But How Do I Know I’m Getting the Best Price?

Comparing IPD/TVD Approach with Traditional Competitive Bidding

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With special help from Del Profitt & Jeff Loeb
Introductions & Table Discussion

• Introduce Yourselves: (5 minutes/table)
  – Name
  – Professional Role
  – Degree of Experience on Lean / IPD Projects (0 – 5 Scale)

• Introduce Your Table (2 minutes/table)
Topics

• What is Collaborative Delivery? How is it Different?
• Why Consider Collaborative Delivery?
• How Can It Be Competitive?
• Opportunity Cost of Traditional Delivery
• Industry Research & Participant Experience
• Wrap Up & Take-Aways
• Plus/Delta
Key Points Preview

• Competition and collaboration are not mutually exclusive
  – Many of the effective competitive leverage of traditional bidding can be retained
  – Some key aspects of competition are enhanced
• Collaborative project delivery offers cost savings potential not available with traditional delivery
• Collaborative project delivery can reduce project variation (aka risk) for all key stakeholders
• Traditional bidding is probably not the path to the lowest cost on many projects
• Collaborative projects provide a better (and safer) work environment
• It’s not just me saying this:
  – Credible research findings that Lean/IPD projects are 2x as likely to hit cost targets and 3x more likely to hit schedule targets than non-Lean/IPD projects
  – Similar findings emerging in Construction Industry Institute research projects
  – Experience of the Participants
General Distinctions Between Traditional and Collaborative Approaches - for the purpose of framing discussions

• Traditional Delivery
  – Competitive bids based on completed design & common set of requirements
  – No commitment to contractors during design process – maximize leverage
  – Contractors not responsible for Scope definition
    • Bid what’s on the documents, not the intent
  – Detailed estimates from completed design documents
  – Project control via contract administration
  – No particular focus on workflow
  – Each party aims to optimize the performance of their contract

• Collaborative Delivery
  – Key contractors and suppliers engaged very early in the project lifecycle
  – Contractors involved in defining Scope & evaluating alternatives - “Everybody is a designer and thinks like a contractor on behalf of the Owner”
  – Scope is the driver of design rather than an outcome of design (Target Value Design)
  – Pull-based project scheduling and coordination with focus on workflow
  – Team specifically focused on integration and pursuit of common objective
Why Consider Collaborative Delivery?

- Proponents of Lean/IPD approaches offer advantages such as:
  - Early and improved cost certainty
  - Rapid mobilization / Improved schedule response
  - Participants focused on Owner’s objectives instead of individual interests
  - Collaborative & creative environment
  - Reduced risk due to improved mutual understanding of Scope & challenges
  - Better project experience for participants

“An owner must decide what they are buying – a product or the services of a team to solve a problem no one quite understands and keeps changing” – Jim Carroll
TRADITIONAL APPROACH

Select A / E / CM

Programming

Estimate (not firm)

Fit Budget?

no

Select A / E / CM

Prequalify and select trade contractors

Collaborative Design & Scoping Session: Establish scope list

Contractor Pricing

Begin Change Control

Notes:
This is a hypothetical illustration and is not intended as a project schedule.
Integrated approaches can offer substantially reduced risk due to much better understanding of scope and owner requirements.
Contractors accept responsibility for scope definition and waive potential change orders for details not shown on contract.

INTEGRATED APPROACH

Select A / E / CM

Contractor Pricing

Price Validation and Negotiation

Reliable Facility Cost

Contractor Bidding

Semi-firm Cost (subject to change orders)

Begin Change Control Process

Detailed Design

Firm cost is identified much sooner and is much more reliable
Alignment drifts and integration errors

- Integration Errors
  - Add risk
  - Create rework that becomes more disruptive the longer it remains unrecognized
  - Disrupt the flow of work
  - Create misunderstandings & unnecessary conflict
Collaboration sounds great – but how do I know I’m getting the best price if I can’t compare the bottom line?
Retaining The Benefits of Competition In a Collaborative

• Competition is part of Nature
  – Variation and natural selection
  – Key element of elite performance
  – No suggestion that we should remove the ‘silent hand of the market’
  – ... but we don’t need to let it slap us around quite so much.

• How can we focus competitive pressure on those factors subject to bidder discretion?

• Can we engage the suppliers in the effort to define and enhance the project without forsaking the benefits of competition?

• Can we change the focus of our competition spirit to focus on the client’s competition?
Scope & Pricing Factors

\[ \text{Scope} \times \text{Pricing Factors} = \text{Cost} \]

- If you know each bidder’s pricing factors you pretty much know their price
- Pricing Factors can be established and compared independent of detailed design so long as you have a responsible general understanding of the Scope and Schedule
- Preliminary cost model can be prepared to allow effective comparison of Pricing Factors
- Scope model is considered a constant for the purpose of evaluating contractor pricing
  - With the full expectation that the team will work together to further refine Scope to satisfy Owner’s requirements
  - Evaluate which bidders are most capable of helping Owner meet cost target
Examples of Pricing Factors

• Labor Costs

  Scope \times \textbf{Production Rate} = \text{Labor Hours}

  \text{Labor Hours} \times \textbf{Wage Rate(s)} = \text{Labor Cost}

  • Production Rates & Wage Rates are \textit{Pricing Factors} which can be competively compared prior to detailed design
  • Presumes a responsible estimate of total labor effort
  • \textbf{Production Rate} index can often be compared to 3rd party norms
    • NECA
    • MCA
    • Means

• Materials & Plant Equipment

  • Supplier Cost \times \textbf{Contractor Mark-Up} = \text{Material Cost}
    • Contractor Mark-Up is \textit{Pricing Factor} subject to competitive evaluation prior to design
    • Supplier Costs and sourcing decisions can be independently verified

• General Conditions costs depend primarily on:

  • Approximate Scope & effort
  • Project duration
  • Project requirements
  • Etc.
  • ..which can be established adequately to compare supplier pricing without a detailed design
  • GC line items \times \textit{Pricing Factors} = GC Costs
Corporate OH & Profit Pricing Factors

• Corporate OH & P is almost entirely open to contractor discretion
• Completely open to competitive evaluation without detailed design documents
Contingency

- Contingency typically embedded in many forms rarely visible to Owner
  - Material quantities
  - Labor production rates
  - Waste factors
  - Separate line items for unrecognized Scope or Requirements
    - Lots of pressure to extract that information from a stack of documents
  - Contractors may pursue change orders for variances even if they had embedded contingency
  - Lean/IPD approaches can be structured to eliminate the need Contingency Pricing Factor
Single Bottom Line Pricing is a 2-Sided Coin

• Traditional Approach offers an attractive advantage – all of the pricing factors can be consolidated into a single bottom line number

• The other side of the coin:
  – You can only see the bottom line
  – You don’t see it until long after you’ve made the key scoping decisions that drive it
  – You have no guidance as to where to adjust in order to make meaningful cost reductions
Reducing Risk

• Types of Risk Reduced by Collaborative Delivery
  – Lack of common understanding as to scope, requirements & expectations – aka Alignment Errors
  – Forced schedule compression & disruption caused by delayed start
  – Potential need to commit to high levels of cost prior to really understanding the total cost
  – Team alignment & friction
    • Participants working at odds with one another
  – Lack of Flow

• Reduced Risk Should Lead to Lower Pricing
  – Risk vs. Expected Return principle pretty well accepted
  – Potential to see this cascade through multiple levels of the supply chain
Recap: How Do We Keep it Competitive?

• Competition is effective to the degree Bidders have discretion

• Many cost elements are based on Pricing Factors which are open to competitive proposals

• Attractive projects generate a more competitive response
  – Co projects seem to be very attractive due to lower risk and better outcomes

• Far less time and effort for contracting community in general to respond to initial RFP

• Competition is intense, but focused differently
  – Team focus on reaching an aggressive target cost
  – Focus on winning as a team against the Owner’s competition
Can We Expect the Lowest Cost from Competitive Bidding?

Contractors:

- “We could have saved them a lot of money if they had talked to us before they designed it”.
- “It’s awfully hard to figure out exactly what they expect us to do so let’s qualify the heck out of our bid so we can justify change orders later.
- Let’s go in low to get the job – we can make it up on change orders”.
- “We need to put something in to protect us from the uncertainty”.
- “We need to put one of our best people on the job of managing change orders”.
- “We can only be concerned with our contract costs – to heck with the other guys”.

Designers

- “We only get paid to design it once – the contractor idea might have been fine if I had known about it earlier.”
- “We have to design such that any bidder could be awarded the work”.
- “We could design more efficiently if we could engage the suppliers and design around their specific products”.
- “Why did the contractor send me this RFI? Isn’t the design intent obvious?”
- “The contractor(s) are exploiting every opportunity to pick the design apart”.
- “Construction means and methods are not the designer’s responsibility”.
- “It was in the Specs....”

How can you possibly be getting the “lowest cost”? 
Distinct Cost Advantages of Lean/IPD Delivery

• Cost effective solutions that would otherwise never be considered
  – “If that’s what you’re trying to do, why don’t you....”
  – The Scope of an IPD project will nearly **always** be:
    • simpler
    • better integrated
    • more constructible

• Project can start much sooner and avoid schedule compression
  – Collaborative project delivery is almost **always** faster

• Less time and money spent designing (and estimating) what won’t fit the budget

• Less Risk for all participants

• Integration Errors eliminated much earlier and at much loser cost
  – Countless RFIs answered before they ever needed to be written

• Attractiveness to Bidders
  – More attractive projects generate more competitive response

• Culture of striving for a common objective

• Better ability to make information and work flow smoothly

• **Flow is money**
  – perhaps the biggest problem with traditional project delivery is the complete disruption of the flow of information in pursuit of optimizing competitive pressure
How Did Projects Perform?

We benchmarked 162 projects identified by owners as best or typical vs. primary values of schedule and budget performance. The sample represents projects using various delivery methods / contract types across the United States for owners completing more than five capital projects over three years.

We inquired about use of 27 management methods by each project team and identified the following methods with the biggest gap between use on best and typical projects:
Why Did Projects Excel?

Of the best projects we found a **statistically significant correlation** between high Lean intensity projects and likelihood to complete ahead of schedule / under budget.

Myths About Lean

In partnership with the Integrated Project Delivery Alliance we busted five typical myths about our industry through ten in-depth case studies. We found that regardless of experience with Lean or IPD, project type and regulations projects are leveraging Lean and IPD to foster 'A team' behaviors to achieve better results.

**Myths Busted**

1. Delivery matters less than choosing the right people – behaviors can’t be dictated by a contract
2. IPD contracts are too complicated, Lean tools are too rigid
3. IPD only works on large complex healthcare projects – Teams new to IPD and Lean are at a disadvantage
4. Owners aren’t getting best value – or – Owners are getting value but the team is not making profit
5. IPD and IPD-lite are essentially the same; financial incentives and release of liability are no big deal
So How Do I Start?

Based on the research follow these four key steps:

1. **Set Targets**: Define owner’s business case & goals

2. **Build the Team**: Contract key stakeholders using best value selection process prior to concept design to validate targets / unify team

3. **Learn as a Team**: Train and provide ongoing coaching for adoption of Lean methods by team

4. **Support the Team**: Contracts should support (not thwart) collaborative team culture and adoption of Lean methods

What Does This Mean for Me?

While the research is focused on the project business case we believe the benefits also extend to both owner’s and service provider’s:

- **Businesses** – Reduced costs Improved profitability
- **Individuals** – Increased employee engagement Better work / life balance

How Do I Learn More?

For more information about the research, connect with the Lean community in your area and to advance your own Lean journey visit:

[WWW.LEANCONSTRUCTION.ORG/LEARNING](http://WWW.LEANCONSTRUCTION.ORG/LEARNING)
Expect results: CDS track record – since 1997...

• Project costs are lower – sometimes much lower
  — Eliminating unneeded scope and unnecessary requirements is the key to lowering costs
  — Creating reliable workflow in the field is the key to improving labor productivity
  — Numerous examples of breakthrough cost reductions
• Cost certainty is much better – and available much sooner
  — Change order rates sharply reduced – including one retrofit delivered with $0 in changes to Owner
  — 90+% reductions in RFIs and disruptive scope gaps have been
• Significant schedule improvements are available
  — Duration of subsequent detailed design can often be substantially reduced
  — Long lead items can be ordered earlier, and more accurately
  — Sequencing is more refined and streamlined
• Participants are much more engaged and satisfied
  — Shared understanding is the foundation for future action together
Key Points Review

• Competition and collaboration are not mutually exclusive
  – Most of the effective competitive leverage of traditional bidding can be retained & some key aspects of competition are enhanced

• Collaborative project delivery offers cost savings potential not available with traditional delivery

• Collaborative project delivery can reduce project variation (aka risk) for all key stakeholders

• There is little chance traditional bidding can deliver the lowest cost

• Collaborative projects provide a better (and safer) work environment

• It’s not just me saying this:
  – Credible research findings that Lean/IPD projects are 2x as likely to hit cost targets and 3x more likely to hit schedule targets than non-Lean/IPD projects
  – Similar findings in emerging Construction Industry Institute
  – Experience of the Participants
Historical Conventional Wisdom

• A professional commander organizes his troops in straight, orderly lines in the middle of an open field and has them wear bright, red coats
  – *British military, at least until the Battle of New Orleans*

• Trying to build a car with zero defects simply isn’t cost effective

• Construction is a dangerous business. Accidents and injuries are just part of the game.

• Unless you get competitive bids on a common scope you are paying too much.
Key Take-Aways & Question Table Discussion
Thank You

Subtitle