- Widely applicable
- Understandable
- Owner retains control
- Owner “knows” the cost prior to start

DISADVANTAGES
- Relatively slow
- Owner is liable for the design
- Constructability issues
- Adversarial relationships fostered
Design/Build

- Single point of responsibility for design and construction
- Selection based on qualifications
- Early construction input during design, budget and planning phases (value-engineering/constructability review)
- Fastest project completion (design and construction activities can overlap)
- Contract value can be established early
- Reduced change-orders
- Collaborative teaming approach
- Majority of the project is competitively bid
Construction Management @ Risk

- Selection based on qualifications
- Construction Manager can provide design-phase assistance for budget, project planning, and value-engineering analysis
- Continuous budget & schedule feedback possible
- Faster schedule than D/B/B method
- Early establishment of GMP possible
- Increased ability to handle changes in design and scope
- Fewer changes required once construction begins

ADVANTAGES
- Well-suited for fast-tracking
- Early contractor (and subcontractor) input on design alternatives
- Better cost info
- Permits “picking” of the builder
- Owner gets a GMP

DISADVANTAGES
- Change of CM’s accountability role when construction begins
- Tempted to sign GMP “too soon”
- Variations in procurement methods
- Potential bid shopping after GMP is set
Integrated Project Delivery

- A collaborative alliance of people, systems, business structures, and practices into a process that harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction.
- Not currently allowed by many States.
## Compensation Methods

- Lump Sum
- Cost Reimbursable
- Continuing Contracts Clause

<table>
<thead>
<tr>
<th>Project Delivery Method</th>
<th>Design-Bid-Build (DBB)</th>
<th>Construction Management at Risk (CMAR)</th>
<th>Design Build (DB)</th>
<th>Integrated Project Delivery (IPD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracting Methods</td>
<td>Common</td>
<td>Common</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Lump Sum</td>
<td>Common</td>
<td>Common</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Guaranteed Maximum Price</td>
<td>Rare</td>
<td>Common</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Reimbursable</td>
<td>Rare</td>
<td>Rare - Common</td>
<td>Rare</td>
<td>Common</td>
</tr>
</tbody>
</table>
## How to Choose the Right Method

### Project Delivery Methods

<table>
<thead>
<tr>
<th>P3</th>
<th>Design-Build</th>
<th>Design-Bid-Build</th>
<th>CM at Risk Contracts</th>
<th>Multiple Prime Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAST</td>
<td>OWNER’S RISK</td>
<td>CONTRACTOR’S RISK</td>
<td>OWNER’S CONTROL</td>
<td>CONTRACTOR’S CONTROL</td>
</tr>
<tr>
<td>GREATEST</td>
<td>LEAST</td>
<td>GREATEST</td>
<td>LEAST</td>
<td>GREATEST</td>
</tr>
</tbody>
</table>

### Question

<table>
<thead>
<tr>
<th>Question</th>
<th>DBB</th>
<th>DB</th>
<th>CM at Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are project specifications known?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Is the project schedule crucial?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Do I need cost information up-front?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Do I want a final price guarantee (GMP)?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Do I plan to monitor the project closely?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Do I want to handle the bidding process?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Would I benefit from value engineering?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Is coordination with existing operations required?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Total Number of Circled Answers in Each Column**
Delivery Method Timing Comparison

(sample 12-month program)

<table>
<thead>
<tr>
<th>Method</th>
<th>Design Process</th>
<th>Bid Process</th>
<th>Construction Process</th>
<th>Time Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design/Bid/Build</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/Build</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Best Suited for...

<table>
<thead>
<tr>
<th>Design/Bid/Build</th>
<th>Design/Build</th>
<th>Construction Mgmt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Public projects, or projects that require a bid and award process</td>
<td>• Construction projects that are highly time and cost sensitive</td>
<td>• Large new or renovation projects that are schedule sensitive, difficult to define or subject to potential changes</td>
</tr>
<tr>
<td>• Projects that are not schedule sensitive and not subject to significant change</td>
<td>• Private owners with busy schedules who need an efficient way to manage the construction process</td>
<td>• Projects requiring a high level of management due to multiple phases, technical complexity, or multi-disciplinary coordination</td>
</tr>
</tbody>
</table>
# Procurement Options

<table>
<thead>
<tr>
<th>Selection Criteria</th>
<th>Low Bidder</th>
<th>Best Value</th>
<th>Best Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Delivery Method</td>
<td>Selection Based solely on Price</td>
<td>Selection is based on a weighed combination of Price and Qualifications</td>
<td>Selection is based solely on Qualifications</td>
</tr>
<tr>
<td>Design-Bid-Build</td>
<td>Most Common</td>
<td>Common, Price evaluation based on Construction Cost</td>
<td>Rare</td>
</tr>
<tr>
<td>Construction Management at Risk</td>
<td>Rare</td>
<td>Most Common; Price evaluation based on CMAR Fees and General Conditions</td>
<td>Common</td>
</tr>
<tr>
<td>Design/Build</td>
<td>Common</td>
<td>Most Common; Price evaluation based on fees and GCs; may or may not include Construction Cost</td>
<td>Common</td>
</tr>
<tr>
<td>Integrated Project Delivery</td>
<td>Rare</td>
<td>Common</td>
<td>Most Common</td>
</tr>
</tbody>
</table>
Conclusion

- Project success is about allocating the risks effectively to ensure your finished project meets its intended purpose.
- Essential to this is selecting the proper method of delivery - including source selection, compensation, and management of the contract vehicle.
Questions?

Contact Information:
Jeff Bedey  
Jeff@valiant.com
Mike Rossi  
mike@valiant.com
Dan Hitchings  
Dhitchings@valiant.com
A credit value is assigned to CMAA courses and seminars in units of Professional Development Hours (PDH), Learning Units (LU), and CCM Recertification Points. CMAA guarantees that course material meets the minimum requirements for a PDH, which is 60 minutes of instruction, or increments thereof.

CMAA is a registered provider of continuing education for the National Council of Examiners for Engineering and Surveying (NCEES). Certificates are available through the NCEES/ACEC Registered Continuing Education Program (RCEP) at www.rcep.net. All transcripts are reported based on the email address provided to CMAA when you complete the online attendance form.

- “CMAA has met the standards and requirements of the Registered Continuing Education Program. Credit earned on completing of this program will be reported to RCEP at rcep.net. A certificate of completion will be issued to each participant. As such, it doesn’t include content that may be deemed or construed to be an approval or endorsement by the RCEP.”

CMAA is registered with the American Institute of Architects (AIA) as an approved CES provider of LUs. One educational contact hour equals one (1) LU. To receive LUs through CMAA, you must provide your AIA member number on all registration materials and attendance forms.

Not all sessions and activities offered may be acceptable for continuing education credit in your state. Please check your state licensing board’s requirements before submitting your credits.

All courses approved by CMAA count toward CCM recertification points. For more information on recertification points, please visit https://recerttrack.com/home.php?portal=24